CHAPTER I

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1.1 PRELUDE

“Labour was the first price, the original purchase – money that was paid for all things. It was not gold or by silver, but by labour, that all wealth of the world was originally purchased” said Adam Smith perceiving the importance of labour\(^1\). Further according to Levitan et al (1972), “Labour constitutes to be the major factor of production along with land and capital in the modern society. The role of labour, as a factor of production is becoming increasingly important”. The importance of labour whether abundant or scarce lies in the fact that, without labour, other factors of production: land, capital and organization, cannot function effectively. Labour mediates all the other factors and thus become an important link in the chain of production. Accordingly “labourers” play a significant role and India is one such economy which is known for its huge population that is the second most populous country in the world next to China. Thus India is not only bestowed with a huge pool of human capital but also with more than 50% of people in working age group. This demographic outcome has opened up new debate as to whether this section of Young India will turn to be “Demographic dividend” or “Demographic nightmare”. This is the present demographic situation.

The Indian economy has its own set of features which are highlighted in literature frequently. One such notable trait is the dependence of economy on agriculture and the participation of huge number of labour force in Indian agriculture, which has always provided for the instances of disguised unemployment in the sector. Indian agriculture was and is marked by abundant supply of farm labour and a sizeable portion of work force is believed to be absorbed in it even when it was not actually required. In terms of official estimates of Census (2011), currently India is endowed with 1.27 billion people and more than half of the population falls under working age group. Rural sector employment or the rural labourers encompassing a diversity of activities constitute a major proportion of working population in India. This working population group in rural areas have greater impact on the overall health of the economy and their quality of life, participation decisions, and duration of work

\(^1\) In Chapter 5 of the book “An enquiry into the nature and causes of wealth of nations” (1776)
hours, wages, and type of activity they are involved, the availability of workers – all these factors reflect the various dimensions of rural labour scenario. The problems of organization, collective bargaining ability, caste system or caste hierarchy in rural areas, seasonality of employment and most importantly non availability of assured social safety net etc reflect the pathetic conditions of the huge proportion of rural labour.

If this is one aspect of the situation, on the other, there has been huge pile of reports and periodic surveys by several agencies stating the shortage of farm labour, increased demand for labourers, non availability of farm labour and shift of workforce from agriculture to other sectors coupled with declining participation rates in agricultural activities. There are several instances of non availability of rural casual labour in several parts of the country although it has not been the universal phenomenon. However, transfer of labour from one sector to other or reorganization of labour across the sectors is part of the development process. But what are the reasons behind the trends and what are the implications? Such questions constitute the main research theme in labour economics, particularly agricultural labour.

This study intends to highlight these various issues with special focus on determinants of casual rural labour supply, which affect the participation and labour supply decisions of rural casual labourers in rural India and Karnataka in general and the district of Chikkamagaluru in particular. This becomes very crucial for policy implications, to come out with better policy decisions both at macro and micro level. Thus, the proper comprehension of the determinants of rural labour supply assumes paramount importance. It is in this context that an attempt is made in this study to examine the different issues pertaining to changing dynamics of rural labour supply especially in connection with its new forms and dimensions.

1.2 RURAL LABOUR MARKET IN INDIA: THE CHANGING SCENARIO

“Agriculture is the backbone of Indian economy” and “Indian agriculture is a classic case of disguised unemployment” – these have been the most popular ideas about rural employment situation in rural India which can be stated as ‘stylized facts’ blown out of proportion in the available literature. Unfortunately these statements
have indirectly affected the literature and research on India rural labour. In fact the available literature is plagued by these ideas to the extent that there are innumerable studies advocating the existence of surplus labour in Indian agriculture and greater need to provide employment opportunities outside the farm. Further to be specific, these ideas have de-motivated to have well designed studies on rural labour determinants and other issues and secondly these ideas have unfortunately narrowed down the scope of employment related studies to find strategies to cope with Lewis type transformation. But in the recent years particularly from last few years literature have out of the blue, have reported evidences of non-availability of rural labour on farms; especially the studies related Mahatma Gandhi National Rural Employment Guarantee Act (2005) and studies highlighting the changing socio-economic conditions of rural labour and growing rural-urban migration.

Further the Liberalisation, Privatisation and Globalisation have induced a structural transformation in rural areas, because agriculture is no longer the largest sector contributing to GDP as in 1970s (70% of GDP) and currently it is the least contributor to GDP to the tune of 13.94%, next only to industrial sector – 26.13% and service sector 59.93% as per the data book for Planning commission of India as given in the table 1. The share of agriculture to GDP has been declining over the years and service sector is becoming the major contributor to GDP of the nation; making way for the debate on how sustainable is service led growth? And is India ready for such a transition? But when the sector wise employment comes to picture, even though the share of agriculture in providing employment to people has been declining marginally over the years still agriculture contributes to be a predominant sector in terms of employment because 48.9% of workforce is employed in agriculture in the 2011-12 which is the recent available statistics. This implies that nearly half of the workforce is still engaged in agricultural sector. That is agriculture proves to be the largest employer.

2 Dasgupta and Goldar (2006) have asserted this idea.
3 It is a dual-sector model of economic development given by W. A. Lewis(1954) in his article - “Economic Development with Unlimited Supplies of Labour”. Where surplus labour caught in primary sector is deemed to supply unlimited labour to secondary sector.
4 See website of Planning commission of India, for the Data book of the commission - December 2014 for year wise fluctuations in contribution of different sectors to GDP and year wise sectoral growth rate and employment share of different sectors
Table 1.1 Sectoral distribution of growth rate, percentage share in GDP and employment in 2013-14

<table>
<thead>
<tr>
<th>Sector</th>
<th>Growth rate (in percentage)</th>
<th>GDP (in percentage)</th>
<th>Employment (in percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>2.67</td>
<td>0.81</td>
<td>5.02</td>
</tr>
<tr>
<td>Industry</td>
<td>5.96</td>
<td>9.16</td>
<td>7.81</td>
</tr>
<tr>
<td>Service</td>
<td>12.05</td>
<td>10.5</td>
<td>6.57</td>
</tr>
</tbody>
</table>

Source: Data book for Planning commission of India December 2014
Note: * data is not available

However at the field level, shifts and changes have taken place; the movement of workforce to Non-Farm Employment has been witnessed as common phenomenon of structural transformation. In spite of growing casualization of workforce; the cultivators, construction sites, household sector which requires domestic help and such other labour intensive sectors are witnessing dearth of labour supply in certain specific geographical locations. What are the reasons for such trends? If there is huge scale casualization and yet non-availability of labour in rural areas then what factors are influencing labourers participation decisions? Does Public policy has any role in affecting these decisions? How employers are coping the situation? Are labourers in rural India so free to choose? These and many more such questions haunt the researcher, thus motivate to step ahead for research in this field.

1.3 STATEMENT OF THE PROBLEM

Indian agriculture as noted in the above paragraphs is popularly cited as a case for disguised unemployment and economists probably never thought of a situation where Indian agriculture will face non availability of labour. Because, ample of studies have been built on the notion that, huge proportion of labour has been caught up in agriculture and there needs to be creation of alternative nonfarm employment opportunities in rural areas, so as to achieve rural development. However due to structural changes in the economy in the recent decade, non-availability of labour in rural economy was witnessed due to distinguishable change in agricultural sector, rural urban migration and such related factors. Though problem existed, it came into limelight particularly after the year 2006, only when the recent studies identified the
implementation of MGNREGA to be the root cause for non-availability of labour. Further, the other recent public policy initiatives and the consequent effect on labour supply like the expansion of public works- Public Distribution System (PDS), midday meals, health and educational benefits have been observed as the plausible causes for backward bending supply curve of labour\textsuperscript{5}. It can be stated that all the causes discussed above in totality hold true in the context and may have resulted in non-availability of farm labour. But what factors determine the rural labour supply in particular is the question. Another dimension of the problem is that rural labour has been noted to be highly unorganized and have been least considered in policy framework because their number was huge always unlike formal, organized industrial labourers. Through stringent legislations, labour union movements and such other strategies formal organized labour has been able to gain benefits of the policy to certain extent. But the rural informal labour is far beyond the reach of glimpses of suitable policy framework. Further labour market is completely different and unique from commodity market. Labour market dynamics are not only guided by market forces but by the complex social structure in the rural society. Thus there is need to carry out research in this area and to explore the situation of labourers and changes in rural labour market in such a situation.

1.4 A BRIEF OUTLINE OF THE REVIEW OF LITERATURE

Literature review is in fact the most essential step in the research process which provides the scope for conducting the future research. Owing to the demands of the research questions, literature survey was carried out to comprehend the nature and crux of the research problem. In the first stage literature on changing situations of rural labourers and rural labour market in India was collated to identify the actual scenario now and then. When this stage gave a clear picture of the fore mentioned issues, then literature on the determination of methodology, theories behind the concept, the measurement issues, variables used, and conceptual framework were reviewed.

Based on the literature available, the following review section has been broadly classified under two heads – theoretical and empirical literature. Under the theoretical

\textsuperscript{5} This backward bending supply curve of labour has been discussed in detail in the theoretical section \ – 2.2.2 of the second chapter.
literature, the Neo– classical labour-leisure model, the theory of backward bending labour supply, Jevons theory of labour supply and Static and dynamic theories of labour supply, Harris – Todaro model of economic development (migration) are examined. Further under empirical literature review the literature on estimation of determinants of labour supply and participation decisions, changing conditions of rural labourers and rural labour market, MGNREGA related studies, studies on shortage and surplus of labour, studies on rural employment diversification – farm and nonfarm have been covered. Nevertheless the detailed literature review has been exclusively dealt in second chapter. Based on the literature review, research gaps, research questions, objectives and the hypotheses of the study have been formulated within the research framework which in turn constitutes the foundation for policy suggestions.

1.5 RESEARCH GAPS

Based on the literature review discussed on the second chapter the following research gaps were identified

- NSSO data is huge attraction to all the researchers and academicians in the field of labour economics and employment situation in India but unfortunately the analysis of the data is limited to tabular and percentages. Thus there is a clear lack of econometric analysis of the same

- Micro level studies on labour supply determinants and use of primary data are very few as the literature is abundant with excessive use of secondary data

- Literature on evaluation of laws, legislations, developmental programs and schemes for rural labour is immense however literature specifically on the policy approach for rural labour is hardly attempted

- As noted earlier literature with high use of secondary data is immense, it is to be kept in mind that secondary data base on formal or regular workers is readily available in many countries and thus there are a variety of approaches to study the labour supply decisions in such conditions. But in India data base is not so varied and not so readily available thus India specific studies are also limited on this issue.
Figure 1.1 Classification of literature review

<table>
<thead>
<tr>
<th>Theoretical</th>
<th>Empirical</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Neo-classical labour-leisure model</td>
<td>• Estimation of the determinants of labour supply and participation decisions - Cross country experiences and India level studies</td>
</tr>
<tr>
<td>• Theory of backward bending labour supply</td>
<td>• Changing socio-economic conditions of rural labourers</td>
</tr>
<tr>
<td>• Jevons theory of labour supply</td>
<td>• MGNREGA related studies</td>
</tr>
<tr>
<td>• Static and dynamic theories of labour supply</td>
<td>• Studies on shortage and surplus of labour in rural India</td>
</tr>
<tr>
<td>• Harris -Todaro model of economic development (migration)</td>
<td>• Rural employment diversification - Farm and Nonfarm labour related studies</td>
</tr>
</tbody>
</table>

Source: compiled by the researcher

- Studies on female labour supply are huge in volume however rural casual labourers' labour supply decisions are rare apart from studies on increasing off farm activities

- Also studies on disguised unemployment are plenty but studies on non availability of rural labour and dynamics of rural labour supply are hardly few.

1.6 **MAJOR RESEARCH QUESTIONS**

- What are the probable reasons for co-existence of huge scale casual labour and non-availability of labour in rural areas?

- What factors are influencing labourers’ participation decisions in the study area?

- Does Public policy has any effect on the labour supply?

- How employers or the local farmers or the demand side is effected by non-availability of casual labour?

- Are labourers in rural India so free to choose?
1.7. OBJECTIVES OF THE STUDY

Based on the literature review and research gaps the objectives and hypothesis were formulated for the study. They are listed below.

1. To trace the evolution and approach of Government policy for rural labour in India
2. To analyze the trends, patterns and composition of rural labour supply in India and Karnataka over the years from 1993-94 till 2011-12
3. To identify and examine the determinants of rural labour supply at National and Karnataka State level in general and Chikkamagaluru district in particular
4. To examine the inter taluk variations in labour supply days, hours of work, wages and monthly per capita expenditure of casual labourers in the study area.
5. To explore the factors leading to non-availability of labour if any in the study area.
6. To capture the perceptions of the local farmers on the changes in rural labour market in the study area

1.8 HYPOTHESES OF THE STUDY

1. There is a significant backward bending labour supply curve operating for rural casual labour in India, Karnataka and in the study area
2. There is a significant change in the composition of rural workforce over the study period.
3. Public policy negatively affects the number of labour supply days
4. The location of the labourer significantly affects the daily wages of the labourers in the study area and the daily wages of the rural casual labourers in Koppa taluk is significantly higher than other two sample taluks.
5. The location of the labourer significantly affects the number of labour supply days of the rural casual labourers in the study area and the number of days
labour supplied by the respondents in Koppa taluk is significantly higher than other two sample taluks.

6. Average weekly number of hours worked varies significantly across taluks and the weekly average number of hours worked at Koppa taluk is significantly higher than the other two sample taluks.

7. Average monthly per capita expenditure varies significantly across taluks and the average MPCE at Koppa taluk is significantly higher than the other two sample taluks.

1.9 METHODOLOGY

Methodology includes the description of the study area, sample design, data sources and methods of data analysis and organization of thesis. The detailed methodology adopted for each objective has been explained in respective chapters where needed. However, here the general approach of the thesis has been mentioned briefly.

1.9.1 Rationale for selecting the study area

Chikmagaluru District is agriculture based economy characterized by huge rural labour force yet there is severe problem of non-availability of casual labour even with contrasting agro climatic situations. Three varieties of agro climatic situations are found across seven taluks- Hilly zone, South transitional zone and Central dry zone\(^6\) and level of development is uneven across taluks. The district was opted purposively because the field level observation of the researcher noted the complaint of non-availability of labour was found across the district especially in casual labour intensive agriculture sector. Further it must be noted that in the title of the thesis the spelling of the study area is given as “Chikmagalur” because during the finalization of title (2013) this was the spelling of the district and it was only in 2015 the district name was renamed as “Chikkamagaluru”. Hence the latter spelling will be used further in the study.

\(^6\) As classified in the website - http://dacnet.nic.in/farmer/new/dac/AgroClimaticZones.asp?SCod=08
1.9.2 Data Base

Both primary and secondary data have been used in the study. Secondary Data from NSSO 68\textsuperscript{th} round unit level and published reports on Employment and Unemployment situation in India – 50\textsuperscript{th}, 55\textsuperscript{th}, 61\textsuperscript{st}, 66\textsuperscript{th} and 68\textsuperscript{th} rounds\textsuperscript{7} - various quinquennial thick rounds of NSSO are used extensively in the study. Further Chikkamagaluru District at a Glance – various years, Economic survey of India 2013-14 and Economic survey of Karnataka 2013-14, Census of India 2001 and 2011 have been used.

As NSSO data prove to be major data source it is necessary to have a proper understanding of the NSSO data. NSSO collects data on periodic basis on different issues on employment and unemployment situation in India. The quinquennial survey on employment and unemployment known as Employment and Unemployment Survey - EUS is one such important survey regularly conducted by the NSSO. In 1972-73 the first EUS was conducted and this was 27\textsuperscript{th} round of NSSO survey. There are eight EUS till now including the 68\textsuperscript{th} round of NSSO. Apart from these quinquennial surveys several other surveys are also conducted by NSSO which are popularly called as thin sample survey rounds because these surveys are conducted on smaller population in comparison with the thick round EUSs. These are for instance on the issues of migration or social security or consumption expenditure surveys etc.

1.9.3 Sample design for primary data

A total number of 385 labourers was arrived as total sample size, based on the following sample size determination formula. Even though the formula mentioned below gives the number 384, the final sample size was decided to be 385 for arriving at a round figure which will allow for clear subdivision.

Formula : \( N = \frac{z^2(p)(q)}{d^2} \)

Where \( Z = \) confidence limits
\( p = \) proportion of the population under study
\( q = 1-p \)
\( d = \) desired precision of estimate

\textsuperscript{7} For the years 1993-94, 1999-00, 2004-05, 2009-10 and 2011-12 respectively
With 95% confidence of overall results, within a range of plus or minus 5%, overall sample size of the current study will be

\[ N = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384 \]

As there are no hard and fast rules on the determination of sample size hence conservative method stated above has been adopted in this study. In simple words this implies it requires a sample of \( N=384 \) to be 95% i.e within plus or minus five percent range confidence about the output obtained. This formula gives the same number (384) for any number in population above 10,000. However if the population of the study is under 10,000 this formula does not hold. As in the study area the actual number of casual labourers is not known the number of agricultural labourers and other labourers were added up which turned out to be more than 10,000 thus this formula was adopted to decide the total sample size.

After the determination of the sample size, multi stage sampling technique was adopted in the study. In the first stage, out of the 7 taluks in the district, 3 taluks have been selected for fair representation of the district based on agro climatic zones classification and comprehensive composite index constructed by the Nanjundappa Committee report (2002). The three taluks are – Koppa, Kadur and Tarikere. According to Agro –climatic zones classification, all the taluks are classified under 3 categories – Hilly zone, Central Dry Zone and South transitional zone. Taluks of Koppa, Sringeri, N.R Pura and Mudigere are under Hilly zone, Kadur and Chikmagalur taluks are in Central Dry Zone and Tarikere taluk falls under South transitional zone. Further Nanjundappa committee have classified and ranked taluks based on the level of development represented by the Comprehensive Composite Development Indicator-CCDI. This is composed of sub indicators on agriculture and allied activities, industry trade and finance, social and economic infrastructure and population.

Sringeri taluk ranks second in the State list after Kodagu (Coorg district) in the first place. Sringeri taluk (1.90) thus ranks first in the district, followed by Chikmagalur taluk (1.55), Mudigere taluk (1.49) is in the third place followed by

Koppa taluk (1.43) in fourth place in the district. Then N.R Pura (1.30) taluk stands in fifth position followed by Tarike taluk (0.89) in the sixth place and finally Kadur taluk (0.81) stands last in the district.

In fact Kadur taluk has been classified under backward taluks group with a ranking of 129 in the State as per the report. Further Tarike is ranked to be under the category of moderately developed taluk and all other taluks fall under the category of developed taluks in the State with Sringeri in the second place, Chikamagaluru taluk stands in eight place, Mudigere taluk is twelfth place, Koppa taluks ranks seventeenth in the State and N R Pura taluk features to be in twenty fifth place in the State. Koppa taluk has been selected under lottery method amongst the taluks - Koppa, Sringeri, Mudigere and N.R Pura which match both the criteria – high level of development and Hilly agro climatic zone. Even Chikamagaluru taluk is also a developed taluk however it does not meet other criteria as it is classified taluk under Central dry zone. Consequently Kadur Taluk has been selected to represent the backward taluk and as taluk in Central Dry Zone. Further Tarike taluk is the only taluk which met both the criteria of relatively developed taluk and taluk belonged to South transitional agro climatic zone.

Thus three taluks – were selected for study based on these two criteria – Agro-climatic zones and Comprehensive Composite Development Index developed by Nanjundappa committee report9 (2002). The three taluks are Koppa (Hilly zone and developed taluk), Tarike (South Transitional zone and relatively developed taluk) and Kadur (Central Dry Zone and backward Taluk)

Further out of total 384 from the whole of district, a subtotal of 60, 140 and 185 were arrived for each sample taluks – Koppa, Tarike and Kadur respectively based on the population of main workers of the sample taluks as classified in District at a glance10. In the second stage, for fair representation of taluks, five gram panchayats were selected based on the five directions – north, south, east, west and centre with the purpose of covering the entire taluk. However as the geographical structure of Koppa taluk map stood vertical, only two gram panchayats were selected

9 Nanjundappa Committee report was taken as base because at that point of finalization of methodology (2013), no other recent reports were available which discussed the taluk level indicators of development.
10 For details see annexure I
to select two villages. Later in the third stage, five villages – one village per gram panchayats was selected from other two taluks. The subtotal number for each taluk was divided from number of villages selected under each taluk to obtain the number of respondents from each village which turned out to be 30, 28 and 37 for Koppa, Tarikere and Kadur taluks respectively. Finally in the fourth stage of sample selection, labourers were selected randomly. The details of samples from each taluk and village are given in table 1.2 and flowchart of figure 1.2. From North, Harandoor village was selected and from south Guddethota village was selected at Koppa taluk and from each village 30 respondents were selected.

**Figure 1.2 Flowchart of the sample selection**

![Flowchart of the sample selection](image)

Source: Compiled by the researcher
Table 1.2: Details of the sample selection

<table>
<thead>
<tr>
<th>Taluk</th>
<th>Agro climatic zone/Level of Development</th>
<th>Name of the villages</th>
<th>Number of respondents</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koppa</td>
<td>Hilly/Highly developed</td>
<td>Harandoor (N)</td>
<td>30</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guddethota (S)</td>
<td>30</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Tarikere</td>
<td>South Transitional/Moderately developed</td>
<td>Shivane (N)</td>
<td>28</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sokke (S)</td>
<td>28</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lingadahalli (E)</td>
<td>28</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lakkavalli (W)</td>
<td>28</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dornalu (C)</td>
<td>28</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Kadur</td>
<td>Central Dry zone/Backward</td>
<td>Mavinahalli (N)</td>
<td>37</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chikangala (S)</td>
<td>37</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Banur (E)</td>
<td>37</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kasuvanahalli (W)</td>
<td>37</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malleshwara (C)</td>
<td>37</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>385</td>
<td>197</td>
<td>188</td>
</tr>
</tbody>
</table>

Source: Compiled by the researcher (The letters in parentheses show the directions from where the villages are selected N=North, S=South, E=East, W=West and C=Centre)

Shivane from north, Sokke from South, Lingadahalli from east, and Lakkavalli from west and Dornalu from central part have been selected from Tarikere taluk. From each village 28 respondents have been surveyed. In the taluk of Kadur - Malleshwara village from Centre, Kasuvanahalli from west, Banur from Eastern part, Mavinahalli from north and Chikangala from South were selected. From each village 37 respondents were selected to arrive at 184 persons representing the entire taluk. Care was taken to ensure a fair representation of males and females from each village.

1.9.4 Tools for data collection

Primary data was collected from 385 respondents with the help of pre coded and pre tested structured interview schedules from labourers. A pilot study was undertaken to test the pre designed interview schedule. As per the responses, few elements were modified and some questions were rephrased and some were deleted. For instance the entire element of detailed consumption expenditure was dropped as the researcher noted that respondents could not recall expenditure on each and
element and provided dubious, vague and imaginary figures. Thus only average household expenditure per month was obtained from the respondents.

Further qualitative data has been collected from 50 farmers with the help of semi structured face to face in depth personal interview method. The related issues were discussed with local people, officials and mainly employers. Also focus group discussions were conducted at couple of instances where respondents were available. This approach was adopted to capture the perceptions of the ‘demand side’ – that is the views of employers, as well as to elicit the deeper nuances which will allow for suitable comprehension of the scenario and the reasons behind. Further method of observation and reporting has been done to gain better insights of the phenomenon. This approach has been adopted as per the figure 1.2.

A set of 50 employers were interviewed. Proper care was taken to make the respondents comfortable to shell out maximum information. The number of respondents was stopped at 50 for the reason that after 35th response there was no new ideas or responses which emerged in terms of similarity or dissimilarity in views on the issue. Further “ in qualitative research, adequacy refers to the amount of data collected, rather than to the number of subjects as in quantitative research. Adequacy is attained when sufficient data has been collected that saturation occurs”11 as mentioned by Morse (1994).

Added to these 50 responses, couple of coffee estate owners, officials, member of Grama panchayats and also social activists running NGOs for better agricultural practices was consulted to get a holistic picture. Further methods of observation and notes making were employed in the field study.

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Figure 1.3 – Data in field research

- **Figure:** Data in field research (Data 1 = raw data sense, experience of researcher, Data 2= Recorded data, physical record of experiences ; Data 3 = selected and processed data in the final report)

- **Source:** Adapted from Ellon (1984 a:214) by Neuman (1997) and taken from Neuman (1997)

### 1.9.5 Tools for data analysis

As data on hours of work and labour supply days and wages were censored, Heckman selection technique was employed to estimate determinants of labour supply and participation decisions. Heckman technique was used for the reason that, it is a method of correcting sample selection bias. In the study, the question of sample selection bias has arisen because some respondents have deliberately chosen to be out of market during the survey week and thus it is non random decision. So the data on wages, labour supply days become censored. In such a scenario using OLS technique will lead to inconsistent and inefficient results. Thus James Heckman (1979) has proposed a procedure to overcome such problem.

There are two methods of estimation of heckman two stage. First is the two stage estimation using Maximum Likelihood Estimation (MLE) and second is the two stage estimation using probit. Both methods involve the estimation of inverse mills ratio in first stage and using the same as an explanatory variable in the second stage. Even though MLE method is more efficient as it is time consuming for large data sets,
two stage technique is preferred (Maglad 1998). But here in the thesis the MLE method is employed for its efficient estimation.

In the first stage, labour participation equation is estimated with a latent variable where 0 - zero stands for non participation and 1 - one stands for participation in labour market. Further in the second stage labour supply equation is estimated. If the “rho” and “lambda” are significant, that implies presence of sample selection bias and provides justification for the adoption of heckman selection technique. If not, one must rule out the sample selection bias problem and estimate the co-efficients with tobit model.

However it must be noted that Heckman selection framework has certain assumptions about the error terms $u$ and $\varepsilon$; where ‘$u$’ is the error term of first stage and ‘$\varepsilon$’ is the error term of the second stage estimation:

1. There is a joint distribution of the error term selection or participation equation and the error term in such equation must not be zero ($\rho \neq 0$)

2. The hazard variable lambda ($\lambda$) must be statistically significant for sample selection to exist

Diagonistic tests like Log pseudo Likelihood Ratio test (LR) and Wald test are undertaken to test the null hypothesis that all parameters co-efficients are equal to zero except for the constant. The likelihood-ratio test reported at the bottom of the output table is an equivalent test for $\rho = 0$ and is computationally the comparison of the joint likelihood of an independent probit model for the selection equation and a regression model on the observed wage data against the Heckman maximum likelihood. If LR chi-square and Wald Chi-square are significant, that implies all variables are jointly significant in estimation and all parameter co-efficients are non zeros. Also when the ‘p’ value is less than 5% level then it will lead to the conclusion that model is well specified and all parameters are jointly significant. As heteroscedasticity is most commonly expected problem in cross section data, robust standard errors are reported to control the problem.

Further, in order to fulfill the objectives related to variations in composition of workforce in rural India and rural Karnataka and also the variations in wages, labour supply days, work hours and monthly household expenditure among the sample
taluks, the dummy variable model has been used. Dummy variable model has an edge over the simple ANOVA analysis because the results of ANOVA are limited. That is, ANOVA results only specify evidence for existence of variations and in order to study whether the difference is significant one should resort to post hoc tests after ANOVA. As the dummy variable model directly reports both, the existence of variations as well as significance of those differences, the dummy variable model has been used. It is also to be noted that even though there are various ways and means of analyzing data, the present study has resorted to only Heckman technique and dummy variable model for maintaining uniformity in the analysis of data. Heckman selection model has been run on STATA 12 software and the dummy variable model has been estimated using SPSS 16 software. Further descriptive statistics, tabular and graphical method have been incorporated in the study.

1.10 CONCEPTS AND DEFINITIONS

a) **Dynamics**\(^{12}\): The word ‘Dynamics’ in the title of the thesis stands as reflection of the changes in the nature, trends, patterns and composition of rural labour supply. It encompasses the changes taken place in the rural labour over the years from 1993-94 (50\(^{th}\) round NSSO) to 2011-12 (68\(^{th}\) round NSSO) the latest EUS. The year 1993-94 has been chosen to mark the post reform period. Changes in terms of indicators of labour supply like LFPR, WPR, UR etc have been studied. Also with reference to study area, dynamics refers to the changes in the perceptions and attitudes of rural labourers and employers towards labourers, the nature of relationship between employer and labourers and related factors.

b) **Labour supply**: For the present study labour supply is captured in terms of the total number of days worked in the reference week.\(^{13}\) This is because as the study has its base in primary data it was found to be reliable and accurate measure in comparison to the data on working hours.\(^{14}\)

\(^{12}\) It must be noted that ‘Dynamic model of labour supply’ needs longitudinal data and hence the word dynamics must not be confused with labour supply in a dynamic setting.

\(^{13}\) Extensive margin of labour supply – ‘to work or not to work’ and the intensive margin - ‘if working how much to work’ and both aspects have been captured.

\(^{14}\) Work hours had huge variations, according to the farmers and other employers, even though workers came to work by 9.00 A.M and leave by 5.00 P.M thus summing up to 8 hours, but this does include the lunch breaks as well as snack breaks. So the productive work hours was only 6 hours according to farmers.
c) **Rural labour**: Manual labour working in agricultural and/or non-agricultural occupations in return for wages paid either in cash or in kind (excluding exchange labour) and living in rural areas.

d) **Self-employed worker**: Persons who operated their own farm or non-farm enterprises or were engaged independently in a profession or trade on own-account or with one or a few partners were deemed to be self-employed in household enterprises. The essential feature of the self employed is that they have autonomy (decide how, where and when to produce) and economic independence (in respect of choice of market, scale of operation and finance) for carrying out their operation. The remuneration of the self-employed consists of a non-separable combination of two parts: a reward for their labour and profit of their enterprise. The combined remuneration is wholly determined by the revenue from sales after netting out value of purchased inputs used in production.

e) **Casual wage labourer**: A person, who was casually engaged in others’ farm or non-farm enterprises (both household and non-household) and, in return, received wages according to the terms of the daily or periodic work contract, was a casual wage labourer.

f) **Regular wage/salaried employee**: These were persons who worked in others’ farm or non-farm enterprises (both household and non-household) and, in return, received salary or wages on a regular basis (i.e. not on the basis of daily or periodic renewal of work contract). This category included not only persons getting time wage but also persons receiving piece wage or salary and paid apprentices, both full time and part-time.

g) **Usual principal activity status (UPS)**: The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively long time (i.e. major time criterion) during the 365 days preceding the date of survey is considered as the usual principal activity status of the person.

h) **Usual subsidiary economic activity status (USS)**: A person whose usual principal status was determined on the basis of the major time criterion could have pursued some economic activity for a shorter time throughout the reference
year of 365 days preceding the date of survey or for a minor period, which is not less than 30 days, during the reference year. The status in which such economic activity was pursued was the subsidiary economic activity status of that person.

i) **Usual principal and subsidiary status (UPSS)**: it is the UPS and USS put together.

j) **Current weekly activity status (CWS)**: The current weekly activity status of a person is the activity status obtaining for a person during a reference period of 7 days preceding the date of survey.

k) **Current daily activity status (CDS)**: The activity pattern of the population, particularly in the informal sector, is such that during a week, and sometimes, even during a day, a person could pursue more than one activity. Moreover, many people could even undertake both economic and non-economic activities on the same day of a reference week. The current daily activity status for a person was determined on the basis of his/her activity status on each day of the reference week using a priority-cum-major time criterion (day to day labour time disposition).

l) **Labour force**: Labour force refers to the population which supplies or offers to supply labour for pursuing economic activities for the production of goods and services and, therefore, includes both ‘employed’ and ‘unemployed’ persons/person-days.

m) **Labour Force Participation Rate (LFPR)**: Labour Force Participation Rate is defined as the number of persons in the labour force per 1000 persons/person-days.

The LFPR is mathematically defined as below:

\[ LFPR = \frac{\text{number of persons employed} + \text{number of persons unemployed}}{\text{total population}} \times 1000 \]

n) **Work Participation Rate (WPR)**: Work Participation Ratio refers to number of persons employed per 1000 persons in labour force.
The WPR is mathematically defined as below:

\[ WPR = \frac{\text{number of persons employed}}{\text{total population}} \times 1000 \]

o) **Unemployment rate (UR)** is defined as number of persons unemployed per 1000 persons in labour force.

The UR is mathematically defined as below:

\[ UR = \frac{\text{number of persons unemployed}}{\text{number of persons employed} + \text{number of persons unemployed}} \times 1000 \]

p) **Informal labour** has been defined as those working in the informal sector or households, excluding regular workers with social security benefits provided by the employers and the workers in the formal sector without any employment and social security benefits provided by the employers.

### 1.11 SCOPE AND IMPORTANCE OF THE STUDY

The changes in rural labour supply over the 50th, 55th, 61st, 66th and 68th rounds NSSO data has been used to study the trend, pattern and composition of rural labour supply. The 50th round which was from the year 1993-94 has been taken to be the beginning of study period keeping in view the introduction of LPG in India. Comparisons are made across the aforementioned 5 rounds of NSSO data both at India and Karnataka level. Also primary data from Chikkamagaluru district has been collected from supply as well as demand side to study the dynamics at the micro level holistically.

Though the study is carried out in the Chikkamagaluru district of Karnataka, the non-availability of labour in rural India is spatial in nature. The study intends to understand the causes for the same and its implications, at Chikkamagaluru in particular, India and Karnataka in general. Thus the outcome of the result might aid the policy makers to gain better comprehension of the probable problem of non-availability of casual labour and also it will enable the government to undertake suitable policy measures.
1.12 LIMITATIONS OF THE STUDY

The focus of the study is restricted only to Chikkamagaluru district and hence making sharp generalization is difficult. All care has been taken to collect accurate and reliable data. However, the data collected in through interview schedule may not be fully free of response error. Also a well built panel data has not been available which would have enabled a more rigorous analysis and thus has limited the emergence of more meaningful insights.

1.13 ORGANISATION OF THESIS

The thesis has been organized under seven chapters.

- Chapter one of the thesis, provides the introduction to the study. The statement of the problem, objectives and hypotheses of the study are presented along with the methodology. The importance as well as the limitations of the study is highlighted.

- Literature review has been presented in Chapter two. The chapter consists of two main sections: first is on the theoretical framework and the second section deals with the empirical literature and this is followed by summary of the chapter.

- The third chapter comprises of a brief introduction followed by a discussion on need for review of policy. Next the concept of labour policy along with the history, evolution and approach of labour policy in India has been studied besides the recent developments in the policy arena. Lastly the summary of the chapter has been presented.

- Fourth chapter encompasses two extensive sections. In the first section the trend, changing composition of workforce and other labour market indicators are discussed with the details of the labour supply situation in rural India and Karnataka. Further in the second section the determinants of labour supply and labour participation decision are estimated and the results are discussed. This is followed by the summary of the chapter.

- A brief profile of the district and sample taluks, changing composition of workforce and other labour market indicators are discussed in the first part of the fifth chapter. In the second part of the chapter, the basic details of the sample
respondents are provided from data collected from Chikkamagaluru district in the State of Karnataka. Finally the summary of the chapter has been provided.

- There are three broad sections in the sixth chapter, where the first section of the chapter discusses the various determinants of the rural casual labour supply in study area, the second section deals with the analysis of the inter taluk variations in the daily wages, MPCE, LSD. The third and the last section captures the perceptions of the farmers on the changing rural labour scenario in the study area. This has been followed by the summary of the chapter.

- The last chapter presents the gist of the key findings of the current study, which has been discussed in previous six chapters. The chapter is broadly divided into three parts. The first part covers the findings of the present study based on both primary and secondary and secondary data, the second deals with the brief discussion on the results of hypothesis testing and the last part encompasses the policy imperatives based on the findings and also the areas for future research in the related field and overall conclusion to the study.

1.14 SUMMARY

The first chapter of the present study provides a strong introduction to the thesis and puts forth the major theme of the research work. The chapter opens with an introduction followed by a brief discussion on changing contours of rural labour scenario in India as a backdrop to the study. Next, the research problem is stated and subsequently a brief outlook of literature reviewed in the second chapter is given along with the gaps in the literature. Later the research questions, objectives and hypotheses of the study are stated. This is followed by the methodology adopted in the study which comprises of the rationale of the selection of study area, data base, sample design for primary data, tools used for data collection as well as analysis. Further the concepts and definitions used in the study, scope and significance of study, limitations are discussed. Lastly the organization of the thesis is presented.