

# Prospects for Youth Employment in Agriculture: Issues and Challenges

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Ellina Samantroy



**V.V. Giri National Labour Institute**

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## Preface

Agriculture has played a prominent role in providing livelihood opportunities for millions of people in the country. Agriculture contributes to 13.9 percent of GDP along with its allied sectors. Agriculture and rural infrastructural development have been one of the priorities in the Union Budget 2017-18 and several initiatives have been undertaken to improve the conditions of the farmers. Also, in the wake of a huge demographic dividend, there is an increasing policy attention to reap the benefits of the burgeoning youth population by increasing their participation in the labour market and their productivity so that they can contribute to the country's economy. However, with the sectoral shifts in the Indian economy and lack of adequate employment opportunities in the rural areas, the youth have been migrating to the urban areas for better livelihood opportunities. Though the policy makers perceive an enormous potential labour force to be sustained in agriculture a lot more need to be done. In this context, the present research work was undertaken to assess the present situation of youth in agricultural operations and their social location.

Presently, the country has nearly 232 million youth in India with decadal growth rate of 22.1 per cent during (2001-2011) as reflected in the Census. Also, youth is a critical segment of any population and their involvement might be crucial for future social, economic and political development of the society. The present research work further sets out to assess the role of technology in agricultural productivity and efficiency in order to make it attractive to the young farmers. Several key concerns have been recognised that influence youth in contributing to agricultural progress namely; (1) regular employability in agricultural sector throughout the year; (2) favourable output return; (3) effective vocational training centre and access to technology for agricultural development; (4) recognition and the strengthening of women's involvement in both farm and non-farm activities.; (5) lack of adequate policy perspectives that encourage young minds to sustain in agriculture.

The present research work also tries to describe the gendered dimensions of agricultural workforce as women's contribution is critically evaluated according to their availability for job, nature of work, working hours and wage pattern. This study also tries to understand the use of affluent technological coverage that refine agricultural productivity and reassure young farmers to achieve sustainability in agricultural operations. The study tries to provide an overview of the agricultural sector with an aim to identify the gaps and challenges that act as obstacles for employment generation in this sector. It also enables an understanding of gender

dimensions in agriculture with an in-depth analysis of issues of feminisation of agriculture in order to inform governmental policy to improve women's participation in the economy and larger issues of gender inequality in the labour market. Finally an attempt is made to contribute in terms of policy inputs to the current government efforts of finding more innovative ways of creating decent youth employment in particular informing the design of targeted interventions for more effective involvement of youth in the agricultural sector.

I am sure that, this work will definitely prove a valuable asset in guiding planners, policy makers, social scientists, researchers, civil society organisations and trade unions who are working in this area to make necessary interventions. This work will be a contribution to the wide-ranging discourses on conditions of farmers and the prospects of youth employment in agriculture. It will also help the policy makers and academicians to address the issues related to involvement of youth in agriculture and to achieve decent and productive employment in the agricultural sector.



**(Dr. H Srinivas)**  
**Director General**

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I take this opportunity to express my gratitude to many people who have been instrumental in the successful completion of this work.

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## **List of Abbreviations and Acronyms**

AC	Agriculture Census
EC	Economic Census
EU	European Union
GDP	Gross Domestic Product
GOI	Government of India
KVKs	Krishi Vigyan Kendras
MSDE	Ministry of Skill Development and Entrepreneurship
NICRA	National Initiatives on Climate Resilient Agriculture
NMAET	National Mission for Agriculture Extension & Technology
NPYAD	National Programme for Youth and Adolescent Development
PMFBY	Pradhan Mantri Fasal Bimaojana
PMKVY	Pradhan Mantri Kaushal VikasYojana
RKVY	Rashtriya Krishi VikasYojana
SC	Scheduled Caste
ST	Scheduled Tribe
UN	United Nations
UNDP	United Nation Development Programme
WB	World Bank
WPR	Work Participation Rate

# Chapter One

## INTRODUCTION

### 1.1 The Context

Though there has been a shift from the agricultural sector to industry and services, yet agriculture remains the backbone of rural economy. The employment and unemployment surveys of the country conducted by the National Sample Survey Office report a decline in share of agriculture and increase in non-agricultural employment. Agriculture has been consistently declining, from around 60 percent in 1999-00 to 49 percent in 2011-12. In absolute terms, between 2004-05 and 2011-12, there has been a net reduction of 30.57 million of labour from the agricultural sector as reported by the National Sample Survey Organisation. However, the role of agriculture in the growth of rural economy, particularly in terms of enhancing rural income, attaining goals on food security may not be ignored. In rural areas, nearly 59 per cent of the usual status (ps+ss)<sup>1</sup> male workers and nearly 75 per cent of the female workers were engaged in the agricultural sector. Among the male workers, 22 per cent and 19 per cent were engaged in secondary and tertiary sectors. The corresponding proportions for female workers were 17 per cent and 8 per cent, respectively (GOI, 2013).

Some of the studies that have assessed the impact of the agriculture sector have found that this sector absorbs the largest proportion of the country's workforce (Krishnamurly 1988; Duvvury 1989). Over the past seventy years, Indian agriculture system has undergone several transformations with various technological inventions with a huge potential to alleviate poverty, particularly in a country where 68 per cent of the population still resides in rural areas and is increasingly dependent upon agricultural operations for their livelihood. In the recent years, Indian farmers continued to be engaged in various agricultural and allied activities coupled with poor working conditions, long working hours, low wage rates and indebtedness. For instance, a large chunk of India's workforce are engaged in the agricultural sector but this sector has many challenges like lack of post-retirement benefits, inaccessibility of crop insurance services and unpredictable natural disasters that act as a deterrent for the burgeoning youth population in the country to opt for agricultural activities.

With the huge demographic dividend in the country, one of the major challenges faced by India's youthful population is lack of productive

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<sup>1</sup> Ps+ss denotes Principal and subsidiary status as per the National Sample Survey Organisation

and decent employment. Despite low growth rates and declining share in terms of contribution to GDP, agriculture remains the mainstay for both skilled and unskilled labour in the context of massive informality in the country. Thus attracting and maintaining the youth in agriculture does not only mean improvements in the on-going unemployment levels but also in exploiting their capabilities for national development in terms of increased agricultural outputs and productivity. Achieving this would require critical understanding of the challenges faced by the youth in opting for agriculture and the prospects of youth engagement in agriculture which the present study would attempt to do. Youth's access to knowledge and information is crucial for addressing the main challenges they face in agriculture. In order for rural youth to shape agricultural policies affecting them directly, in terms of access to markets and finance as well as green jobs and land, they need to receive appropriate information and education. While this is true in developed and developing countries alike, it is of particular concern in the latter, where young rural inhabitants may lack access to even the most rudimentary formal education, and where educational institutions are often less developed (FAO,2014).

There is evidence in literature on migration, specifically rural out migration as one of factors responsible to reduce labour supply in agriculture (Brauw et al, 1999; Prabhakar, 2014). However, with regard to agriculture as a viable option for youth, some studies in Asia have pointed out certain inter-related reasons like farmers low identity and self-image, insecure land ownership and increasing land price, lack of rural infrastructure, inadequate skills, knowledge on production, processing and business that have remained the major challenges for attracting youth to agriculture (AFA,2015). Some other studies have brought out inadequate access to financial services, difficulties in accessing green jobs, limited access to markets and youth's limited involvement in policy dialogue as major challenges identified for non-participation of rural youth in agriculture (FAO, 2014).

There has been migration of rural youth in agriculture to urban areas to low paying informal jobs thereby contributing to the already huge informal sector. Such trends raise questions on what constraints the youth from active engagement in the agricultural sector. How can the government enhance agricultural productivity with less educated and skilled rural population? How can one retain youth in agriculture and what is the future leadership in agriculture? The Report of the National Commission on Labour had emphasised on the rural sector, particularly agriculture and allied occupations including agri-business and processing. The recommendations included productivity improvement in agriculture

through efficient use of fertilizers, water management, cropping patterns etc, floriculture, integrated horticulture, organic farming, development of rural infrastructure etc (GoI, 2002). Also, the Report of the National Commission on Rural Labour had highlighted the situation of deprivation of agricultural labourers belonging to various social groups like the Scheduled Castes and Scheduled Tribes and the need for adequate policy intervention for addressing rural poverty (GoI, 1991). The National Commission on Farmers under the Chairmanship of M.S Swaminathan, constituted in 2004 focussed on issues of land holdings inequality reforms and had recommended for distributing ceiling surplus and waste lands, setting up of a mechanism to regulate the sale of agricultural land, based on quantum of land, nature of proposed use and category of buyer.<sup>2</sup> However, the National Policy for Farmers initiated by the Department of Agriculture and Co-operation, Ministry of Agriculture had focussed on supporting youth for setting up agri-clinics and production-cum processing centres to undertake outsourcing jobs both from within and outside the country. It had also emphasised on the introduction of vocational training courses on different aspects of agriculture and allied activities including processing of agro-products to attract youth to the agricultural sector. The role of Krishi Vigyan Kendras (KVKs) was recognised as central in imparting such training (GoI, 2007).

It is against this background, the present study seeks to analyse the underlying constraints faced by the youth in agricultural production. The study explores whether these constraints are similar across all age cohorts. The expected causes of youth employment instability in the agricultural sector are analyzed to inform the formulation of sound youth employment policies and programmes. The study also analyses a set of individual and household characteristics that determine the likelihood of youth engagement in agriculture. The findings of the study aims to contribute to the current government efforts of finding more innovative ways of creating decent youth employment in particular informing the design of targeted interventions for more effective involvement of youth in the agricultural sector.

## 1.2 Agricultural Sector in India and its contribution to GDP

It is evident that the pace of economic growth commenced after the green revolution which strengthened the Indian agriculture sector and introduced innovative ways of agricultural operations. The green revolution was a culmination of post-independence development both in plant breeding and in agriculture growth (Harriss, 1971). During the early 1960s and

<sup>2</sup> For details please see <http://www.agricoop.nic.in/sites/default/files/NCF3.pdf>

1970s, the contribution of the green revolution in the agriculture sector was exceptional and it accelerated the Indian economy steadily. During the 1970s, millions of agricultural workers shifted to the organised sector (Hazra 1991; Chakravarti 1973). Historically, non-agricultural wage rates have been on the higher side than the agriculture sector in India (Sarkar & Mehta 2010).

In the Indian economy, agriculture played a vital role in mounting the overall economic growth. The agriculture sector has been one of the core sectors providing livelihood opportunities to a significant segment of population in the country (Mathur, Das & Sircar 2006). At the time of independence in 1947, the annual growth rate of GDP was around 3 per cent and after almost six decades, it was stood on nearly 8.4 per cent (Basu & Maertens, 2007). It is noticeable that, the annual growth rate of Gross Domestic Product was nearly 5.6 per cent in 1980s (Panagariya, 2004). In addition, liberal economic policies did not provide sufficient backup to the economic growth during the 1980s. In the later stages, analysis by Bhaskar & Gupta (2007) suggests that economic growth has been influenced by increasing inequality with accumulative rural-urban gaps and regional disparities. More specifically, in the nineties, divergence in per capita consumption, increase in rural-urban equality and rising inequality within states determined the economic variation in India (Deaton & Dreze, 2002) and it further points out that GDP has grown at an annual rate of 3.0 per cent (Datt & Ravallion 2002; Hansda & Ray 2006). It is clear from these observations that, after the post-reform period (1993-94 to 2004-05) the share of agriculture in GDP has fallen steadily from 19.0 per cent in 1996-2000 to 17.8 per cent in 2011-15 (Pattnaik, Lahiri-Dutt, Lockie & Pritchard, 2017). Notwithstanding some of the estimates highlight that after 1991, the highest growth rate was observed in the tertiary sector followed by manufacturing while agriculture continued to lag (Datt & Ravallion, 2011).

Presently, the youth comprise a huge segment of the population in the country. In addition, Indian youth is grappling with several problems like unemployment, underemployment, lack of equal opportunities for quality of education and lack of adequate skill development programmes. The table below(1.1) provides an overview of the situation of Economic Empowerment in India which reflects on an increasing labour force of 472.9 million in 2011-12 from 459.0 million in 2009-10. Also, Census of India 2011 has reported that out of 1.22 billion people around 604 million were just under 24 years of age. India has the world's most influential demographic dividend which also reflects on a huge supply of potential labour force in country (Acharya, 2004).

**Table 1.1: Economic Empowerment in India**

Macro	2014-15	2015-16	2016-17
Real GDP (%change y-o-y)*i,a	7.5	8.0	7.1
Investment (% of GDP)	35.7	34.9	33.2
Labour Market	2004-05	2009-10	2011-12
Employment (million)ii, b,c	457.9	459.0	472.9
Unemployment (million)c	11.3	9.8	10.0
Labour force participation rate (%)	63.7	57.1	55.9
Male	8.0	80.6	79.8
Female	42.7	32.6	31.2
Unemployment rate (%)	2.3	2.0	2.1
Male	2.1	1.9	2.1
Female	2.6	2.3	2.3
Share of employment in manufacturing (%)	11.6	11.0	12.5
Male	12.0	11.1	12.2
Female	11.0	10.8	13.2
Share of regular wage and salaried workers (%)	14.4	15.7	17.9
Male	17.3	17.8	19.9
Female	8.4	10.2	12.8
Working poverty rate (%)iii <US\$1.90 per day	35.3	28.4	17.9
>=US\$ 1.90 &<US\$ 3.10 per day	36.5	37.5	35.0
Average real daily wage index (2004-05=100) Rural	100.0	111.7	122.8
Urban	100.0	129.4	N.A

Note: a) at 2011-12 prices b) all ages; c) usual status; d) estimates for persons aged 15 years and above; e) average real daily wage index for regular wage employees aged 15-59 years.\*year over year

Source:i) Ministry of Finance Monthly Economic Report May 2017: (ii) National Sample Survey, Employment & Unemployment schedule, 61<sup>st</sup>, 66<sup>th</sup> and 68<sup>th</sup> rounds; iii) ILO: key Indicators of the Labour Market, 9<sup>th</sup> Edition (ILO, 2015)

### 1.3 Youth Concepts and Definition: India and the World

Youth in the age group of 15-29 years comprise 27.5 percent of the population. At present, about 34 percent of India's Gross National Income (GNI) is contributed by the youth, aged 15-29 years (GoI, 2014). The youth in India comprise a huge population whose potential may be tapped with increasing labour market participation. The recent report on Youth in India 2017 defined youth as a period from adolescence to middle age (GoI, 2017). It's also interesting to note that, youth age-group is defined differently by different countries/ agencies in different contexts. The United Nations defines 'youth' as persons between 15 and 24 years of age (GoI,2014).The various definitions of youth by different organisations is presented in the

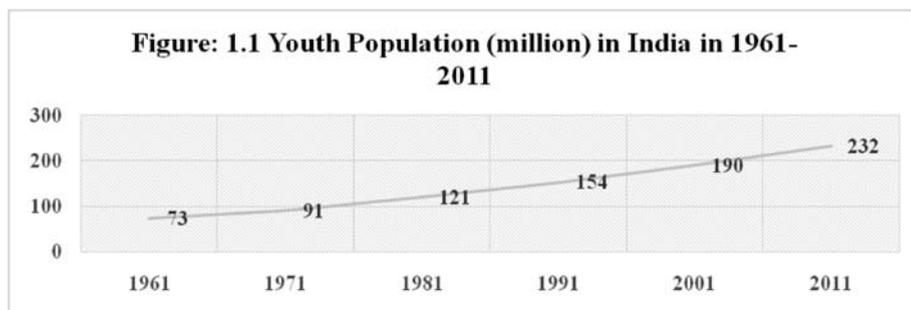
table below (1.2) .However, for the purpose of the present work the 15-24 age group is considered to define youth population.<sup>3</sup>

**Table 1.2: Concept and Definition of Youth**

S. No	Name of the organization	Age Cohorts
1.	The Commonwealth	15–29
2.	United Nations Educational, Scientific and Cultural Organization (UNESCO)	15–24
3.	International Labour Office (ILO)	15-24
4.	UN Habitat (Youth Fund)	15-32
5.	UN Population Fund (UNPF)	10-24
6.	World Health Organization (WHO)	10-29
7.	World Bank (WB)	15-34
8.	African Union 15–35	15–35
9.	European Union (EU)	15–29

Sources: Global Youth Development Index and Report 2016, P. 21

With regard to youth population in India as per Census of India, about 232 million youth population is recorded in India in 2011 which has increased over the years (figure 1.1)



Source: Census of India, 1961-2011

#### **1.4 The Impact of Technological Changes on Agricultural Development in India**

When highlighting the impact of technological changes in agriculture it is essential to provide effective employment in crop production and allied agricultural activities. After long freedom struggle, the newly born

<sup>3</sup> The International Labour Organization has defined the 15-24 age groups as youth and the present study also takes into consideration 15-24 age group for defining youth.

country was worried and tried to establish them on the world's political and economic map. In addition to this, economic growth, reforms in agricultural sector and expansion of international trade were the basic and foremost priorities to strengthen the nation's backbone. In order to meet these targets, skilled manpower, collaboration with world's leading organisations and technological innovations which make agriculture highly effective and scientific in nature were required. These alterations had created a competitive environment for the industrial sector and service sector and undoubtedly led to the shrinkage of employment opportunities in the agriculture sector. In the 1960s, the introduction of High Yielding Varieties (HYV) has seen as a greatest technological change to accelerate the agricultural productivity and generate faster economic growth. Significantly, after post economic reform, India has been marked by splendid economic growth in both farm and non-farm sectors.

Making agriculture profitable or attractive to the youth demands education in agriculture including access to technology, marketing etc. There is a need to explore the abilities of youth through introduction of innovative methods to generate higher agricultural growth by applying new technologies and budgetary allocations. In this regard, the role of government remains pertinent for making agriculture scientific and cost-effective to the youth. The present study has also tried to investigate the access of technology for improvement in agricultural productivity and role the of youth.

## **1.5 Review of Literature**

The previous section gave an overview of India's economic growth performance over the past 70 years and it pointed out how technological changes and trade policy have altered the trends of economic growth. This section provides an overview of literature on various aspects of agriculture with regard to participation of women, role of technology and the challenges faced by young farmers. Some of the studies in the context of agriculture have highlighted on the role of women in agriculture and have clearly pointed out that gender-based inequalities have pushed women into arduous unimportant, repetitive and low paid agricultural work compared to their male counterparts. It has produced a great transition between men and women for the equal nature of workforce (Pai 1987). A number of well-known studies on the gender and agriculture have shown they are victims of multiple disadvantages which result in low wage rates, prejudiced treatment and lesser opportunities for profitable work (Pai, 1987). Women in poor countries have been found more concentrated in agricultural sector, either as food producers or as farm labour (Siqwana-Ndulo, 2007).

With respect to women's autonomy, Duvvury in (1989) has shown that two imperious factors of women's participation in the Indian economy are; the lower level of participation rate of women vis-a-vis that of men and the declining trend in women's involvement rate of over time. It has further suggested that women tend to contribute more labour than men, especially when domestic work is taken into account (Aggarwal, 2016). In Indian rural society, caste and economic backwardness are important factors that are largely responsible for their social and economic vulnerabilities. For instance, women workers from weaker sections face more discrimination resulting in low wages (Krishnamurly, 1988). It has long been clear that, the association between feminisation and empowerment are not necessarily positive especially in terms of paid employment (Pattnaik; Lahiri-Dutt; lockie & Pritchard 2017). It is important to acknowledge that, women in poor families have always performed in the informal sector. Neetha and Mazumdar (2011) have empirically shown that between 1993-94 and 2007-08, the distribution of paid female labour-force in the rural areas remained unchanged with casual labour dominating. Furthermore, feminisation of agriculture is also followed by distress migration and the casualization of work (Vepa, 2005; Srivastava 2011).

Within the context of a declining female labour force participation in India and a huge demographic dividend with a potential youth population, it would be important to understand the situation of women in agriculture and access to skills and other agricultural promotion schemes.

Some other studies have very aptly documented the challenges faced by young farmers to sustain in agriculture. Though agriculture continues to make the buoyant pathway to higher GDP growth, in the recent times unemployment is one most pressing problems which may be responsible for deteriorating psychological, economic and socio-cultural attitudes of the youth (Mujumdar, 2006). Given the fact that the concept of jobless growth is quite common phenomenon in the developed countries and now it has reached in India where due to certain limitations it created huge impact on the economic growth (Hansda & Ray, 2006). Self-employment has also created the well-defined alternative to youth unemployment glitches (Williams, 2004). Ironically, Indian youth have sufficient potential to sustain in the agriculture sector but certain limitations divert their intention and force them to opt out of agriculture. In addition, the agriculture sector is unable to deliver consistent income or profitable share accompanying the lack of institutional support which might be an escape route to the youth to evolve their career in the service sector or white-collar jobs. For instance, across the country, millions of farmers have committed suicides due to heavy debt, natural calamities and non profitable post-production

marketing. Notwithstanding massive economic growth, in agriculture sector where income elasticity of demand is quite low compared to the manufacturing sector (Bhide, Kalirajan & Shand 1998).

## 1.6 Objectives of the Study

The present study has the following broad objectives:

1. To understand the extent and nature of involvement in agriculture across various age cohorts in India.
2. To assess their education, skill level, asset holding and social group classification in relation to their association with agriculture.
3. To identify the drivers for withdrawal of youth from agriculture.
4. To assess the situation of young women in agriculture with regard to their access to land and other productive assets.
5. To assess the impact of use of technology on overall employment potential and also that of various agricultural extension services
6. To examine the various institutional arrangements for promotion of agriculture and analyze them from a policy perspective for promotion of agricultural employment among rural youth.

## 1.7 Database and Methodology

The present study is based primarily on secondary data obtained from the Census of India (2011), National Sample Survey Organisation (68<sup>th</sup> and 70<sup>th</sup> Rounds) and Economic Census 5<sup>th</sup> and 6<sup>th</sup> rounds and the Agriculture Census (2005-06 and 2010-11) are analysed for this study. A detailed description of these data sources has been discussed below:

The data from Census 2001 and 2011 are used for deriving analysis in this report. Apparently, the data outlined in the two latest rounds of the Economic Census was also used for certain analysis in the study. The Central Statistical Organization (CSO) conducted the Fifth Economic Census in 2005 in all the States/UTs in collaboration with State Directorates of Economics and Statistics. In this series, it was the fifth instalment which comprises both agricultural and non-agricultural enterprises. Subsequently, Sixth episode of the Economic Census was conducted during January 2013 to April 2014.

With regard to data from the National Sample Survey Office, the 68<sup>th</sup> round survey carried out during July 2011 to June 2012 is considered for the study. The NSSO 70<sup>th</sup> round was conducted during January-December, 2013. The 70<sup>th</sup> round is modified and updated survey of 'Situation Assessment Survey' of 2003. The NSSO 70<sup>th</sup> round is based on the following broad themes.

- A) Key Indicators of Situation of Agricultural Households in India
- B) Income, Expenditure, Productive Assets and Indebtedness of Agricultural Households in India and
- C) Household ownership and operational holdings in India

For the analytical purpose, the definition of youth adopted from ILO and United Nations which is 15-24 years is used for the analysis whenever possible. However the ,entire working age cohort would also be considered with special reference to youth involvement in the agricultural sector.

Work Participation Rate (WPRs)

$$\text{Work Participation Rate (WPR)} = \frac{\text{Percentage of Workers (Main + Marginal)} \times 100}{\text{Total Population}}$$

As a part of the data collection for this study, Focussed Group Discussions (FGDs) were also conducted from representatives of government departments, District Administration and civil society who have been dealing with the families involved in agriculture in their official capacity directly or indirectly. Focussed Group Discussions (FGDs) were conducted in a three-day workshop organised by the VVGNI. The discussions were carried out among Vocational Trainers, Programme Managers, Instructors of National Child Labour Project; Teachers of Sarva Shiksha Abhiyan; Mandal Educational Officers; (Mandal is the second tier after District in the four Tier Panchayati Raj system in Andhra Pradesh), Deputy Block Development Officers etc. They represented geographical areas from Northern, Southern, Eastern, Western and Central India.

### 1.7.1 Concept and Definitions

For the purpose of this research work definitions of workers and related attributes has been cited from Census of India (2001-2011), various rounds of National Sample Survey Organisation (NSSO) and Economic Census 5<sup>th</sup> and 6<sup>th</sup> Editions. Some of the terms used in the study include the following:

#### **Main Workers**

A person who has worked for major part of the reference period (i.e. six months or more during the last one year preceding the date of enumeration) in any economically productive activity is termed as 'Main worker'.

#### **Marginal Workers**

A person who worked for 3 months or less but less than six months of the reference period (i.e. in the last one year preceding the date of enumeration) in any economic activity is termed as 'Marginal worker'

## **Cultivators**

For purpose of the Census, a person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation. A person who has given out her/his land to another person or persons or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivate on land, is not treated as cultivator.

## **Agricultural Labourers**

A person who works on another person's land for wages in money or kind or share is regarded as an agricultural labourer. She or he has no risk in the cultivation, but merely works on another person's land for wages. An agricultural labourer has no right of lease or contract on land on which she/he works.

## **Household Industry Workers**

Household Industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The larger proportion of workers in the household industry consists of members of the household. The industry is not run on the scale of a registered factory where more than 10 persons with power or 20 persons without power is in use as it would qualify or has to be registered under the Indian Factories Act.

The main criterion of a Household industry even in urban areas is the participation of one or more members of a household. Even if the industry is not actually located at home in rural areas there is a greater possibility of the members of the household participating even if it is located anywhere within the village limits. In the urban areas, where organized industry takes greater prominence, the Household Industry should be confined to the precincts of the house where the participants live.

## **Other Workers**

Workers other than cultivators, agricultural labourers or workers in Household Industry, as defined above are termed as 'Other Workers' (OW). Examples of such type of workers are government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport, banking, mining, construction, political or social work, priests, entertainment artists, etc.

## 1.8 Outline of the Study

The second chapter provides an overview of the agricultural sector in India with respect to participation of youth in agriculture. It also highlights on the sectoral arrangements and how changes associated with these affect the economy. Chapter three analyses the role of women in agriculture vis a vis their ownership in agricultural establishments. It also provides an insight into women's access to land ownership and its impact on agricultural operations. Chapter four discusses about the role of technological changes in agriculture and highlights on the access to technology. It also tries to analyse the existing policy mechanisms with regard to promotion of technology in agriculture. The last chapter tries to provide a summary of the study with emerging policy recommendations.

## 1.9 Limitations of the Study

Since the study largely relies on secondary data from the Census of India, NSSO, Agricultural Census and Economic Census (EC) the scope remains limited in terms of deriving broader generalisations. There are certain questions that may not be adequately captured by the secondary data due to unavailability of data and demands a suitable primary investigation. The study was time bound in nature and within the limited time frame it was difficult to undertake a suitable primary investigation.

## Appendix

**Table A.1.1: Annual Growth Rates of Real Gross Value Added at Factor Cost by Industry of Origin (Percent) at constant prices**

Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, Construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost
1	2	3	4	5	6	7
2004-05 Series						
1951-52	1.9	4.6	2.6	2.3	3.0	2.3
1952-53	3.1	-0.4	3.3	4.2	2.1	2.8
1953-54	7.5	6.2	3.7	1.4	3.1	6.1
1954-55	3.0	8.8	6.5	3.7	3.6	4.2
1955-56	-0.8	11.7	7.3	4.0	3.1	2.6
1956-57	5.4	9.0	7.3	1.6	3.8	5.7
1957-58	-4.1	-1.8	3.1	3.8	4.5	-1.2
1958-59	9.8	7.4	5.0	2.8	4.1	7.6
1959-60	-0.8	7.0	6.3	3.8	4.3	2.2
1960-61	7.1	10.8	8.6	2.1	4.9	7.1
1961-62	0.3	6.9	6.5	4.3	4.7	3.1

**Table A.1.1: Annual Growth Rates of Real Gross Value Added at Factor Cost by Industry of Origin (Percent) at constant prices**

Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, Construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost
1962-63	-1.4	6.2	5.9	3.4	7.1	2.1
1963-64	2.4	10.7	7.1	3.1	6.6	5.1
1964-65	8.8	7.4	6.8	2.7	6.6	7.6
1965-66	-9.9	3.2	1.8	3.0	4.0	-3.7
1966-67	-1.2	3.7	2.6	1.8	4.6	1.0
1967-68	14.1	3.3	4.3	2.7	3.9	8.1
1968-69	0.0	5.1	4.5	4.9	4.5	2.6
1969-70	6.3	7.8	5.4	4.2	5.5	6.5
1970-71	6.3	1.6	4.9	4.2	5.5	5.0
1971-72	-1.7	2.5	2.3	5.2	4.5	1.0
1972-73	-4.4	3.4	2.2	3.9	3.3	-0.3
1973-74	6.9	0.5	4.2	2.4	2.6	4.6
1974-75	-1.2	1.0	6.0	-0.3	4.7	1.2
1975-76	12.8	6.5	9.1	6.9	3.5	9.0
1976-77	-5.2	9.3	4.5	7.9	2.8	1.2
1977-78	9.6	7.4	6.7	4.9	2.7	7.5
1978-79	2.3	7.3	8.2	7.1	4.3	5.5
1979-80	-11.9	-3.6	-0.8	1.0	7.3	-5.2
1980-81	12.8	4.5	5.6	1.9	5.0	7.2
1981-82	5.2	7.4	6.1	8.1	2.1	5.6
1982-83	0.6	0.2	5.5	9.5	7.7	2.9
1983-84	9.5	8.5	5.1	9.8	3.7	7.9
1984-85	1.6	4.4	4.8	7.5	6.9	4.0
1985-86	0.7	4.3	8.0	9.8	5.7	4.2
1986-87	0.6	4.9	6.0	10.5	7.5	4.3
1987-88	-1.1	5.8	5.1	7.3	7.2	3.5
1988-89	15.7	8.2	6.0	9.8	6.0	10.2
1989-90	1.8	8.4	7.4	12.4	7.9	6.1
1990-91	4.7	6.9	5.2	6.2	4.4	5.3
1991-92	-1.4	-0.1	2.3	10.8	2.6	1.4
1992-93	6.0	3.6	5.6	5.4	6.0	5.4
1993-94	3.1	6.1	6.9	11.2	4.5	5.7
1994-95	5.2	9.1	9.9	3.9	2.3	6.4
1995-96	0.0	12.0	13.4	8.1	7.3	7.3
1996-97	8.9	7.2	8.1	6.2	8.1	8.0
1997-98	-1.3	3.3	7.5	11.7	8.3	4.3

**Table A.1.1: Annual Growth Rates of Real Gross Value Added at Factor Cost by Industry of Origin (Percent) at constant prices**

Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, Construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost
1998-99	5.9	4.3	7.7	7.8	9.7	6.7
1999-00	2.8	6.2	11.4	13.0	12.0	8.0
2000-01	0.3	6.5	6.4	3.5	4.6	4.1
2001-02	5.5	2.7	8.6	6.2	4.0	5.4
2002-03	-4.9	7.1	8.3	7.2	3.8	3.9
2003-04	8.2	7.9	11.2	5.3	5.3	8.0
2004-05	1.1	10.0	9.5	7.7	6.8	7.1
2005-06	4.6	10.7	12.0	12.6	7.1	9.5
2006-07	4.6	12.7	11.6	14.0	2.8	9.6
2007-08	5.5	10.3	10.9	12.0	6.9	9.3
2008-09	0.4	4.7	7.5	12.0	12.5	6.7
2009-10	1.5	9.5	10.4	9.7	11.7	8.6
2010-11	8.3	7.6	12.2	10.0	4.2	8.9
2011-12	4.4	8.5	4.3	11.3	4.9	6.7
2012-13	1.4	3.6	9.8	9.7	4.3	5.4
2013-14	4.8	4.2	6.5	11.2	3.8	6.1
2014-15	1.5	7.0	9.0	11.1	8.1	7.2
2015-16	2.2	8.6	10.5	10.8	6.9	7.9
2016-17 (PE)	4.4	6.0	7.8	5.7	11.3	6.6

Source: Central Statistics Office, Notes:PE: Provisional Estimates

Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

## Chapter Two

# Sectoral Participation and Agriculture Across Various Age Cohorts in India

### 2.1 The Context

The Indian economy is undergoing sectoral transformation but agriculture still remains a predominant mode of occupation in India. Though the country has a burgeoning youth population with more than half of the working age population engaged in agriculture, yet the sustenance of youth in agriculture has remained a significant question from a policy perspective that demands a systematic investigation. Large empirical evidence in India has significantly confirmed that there is a strong association between agriculture and economic growth. Globally, in the recent times, the agricultural output growth has increased much faster than population (Hazell & Wood, 2008) and acting as a fighting weapon against poverty reduction (De Janvry and Sadoulet 2009, Mohan, 2006).

This literature is primarily grounded on results discussed by eminent scholars in the field of emerging trends of Indian economy. Evidently, Indian economy is still concentrated around agriculture where almost 50 percent of the total workforce is still involved in less profitable activities in this sector. As mentioned in the previous chapter, Indian agriculture is in a transition phase and is confronted with multiple weaknesses. Some of the previous research has shown that the growth rate of agriculture sector during 1995-96 to 2004-05 was 2.30 percent per annum and lowest since the arrival of the green revolution and it increased slightly to 3.31 during 2004-05 to 2010-11 (Abraham, 2013). Within the economic framework, agricultural growth plays a vital role in strengthening the remaining sectors which have continuously helped to accelerate the economic growth.

With regard to youth employment in agriculture, what was more concerning was that due to massive unemployment in the informal sector, a larger proportion of youth shifted to the service sector and this situation remained unchanged even after decades. Some of the studies on the sectoral changes and changes in agriculture have analysed the employment patterns among various age cohorts. It is also suggestive that, green revolution was resultant of both adaptations of advanced technological changes and institutional reforms (Chand & Parappurathu, 2012). In the context of this discussion, Mitra in 2017 clearly mentioned that the employment pattern did not swing much from agriculture

between 1980 and 1990s. In this context, the proportion of agricultural workforce was 68 percent which declined to 56 percent in 2004-05. On the other hand, it was suggested that in 1983 only age group 18-26 showed changes in the employment pattern over time (Eswaran et.al, 2009). On the basis of these discussions, it can be said that age groups mainly involved in core economic activities affect the work culture in both urban and rural areas. In the agricultural sector, decreasing the share of youth representation is serious that weaken transformation of agriculture in many ways. Chowdhury in 2011 argued that nearly 67 percent in rural areas and just 7.5 percent population are dependent on the agriculture sector. Further, the share of agriculture and allied activities in GDP has come down to 14 percent. Notwithstanding, disparities in the agricultural wages is the main interruption among youth agricultural workers who want to contribute to multiple activities and also the issue of wage disparity is more prominent in case of female labour.

However, the main intention of this chapter is to discuss how sectoral arrangements or changes affect the Indian economy. The introductory section below provides a brief description of agriculture in the Indian economy. The following sections analyse the role of youth in agriculture with specific reference to their concentration in this sector. An insight into the situational analysis of youth workers in agriculture is also provided.

## 2.2 Agricultural Growth Rate

A number of debates emerged in the 1980s and 1990s on agricultural growth and these arguments have clearly explained that Indian economy needs a strong policy-oriented approach. During this era, Indian economy witnessed several upheavals which were closely linked with the intensity and growth of the economy. In fact, during 1992-93 to 2001-02 Indian economy was surviving with nearly 6.0 percent GDP. In this context, Ahluwalia in 2002 described that poverty ratio also declined significantly in the post-economic reform-period.

**Table 2.1: Growth Rate of Agricultural and Allied Sectors (in percentage)**

Plan	Share of Agriculture in the Economy	Growth Rate of Agriculture and Allied Sectors	Growth Rate of Total Economy
(All Figures based on 2004-05 prices)			
Ninth Five Year Plan	23.4	2.5	5.7
Tenth Five Year Plan	19.0	2.4	7.6

Eleventh Plan (2007-08 to 2011-12)			
2007-08	16.8	5.8	9.3
2008-09	15.8	0.1	6.7
2009-10	14.6	0.8	8.6
2010-11 (2nd RE)	14.5	7.9	9.3
2011-12 (Rev Est.)	14.1	3.6	6.2
Eleventh Plan Average	15.2	3.7	8.0

Source: Central Statistical Office, 2013

The agriculture sector has played a vital role to determine the developmental goals and set a powerful benchmark for the Indian economy, despite the several transitions which have affected the growth rates of Indian economy. However, agricultural operations have still garnered the attention of planners and policy-makers for contributing in strengthening this sector. Table 2.1 shows the extent to which agriculture constitute its share in the overall Economic growth during various plan periods. In context, during the Ninth Five-Year Plan, about 23.4 percent of agricultural share was included in the economy while at the time of Eleventh Five-Year Plan it was limited to just 15.2 percent annually. Over the years, the growth rate of agriculture and allied sectors have grown steadily. In view of this, the contribution of these sectors was nearly 2.5 percent in (1997-2002) and it increased to about 3.7 percent during the Eleventh Five-Year Plan. It follows from Table 2.1 that, during the Ninth Five-Year Plan (1997-2002) the growth rate of Indian economy was about 7.5 percent while during the Eleventh Five-Year Plan it had increased to around 8.0 percent annually. In view of this it would be interesting to understand the situation of youth in agriculture.

### 2.3 Youth in Agriculture: An Overview

The development and opportunities available in the agriculture sector was widely discussed by scholars as a curious paradox (Rao & Deshpande, 1986). In the Indian context, the structural transformation of economy moved from least developed activities in which various operations linked with agriculture to the high-income economy, where the share of agrarian outputs accounted less than 5 percent in total GDP (Byerlee, Janvry & Sadoulet, 2009). Research in this area, both theoretical and empirical has successfully argued that reforms in the agriculture sector will accelerate the economic growth (Bhide, Kalirajan and Shand, 1998). Some scholars have pointed out, in India, agriculture is a stationary art, the stereotype in the mould (Lawrence 1908). It is notwithstanding that, the average expansion of GDP from agriculture sector during 1987-99 and in 1993-99 was lower than GDP from non-agriculture sectors (Thamarajakshi, 1999). It is interesting to note that, some of the studies have clearly investigated

that, during post-economic reform India's economic growth has several positive indications which largely stated that growth rate from 1992-93 to 2001-02 was nearly 6.0 percent and it was slightly better than the previous ones (Ahluwalia, 2002) Within this growth rate, it would be interesting to understand the size of the workforce and the location of youth.

**Table 2.2: Size of the Population and Total Workers in India: 2001-2011**

Year	Population (in millions)			Total Workers (in millions)			% of Marginal Workers			% of Main Workers		
	T	M	F	T	M	F	T	M	F	T	M	F
2001	102.6	532.2	496.5	402.5	275.5	127.0	22.2	12.7	42.7	77.8	87.3	57.3
2011	1210.8	623.7	587.6	481.8	331.9	149.9	24.8	17.7	40.4	75.2	82.3	59.6

**Source:** Computed from Census of India 2001-2011, **Note:** T; Total, M; Male, F; Female

Table 2.2 gives details about the size of the population and total workers in India during the Census decades 2001-2011. In India, approximately, 102.6 billion inhabitants were residing in 2001, which increased to about 121.0 billion during the subsequent decade. It was evident that there was a notable increase in the working population from 402.5 million in 2001 to 481.8 million in 2011. In addition to this, nearly 127.0 million females were identified in the working sector in 2001 and around 149.9 million females were verified in the next 10 years. Literature based evidences have highlighted that, more than 60 per cent of India's labour were involved in agricultural activities. However, in agriculture sector many farming activities such as winnowing, weeding, husking and manuring are closely associated women centric works since such operations do not require higher physical loads. It is absolutely clear from table 2.2, that there were declining trends among female workers who worked as marginal workers while nearly 2.3 per cent increase was confirmed in the main workers category.

**Table 2.3: Workforce Participation Rate by Sex and Place of Residence in India : 2001-2011**

Place of Residence	Age-Group	2011			2001		
		Total	Male	Female	Total	Male	Female
Rural	15-24*	41.6	50.9	31.3	49.3	59.2	38.5
	25-29	68.9	89.3	48.1	71.1	91.2	51.6
	30-34	73.4	94.7	52.0	75.6	95.9	55.7
	35-39	75.7	96.4	54.8	78.0	97.4	58.1
	40-49	76.4	96.6	55.0	78.3	97.5	57.3
	50-59	71.8	93.7	49.3	71.8	93.7	48.8
	15-59	63.0	79.8	45.4	66.8	83.4	49.5
	Total	41.8	53.0	30.0	41.7	52.1	30.8

Place of Residence	Age-Group	2011			2001		
		Total	Male	Female	Total	Male	Female
Urban	<b>15-24*</b>	27.0	40.1	12.7	26.9	41.4	10.2
	25-29	53.5	83.6	22.5	51.1	83.2	17.4
	30-34	59.7	92.5	25.1	58.5	93.0	21.0
	35-39	61.9	95.0	27.5	60.8	95.9	23.4
	40-49	62.6	95.3	27.0	63.2	96.0	23.7
	50-59	57.7	89.0	22.9	57.0	88.0	20.0
	15-59	49.5	75.7	21.4	48.0	74.9	17.6
	Total	35.3	<b>53.8</b>	15.4	32.3	<b>50.6</b>	11.9
Total	<b>15-24*</b>	36.9	47.5	25.4	42.4	53.6	29.9
	25-29	63.6	87.3	39.2	64.9	88.7	41.4
	30-34	68.6	93.9	42.9	70.4	95.0	45.6
	35-39	71.0	95.9	45.6	72.8	96.9	47.6
	40-49	71.7	96.2	45.4	73.7	97.0	47.3
	50-59	66.9	92.0	40.4	67.5	92.0	40.9
	15-59	58.5	78.4	37.4	61.1	80.7	40.0
	Total	39.8	<b>53.3</b>	25.5	39.1	<b>51.7</b>	25.6

Source: Computed from Census of India: 2001-2011

The above table 2.3 provides an insight into the work participation rates across various age cohorts with a focus on the youth population. The gender gaps in the labour market also extend to the differences in remuneration between men and women across all levels of occupation and sectors (ILO, 2016). It is evident from the table 2.3 that in the age group of 15-24 the proportion of female workers was 38.5 percent in 2001 and it decreased about 7.2 percent in the next ten years while nearly 2.5 percent increase was observed in the urban areas during the same time period. In the rural areas, the table depicted that there was a strident decline in the proportion of female workforce participation rates during the period of 2001-2011. In the case of urban females, the reverse pattern of female workforce was observed although differences were minor. In view of this, female advent in the higher education, skill development activities and changing barriers of mobility could be the prominent reasons that encourage women to contribute in the labour market. Furthermore, despite a huge decline in the female workforce participation in the rural areas, there was a noticeable acceleration in the proportion of male workforce participation was clearly seen in both rural and urban areas. However it is important to analyse the status of workers, particularly youth in order to understand the employment prospects in a particular sector.

**Table 2.4: Distribution of Main Workers and Marginal Workers in Total Population Classified by Age and Sex: 2001-2011**

Place of Residence	Age-Group	2001				2011			
		Main Workers		Marginal Workers		Main Workers		Marginal Workers	
		Male	Female	Male	Female	Male	Female	Male	Female
Total	Total	45.1	14.7	6.6	11.0	43.8	15.2	9.4	10.3
	15-24	42.2	15.4	11.4	14.6	34.3	13.3	13.2	12.1
	25-29	77.8	23.7	10.9	17.6	71.9	23.5	15.4	15.7
	30-34	85.8	27.1	9.2	18.5	79.7	26.3	14.2	16.6
	35-39	88.6	29.4	8.3	18.2	82.4	28.7	13.5	16.8
	40-49	89.7	29.6	7.3	17.8	83.8	29.0	12.4	16.4
	50-59	84.9	24.9	7.2	16.0	80.5	25.6	11.5	14.9
	15-59	71.2	23.3	9.5	16.7	65.1	22.6	13.3	14.8
Rural	Total	44.3	16.6	7.8	14.1	41.6	16.7	11.4	13.3
	15-24	44.8	18.8	14.3	19.7	34.7	15.4	16.3	15.9
	25-29	78.1	28.0	13.1	23.6	69.9	26.6	19.4	21.5
	30-34	84.9	31.3	11.0	24.4	76.8	29.6	17.9	22.5
	35-39	87.5	33.9	9.8	24.2	79.5	32.1	16.9	22.7
	40-49	88.7	33.7	8.8	23.5	81.1	32.7	15.6	22.3
	50-59	85.0	28.0	8.7	20.8	78.9	29.1	14.7	20.1
	15-59	71.8	27.2	11.6	22.2	63.2	25.5	16.6	19.9
Urban	Total	47.2	9.4	3.4	2.5	48.7	11.9	5.1	3.6
	15-24	36.3	7.5	5.0	2.7	33.5	8.8	6.6	3.9
	25-29	77.1	13.8	6.1	3.6	75.5	17.6	8.1	4.9
	30-34	87.8	16.9	5.2	4.1	85.2	20.0	7.3	5.2
	35-39	91.1	19.0	4.8	4.4	88.0	22.1	7.0	5.4
	40-49	91.9	19.7	4.0	4.1	88.9	22.0	6.4	5.1
	50-59	84.5	16.6	3.6	3.4	83.3	18.6	5.7	4.3
	15-59	70.1	14.1	4.8	3.5	68.9	16.7	6.8	4.7

Source: Computed from Census of India 2001-2011

The table 2.4 below provides an analysis of Main and Marginal workers in total population according to their age and sex in 2011. As evident in table 2.4 the proportion of total male main workers had declined to almost 1.3 percent in 2011 while 0.5 percent increase was observed for female main workers.

As shown in Table 2.4, there was a strident decline in the proportion of female workers (15-24) who were involved in several operations during 2001-2011. It is significant to note that there was substantial decline in the proportion of males (15-24) who worked as main workers in rural areas.

In the 15-24 age group the proportion of male workers had declined by 7.9 percent in 2011. Similarly, there was also a decline by 2.1 percent in case of female main workers. To further understand, this reduction might be the outcome of higher incidence of unemployment, poverty, trifling return from agriculture for seeking better opportunities in urban areas. It is important to recognise that, the probability of higher participation was experienced among women (15-24) who worked as both main and marginal workers in urban areas.

**Table 2.5: Distribution of Workers and Non-workers by their Broad Categories In India: 2011**

Nature of Work, Workers and Non-Workers	Total		Rural		Urban	
	Male	Female	Male	Female	Male	Female
<b>All Ages</b>						
Total Workers (Main+ Marginal)	68.9	31.1	68.3	81.3	31.7	18.7
Cultivators	69.7	30.3	96.5	97.6	3.5	2.4
Agricultural labourers	57.3	42.7	94.2	95.9	5.8	4.1
HHI workers	53.3	46.7	60.0	71.1	40.0	28.9
Other workers	78.2	21.8	40.3	49.3	59.7	50.7
Total Workers (Main)	75.4	24.6	65.2	75.8	34.8	24.2
Cultivators	76.2	23.8	96.5	97.6	3.5	2.4
Agricultural labourers	64.1	35.9	93.5	94.8	6.5	5.2
HHI workers	61.1	38.9	55.3	64.2	44.7	35.8
Other workers	81.7	18.3	37.7	42.4	62.3	57.6
Total Workers (Marginal)	49.2	50.8	83.0	89.3	17.0	10.7
Cultivators	42.4	57.6	96.7	97.7	3.3	2.3
Agricultural labourers	47.3	52.7	95.7	97.0	4.3	3.0
HHI workers	37.2	62.8	75.8	79.8	24.2	20.2
Other workers	59.8	40.2	58.9	65.6	41.1	34.4
Non-workers	40.0	60.0	69.0	64.9	31.0	35.1
<b>15-24 Age-Groups</b>						
Total Workers (Main+ Marginal)	17.4	18.7	18.6	19.3	14.8	16.0
Cultivators	13.3	17.9	13.4	18.0	10.9	16.0
Agricultural labourers	22.7	19.7	22.9	19.9	18.5	14.6
HHI workers	19.2	21.1	20.2	21.8	17.7	19.3
Other workers	16.6	17.4	19.6	19.0	14.6	15.8
Total Workers (Main)	15.3	16.4	16.1	17.1	13.7	14.4
Cultivators	11.8	15.7	11.9	15.7	9.4	12.7

Nature of Work, Workers and Non-Workers	Total		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Agricultural labourers	20.3	17.8	20.5	18.0	17.2	13.5
HHI workers	16.8	19.4	17.1	20.1	16.3	18.1
Other workers	15.0	15.2	17.4	16.5	13.6	14.2
Total Workers (Marginal)	27.2	22.0	27.6	22.0	25.5	21.5
Cultivators	24.3	21.8	24.4	21.8	22.6	22.2
Agricultural labourers	27.5	21.6	27.8	21.7	22.6	16.6
HHI workers	27.4	23.2	27.8	23.5	26.3	22.0
Other workers	28.3	22.7	29.8	22.9	26.0	22.4
Non-workers	21.9	18.8	20.2	18.1	25.8	20.1

**Source:** Computed from Census of India 2011

In this context, it is important to analyse the distribution of workers and non-workers by broad categories. The Table above 2.5 describes magnitude and incidence of workers and non-workers by their broad categories in both rural and urban areas in 2011. It should be noted that 69.7 percent of male workers worked as cultivators while 57.3 percent worked as agricultural labourers. The table also shows that the share of these two operations in rural areas was above 90 percent. In addition, certain regional disparities such as caste, availability of agriculture land, ownership of land and financial variations are closely interlinked with disreputable conditions of agricultural workers.

The major deviations seen in Table 2.5 were in respect of 15-24 age group. With, nearly 13.3 percent of males (15-24 age group) worked as cultivators, only 17.9 percent of female workers worked as the cultivators. It was absolutely significant that majority of males (22.7 percent) in the (15-24 age group) worked as agricultural labourers in various operations while (19.7 percent) females worked as agricultural labourers in both rural and urban areas. It is noteworthy that, in the age-group 15-59, nearly 80 per cent workforce were involved in various activities.

**Table 2.6: Distribution of Workers and Non-workers by their Broad Categories among Scheduled Caste in India: 2011**

Nature of Work, Workers and Non-Workers	Total		Rural		Urban	
	Male	Female	Male	Female	Male	Female
All Ages						
Total Workers (Main+ Marginal)	66.4	33.6	76.6	84.5	23.4	15.5
Cultivators	69.5	30.5	97.5	97.9	2.5	2.1

Nature of Work, Workers and Non-Workers	Total		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Agricultural labourers	59.2	40.8	95.0	95.6	5.0	4.4
HHI workers	49.9	50.1	71.2	77.5	28.8	22.5
Other workers	75.6	24.4	50.7	<b>55.3</b>	49.3	<b>44.7</b>
Total Workers (Main)	72.6	27.4	73.6	79.8	26.4	20.2
Cultivators	76.9	23.1	97.5	97.9	2.5	2.1
Agricultural labourers	65.2	34.8	94.6	94.7	5.4	5.3
HHI workers	57.3	42.7	66.8	<b>71.3</b>	33.2	28.7
Other workers	79.3	20.7	47.6	48.1	52.4	51.9
Total Workers (Marginal)	51.3	48.7	86.6	90.9	13.4	9.1
Cultivators	42.5	57.5	97.2	98.0	2.8	2.0
Agricultural labourers	49.4	50.6	96.0	96.6	4.0	3.4
HHI workers	37.9	62.1	81.9	84.5	18.1	15.5
Other workers	61.6	38.4	66.2	70.5	33.8	29.5
Non-workers	41.1	58.9	76.2	73.2	23.8	26.8
<b>15-24 Age-Groups</b>						
Total Workers (Main+ Marginal)	19.6	18.7	20.3	19.2	17.5	15.7
Cultivators	14.4	19.2	14.4	19.2	13.6	18.3
Agricultural labourers	21.7	18.8	21.9	19.0	18.5	13.7
HHI workers	21.2	21.4	21.6	21.9	20.3	19.7
Other workers	19.4	17.8	21.3	19.4	17.4	15.7
Total Workers (Main)	17.5	16.8	18.0	17.5	16.1	14.2
Cultivators	12.7	16.7	12.8	16.7	11.4	14.0
Agricultural labourers	19.7	17.2	19.8	17.4	17.0	12.6
HHI workers	18.7	20.0	18.6	20.6	18.8	18.6
Other workers	17.5	15.8	19.1	17.6	16.0	14.1
Total Workers (Marginal)	26.9	21.2	27.0	21.3	26.8	20.2
Cultivators	25.6	22.9	25.5	22.9	26.7	25.0
Agricultural labourers	26.2	20.5	26.3	20.7	22.6	15.6
HHI workers	27.4	23.0	27.4	23.2	27.0	21.9
Other workers	28.7	21.8	29.2	22.0	27.7	21.4
Non-workers	20.8	19.5	19.2	18.5	25.8	22.3

Source: Computed from Census of India 2011

Table 2.6 discussed the distribution of workers and non-workers across social groups, particularly of scheduled caste women in India in 2011. It can be seen that, the share of female agriculture labourers in rural areas was nearly 95 per cent while only 4 per cent worked as agricultural labourers in the urban area. It is generally observed that majority of scheduled caste women face extreme financial vulnerabilities and are engaged as low paying wage labour. The Census of India has classified workers into four major categories such as *cultivators, agriculture labourers, household industry and other workers*. Results presented in the table 2.6 clearly reflect on the differences between the engagement of male and female workers in agricultural activities and their differential nature of work. As seen in the Table 2.6, about 55.3 per cent women have worked as *other workers* in rural areas while this proportion was low (44.7 per cent) when compared with urban areas. It was further observed that around 71.3 per cent of women main workers who were *other workers* were found in the rural areas. In the Indian context, caste structure or social position has a significant impact in determining labour market choices, occupational composition and social hierarchy based on unequal gender relations.

**Table 2.7: Main workers classified by age, industrial category and sex in India - 2011**

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
Cultivators	Rural	Male	39.6	29.3	32.9	35.9	38.5	42.1	46.8
		Female	32.9	30.4	30.5	30.9	31.2	33.9	36.8
	Urban	Male	2.7	1.8	1.8	2.0	2.3	2.7	3.3
		Female	2.6	2.3	1.9	2.0	2.2	2.5	3.2
	Total	Male	26.7	20.7	21.5	23.2	25.2	27.5	30.9
		Female	25.6	24.4	23.0	23.4	23.6	25.8	28.6
Agricultural labourers	Rural	Male	29.0	36.9	29.9	28.4	27.8	26.7	24.7
		Female	43.3	45.7	43.3	42.9	43.0	42.1	42.0
	Urban	Male	3.8	4.8	3.4	3.3	3.5	3.5	3.5
		Female	7.4	6.9	5.9	6.5	7.3	7.6	8.3
	Total	Male	20.2	26.9	20.2	19.0	18.9	18.2	17.0
		Female	34.6	37.5	33.6	33.5	33.7	33.1	33.8
Plantation, Livestock, Forestry, Fishing, Hunting and allied activities	Rural	Male	2.3	2.0	2.0	2.0	2.2	2.5	2.7
		Female	3.2	2.6	2.9	3.2	3.5	3.8	3.7
	Urban	Male	1.7	1.1	1.1	1.2	1.5	1.9	2.4
		Female	1.5	0.9	0.9	1.2	1.5	1.8	2.2
	Total	Male	2.0	1.7	1.6	1.7	1.9	2.2	2.6
		Female	2.8	2.3	2.4	2.6	3.0	3.3	3.3

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
<b>B</b>	<b>Rural</b>	Male	0.5	0.6	0.6	0.5	0.5	0.6	0.5
		Female	0.3	0.3	0.3	0.3	0.3	0.3	0.2
	<b>Urban</b>	Male	0.7	0.4	0.4	0.5	0.6	0.9	1.3
		Female	0.3	0.3	0.2	0.3	0.3	0.4	0.5
	<b>Total</b>	Male	0.6	0.5	0.5	0.5	0.6	0.7	0.8
		Female	0.3	0.3	0.3	0.3	0.3	0.3	0.3
<b>C HHI</b>	<b>Rural</b>	Male	1.8	1.9	1.9	1.9	1.9	1.8	1.7
		Female	3.2	3.9	3.5	3.4	3.3	3.0	2.6
	<b>Urban</b>	Male	2.8	3.4	2.6	2.6	2.6	2.6	2.6
		Female	6.0	7.8	5.4	5.7	5.9	5.7	5.2
	<b>Total</b>	Male	2.2	2.4	2.2	2.1	2.1	2.1	2.1
		Female	3.9	4.7	4.0	4.0	4.0	3.7	3.2
<b>D &amp; E</b>	<b>Rural</b>	Male	0.4	0.2	0.3	0.4	0.4	0.5	0.7
		Female	0.1	0.0	0.1	0.1	0.1	0.1	0.1
	<b>Urban</b>	Male	1.1	0.7	0.8	0.9	1.0	1.3	1.9
		Female	0.6	0.4	0.5	0.5	0.6	0.8	1.0
	<b>Total</b>	Male	0.6	0.4	0.5	0.6	0.6	0.8	1.1
		Female	0.2	0.1	0.2	0.2	0.2	0.3	0.3
<b>F</b>	<b>Rural</b>	Male	4.5	6.4	5.7	5.2	4.9	4.2	3.1
		Female	1.3	1.3	1.3	1.4	1.5	1.4	1.1
	<b>Urban</b>	Male	10.4	13.9	11.1	10.5	10.7	10.0	7.7
		Female	5.3	5.3	4.7	5.3	5.9	5.7	4.9
	<b>Total</b>	Male	<b>6.6</b>	<b>8.7</b>	7.7	7.2	7.0	6.3	4.8
		Female	2.3	2.2	2.2	2.4	2.7	2.5	2.1
<b>H</b>	<b>Rural</b>	Male	3.0	3.3	4.1	4.0	3.6	2.9	2.4
		Female	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	<b>Urban</b>	Male	8.8	7.3	8.7	9.4	10.0	9.7	9.1
		Female	1.5	1.2	1.4	1.4	1.4	1.8	2.1
	<b>Total</b>	Male	5.0	4.5	5.8	6.0	6.0	5.4	4.8
		Female	0.5	0.4	0.5	0.5	0.5	0.6	0.6
<b>I</b>	<b>Rural</b>	Male	0.6	0.7	0.7	0.6	0.6	0.6	0.6
		Female	0.3	0.1	0.2	0.3	0.3	0.3	0.3
	<b>Urban</b>	Male	2.2	2.3	2.1	2.1	2.2	2.3	2.2
		Female	1.3	0.8	0.9	1.2	1.5	1.7	1.7
	<b>Total</b>	Male	1.2	1.2	1.2	1.2	1.2	1.3	1.2
		Female	0.5	0.3	0.4	0.5	0.6	0.7	0.7

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
K to M	Rural	Male	0.6	0.3	0.7	0.8	0.7	0.7	0.7
		Female	0.2	0.1	0.2	0.2	0.2	0.2	0.1
	Urban	Male	3.8	1.8	3.8	4.0	3.8	4.2	5.4
		Female	2.9	2.5	4.4	3.1	2.6	3.0	3.1
	Total	Male	1.7	0.8	1.8	2.0	1.8	2.0	2.4
		Female	0.8	0.6	1.3	1.0	0.8	0.9	0.9
N to O	Rural	Male	2.4	1.8	3.0	2.8	2.6	2.8	3.2
		Female	0.6	0.5	0.8	0.7	0.7	0.7	0.6
	Urban	Male	10.4	7.1	10.4	10.3	10.3	11.8	14.1
		Female	7.2	6.0	8.8	7.5	6.8	7.6	9.3
	Total	Male	5.2	3.4	5.7	5.6	5.4	6.1	7.2
		Female	2.2	1.7	2.9	2.5	2.3	2.5	2.7
P to Q	Rural	Male	2.3	1.0	2.6	3.0	2.9	2.9	2.9
		Female	5.0	3.3	6.6	7.0	6.6	5.7	4.4
	Urban	Male	4.6	1.9	3.9	4.8	5.2	5.6	6.0
		Female	19.8	12.1	21.4	23.4	22.5	23.0	22.1
	Total	Male	3.1	1.3	3.0	3.7	3.8	3.9	4.0
		Female	8.6	5.1	10.5	11.2	10.7	10.2	8.7
R to U HHI	Rural	Male	0.5	0.5	0.5	0.5	0.5	0.4	0.4
		Female	1.3	1.4	1.4	1.4	1.3	1.2	1.2
	Urban	Male	0.6	0.7	0.6	0.6	0.5	0.5	0.6
		Female	1.9	2.2	1.8	1.8	1.8	1.7	1.8
	Total	Male	0.5	0.6	0.5	0.5	0.5	0.5	0.5
		Female	1.5	1.6	1.5	1.5	1.4	1.3	1.3

Source: Computed from Census of India 2011

A- Agriculture, Forestry and Fishing, B - Mining and Quarrying, C- Manufacturing, D - Electricity, Gas, steam and Air conditioning Supply, E - Water Supply; (Sewerage, Waste Management and remediation activities), F- Construction; G- Wholesale and Retail Trade (Repair of motor vehicles and motor cycles), G- Wholesale and Retail Trade (Repair of motor vehicles and motor cycles), H- Transportation and Storage, I- Accommodation and food service activities, J- Information and Communication, K- Financial and Insurance activities, L- Real Estate activities, M- Professional, Scientific and Technical activities, N- Administrative and support service activities, O- Public Administration and Defence, Compulsory Social Security, P- Education, Q- Human Health and Social Work activities, R- Arts, Entertainment and recreation, S- Other Service Activities, T- Activities of Households as Employers: Undifferentiated Goods and Services, U - Activities of Extra-Territorial Organisations and Bodies

As evident, the Indian labour market is marked with massive informality where unequal wages, absence of retirement benefits, long working hours, unavailability of job security and lack of organised payment structure are

some of the major challenges. The data in table 2.7 presents the distribution of main workers according to their industrial classification and major age-groups in India in 2011. Table 2.7 summarises the indicators which are broadly classified in both formal and informal sectors. In addition, nearly 6.6 per cent males were involved in the construction sector while about 8.7 per cent male in the (15-24) age group were involved in this sector which further declined to 2.2 per cent for women in the same age-group. There are enough evidences which clearly show the lower incidence of women's contribution in the construction sector in comparison to men. It appears from table 2.7 that only 2.2 per cent young women (15-24) were engaged in the construction sector. Also, the table 2.7 shows that, the lower involvement of young women were in the transportation and storage sector. As with education and human health and social work activities, there has been a discernible changes between males and females across various age-groups.

**Table 2.8: Marginal workers classified by age, industrial category and sex in India- 2011**

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
Cultivators	Rural	Male	19.2	17.0	15.3	16.1	16.8	18.8	22.7
		Female	23.8	23.5	22.2	22.2	21.9	23.3	25.5
	Urban	Male	3.2	2.8	2.4	2.4	2.6	3.0	4.0
		Female	4.7	4.8	4.5	4.4	4.2	4.5	5.1
	Total	Male	16.5	14.7	13.0	13.6	14.3	16.0	19.5
		Female	21.7	21.6	20.3	20.3	20.0	21.3	23.5
Agricultural labourers	Rural	Male	53.9	54.2	55.0	55.6	56.0	55.8	54.6
		Female	55.0	54.2	56.4	56.6	56.7	56.2	55.6
	Urban	Male	12.0	10.6	10.8	11.8	12.9	13.6	14.5
		Female	14.4	11.1	13.6	15.2	16.4	17.3	18.5
	Total	Male	46.8	<b>47.3</b>	46.9	47.6	48.3	48.2	47.6
		Female	50.6	49.7	51.8	52.2	52.3	52.1	52.0
Plantation, Livestock, Forestry, Fishing, Hunting and allied activities	Rural	Male	2.3	2.1	1.9	1.9	2.0	2.3	2.7
		Female	3.4	3.2	3.2	3.4	3.6	3.8	3.7
	Urban	Male	2.1	1.2	1.5	1.8	2.1	2.9	3.9
		Female	2.0	1.2	1.5	1.9	2.3	2.8	3.2
	Total	Male	2.2	2.0	1.8	1.9	2.1	2.4	2.9
		Female	3.3	2.9	3.0	3.2	3.5	3.7	3.7

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
<b>B</b>	<b>Rural</b>	Male	0.4	0.4	0.4	0.4	0.4	0.4	0.3
		Female	0.1	0.2	0.1	0.1	0.1	0.1	0.1
	<b>Urban</b>	Male	0.4	0.3	0.4	0.5	0.5	0.6	0.6
		Female	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	<b>Total</b>	Male	0.4	0.4	0.4	0.4	0.4	0.4	0.4
		Female	0.1	0.2	0.1	0.2	0.2	0.2	0.1
<b>C HHI</b>	<b>Rural</b>	Male	2.4	2.4	2.5	2.5	2.5	2.5	2.5
		Female	3.4	3.7	3.5	3.5	3.6	3.3	3.0
	<b>Urban</b>	Male	4.0	4.0	3.8	3.9	4.1	4.2	4.2
		Female	7.3	7.9	7.3	7.9	8.1	7.7	6.9
	<b>Total</b>	Male	2.7	2.6	2.7	2.8	2.8	2.8	2.8
		Female	3.8	4.2	3.9	3.9	4.1	3.8	3.4
<b>D &amp; E</b>	<b>Rural</b>	Male	0.1	0.1	0.2	0.1	0.1	0.1	0.1
		Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>Urban</b>	Male	0.5	0.4	0.6	0.6	0.6	0.6	0.7
		Female	0.2	0.2	0.2	0.2	0.3	0.3	0.3
	<b>Total</b>	Male	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>F</b>	<b>Rural</b>	Male	6.7	7.1	8.0	7.9	7.8	7.3	6.0
		Female	2.6	2.0	2.5	3.0	3.3	3.2	2.7
	<b>Urban</b>	Male	17.2	16.8	18.6	19.5	20.1	19.8	16.8
		Female	6.2	4.0	5.4	6.9	8.2	8.7	8.0
	<b>Total</b>	Male	8.5	8.7	9.9	10.0	10.0	9.6	7.9
		Female	3.0	2.2	2.8	3.4	3.8	3.8	3.2
<b>H</b>	<b>Rural</b>	Male	1.6	1.6	2.3	2.3	2.1	1.7	1.1
		Female	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	<b>Urban</b>	Male	6.4	4.8	7.1	8.1	8.6	8.2	6.9
		Female	0.5	0.4	0.5	0.6	0.5	0.7	0.7
	<b>Total</b>	Male	2.4	2.1	3.2	3.3	3.2	2.8	2.1
		Female	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>I</b>	<b>Rural</b>	Male	0.3	0.4	0.4	0.4	0.3	0.4	0.3
		Female	0.1	0.0	0.1	0.1	0.1	0.1	0.1
	<b>Urban</b>	Male	1.7	1.6	1.6	1.8	1.9	2.0	2.1
		Female	0.7	0.4	0.5	0.7	0.9	1.1	1.1
	<b>Total</b>	Male	0.6	0.6	0.6	0.6	0.6	0.7	0.6
		Female	0.1	0.1	0.1	0.1	0.2	0.2	0.2

Category of Workers	Place of Residence	Age Group	Total	15-24	25-29	30-34	35-39	40-49	50-59
K to M	Rural	Male	0.2	0.1	0.3	0.3	0.2	0.2	0.2
		Female	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Urban	Male	1.6	0.9	1.9	2.1	2.0	2.0	2.3
		Female	0.7	0.6	1.0	0.9	0.7	0.7	0.6
	Total	Male	0.4	0.2	0.6	0.6	0.6	0.5	0.5
		Female	0.1	0.1	0.1	0.1	0.1	0.1	0.1
N to O	Rural	Male	0.6	0.5	0.8	0.7	0.7	0.7	0.6
		Female	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Urban	Male	4.2	3.1	5.0	5.0	4.7	5.1	5.9
		Female	1.7	1.7	2.4	2.0	1.8	1.8	1.9
	Total	Male	1.2	0.9	1.5	1.5	1.4	1.5	1.5
		Female	0.3	0.3	0.4	0.3	0.3	0.3	0.3
P to Q	Rural	Male	0.5	0.4	0.9	0.8	0.6	0.5	0.5
		Female	0.5	0.5	0.8	0.7	0.7	0.5	0.4
	Urban	Male	2.0	1.4	2.6	2.6	2.3	2.1	2.1
		Female	4.3	4.0	6.3	5.6	5.0	4.4	3.7
	Total	Male	0.8	0.6	1.2	1.1	0.9	0.8	0.7
		Female	0.9	0.9	1.4	1.3	1.2	0.9	0.7
R to U HHI	Rural	Male	1.0	1.1	1.0	0.9	0.8	0.8	0.7
		Female	2.2	2.2	2.3	2.2	2.1	2.0	2.0
	Urban	Male	1.3	1.5	1.2	1.1	1.0	1.0	1.1
		Female	4.5	4.1	4.8	4.8	4.6	4.5	4.6
	Total	Male	1.1	1.2	1.0	0.9	0.9	0.8	0.8
		Female	2.4	2.4	2.6	2.4	2.4	2.3	2.3

Source: Computed from Census of India 2011

A- Agriculture, Forestry and Fishing, B - Mining and Quarrying, C- Manufacturing, D - Electricity, Gas, steam and Air conditioning Supply, E - Water Supply; (Sewerage, Waste Management and remediation activities), F- Construction; G- Wholesale and Retail Trade (Repair of motor vehicles and motor cycles), G- Wholesale and Retail Trade (Repair of motor vehicles and motor cycles), H- Transportation and Storage, I- Accommodation and food service activities, J- Information and Communication, K - Financial and Insurance activities, L- Real Estate activities, M- Professional, Scientific and Technical activities, N- Administrative and support service activities, O- Public Administration and Defence, Compulsory Social Security, P- Education, Q- Human Health and Social Work activities, R- Arts, Entertainment and recreation, S- Other Service Activities, T- Activities of Households as Employers: Undifferentiated Goods and Services, U - Activities of Extra-Territorial Organisations and Bodies

The results in Table 2.8 describe the distribution of marginal workers according to industrial classification by age and sex in India in 2011. As seen in table 2.8, about 8.7 percent of males in age group (15-24), workers were involved in the construction sector while only 2.2 percent of women

in the similar age-group worked as a construction labour. In view of this, it is quite relevant to understand the participation of youth (15-24) workers in the various activities that cautiously determined their productive share in both agriculture and non-farm sectors. About 47.3 percent of males (15-24) worked as agricultural labourers while the contribution of women was slightly higher at 49.7 percent. The analysis suggests that the greater incidence of disparities were seen in the cultivation, where almost 21.6 percent of young women worked successfully while the share of male workers was slightly lower (14.7 percent) in the cultivation sector. Historically, in many sectors, the share and involvement of women workers are significantly lower than male workers.

## **2.4 Summing Up**

As mentioned in the earlier sections, historically, agriculture has played a major role in determining or mounting the growth of the Indian economy. India is a vast country where multiple diversifications exist in terms of socio-cultural settings and location of social groups. Furthermore, the variations in economic ethos and spatial-temporal changes in the agricultural and non-agricultural productivity widely affect the notions of economic growth. Most striking results described in this chapter highlights that, the majority of young workers are involved in both farm and non-farm sectors with great instability that clearly addresses their quality of workforce. It is also evident that agriculture is the prime sector where massive illiterate and unskilled population are engaged and are working in extreme situations without post-retirement benefits. Agriculture has currently witnessed several challenges and is unable to attract the youth entrants who are a huge human resource potential and can contribute immensely in improving agricultural productivity. However, the weak rural marketing, high banking debt, incidences of farmer's suicides, and the pattern of mobility especially youth to cities and lack of adequate policy attention has led to the vulnerability of this sector. Resultantly, these factors have effectively created an uncaring environment which has made agriculture sector less-profitable and unattractive to young workers.

**Appendix Tables:**  
**Appendix Table : A.2.1**

Place of Residence	Main workers by educational level, age and sex in India- 2011																							
	15-24				25-29				30-34				35-39				40-49				50-59			
	T	M	F	EL*	T	M	F	EL*	T	M	F	EL*	T	M	F	EL*	T	M	F	EL*	T	M	F	EL*
Total	A	15.5	15.3	16.4	13.4	13.5	13.2	13.0	13.0	12.9	13.1	12.9	13.6	12.9	13.6	21.3	21.4	21.1	13.1	13.3	12.3	12.3		
	B	10.0	10.1	9.9	9.0	8.8	9.3	10.3	9.8	11.0	12.5	11.8	13.6	13.6	24.3	24.0	24.7	16.5	16.7	16.3	16.3			
	C	17.8	16.7	22.5	15.2	14.9	16.8	14.1	14.0	14.7	13.3	13.3	13.5	20.1	20.6	17.8	11.7	12.4	8.5	8.5				
	D	20.3	19.5	23.4	13.9	13.7	14.9	12.6	12.3	13.8	12.3	12.1	13.4	19.3	19.7	17.7	11.5	12.2	8.4	8.4				
	E	18.6	16.9	29.8	16.1	15.8	17.8	15.1	15.1	15.0	14.1	14.3	12.9	19.9	20.6	15.3	11.1	11.7	6.9	6.9				
	F	6.7	15.7	21.4	17.6	17.4	18.4	16.0	16.5	13.6	14.0	14.4	12.2	21.5	21.6	21.2	10.8	10.8	10.6	10.6				
	G	7.3	6.4	11.5	17.2	16.1	21.8	17.4	17.1	18.5	15.9	16.0	15.6	23.9	24.6	20.7	14.0	15.0	9.7	9.7				
	H	11.0	9.6	15.3	23.6	22.5	26.8	18.0	18.3	17.2	13.4	13.6	12.9	19.2	19.9	17.1	10.5	11.2	8.3	8.3				
	A	16.4	16.1	17.1	13.0	13.1	12.8	12.5	12.5	12.6	12.7	12.5	13.2	20.7	20.7	20.7	12.8	13.0	12.3	12.3				
	B	9.7	9.4	10.1	8.9	8.4	9.5	10.2	9.6	11.1	12.4	11.6	13.5	24.1	23.9	24.5	16.7	17.0	16.3	16.3				
C	20.0	18.7	25.7	15.3	14.9	17.0	13.8	13.6	14.6	12.9	12.9	12.9	18.8	19.4	16.0	10.7	11.5	7.3	7.3					
D	21.0	20.0	25.0	14.0	13.6	15.6	12.6	12.2	14.0	12.1	11.9	13.0	18.6	19.1	16.6	11.1	12.0	7.8	7.8					
E	21.3	19.1	33.9	17.0	16.5	19.8	15.2	15.2	15.4	14.0	14.3	12.3	18.2	19.2	12.4	9.4	10.3	4.6	4.6					
F	23.4	22.4	27.8	20.3	20.3	20.5	16.2	16.8	13.3	12.6	13.0	11.0	17.4	17.2	17.9	7.3	7.3	7.5	7.5					
G	9.3	8.3	15.5	19.5	18.4	26.3	18.6	18.2	20.7	16.4	16.6	15.4	21.8	22.8	15.6	10.6	11.5	5.1	5.1					
H	12.3	10.6	18.9	24.3	23.2	28.5	17.5	17.6	17.1	13.5	13.8	12.4	18.9	19.9	15.0	9.5	10.3	6.4	6.4					
A	13.8	13.7	14.4	14.2	14.3	14.2	14.0	14.1	13.8	13.9	13.7	14.6	22.7	22.7	22.6	13.7	14.0	12.3	12.3					
B	11.6	13.1	8.8	9.6	10.2	8.3	10.7	10.7	10.6	13.2	12.5	14.5	25.0	24.3	26.3	15.6	15.2	16.4	16.4					
C	14.2	13.8	16.4	15.1	14.8	16.3	14.6	14.5	15.0	14.0	13.9	14.7	22.3	22.4	21.3	13.3	13.8	10.9	10.9					
D	18.3	18.4	17.6	13.6	13.8	12.3	12.7	12.6	13.2	12.8	12.4	14.8	21.2	21.1	21.6	12.5	12.8	10.7	10.7					
E	15.2	14.1	23.1	14.9	15.0	14.6	14.9	15.0	14.2	14.4	14.4	14.0	22.2	22.4	20.2	13.2	13.6	10.7	10.7					
F	12.7	11.7	17.4	15.9	15.7	17.0	16.0	16.4	13.8	14.8	15.2	13.0	24.0	24.1	23.2	12.9	12.9	12.6	12.6					
G	6.3	5.3	10.1	16.0	14.8	20.2	16.8	16.5	17.7	15.7	15.7	15.7	25.0	25.6	22.5	15.8	17.0	11.3	11.3					
H	10.6	9.2	14.3	23.3	22.2	26.4	18.2	18.5	17.2	13.4	13.5	13.0	19.4	19.9	17.7	10.8	11.6	8.9	8.9					

Source: Computed from Census of India, 2011

Note: T: Total, M: Male, F: Female

Educational level (EL\*) Abbreviations

A Total, B Illiterate, C Literate but below Metric/ secondary, E Matric/Secondary but below graduate, F Technical diploma or certificate not equal to degree, G Graduate and above other than technical degree, H Technical degree or diploma equal to degree or post-graduate degree

Data in the appendix table 1 depicts the educational profile of main workers by different age cohorts. In addition, about 10.0 per cent main workers (15-24) were illiterate followed by 17.8 per cent literate, 20.3 per cent literate but below matric/secondary, 18.6 per cent matric/secondary but below graduate, 16.7 per cent technical diploma or certificate not equal to degree, 7.3 per cent graduate and above other than technical degree and 11.0 per cent were holding technical degree or diploma equal to degree or post-graduate degree. Another interesting observation that was noted from the appendix table 1 is that, in the majority categories the involvement of women was found significantly more than their male counterparts. It further indicates that, in both rural and urban areas similar trends have been observed during the period cited above.

Appendix Table: A.2.2

Place of Residence	Main workers by educational level, age and sex in India - 2001																		
	EL*	15-24			25-29			30-34			35-39			40-49			50-59		
		T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total	A	17.9	17.6	18.9	13.5	13.6	13.4	13.3	13.7	13.4	13.3	13.9	20.3	20.5	19.6	11.5	11.8	10.5	
	B	14.4	14.1	14.7	10.8	11.9	12.1	11.4	13.1	13.4	12.9	14.1	21.1	20.9	21.3	13.5	14.0	12.9	
	C	20.0	19.0	25.7	15.0	14.8	14.2	14.1	14.7	13.5	13.5	13.6	19.8	20.3	17.0	10.4	10.9	6.7	
	D	22.8	21.9	28.1	13.6	13.3	12.7	12.5	13.7	12.8	12.7	13.2	18.7	19.2	16.0	10.0	10.7	6.2	
	E	20.2	19.1	30.3	17.5	17.4	15.6	15.7	14.7	13.5	13.6	12.7	19.8	20.2	16.1	9.9	10.2	6.1	
	F	13.2	13.0	14.3	17.8	18.2	15.3	17.7	18.1	15.8	14.4	14.4	14.7	20.0	19.7	21.9	14.3	13.9	16.5
	G	6.9	6.2	11.3	17.3	16.8	20.9	18.7	18.6	19.1	16.8	16.8	16.8	25.6	26.1	22.6	11.9	12.5	8.0
	H	5.9	5.2	8.6	17.3	16.3	20.8	19.1	18.8	20.3	15.8	15.7	16.0	23.2	23.5	21.9	15.5	16.7	10.8
	A	18.6	18.3	19.6	13.3	13.1	13.7	13.1	12.9	13.6	13.1	12.9	13.6	19.5	19.6	19.1	11.4	11.8	10.4
	B	14.2	13.7	15.1	10.8	9.9	12.0	12.1	11.3	13.2	13.2	12.7	14.0	20.9	20.8	21.1	13.6	14.3	12.8
Rural	C	21.9	20.7	28.8	15.1	14.8	16.9	13.9	13.7	14.4	12.9	13.0	12.8	18.4	19.0	15.1	9.7	10.4	5.7
	D	23.3	22.1	29.4	13.6	13.2	15.8	12.5	13.7	12.5	12.5	12.5	18.3	18.9	15.2	9.9	10.7	5.7	
	E	22.8	21.4	35.5	18.7	18.4	21.3	15.9	16.0	15.1	12.9	13.1	11.3	17.8	18.4	12.2	8.6	9.1	3.7
	F	15.9	16.0	15.2	18.7	19.2	16.5	17.8	17.9	17.3	14.0	13.8	15.3	17.6	17.2	19.3	13.2	12.9	15.0
	G	8.2	7.7	14.3	20.1	19.5	26.1	20.7	20.6	21.7	16.9	17.1	15.6	21.8	22.3	16.4	9.8	10.3	5.0
	H	5.7	5.0	8.8	18.3	17.4	23.2	21.0	20.7	22.8	16.5	16.6	16.0	21.4	21.7	19.6	14.1	15.2	8.5

Urban	A	16.0	16.0	15.9	14.2	14.3	13.6	14.4	14.4	14.2	14.5	14.3	15.6	22.3	22.4	22.0	11.8	11.9	10.9	
	B	15.2	16.6	12.0	11.0	11.2	10.4	12.2	12.1	12.5	14.3	13.8	15.5	21.9	21.5	22.9	12.9	12.5	13.7	
	C	16.2	16.0	18.1	14.9	14.9	15.4	14.9	14.9	15.2	14.5	14.4	15.6	22.4	22.6	21.5	11.6	11.8	9.4	
	D	21.3	21.2	22.3	13.6	13.7	12.8	13.1	13.0	13.3	13.7	13.5	15.2	20.1	20.2	19.4	10.4	10.6	8.4	
	E	16.6	16.1	22.4	16.0	16.1	14.6	15.3	15.5	14.2	14.3	14.3	14.9	22.5	22.6	22.0	11.5	11.7	9.8	
	F	11.3	10.9	13.5	17.1	17.6	14.3	17.6	18.2	14.5	14.7	14.8	14.3	21.8	21.4	24.0	15.0	14.5	17.8	
	G	6.2	5.4	10.4	15.9	15.2	19.4	17.6	18.4	17.5	18.4	16.8	16.7	17.2	27.6	28.2	24.3	12.9	13.7	8.9
	H	6.0	5.2	8.6	16.8	15.9	20.1	18.3	17.9	19.5	19.5	15.4	15.3	16.0	23.9	24.3	22.6	16.0	17.3	11.6

**Source:** Computed from Census of India, 2001, **Note:** T: Total, M: Male, F: Female  
 Educational level (EL\*) Abbreviations : **A** Total, **B** Illiterate, **C** Literate, **D** Literate but below Metric/secondary, **E** Matric/Secondary but below graduate, **F** Technical diploma or certificate not equal to degree, **G** Graduate and above other than technical degree, **H** Technical degree or diploma equal to degree or post-graduate degree

Generally, education is considered as a prominent indicator of human welfare and its overall development. Data in the table appendix 2 discussed the distribution of main workers by different age-groups in India in 2001. It is notable that, just 14.4 per cent main workers (15-24) were illiterate followed by 20.0 per cent literate, 22.8 per cent literate but below matric/secondary, 20.2 per cent matric/secondary but below graduate, 13.2 per cent technical diploma or certificate not equal to degree, 6.9 per cent graduate and above other than technical degree and 5.9 per cent were attained technical degree or diploma equal to degree or post-graduate degree. As shown in the appendix Table 2, the share of young main workers (15-24) in graduate and above other than technical degree and technical degree or diploma equal to degree or post-graduate degree was significantly lower compared to other age-groups which are mentioned in the above table. A detailed analysis of the data on share of main workers according to their educational qualification describes that, in rural areas, higher proportion of women were obtaining better education than males. In urban areas, the share of illiterate women was found lower and in the rest categories the contribution of women were significantly higher compared to their male counterparts.

Appendix Table: A.2.3

Marginal workers seeking/ available for work classified by educational level, age and sex in India- 2011													
Place of Residence	EL*	15-24			25-29			30-34			35+		
		T	M	F	T	M	F	T	M	F	T	M	F
Total	A	29.0	30.7	26.4	15.4	15.7	15.1	12.5	12.1	13.2	39.9	38.5	41.9
	B	16.9	17.8	16.1	12.0	11.2	12.6	12.3	11.1	13.3	56.2	56.8	55.7
	C	36.9	35.9	39.2	17.7	17.5	18.2	12.7	12.5	13.0	29.3	31.1	24.8
	D	36.2	36.0	36.7	16.2	15.8	16.9	12.0	11.6	12.9	30.5	32.2	26.6
	E	43.1	40.0	52.4	18.6	18.7	18.4	13.1	13.4	12.0	24.9	27.6	16.9
	F	51.6	50.1	56.5	22.4	22.5	22.2	11.3	11.7	9.8	14.5	15.4	11.4
	G	26.1	23.4	32.9	29.0	27.9	31.7	17.6	18.0	16.5	26.9	30.3	18.4
	H	39.1	37.0	43.2	33.2	32.9	33.9	13.0	13.6	12.0	14.1	16.0	10.5
Rural	A	28.8	30.6	26.1	15.3	15.4	15.0	12.5	12.1	13.2	40.5	39.1	42.5
	B	16.7	17.4	16.2	12.0	11.1	12.7	12.4	11.1	13.4	56.4	57.5	55.6
	C	37.4	36.3	40.2	17.6	17.3	18.2	12.6	12.5	13.0	29.0	31.1	24.1
	D	36.9	36.5	38.0	16.3	15.9	17.2	12.1	11.7	13.0	30.1	32.0	25.6
	E	43.3	40.1	53.4	18.9	18.8	19.2	13.1	13.5	12.0	24.4	27.4	15.1
	F	54.1	52.8	58.8	22.3	22.3	22.2	10.8	11.2	9.3	12.6	13.5	9.6
	G	25.9	23.2	35.5	29.1	28.0	33.3	17.9	18.4	16.3	26.6	30.1	14.5
	H	36.2	33.2	43.5	34.3	33.9	35.0	14.2	15.1	12.1	14.9	17.4	9.0
Urban	A	30.3	31.3	28.4	16.6	16.9	16.0	12.5	12.4	12.8	35.9	35.2	37.1
	B	18.5	21.5	14.5	11.6	11.8	11.3	11.6	11.1	12.4	53.1	50.3	56.8
	C	34.1	33.9	34.5	18.2	18.2	18.1	12.8	12.7	13.0	30.4	31.4	28.3
	D	31.0	32.7	26.7	15.2	15.5	14.2	11.8	11.6	12.5	33.7	33.5	34.2
	E	42.4	39.5	49.1	17.4	18.1	15.8	12.8	13.2	11.9	27.0	28.8	22.8
	F	47.0	45.0	52.8	22.7	22.9	22.1	12.2	12.7	10.7	17.8	19.1	14.1
	G	26.4	23.8	30.2	28.7	27.7	30.1	16.9	17.1	16.7	27.5	30.8	22.4
	H	42.1	41.5	42.9	32.2	31.7	33.0	11.8	11.8	11.9	13.3	14.3	11.6

**Source:** Computed from Census of India, 2011, **Note:** T; Total, M; Male, F; Female  
 Educational level (EL\*) Abbreviations :A Total, B Illiterate, C Literate, D Literate but below Metric/secondary, E Matric/Secondary but below graduate, F Technical diploma or certificate not equal to degree, G Graduate and above other than technical degree, H Technical degree or diploma equal to degree or post-graduate degree

The above debate shows that there are a complex set of parameters which continuously determine the quality and accessibility of educational activities in India. The appendix table 3 shows the share of marginal workers by their educational qualification and different age cohorts in India in 2011. It is noteworthy that, about 16.9 per cent main workers (15-24) were illiterate followed by 36.9 per cent literate, 36.2 per cent literate but below matric/secondary, 43.1 per cent matric/secondary but below graduate, 51.6 per cent technical diploma or certificate not equal to degree, 26.1 per cent graduate and above other than technical degree and 39.1 per cent were got technical degree or diploma equal to degree or post-graduate degree. It is interesting to mention that, apart from illiteracy the share of women in remaining categories was found notably higher than males. The discussion in the previous sections has elaborated that educational qualification played a vital role to build or improve the quality of life.

Appendix Table: A.2.4

Marginal workers seeking/ available for work classified by educational level, age and sex in India- 2001													
Place of Residence	EL*	15-24			25-29			30-34			35+		
		T	M	F	T	M	F	T	M	F	T	M	F
Total	A	35.5	38.1	31.1	17.2	17.4	16.8	12.9	12.5	13.8	30.8	28.8	34.0
	B	25.3	27.1	23.8	14.7	13.4	15.7	13.8	12.6	14.7	41.9	42.2	41.7
	C	43.4	43.1	44.5	19.1	19.2	18.9	12.3	12.4	12.1	22.0	22.7	19.9
	D	43.6	43.8	43.0	16.4	16.1	17.3	11.4	11.2	12.0	24.1	25.0	21.5
	E	49.5	47.7	57.4	22.5	22.8	21.1	12.5	13.0	10.4	15.4	16.3	11.0
	F	45.9	45.5	49.0	28.3	28.6	26.0	13.8	13.9	13.0	11.9	11.9	11.9
	G	26.9	25.2	35.9	36.1	36.2	35.5	19.7	20.5	15.3	17.2	18.0	13.2
	H	24.7	23.4	29.8	39.1	38.8	40.3	20.7	21.6	16.9	15.4	16.1	12.8
Rural	A	35.9	38.9	31.5	17.0	17.1	16.8	12.8	12.1	13.7	30.4	28.3	33.7
	B	25.6	27.3	24.3	14.7	13.3	15.8	13.7	12.5	14.6	41.5	41.9	41.2
	C	44.9	44.6	45.7	18.9	18.9	18.7	11.9	12.0	11.8	20.9	21.6	18.9
	D	44.8	45.0	44.2	16.2	15.8	17.3	11.0	10.8	11.7	23.0	24.0	20.3
	E	51.8	50.0	59.4	22.5	22.8	21.3	12.0	12.5	9.9	13.7	14.7	9.3
	F	46.5	46.3	48.3	28.3	28.5	27.0	13.7	13.8	13.4	11.3	11.3	11.2
	G	27.7	26.1	37.9	36.8	36.8	36.9	19.8	20.5	15.0	15.6	16.4	10.0
	H	23.1	21.8	29.6	40.0	39.6	42.1	22.1	23.1	17.5	14.7	15.5	10.7
Urban	A	32.5	34.1	27.6	18.5	18.9	17.4	14.1	14.0	14.7	32.8	31.2	37.6
	B	22.8	25.8	18.0	14.0	13.7	14.6	14.1	13.3	15.3	46.0	44.0	49.3
	C	36.7	36.7	36.5	20.5	20.5	20.1	14.2	14.2	14.2	27.1	27.1	27.0
	D	37.2	38.1	33.2	17.1	17.1	17.1	13.2	12.9	14.5	30.0	29.6	31.6
	E	40.3	38.9	47.7	22.6	23.1	20.0	14.6	14.9	12.7	22.4	23.0	19.4
	F	44.3	43.5	50.5	28.3	28.9	23.8	14.1	14.3	11.9	13.2	13.1	13.6
	G	25.0	22.6	32.8	34.1	34.3	33.5	19.4	20.5	15.7	21.4	22.5	17.8
	H	27.6	26.6	30.0	37.6	37.3	38.4	18.0	18.6	16.3	16.7	17.4	15.1

**Source:** Computed from Census of India, 2001, **Note:** T; Total, M; Male, F; Female  
 Educational level (EL\*) Abbreviations : **A** Total, **B** Illiterate, **C** Literate, **D** Literate but below Metric/secondary, **E** Matric/Secondary but below graduate, **F** Technical diploma or certificate not equal to degree, **G** Graduate and above other than technical degree, **H** Technical degree or diploma equal to degree or post-graduate degree

Data presented in the appendix table 4 explains the proportion of marginal workers by their level of educational qualification and age categories in India in 2001. A significant proportion of young marginal workers (15-24) were found illiterate across various age-categories. The results discussed in the appendix table 4 suggest that, higher proportion of young marginal women (15-24) were in higher education .It is also evident from appendix table 4 that, similar situation is found in both rural and urban areas. Thus, the young marginal workers (15-24) were performing better in higher education in comparison with other age cohorts.

Appendix Table :A.2.5

Religious communities		Distribution of Main and Marginal Workers by Age and Religious Community in India: 2011																										
		Total									Rural									Urban								
		Main workers			Marginal workers			Main workers			Main workers																	
Age-Group	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F							
A R C	Total	29.94	43.83	15.21	9.85	9.42	10.31	29.49	41.63	16.69	12.34	11.39	13.33	30.95	48.65	11.88	4.36	5.11	3.56									
	15-24	24.30	34.30	13.29	12.06	12.64	13.47	15.41	16.09	16.26	15.90	12.74	33.52	8.78	5.31	6.56	3.93											
	25-29	47.99	71.87	23.50	15.57	15.45	15.70	48.50	69.92	26.62	20.42	19.41	21.45	47.04	75.50	17.61	6.51	8.08	4.88									
	30-34	53.22	79.71	26.29	15.39	14.22	16.58	53.14	76.75	29.57	20.22	17.95	22.48	53.38	85.16	19.96	6.28	7.35	5.16									
	35-39	55.79	82.42	28.73	15.16	13.51	16.83	55.87	79.45	32.13	19.78	16.94	22.65	55.65	88.05	22.10	6.24	7.00	5.44									
	40-49	57.36	83.80	29.04	14.30	12.36	16.38	57.61	81.09	32.72	17.81	15.56	22.25	56.88	88.89	21.96	5.76	6.38	5.07									
	50-59	53.78	80.48	25.59	13.15	11.54	14.85	54.36	78.94	29.13	17.41	14.74	20.15	52.67	83.31	18.56	5.03	5.66	4.32									
	15-59	44.44	65.10	22.56	14.04	13.30	14.84	44.78	63.15	25.48	18.26	16.65	19.94	43.77	68.88	16.75	5.76	6.78	4.67									
	Total	24.60	35.48	13.06	8.15	7.62	8.72	24.93	34.65	14.68	10.39	9.40	11.42	23.87	37.29	9.43	3.22	3.72	2.68									
	15-24	19.33	26.70	11.21	10.21	10.41	9.99	21.08	28.07	13.38	13.26	13.15	13.38	15.60	23.78	6.61	3.72	4.57	2.80									
	25-29	39.25	57.85	20.17	12.89	12.51	13.28	40.87	57.96	23.42	17.20	16.05	18.37	36.22	57.64	14.06	4.84	5.95	3.70									
	30-34	43.86	64.72	22.65	12.86	11.60	14.13	45.06	64.08	26.07	17.16	14.95	19.38	41.58	65.90	16.02	4.73	5.46	3.96									
	35-39	46.12	67.12	24.78	12.69	11.06	14.35	47.48	66.47	28.36	16.83	14.13	19.54	43.51	68.35	17.78	4.72	5.21	4.21									
40-49	47.51	68.49	25.04	11.99	10.12	14.00	48.98	67.93	28.88	16.01	12.97	19.23	44.73	69.54	17.66	4.37	4.76	3.94										
50-59	44.80	66.24	22.17	11.09	9.47	12.80	46.38	66.42	25.81	14.89	12.32	17.54	41.77	65.90	14.91	3.83	4.24	3.37										
15-59	36.48	52.63	19.38	11.63	10.74	12.56	37.83	52.49	22.42	15.37	13.73	17.10	33.82	52.88	13.31	4.26	4.94	3.53										
Total	3.48	5.70	1.12	1.16	1.31	0.99	2.85	4.60	1.01	1.29	1.42	1.16	4.85	8.11	1.34	0.86	1.08	0.62										
15-24	3.66	5.82	1.27	1.73	2.08	1.36	3.06	4.77	1.16	1.95	2.28	1.59	4.93	8.06	1.49	1.27	1.64	0.87										
25-29	5.82	9.83	1.70	1.84	2.14	1.53	4.87	8.06	1.60	2.15	2.40	1.90	7.60	13.12	1.88	1.25	1.66	0.83										
30-34	6.07	10.23	1.85	1.91	1.55	5.05	8.36	1.74	2.04	2.16	1.92	8.01	13.66	2.07	1.15	1.45	0.83											
35-39	6.23	10.39	2.00	1.67	1.79	1.55	5.22	8.55	1.87	1.96	2.01	1.91	8.18	13.89	2.27	1.12	1.38	0.86										
40-49	6.06	9.97	1.88	1.52	1.60	1.43	5.14	8.32	1.77	1.79	1.81	1.77	7.80	13.04	2.08	1.00	1.22	0.75										
50-59	5.29	8.83	1.56	1.32	1.44	1.20	4.64	7.69	1.50	1.58	1.66	1.49	6.55	10.93	1.67	0.83	1.03	0.61										
15-59	5.19	8.55	1.64	1.65	1.87	1.42	4.36	7.06	1.53	1.92	2.09	1.73	6.82	11.45	1.85	1.13	1.43	0.80										
Total	0.75	0.98	0.51	0.21	0.19	0.23	0.64	0.82	0.46	0.24	0.21	0.28	0.99	1.32	0.63	0.14	0.15	0.13										
15-24	0.47	0.55	0.37	0.26	0.25	0.28	0.46	0.53	0.38	0.32	0.29	0.34	0.48	0.59	0.36	0.14	0.15	0.13										
25-29	1.15	1.49	0.80	0.33	0.30	0.35	1.03	1.30	0.75	0.39	0.35	0.44	1.38	1.83	0.91	0.20	0.22	0.19										
30-34	1.34	1.79	0.89	0.31	0.27	0.35	1.16	1.52	0.81	0.36	0.30	0.43	1.68	2.29	1.04	0.20	0.21	0.20										
35-39	1.44	1.89	0.98	0.30	0.25	0.36	1.24	1.59	0.89	0.36	0.28	0.44	1.83	2.46	1.17	0.20	0.20	0.20										
40-49	1.62	2.10	1.10	0.31	0.25	0.37	1.39	1.77	0.99	0.37	0.28	0.46	2.05	2.73	1.32	0.21	0.20	0.21										
50-59	1.59	2.17	0.98	0.31	0.27	0.34	1.36	1.83	0.87	0.36	0.30	0.42	2.03	2.78	1.19	0.21	0.22	0.19										
15-59	1.13	1.46	0.78	0.30	0.26	0.33	0.99	1.25	0.71	0.35	0.30	0.41	1.41	1.87	0.90	0.18	0.19	0.18										

C

Distribution of Main and Marginal Workers by Age and Religious Community in India: 2011																			
	Total	0.53	0.88	0.16	0.10	0.09	0.10	0.54	0.91	0.15	0.12	0.11	0.13	0.50	0.81	0.16	0.05	0.06	0.04
S	15-24	0.42	0.69	0.12	0.13	0.15	0.11	0.47	0.77	0.13	0.16	0.18	0.15	0.31	0.50	0.10	0.07	0.09	0.05
	25-29	0.83	1.40	0.25	0.14	0.15	0.14	0.88	1.51	0.24	0.18	0.18	0.19	0.74	1.20	0.25	0.07	0.09	0.06
	30-34	0.90	1.52	0.27	0.14	0.12	0.16	0.95	1.62	0.27	0.18	0.15	0.21	0.81	1.33	0.26	0.06	0.07	0.05
	35-39	0.91	1.52	0.29	0.14	0.11	0.16	0.96	1.62	0.29	0.18	0.14	0.22	0.82	1.34	0.28	0.06	0.07	0.05
	40-49	1.01	1.67	0.31	0.14	0.11	0.17	1.07	1.78	0.32	0.18	0.13	0.22	0.91	1.47	0.30	0.06	0.07	0.06
	50-59	0.99	1.68	0.27	0.12	0.10	0.14	1.01	1.75	0.25	0.15	0.12	0.18	0.97	1.57	0.30	0.06	0.07	0.05
	15-59	0.77	1.28	0.23	0.13	0.13	0.13	0.81	1.37	0.23	0.17	0.15	0.19	0.69	1.12	0.23	0.07	0.08	0.05
	Total	0.25	0.32	0.17	0.05	0.05	0.05	0.22	0.27	0.18	0.06	0.05	0.06	0.31	0.44	0.16	0.04	0.04	0.03
	15-24	0.19	0.23	0.14	0.06	0.06	0.06	0.18	0.21	0.15	0.07	0.07	0.07	0.19	0.27	0.10	0.04	0.05	0.03
	25-29	0.40	0.54	0.27	0.09	0.09	0.08	0.37	0.45	0.28	0.10	0.09	0.10	0.48	0.71	0.24	0.06	0.08	0.05
30-34	0.46	0.61	0.31	0.08	0.08	0.09	0.40	0.49	0.31	0.09	0.08	0.10	0.57	0.83	0.29	0.06	0.07	0.05	
35-39	0.48	0.62	0.33	0.08	0.07	0.09	0.42	0.50	0.34	0.09	0.07	0.10	0.59	0.85	0.32	0.06	0.07	0.05	
40-49	0.49	0.63	0.34	0.08	0.06	0.09	0.43	0.51	0.35	0.09	0.07	0.11	0.59	0.84	0.31	0.06	0.06	0.05	
50-59	0.45	0.58	0.30	0.07	0.06	0.08	0.41	0.50	0.33	0.09	0.07	0.11	0.51	0.74	0.24	0.04	0.05	0.04	
15-59	0.37	0.48	0.26	0.07	0.07	0.08	0.34	0.40	0.27	0.08	0.07	0.09	0.44	0.64	0.23	0.05	0.06	0.04	
Total	0.12	0.20	0.04	0.01	0.01	0.01	0.04	0.06	0.01	0.01	0.01	0.00	0.01	0.31	0.51	0.08	0.02	0.02	
15-24	0.05	0.08	0.02	0.01	0.01	0.01	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.12	0.18	0.05	0.02	0.02	
25-29	0.19	0.31	0.06	0.01	0.02	0.01	0.06	0.09	0.02	0.01	0.01	0.01	0.01	0.43	0.71	0.15	0.03	0.03	
30-34	0.22	0.37	0.06	0.01	0.01	0.01	0.06	0.10	0.02	0.01	0.01	0.01	0.01	0.51	0.87	0.14	0.02	0.03	
35-39	0.22	0.37	0.07	0.01	0.01	0.01	0.02	0.07	0.11	0.03	0.01	0.01	0.01	0.52	0.88	0.14	0.02	0.03	
40-49	0.26	0.43	0.07	0.01	0.01	0.01	0.02	0.08	0.12	0.03	0.01	0.01	0.01	0.60	1.01	0.15	0.02	0.03	
50-59	0.29	0.49	0.07	0.02	0.01	0.02	0.08	0.14	0.03	0.01	0.01	0.01	0.01	0.67	1.15	0.14	0.03	0.03	
15-59	0.18	0.29	0.05	0.01	0.01	0.01	0.05	0.09	0.02	0.01	0.01	0.01	0.01	0.42	0.70	0.12	0.02	0.03	
Total	0.17	0.21	0.12	0.15	0.13	0.18	0.22	0.27	0.16	0.21	0.18	0.25	0.05	0.07	0.03	0.02	0.02	0.02	
15-24	0.14	0.16	0.12	0.20	0.18	0.23	0.19	0.21	0.16	0.29	0.26	0.33	0.03	0.04	0.02	0.02	0.02	0.02	
25-29	0.26	0.33	0.18	0.24	0.21	0.27	0.35	0.45	0.25	0.36	0.31	0.40	0.08	0.11	0.05	0.02	0.03	0.02	
30-34	0.28	0.36	0.20	0.23	0.19	0.27	0.38	0.48	0.28	0.34	0.28	0.39	0.10	0.13	0.06	0.02	0.02	0.02	
35-39	0.31	0.39	0.22	0.23	0.19	0.27	0.41	0.53	0.30	0.33	0.27	0.40	0.10	0.14	0.06	0.02	0.02	0.02	
40-49	0.33	0.42	0.23	0.23	0.18	0.28	0.45	0.56	0.32	0.34	0.27	0.41	0.10	0.14	0.06	0.02	0.02	0.02	
50-59	0.30	0.39	0.20	0.21	0.17	0.25	0.41	0.54	0.27	0.31	0.25	0.37	0.09	0.13	0.06	0.02	0.02	0.02	
15-59	0.25	0.31	0.18	0.22	0.19	0.26	0.33	0.41	0.25	0.32	0.27	0.37	0.08	0.10	0.05	0.02	0.02	0.02	

Source: Computed from Census of India, 2011. Note: T: Total, M: Male, F: Female  
ARC All Religious Communities, H Hindu, M Muslim, C Christian, S Sikh, B Buddhist, J Jain, ORC Other religious communities

Data presented in the appendix table 5 portrays the distribution of main and marginal workers by various religious communities in India in 2011. About 19.33 per cent main youth workers belonged to Hindu community followed by 3.66 per cent Muslim, 0.47 per cent Christian, 0.42 per cent Sikh, 0.19 per cent Buddhists and 0.05 per cent Jains and 0.14 per cent were from the other religious groups. In the light of findings discussed in the table 5, it was revealed that, the share of male main workers (15-24) was comparatively higher in comparison to their female counterparts. According to Census of India (2011) about 78.9 per cent of India's population follow Hinduism. In both rural and urban areas, the distribution of youth main and marginal workers by their religious profile and across various age-groups is shown.

## Chapter Three

# Women and Agriculture

### 3.1 The Context

The recent report of the ILO, (2016) on Women at Work states that, though women's employment in the agricultural sector has decreased over the last twenty years, agriculture remains the most important source of employment for women in low-income and lower-middle-income countries. In Southern Asia and sub-Saharan Africa, over 60 per cent of all working women remain in agriculture (ILO, 2016). Though the Indian economy has experienced a sectoral transformation, yet women's participation in agriculture is significant and agriculture still occupies prominence in the rural economy with the potential to reduce poverty and deprivation. In the context of declining female labour force participation in the country, agriculture appears to be potential sector to absorb women though the share of women participation is much lower than their male counterparts. In many developing economies, women are concentrated in labour-intensive agricultural activities, which are often poorly remunerated.

It is observed that agriculture is the major sector where massive female labour force has been accounted accompanying the minimal wage. Over the decades, the agricultural growth and productivity has declined and there has been withdrawal of youth which is a matter of serious concern for the Government from the perspective of promotion of agricultural employment. During 2004-05 and 2014-15, institutional credit to agriculture increased from Rs.1, 25,309 crores to Rs. 8, 45,328 crores. Despite huge improvement in the credit system, Indian agriculture is still struggling for its fortification and commercial profit. Some of the critical perspectives have reflected on lack of access of agricultural labourers to relief packages from both state and central government.

There is enough evidence in literature on women's role in agriculture particularly, the percentage share of agricultural labour that is performed by women and measuring the exact contribution of women in agricultural labour force (FAO, 2011). It is observed that the national accounting statistics are unable to provide a comprehensive picture about women's work in agriculture as most of the activities in which women participate remain outside the conventional definition of 'work'. Time spent on several of these activities can be captured, adequately through the time

use surveys<sup>4</sup> but the country, presently does not have a national time use survey that could cover all agricultural activities. Some other studies have documented the issue of feminization of agriculture in wherein they argue that such a situation increases the work burden of women and thereby undermines their well-being (Pattnaik; Dutt, 2017).

Kak, (1994) logically defined that in agriculture, women generally get pushed in low paying wage labour. It is also evident that in families with little or no land where women had earlier hired themselves as agricultural labourers have suffered due to mechanisation not just of agriculture but many domestic processes like spinning and weaving has deprived women of occupations and income in which they were engaged (Sharma, 1982). Further, the lack of opportunities often increases their dependence upon men and lack of land holding makes them vulnerable if they have lost their husbands. The declining female labour force participation has been analysed by many scholars (Chandrasekhar and Ghosh 2011; Chowdhury 2011; Neff et; al, 2012; Kannan and Reveendran 2012 and Rangarajan et.al 2011). Within the context of this decline, the promotion of agricultural employment and sustenance of women in agriculture remains a huge challenge before the policy makers. In the Indian agriculture system, in majority of operations women have no ownership rights over either crop or livestock, and income from other activities (Kanchi, 2010). One significant point to be noted here is that low levels of education and lack of technical support make them even worse in both farm and non-farm sector.

In this context, the present chapter tries to analyse women's position in the agricultural sector. The chapter also discusses women's ownership in agricultural establishments and provides an insight into land ownership across social groups and the relevance of land ownership in sustainability of agriculture. The section below discusses women's situation in agriculture and the empirical insights which determined occupational structure of women and its associated bodies such as land ownership, number and area of operational holdings and area of operational holdings by size class/size group. The last section, discusses the emerging concerns which have brought it up from empirical insights and reflects the situation of women in agricultural sector in India.

<sup>4</sup> Time use Surveys are detailed description of activities of a person in a 24 hour period. In India, Time Use Survey was conducted only once in 1998-1999 by the Central Statistical Office, India. Time use surveys differ from standard labour force surveys in that they ask respondents to report on all activities carried out in a specified period, such as a day or a week. Time use surveys tell us how much time an average person from a particular social group (such as male or female, young or old, rich or poor) spends on sleeping, eating, employment-related work, socializing, and unpaid care work such as housework and caring for children, the disabled, elderly, ill and so on, in an average day or week.

### 3.2 Women's Participation in Agriculture

Vepa, (2005) argued that women are largely associated with agricultural activities such as farming, livestock, fisheries and forestry rather than in non-agricultural activities. It has also been emphasised that the contribution of women in agriculture sector is widely appreciated despite their lower involvement as compared to their male counterparts. It is widely evident that, decline in the female participation in the agriculture is predominantly the consequence of agriculture development especially due to technological changes (Chattopadhyay, 1982). The table below 3.1 provides an overview of women's participation in agriculture with an emphasis on young women. A detailed analysis of the status of youth according to their social groups has been presented in Table 3.1. According to Census (2011) nearly 18.8 per cent of women belonged to youth population (15-24). While in rural areas, the proportion was lower (18.5 per cent) compared to the urban areas where it was reported around 19.5 per cent. Marginalisation of women workers in India is another area of concern that reflects their economic insecurity, work culture and position in the society. The distribution of youth among social groups is reflected in Table 3.1. It is evident that 19.3 per cent of women (15-24) belonged to Scheduled Castes in India in 2011.

**Table 3.1: Sex Wise Distribution of Young Workers (15-24 Years) in India in 2011: A State Level Perspective**

Place of Residence	Category of Worker	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
India	Cultivators	20.4	19.0	23.1	25.9	25.3	26.9	2.2	2.0	3.1
	Agricultural labourers	36.0	32.5	43.3	45.1	42.4	50.0	6.3	5.7	8.2
	HHI workers	4.3	3.3	6.5	3.8	2.8	5.6	5.8	4.4	10.6
	Other workers	39.3	45.2	27.2	25.1	29.4	17.5	85.7	87.8	78.1
JAMMU & KASHMIR	Cultivators	31.4	25.2	43.6	38.1	32.0	49.0	6.9	4.3	15.0
	Agricultural labourers	15.8	17.5	12.2	18.5	21.4	13.5	5.7	5.7	5.7
	HHI workers	5.8	3.6	10.2	6.0	3.8	9.9	5.0	2.8	11.7
	Other workers	47.0	53.7	33.9	37.3	42.8	27.6	82.4	87.1	67.6
HIMACHAL PRADESH	Cultivators	<b>67.8</b>	56.2	82.4	71.5	60.9	84.3	6.0	3.7	14.7
	Agricultural labourers	5.7	6.4	4.8	5.9	6.8	4.9	2.7	2.4	4.0
	HHI workers	1.5	1.5	1.4	1.4	1.4	1.4	2.5	2.2	3.7
	Other workers	25.0	35.9	11.3	21.2	30.9	9.5	88.8	91.7	77.6

Place of Residence	Category of Worker	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
PUNJAB	Cultivators	15.2	16.5	9.6	22.0	24.1	13.1	2.2	2.2	2.2
	Agricultural labourers	20.4	20.1	21.8	29.0	28.6	30.4	3.9	4.0	3.3
	HHI workers	3.9	3.1	7.3	3.8	2.9	7.9	4.0	3.6	6.1
	Other workers	60.4	60.2	61.3	45.2	44.5	48.5	89.9	90.2	88.5
CHANDIGARH	Cultivators	0.7	0.6	1.1	2.4	2.3	2.9	0.6	0.5	1.0
	Agricultural labourers	0.4	0.4	0.4	1.4	1.2	2.9	0.4	0.4	0.3
	HHI workers	1.3	1.1	1.9	0.7	0.4	2.3	1.3	1.2	1.8
	Other workers	97.7	97.9	96.7	95.6	96.0	91.9	97.8	98.0	96.8
UTTARAKHAND	Cultivators	39.1	24.5	65.5	50.4	34.6	72.5	1.8	1.3	4.3
	Agricultural labourers	13.4	15.6	9.3	16.2	20.8	10.0	3.9	4.0	3.2
	HHI workers	3.2	2.8	3.9	3.0	2.6	3.4	4.0	3.3	7.8
	Other workers	44.3	57.1	21.3	30.4	42.0	14.2	90.4	91.4	84.7
HARYANA	Cultivators	25.1	22.5	33.2	33.6	31.1	40.5	2.6	2.5	3.3
	Agricultural labourers	21.4	20.1	25.8	27.6	26.4	30.9	5.1	5.2	5.0
	HHI workers	2.7	2.4	3.6	2.2	1.9	3.2	3.8	3.6	5.0
	Other workers	50.8	55.0	37.4	36.6	40.7	25.4	88.4	88.8	86.7
NCT OF DELHI	Cultivators	0.6	0.6	0.9	7.3	6.6	11.6	0.4	0.4	0.7
	Agricultural labourers	0.8	0.8	0.9	6.9	6.5	9.1	0.7	0.6	0.7
	HHI workers	3.5	3.4	4.1	2.7	2.2	5.8	3.5	3.4	4.1
	Other workers	95.1	95.3	94.1	83.2	84.6	73.5	95.4	95.5	94.5
RAJASTHAN	Cultivators	42.0	35.4	51.4	48.1	43.3	54.1	4.4	3.1	10.3
	Agricultural labourers	21.9	17.8	27.7	24.7	21.2	28.8	5.0	3.8	10.5
	HHI workers	2.5	2.4	2.6	2.0	1.9	2.0	5.9	4.6	11.8
	Other workers	33.6	44.3	18.3	25.3	33.6	15.1	84.7	88.5	67.5
UTTAR PRADESH	Cultivators	21.0	21.5	19.3	25.6	26.6	22.5	3.0	3.0	2.9
	Agricultural labourers	36.4	36.0	37.9	43.4	43.3	43.9	9.1	9.7	6.7
	HHI workers	7.0	5.5	11.8	6.0	4.4	10.4	11.2	9.3	19.1
	Other workers	35.6	37.0	31.0	25.0	25.6	23.3	76.7	78.0	71.3
BIHAR	Cultivators	15.5	16.1	13.9	16.5	17.3	14.4	4.5	4.4	4.9
	Agricultural labourers	59.3	58.1	62.2	62.9	62.2	64.8	19.2	18.9	20.2
	HHI workers	4.3	3.1	7.3	4.1	2.8	7.0	7.6	6.3	13.2
	Other workers	20.9	22.6	16.5	16.6	17.7	13.8	68.7	70.4	61.7
SIKKIM	Cultivators	41.8	35.5	51.3	49.5	43.5	58.0	1.2	0.7	2.2
	Agricultural labourers	11.3	9.8	13.6	13.0	11.6	15.1	2.1	1.8	2.9
	HHI workers	1.9	1.7	2.3	1.9	1.6	2.4	2.1	2.2	1.8
	Other workers	45.0	53.1	32.8	35.6	43.4	24.6	94.6	95.2	93.1

Place of Residence	Category of Worker	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
ARUNACHAL PRADESH	Cultivators	48.6	40.9	57.9	58.1	51.1	65.7	3.2	2.4	4.8
	Agricultural labourers	8.3	7.4	9.2	9.4	8.8	10.1	2.8	2.4	3.5
	HHI workers	2.0	1.6	2.4	1.7	1.4	1.9	3.4	2.4	5.6
	Other workers	41.1	50.1	30.4	30.8	38.7	22.3	90.5	92.8	86.1
NAGALAND	Cultivators	57.6	52.4	63.8	66.5	62.9	70.5	11.9	8.4	18.0
	Agricultural labourers	11.1	11.3	11.0	12.1	12.7	11.5	6.0	5.3	7.2
	HHI workers	3.1	2.4	3.9	2.9	2.3	3.5	4.2	3.0	6.3
	Other workers	28.1	33.9	21.3	18.5	22.1	14.5	78.0	83.3	68.5
MANIPUR	Cultivators	43.3	43.1	43.4	50.6	50.5	50.8	13.0	14.4	11.1
	Agricultural labourers	11.8	10.4	13.4	12.3	10.8	13.9	9.7	8.7	11.0
	HHI workers	9.1	3.3	15.4	7.7	2.8	13.0	14.5	5.1	26.0
	Other workers	35.9	43.2	27.8	29.3	35.8	22.3	62.8	71.8	51.9
MIZORAM	Cultivators	55.0	52.1	59.1	79.0	77.9	80.4	18.0	17.4	19.1
	Agricultural labourers	11.9	12.0	11.8	9.6	9.4	9.8	15.4	15.4	15.5
	HHI workers	1.7	1.3	2.1	1.0	0.8	1.3	2.7	2.1	3.8
	Other workers	31.4	34.6	27.0	10.4	11.9	8.6	63.9	65.2	61.6
TRIPURA	Cultivators	16.2	15.6	17.4	18.9	18.8	19.0	2.4	2.3	2.6
	Agricultural labourers	31.4	28.5	37.7	36.4	34.0	41.2	5.6	5.5	6.2
	HHI workers	3.6	2.0	6.9	3.7	2.0	6.8	3.2	2.1	7.8
	Other workers	48.9	53.9	38.0	41.0	45.2	33.0	88.8	90.1	83.4
MEGHALAYA	Cultivators	42.2	38.8	47.0	47.7	45.1	51.2	4.4	3.5	6.6
	Agricultural labourers	21.9	21.5	22.4	24.4	24.6	24.2	4.8	4.6	5.1
	HHI workers	1.9	1.4	2.7	2.1	1.5	2.8	1.0	0.8	1.5
	Other workers	33.9	38.2	27.9	25.8	28.8	21.8	89.8	91.1	86.9
ASSAM	Cultivators	29.4	30.0	28.1	32.1	33.2	29.9	2.7	2.4	3.6
	Agricultural labourers	22.2	21.8	22.9	24.1	24.0	24.3	3.1	3.0	3.5
	HHI workers	4.6	2.9	8.4	4.6	2.8	8.4	4.7	3.4	9.0
	Other workers	43.8	45.3	40.6	39.2	40.0	37.5	89.6	91.3	83.9
WEST BENGAL	Cultivators	9.8	10.8	7.1	12.5	13.8	8.7	1.5	1.4	2.0
	Agricultural labourers	36.4	36.9	34.9	46.5	47.1	44.7	4.3	4.8	3.0
	HHI workers	10.4	6.1	22.9	9.1	4.9	21.3	14.5	9.9	28.4
	Other workers	43.4	46.2	35.0	32.0	34.2	25.4	79.6	83.9	66.6
JHARKHAND	Cultivators	26.1	23.2	30.6	29.4	27.4	32.2	3.0	2.3	6.0
	Agricultural labourers	41.3	36.5	48.6	46.4	42.8	51.1	5.9	4.9	9.9
	HHI workers	3.8	2.7	5.4	3.7	2.6	5.2	3.9	3.0	7.8
	Other workers	28.8	37.6	15.4	20.5	27.2	11.5	87.2	89.8	76.2

Place of Residence	Category of Worker	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
ODISHA	Cultivators	14.6	16.7	11.0	16.1	18.9	11.6	2.4	2.3	2.6
	Agricultural labourers	48.7	41.5	61.1	53.9	46.9	65.0	6.9	5.9	9.9
	HHI workers	5.3	4.2	7.1	5.2	4.1	7.0	6.0	5.2	8.3
	Other workers	31.4	37.6	20.8	24.8	30.1	16.4	84.8	86.5	79.2
CHHATTISGARH	Cultivators	26.4	25.5	27.4	29.7	30.3	29.0	4.4	3.4	7.3
	Agricultural labourers	52.4	45.7	60.8	58.3	53.5	63.7	13.3	9.8	24.1
	HHI workers	1.5	1.5	1.5	1.2	1.2	1.2	3.6	3.1	5.0
	Other workers	19.8	27.2	10.3	10.8	15.0	6.1	78.7	83.7	63.7
MADHYA PRADESH	Cultivators	24.7	24.4	25.3	28.9	29.9	27.3	4.2	3.9	5.5
	Agricultural labourers	49.4	44.1	58.3	57.4	53.8	62.5	9.9	8.3	16.0
	HHI workers	3.0	2.5	3.8	2.4	2.0	2.9	6.2	4.7	12.2
	Other workers	22.9	29.0	12.6	11.4	14.3	7.2	79.7	83.1	66.2
GUJARAT	Cultivators	15.0	14.8	15.4	22.2	24.3	18.3	1.3	1.2	2.0
	Agricultural labourers	35.3	28.4	52.2	51.4	45.6	61.7	4.7	3.9	9.5
	HHI workers	1.5	1.2	2.1	1.1	1.0	1.2	2.2	1.5	6.2
	Other workers	48.3	55.6	30.3	25.3	29.0	18.8	91.8	93.5	82.3
DAMAN & DIU	Cultivators	0.5	0.2	3.7	2.9	1.4	11.1	0.1	0.1	0.4
	Agricultural labourers	0.3	0.2	1.7	1.0	0.5	3.9	0.1	0.1	0.7
	HHI workers	0.3	0.2	2.6	1.3	0.3	6.8	0.2	0.1	0.8
	Other workers	98.9	99.5	92.0	94.8	97.9	78.1	99.6	99.7	98.0
DADRA & NAGAR HAVELI	Cultivators	8.9	5.4	20.8	15.4	10.5	25.4	0.9	0.7	2.9
	Agricultural labourers	10.7	4.6	31.4	18.4	9.0	37.9	1.2	0.6	6.4
	HHI workers	1.3	1.1	2.2	1.7	1.5	2.2	0.9	0.7	2.2
	Other workers	79.2	89.0	45.6	64.4	79.0	34.5	97.1	98.1	88.5
MAHARASHTRA	Cultivators	21.2	18.0	27.3	31.8	30.0	34.3	1.3	1.2	2.0
	Agricultural labourers	33.4	28.0	43.4	48.8	45.3	53.5	4.4	3.9	6.4
	HHI workers	2.3	1.9	3.0	1.8	1.5	2.1	3.3	2.6	6.1
	Other workers	43.1	52.1	26.3	17.7	23.2	10.1	90.9	92.4	85.5
ANDHRA PRADESH	Cultivators	11.4	11.3	11.5	14.2	14.8	13.4	1.6	1.3	2.3
	Agricultural labourers	48.4	40.6	59.2	59.5	52.5	68.2	9.2	7.3	13.5
	HHI workers	4.0	2.6	6.0	3.5	2.2	5.2	5.8	4.0	9.8
	Other workers	36.2	45.4	23.2	22.8	30.5	13.2	83.3	87.3	74.4
KARNATAKA	Cultivators	17.7	18.8	15.6	24.7	27.4	20.2	1.8	1.8	1.9
	Agricultural labourers	30.6	24.7	41.8	42.0	35.1	53.5	4.9	4.1	6.8
	HHI workers	3.4	2.5	5.2	3.0	2.2	4.4	4.4	3.2	7.5
	Other workers	48.3	54.1	37.4	30.3	35.3	21.9	88.9	90.9	83.9

Place of Residence	Category of Worker	Total			Rural			Urban		
		P	M	F	P	M	F	P	M	F
GOA	Cultivators	4.5	3.5	6.9	10.7	8.4	14.5	1.1	1.0	1.4
	Agricultural labourers	3.0	2.3	4.5	7.2	5.9	9.5	0.7	0.6	0.9
	HHI workers	1.9	1.8	2.2	2.2	2.2	2.2	1.7	1.5	2.2
	Other workers	90.6	92.4	86.5	80.0	83.5	73.7	96.5	96.8	95.5
LAKSHADWEEP	Cultivators	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Agricultural labourers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HHI workers	1.5	0.8	3.7	1.9	0.4	8.6	1.2	1.1	1.9
	Other workers	98.5	99.2	96.3	98.1	99.6	91.4	98.8	98.9	98.1
KERALA	Cultivators	2.4	2.0	3.6	3.7	3.1	5.4	0.7	0.5	1.3
	Agricultural labourers	7.7	7.6	8.1	12.1	11.8	13.0	2.3	2.5	1.7
	HHI workers	1.8	1.5	2.7	2.0	1.6	3.3	1.5	1.4	2.1
	Other workers	88.1	88.9	85.5	82.2	83.4	78.4	95.5	95.6	94.9
TAMIL NADU	Cultivators	8.7	7.7	10.3	13.3	12.3	14.8	1.5	1.4	1.8
	Agricultural labourers	26.7	22.3	34.5	39.7	34.2	48.3	6.7	6.0	8.2
	HHI workers	3.9	2.2	6.7	3.8	2.2	6.3	4.0	2.4	7.5
	Other workers	60.8	67.7	48.5	43.2	51.3	30.6	87.8	90.3	82.5
PUDUCHERRY	Cultivators	1.5	1.4	1.7	2.6	2.5	2.8	0.9	0.8	1.0
	Agricultural labourers	11.4	10.9	12.7	26.4	24.7	30.4	3.0	3.1	2.5
	HHI workers	1.2	0.9	2.0	1.3	0.8	2.3	1.2	0.9	1.9
	Other workers	85.9	86.9	83.6	69.7	72.0	64.5	95.0	95.1	94.6
ANDAMAN & NICOBAR ISLANDS	Cultivators	10.3	8.6	17.3	16.0	13.5	25.3	1.1	1.0	1.9
	Agricultural labourers	3.6	3.7	3.3	5.6	5.8	4.9	0.2	0.2	0.3
	HHI workers	2.5	2.0	4.5	3.4	2.7	6.0	1.0	0.9	1.4
	Other workers	83.6	85.7	74.9	75.0	78.0	63.8	97.7	97.9	96.4

Source: Census of India, 2011

Note: P -Person; M- Male; F- Female

It has been observed that majority of youth population withdraw from agrarian activities in rural areas and have migrated to cities due to lack of employment opportunities, poverty, lack of adequate education facilities and lack of other employment avenues in rural areas. Results presented in Table 3.1 clearly suggest that young women's participation in various agricultural operations has been significant in many States of the country. In India, about 43.3 per cent of the young women (15-24) have worked as agricultural labourers with around 50.0 per cent in rural areas and 8.2 per cent women engaged in agricultural activities in urban areas. In

contrast, 32.5 percent men were engaged as agricultural labourers with a distribution of 25.3 percent in rural areas and only 2.0 percent in urban areas. Surprisingly, the proportion of women working as agricultural labourers was greater with gender gaps being quite prominent. Furthermore, state-level results reveal that, majority of women in the 15-24 age group have worked as cultivators and agricultural labourers.

The top five states with an extremely high concentration of young women as agricultural labourers are Bihar (62.2 percent), Odisha (61.1 percent), Andhra Pradesh (59.2 percent), Madhya Pradesh (58.3 percent) and Gujarat (52.2 percent). It is also evident that the proportion of cultivators among women is lesser (23.1 percent) than agricultural labourers in the country though some states have a greater proportion of women engaged as cultivators. In this context, it would be important to understand the distribution of women workers in agriculture across social groups.

### **3.2.1 Sex-wise Distribution of Workers across Social Groups:**

The social location of men and women in particular groups often determines their labour market choices. The hierarchical gradation of social groups across different social orders is instrumental in determining livelihood options according to social identities and socio-cultural contexts. Table 3.2 clearly defines the status of the Scheduled Caste (SC) youth main workers (15-24 years) in India in 2011. In context of the Scheduled Caste youth, about 13.7 per cent were worked as cultivators followed by 18.8 per cent workers who were working as agricultural labourers and around 19.3 per cent were engaged in the household industries. From a gender perspective, it was revealed that a greater proportion of women in the SC category were agricultural labourers. While, 16.7 per cent women were involved in the cultivation, around 17.2 per cent of women worked as agricultural labourers. However, 20.0 per cent women were associated with household industries. In rural areas, women were largely engaged in weeding, manuring and harvesting though men were engaged as labourers.

Further, an analysis of State-wise distribution of young women who worked as main workers in agriculture revealed that some of the States like Rajasthan (23.7 percent), Chhattisgarh (20.7 percent), Jharkhand (20.4 percent), Madhya Pradesh (20.2 percent) and Gujarat (20.0 percent) emerged as top five states that had a greater concentration of young women working as agricultural labourers.



	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
NAGALAND	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
MANIPUR	Total	9.9	10.1	9.4	13.7	17.2	10.0	17.3	13.9	18.7
	Rural	13.1	13.0	13.7	20.7	23.9	14.1	17.6	17.5	17.6
	Urban	7.3	7.4	7.0	11.1	13.6	9.1	16.8	10.9	20.7
MIZORAM	Total	43.5	33.3	62.5	52.9	50.0	100.0	NA	NA	NA
	Rural	42.9	35.7	57.1	37.5	37.5	NA	NA	NA	NA
	Urban	50.0	NA	100.0	66.7	62.5	100.0	NA	NA	NA
TRIPURA	Total	8.4	8.3	10.6	15.5	16.5	10.3	15.3	15.2	15.4
	Rural	8.5	8.4	10.7	15.8	16.7	10.5	15.1	15.0	15.4
	Urban	7.5	7.4	9.0	13.0	14.1	7.6	15.6	15.8	15.2
MEGHALAYA	Total	15.9	15.3	18.5	19.0	19.7	17.2	9.4	9.9	7.7
	Rural	16.3	15.9	17.8	18.8	19.4	17.1	7.6	8.4	4.5
	Urban	9.5	0.0	25.0	25.0	28.6	20.0	25.0	25.0	25.0
ASSAM	Total	13.2	12.6	17.9	20.1	21.5	15.0	17.3	17.1	17.7
	Rural	13.3	12.6	18.0	20.2	21.7	15.1	17.6	17.5	17.7
	Urban	9.0	8.5	12.5	14.6	15.4	10.8	16.5	15.9	17.8
WEST BENGAL	Total	10.4	10.2	13.3	17.9	18.5	15.4	22.0	21.9	22.2
	Rural	10.4	10.2	13.3	18.0	18.5	15.5	22.5	22.6	22.4
	Urban	9.0	8.7	13.5	15.8	16.4	12.6	21.0	20.6	21.6
JHARKHAND	Total	13.9	12.6	17.5	19.3	18.8	20.4	17.8	16.5	19.4
	Rural	13.9	12.6	17.5	19.3	18.8	20.5	18.0	16.6	19.7
	Urban	11.4	11.0	13.5	16.5	17.0	14.6	16.5	15.9	17.6
ODISHA	Total	9.5	8.9	14.7	16.3	16.2	16.5	18.2	16.9	20.5
	Rural	9.4	8.9	14.7	16.3	16.2	16.6	18.3	16.8	20.8
	Urban	10.0	9.5	15.0	15.7	16.5	13.1	17.3	17.1	17.8
CHHATTISGARH	Total	12.7	11.7	14.6	21.4	21.9	20.7	17.7	17.2	18.4
	Rural	12.7	11.7	14.7	21.4	21.9	20.8	18.9	17.7	20.9
	Urban	11.3	11.1	11.7	19.9	21.1	18.3	15.2	16.0	14.3
MADHYA PRADESH	Total	13.7	13.2	15.4	22.9	24.4	20.2	19.2	19.6	18.8
	Rural	13.8	13.2	15.5	23.0	24.5	20.4	19.0	19.2	18.9
	Urban	12.9	12.7	13.7	20.6	22.8	16.4	19.5	20.4	18.7
GUJARAT	Total	12.9	12.2	17.1	20.9	21.2	20.0	19.0	17.5	22.6
	Rural	12.9	12.2	17.0	20.9	21.2	20.1	17.9	17.1	20.2
	Urban	13.0	11.7	18.4	19.6	20.1	18.3	20.5	18.2	25.1
DAMAN & DIU	Total	3.4	4.0	NA	NA	NA	NA	NA	NA	NA
	Rural	4.5	5.6	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
DADRA & NAGAR HAVELI	Total	6.9	6.4	8.7	12.8	16.7	9.5	16.7	12.5	25.0
	Rural	6.0	2.8	14.3	14.3	20.0	10.0	33.3	20.0	100.0
	Urban	7.8	9.5	NA	NA	NA	NA	NA	NA	NA

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
MAHARASHTRA	Total	12.7	11.6	14.6	18.5	19.8	16.9	14.3	14.0	14.6
	Rural	12.7	11.6	14.6	18.6	19.9	17.1	13.0	11.8	14.4
	Urban	11.4	10.8	13.1	15.6	17.7	12.3	15.6	16.2	14.9
ANDHRA PRADESH	Total	11.8	10.4	14.7	18.4	18.4	18.5	23.5	18.6	26.2
	Rural	11.8	10.4	14.7	18.6	18.5	18.6	25.7	20.5	27.9
	Urban	10.6	9.0	14.7	15.8	16.0	15.6	18.0	16.0	20.1
KARNATAKA	Total	14.3	13.7	16.1	21.4	23.2	19.4	20.4	19.5	21.4
	Rural	14.4	13.7	16.1	21.5	23.4	19.5	21.4	20.0	22.7
	Urban	13.6	12.5	17.3	19.3	20.5	17.8	18.6	18.7	18.4
GOA	Total	16.3	14.9	18.1	15.2	12.2	22.5	14.1	11.3	17.7
	Rural	18.3	18.4	18.1	16.8	12.3	28.1	8.2	4.0	12.8
	Urban	7.8	5.0	18.2	8.0	11.8	0.0	20.5	17.9	25.0
LAKSHADWEEP	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
KERALA	Total	6.7	5.9	9.2	6.0	7.0	4.1	8.8	8.2	9.5
	Rural	6.9	6.0	9.5	6.4	7.6	4.5	9.9	8.8	11.1
	Urban	5.3	5.0	6.7	3.8	4.6	1.9	6.8	7.1	6.3
TAMIL NADU	Total	10.6	9.6	12.3	12.3	12.8	11.6	16.0	13.4	17.7
	Rural	10.7	9.7	12.4	12.6	13.1	12.0	17.6	14.6	19.4
	Urban	9.1	8.3	10.6	10.3	11.3	9.1	13.8	11.8	15.1
PUDUCHERRY	Total	9.2	8.5	10.8	8.1	8.7	7.1	7.2	10.1	5.2
	Rural	8.8	8.0	10.5	8.0	8.6	7.1	10.5	15.1	7.8
	Urban	11.1	10.6	14.3	8.6	8.9	7.8	3.9	5.7	2.5
ANDAMAN & NICOBAR ISLANDS	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA

Source: Census of India, 2011 , Note: P- Person; M- Male; F- Female, Note: NA, Not Available

**Table 3.3: Sex Wise Distribution of Scheduled Caste Marginal Workers (15-24 Years) in India in 2011: A State Level Perspective**

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
INDIA	Total	24.0	25.6	22.9	23.3	26.2	20.5	24.6	27.4	23.0
	Rural	24.0	25.5	22.9	23.5	26.3	20.7	24.8	27.4	23.2
	Urban	25.9	26.7	25.0	19.4	22.6	15.6	24.0	27.0	21.9
JAMMU & KASHMIR	Total	24.9	26.0	24.2	22.5	23.0	21.2	22.0	22.8	21.4
	Rural	25.0	26.0	24.2	22.7	23.2	21.3	22.5	24.2	21.2
	Urban	24.1	27.3	21.9	19.9	20.4	16.5	18.4	15.1	23.7



	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
TRIPURA	Total	23.0	26.2	19.9	26.0	34.4	16.5	24.8	31.8	22.8
	Rural	22.8	26.4	19.3	26.5	34.8	17.1	25.7	34.3	23.5
	Urban	25.5	24.4	27.3	21.0	30.3	9.8	21.9	25.4	20.6
MEGHALAYA	Total	24.7	21.9	26.7	33.0	32.8	33.1	23.8	40.7	11.1
	Rural	24.7	22.6	26.2	33.6	34.5	32.7	18.4	33.3	11.8
	Urban	25.0	0.0	33.3	15.4	0.0	50.0	42.9	50.0	0.0
ASSAM	Total	28.7	33.8	24.6	31.6	41.7	23.6	25.5	34.2	22.5
	Rural	28.7	33.9	24.5	31.8	42.0	23.7	25.8	35.4	22.7
	Urban	28.2	28.3	28.1	25.3	30.6	17.9	23.3	27.8	20.8
WEST BENGAL	Total	23.3	24.9	21.4	25.5	29.7	20.6	28.2	36.8	25.1
	Rural	23.2	24.8	21.1	25.6	29.9	20.6	28.3	37.7	25.2
	Urban	27.7	25.7	29.9	22.9	25.5	17.8	27.7	33.5	24.9
JHARKHAND	Total	21.9	21.8	22.1	23.2	23.5	22.9	22.7	22.8	22.7
	Rural	21.9	21.8	22.1	23.3	23.5	23.0	22.7	22.5	22.7
	Urban	23.2	23.6	22.7	20.2	22.0	18.0	23.6	25.2	21.8
ODISHA	Total	20.7	20.9	20.6	24.7	28.9	21.2	26.0	29.9	23.8
	Rural	20.7	20.9	20.5	24.7	29.0	21.3	26.0	29.9	23.9
	Urban	24.4	23.5	25.8	22.7	27.3	18.1	26.3	29.9	23.1
CHHATTISGARH	Total	26.2	28.3	24.7	27.5	31.3	25.0	26.6	27.9	25.6
	Rural	26.2	28.3	24.7	27.7	31.5	25.2	26.9	28.2	26.0
	Urban	25.9	27.7	24.5	24.1	28.4	21.0	24.8	26.7	23.2
MADHYA PRADESH	Total	24.4	29.6	21.8	27.1	32.2	23.3	23.8	27.1	22.0
	Rural	24.4	29.6	21.8	27.3	32.4	23.5	23.9	27.0	22.3
	Urban	24.6	27.8	22.0	23.0	29.0	18.1	23.2	27.2	21.0
GUJARAT	Total	25.4	34.1	22.3	28.2	38.1	24.2	26.5	31.5	24.3
	Rural	24.9	33.8	21.9	28.3	38.6	24.4	26.1	32.4	23.4
	Urban	32.1	36.1	28.6	23.9	29.5	19.9	27.5	29.6	26.4
DAMAN & DIU	Total	22.7	44.4	7.7	0.0	0.0	0.0	0.0	0.0	0.0
	Rural	22.7	44.4	7.7	0.0	0.0	0.0	0.0	0.0	0.0
	Urban	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DADRA & NAGAR HAVELI	Total	0.0	0.0	0.0	17.6	40.0	8.3	22.2	50.0	0.0
	Rural	0.0	0.0	0.0	16.7	37.5	9.1	50.0	100.0	0.0
	Urban	0.0	0.0	0.0	25.0	50.0	0.0	14.3	33.3	0.0
MAHARASHTRA	Total	20.8	22.7	19.5	21.6	25.9	18.5	18.8	19.6	18.4
	Rural	20.2	22.1	19.0	22.0	26.4	18.9	19.0	18.7	19.2
	Urban	28.7	29.6	27.6	16.6	21.1	12.1	18.6	21.0	17.2
ANDHRA PRADESH	Total	21.4	21.7	21.1	20.3	22.1	19.2	26.2	24.9	26.9
	Rural	20.8	21.1	20.5	20.5	22.4	19.4	28.4	26.9	29.1
	Urban	27.7	28.2	27.2	16.8	17.8	16.1	21.5	21.5	21.5
KARNATAKA	Total	23.6	25.7	22.4	24.8	29.8	22.0	25.6	27.9	23.8
	Rural	23.5	25.6	22.2	25.0	30.1	22.1	26.5	29.7	24.5
	Urban	27.3	26.9	27.6	20.4	23.4	17.9	22.7	24.0	21.4

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
GOA	Total	29.7	26.3	33.3	9.7	11.4	7.5	12.1	17.6	7.9
	Rural	25.4	27.6	23.3	10.2	12.2	7.9	11.1	14.9	8.6
	Urban	46.7	22.2	83.3	4.0	5.6	0.0	15.0	23.8	5.3
LAKSHADWEEP	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
KERALA	Total	12.7	11.2	14.8	6.4	8.3	4.1	9.5	12.1	7.7
	Rural	12.1	11.0	13.6	6.9	8.9	4.6	9.9	12.3	8.1
	Urban	16.0	12.2	21.1	4.4	6.1	2.3	8.7	11.6	6.9
TAMIL NADU	Total	15.5	14.7	16.5	14.1	15.0	13.3	19.2	18.7	19.5
	Rural	15.2	14.5	16.1	14.3	15.3	13.6	20.6	20.0	20.9
	Urban	20.0	18.2	22.1	11.4	12.7	10.1	15.9	15.5	16.1
PUDUCHERRY	Total	13.9	16.0	10.9	8.4	9.3	7.3	11.0	15.0	9.3
	Rural	10.4	13.2	6.4	8.1	9.1	7.0	12.4	15.2	11.0
	Urban	35.5	35.3	35.7	10.9	10.8	11.1	7.9	14.3	6.1
ANDAMAN & NICOBAR ISLANDS	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA

Source: Census of India, 2011, Note: P Person; M Male; F Female, Note: NA, Not Available

Table 3.3 provides the sex-wise distribution of scheduled caste youth marginal workers (15-24) years in India in 2011. As far as status of scheduled caste marginal workers is concerned, around 24.0 per cent marginal workers were involved in the cultivation followed by 23.3 per cent who worked as an agricultural labourers. Another 24.6 per cent were engaged in the household industry. With regard to SC women in agriculture, around 20.5 percent women worked as agricultural labourers in marginal status. Table 3.3 also depicts state-wise distribution of scheduled caste (15-24) marginal workers in India in 2011. Arunachal Pradesh, Nagaland, Lakshadweep and Andaman & Nicobar Islands are States where scheduled caste marginal workers data was not recorded. The top five states that had the highest concentration of young SC women working as agricultural labourers in marginal status were Chandigarh (31.6), Rajasthan (27.2 percent), Chhattisgarh (25.0 percent), Gujarat(24.2 percent) and Assam (23.6 percent).

It may be observed from Table 3.4 that during the period of Census of India (2011), about 15.0 per cent of the youth main workers belonging to the Scheduled Tribe(ST) community were involved in cultivation for their livelihood, followed by 22.9 per cent who worked as agricultural labourers and 19.2 per cent were engaged in household industry. The percentage of male youth employed in cultivation was 13.4 whereas for women it was 18.4 per cent. Further, the share of male youth engaged as agricultural

labourers was 23.1 per cent while 22.6 per cent female labourers were engaged as agricultural labourers. The top five states that had the highest concentration of young ST women working as agricultural labourers were Rajasthan (26.3 percent), Madhya Pradesh (25.1 percent), Meghalaya (23.8 percent), Maharashtra (23.3 percent) and Chhattisgarh (22.9 percent).

**Table 3.4: Sex Wise Distribution of Scheduled Tribe Main Workers (15-24 Years) in India in 2011: A State Level Perspective**

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
INDIA	Total	15.0	13.4	18.4	22.9	23.1	22.6	19.2	17.4	20.9
	Rural	15.0	13.4	18.4	22.9	23.1	22.7	19.6	17.7	21.5
	Urban	12.9	12.5	13.8	20.4	21.3	19.1	16.8	16.4	17.3
JAMMU & KASHMIR	Total	15.6	15.1	18.1	19.6	19.3	21.3	16.9	15.0	19.7
	Rural	15.7	15.1	18.1	19.6	19.4	21.4	17.0	15.1	19.7
	Urban	14.6	13.3	20.1	16.8	16.2	19.3	15.2	13.2	18.9
HIMACHAL PRADESH	Total	12.5	12.8	12.1	18.9	20.0	17.0	14.8	11.8	19.8
	Rural	12.5	12.8	12.1	19.0	20.2	17.1	15.0	11.9	20.1
	Urban	9.9	9.9	10.0	13.3	14.5	9.5	9.1	10.5	5.0
PUNJAB	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHANDIGARH	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
UTTARAKHAND	Total	13.5	12.3	16.1	21.9	23.3	18.9	15.1	15.4	14.9
	Rural	13.6	12.4	16.2	22.1	23.5	19.1	15.5	15.4	15.6
	Urban	11.5	10.1	13.8	7.6	9.0	4.6	11.0	15.2	5.3
HARYANA	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
NCT OF DELHI	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAJASTHAN	Total	16.2	14.1	20.2	27.2	28.1	26.3	22.5	21.6	23.8
	Rural	16.3	14.1	20.3	27.4	28.4	26.4	23.4	22.4	24.7
	Urban	12.6	11.6	15.0	20.1	20.8	18.9	17.4	17.6	17.2
UTTAR PRADESH	Total	11.5	10.4	15.7	20.2	19.9	20.6	17.0	15.4	19.6
	Rural	11.5	10.4	15.7	20.3	20.1	20.6	16.6	15.2	18.8
	Urban	11.3	9.9	19.5	16.9	15.8	21.7	18.5	16.3	23.8
BIHAR	Total	11.6	10.7	15.0	18.0	17.7	18.4	18.5	17.6	19.4
	Rural	11.6	10.6	15.0	17.9	17.7	18.5	18.5	17.6	19.6
	Urban	12.3	11.6	16.7	19.8	20.8	17.5	17.3	18.1	15.4

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
SIKKIM	Total	18.5	17.7	19.7	20.0	20.2	19.8	16.1	14.7	18.8
	Rural	18.5	17.7	19.8	20.3	20.5	20.1	17.2	16.0	19.4
	Urban	9.7	11.9	6.4	9.3	9.2	9.4	9.5	6.1	15.4
ARUNACHAL PRADESH	Total	13.5	11.7	15.3	14.3	13.1	15.4	14.9	11.8	17.7
	Rural	13.5	11.7	15.3	14.6	13.5	15.6	15.0	11.6	18.2
	Urban	9.7	8.7	11.0	10.7	9.1	12.6	14.4	13.0	15.2
NAGALAND	Total	17.3	17.2	17.3	25.1	27.9	21.6	16.5	14.9	17.8
	Rural	17.4	17.4	17.5	26.0	29.1	22.4	17.6	15.5	19.2
	Urban	10.6	10.9	10.4	18.0	19.9	15.1	13.0	13.0	13.1
MANIPUR	Total	15.6	14.5	16.8	18.4	19.2	17.8	15.0	12.6	16.7
	Rural	15.7	14.7	16.9	18.7	19.6	18.0	15.8	13.0	17.9
	Urban	9.6	8.6	10.7	12.2	12.4	11.9	9.5	9.4	9.6
MIZORAM	Total	21.1	20.9	21.3	22.5	24.8	18.8	15.1	13.5	17.2
	Rural	22.1	21.7	22.7	24.4	26.3	21.7	16.9	14.8	20.4
	Urban	15.8	17.0	13.9	20.8	23.5	16.0	14.4	12.8	16.1
TRIPURA	Total	12.6	11.2	17.4	17.4	17.1	17.8	18.7	15.4	22.6
	Rural	12.6	11.2	17.5	17.4	17.1	17.9	18.9	15.7	22.7
	Urban	9.4	9.3	9.7	17.1	17.9	15.7	12.6	7.8	19.4
MEGHALAYA	Total	20.3	19.3	21.6	25.5	26.7	23.8	19.5	17.4	21.7
	Rural	20.3	19.4	21.7	25.6	26.7	24.0	20.0	17.9	22.2
	Urban	15.8	16.2	15.2	23.6	26.4	17.8	13.9	12.8	15.3
ASSAM	Total	11.9	10.4	16.8	17.0	17.2	16.7	16.6	14.0	18.4
	Rural	11.9	10.4	16.8	17.0	17.2	16.7	16.8	14.0	18.6
	Urban	9.3	8.7	12.2	15.9	17.6	13.5	14.2	13.6	15.0
WEST BENGAL	Total	11.5	10.8	15.2	20.6	20.3	21.0	20.3	19.3	21.3
	Rural	11.5	10.8	15.2	20.6	20.3	21.0	20.5	19.4	21.7
	Urban	11.0	10.8	12.2	20.3	20.8	19.4	18.5	19.3	17.4
JHARKHAND	Total	13.6	12.4	16.2	21.0	20.5	21.7	17.5	15.7	19.7
	Rural	13.6	12.4	16.2	21.1	20.6	21.8	17.7	15.8	20.0
	Urban	10.5	10.4	10.7	17.7	17.6	17.8	14.3	13.9	14.8
ODISHA	Total	11.8	10.6	17.6	20.0	19.2	21.5	22.2	18.4	25.7
	Rural	11.8	10.6	17.6	20.0	19.1	21.5	22.4	18.5	25.8
	Urban	13.2	12.1	17.5	21.3	21.5	21.0	20.1	18.2	23.4
CHHATTISGARH	Total	15.0	13.6	17.9	23.5	24.1	22.9	19.7	18.4	21.5
	Rural	15.0	13.6	18.0	23.6	24.1	22.9	19.6	18.2	21.5
	Urban	12.8	12.3	13.9	21.8	23.1	20.1	20.5	19.6	21.4
MADHYA PRADESH	Total	16.4	14.8	19.2	25.7	26.2	25.1	20.8	20.9	20.7
	Rural	16.4	14.8	19.2	25.8	26.3	25.2	21.1	21.1	21.1
	Urban	14.8	14.0	16.7	22.9	24.2	21.2	18.6	19.6	17.2

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
GUJARAT	Total	11.2	10.5	14.4	21.8	23.1	19.8	18.3	17.3	20.0
	Rural	11.2	10.5	14.4	21.8	23.1	19.9	17.6	16.5	19.6
	Urban	10.9	10.5	12.8	20.6	22.4	17.4	22.1	21.7	22.9
DAMAN & DIU	Total	7.0	7.0	7.1	6.9	7.7	4.9	15.6	15.4	16.7
	Rural	8.5	8.1	10.0	6.3	7.7	3.6	20.0	18.2	25.0
	Urban	4.2	5.0	0.0	7.7	7.7	7.7	11.8	13.3	0.0
DADRA & NAGAR HAVELI	Total	11.4	9.0	17.8	24.3	22.2	26.4	26.1	24.1	29.6
	Rural	11.7	9.1	18.1	24.9	22.8	26.9	28.0	26.2	31.0
	Urban	7.4	6.6	10.8	19.1	17.8	20.8	8.1	8.3	7.1
MAHARASHTRA	Total	16.5	14.7	19.2	23.5	23.7	23.3	17.9	16.3	19.6
	Rural	16.6	14.8	19.2	23.6	23.8	23.4	19.4	17.1	21.8
	Urban	13.1	11.8	16.2	19.5	20.4	18.4	14.3	14.7	13.8
ANDHRA PRADESH	Total	15.8	13.5	19.5	22.0	21.5	22.5	20.1	17.5	22.3
	Rural	15.8	13.6	19.5	22.1	21.6	22.5	20.6	17.9	22.6
	Urban	11.2	9.2	15.5	19.8	18.8	20.8	18.1	16.1	20.6
KARNATAKA	Total	16.4	15.7	18.4	23.6	25.8	21.5	19.1	19.4	18.9
	Rural	16.5	15.8	18.4	23.7	26.0	21.6	20.1	20.8	19.5
	Urban	14.2	13.3	17.1	21.7	23.0	20.2	16.9	16.9	16.9
GOA	Total	9.9	8.1	12.9	8.8	8.2	9.4	10.5	9.6	12.1
	Rural	10.3	8.3	13.7	10.1	9.5	10.7	11.2	9.2	14.7
	Urban	5.3	5.3	5.4	3.9	4.1	3.7	9.5	10.2	8.5
LAKSHADWEEP	Total	0.0	0.0	0.0	0.0	0.0	0.0	5.5	3.3	10.0
	Rural	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	20.0
	Urban	0.0	0.0	0.0	0.0	0.0	0.0	4.1	3.8	5.0
KERALA	Total	10.5	9.3	13.6	14.9	15.6	13.8	14.3	13.0	16.0
	Rural	10.5	9.3	13.7	14.9	15.7	13.8	15.1	14.1	16.2
	Urban	7.2	7.8	3.3	11.0	12.8	6.7	10.8	8.6	15.0
TAMIL NADU	Total	16.8	15.2	18.8	18.0	17.9	18.2	18.2	15.2	20.7
	Rural	16.8	15.2	18.9	18.2	18.1	18.4	19.6	15.9	22.4
	Urban	10.8	11.6	9.5	14.4	14.7	14.1	15.2	13.8	16.6
PUDUCHERRY	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDAMAN & NICOBAR ISLANDS	Total	18.0	13.9	24.0	8.3	10.5	0.0	12.9	14.3	11.0
	Rural	17.2	14.7	20.8	8.7	10.5	0.0	12.9	14.3	11.0
	Urban	33.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Census of India, 2011, Note: P- Person; M -Male; F- Female, Note: NA, Not Available

**Table 3.5: Sex Wise Distribution of Scheduled Tribe Marginal Workers (15-24 Years) in India in 2011: A State Level Perspective**

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
INDIA	Total	24.7	25.6	24.1	28.3	32.3	25.9	27.0	30.0	25.7
	Rural	24.7	25.6	24.1	28.4	32.4	26.0	27.2	30.4	25.9
	Urban	24.4	25.4	23.6	24.6	27.7	22.2	23.2	25.2	22.0
JAMMU & KASHMIR	Total	23.9	23.6	24.2	22.5	22.0	23.9	23.3	23.4	23.2
	Rural	24.0	23.6	24.3	22.5	22.0	23.9	23.5	23.6	23.4
	Urban	19.2	20.2	18.5	23.3	24.8	19.3	16.9	19.9	14.0
HIMACHAL PRADESH	Total	26.9	30.8	24.5	22.7	24.6	20.5	23.5	25.1	22.6
	Rural	26.9	30.8	24.5	22.8	24.7	20.8	23.5	25.1	22.5
	Urban	29.0	36.9	25.4	17.2	22.9	10.7	26.2	23.8	28.6
PUNJAB	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHANDIGARH	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
UTTARAKHAND	Total	30.6	35.7	27.7	29.2	31.5	27.1	23.2	27.1	21.5
	Rural	30.5	35.7	27.7	29.4	31.6	27.2	23.8	27.5	22.2
	Urban	35.5	40.0	31.9	20.9	26.2	15.2	11.3	20.9	7.1
HARYANA	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
NCT OF DELHI	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAJASTHAN	Total	26.7	28.2	25.8	32.9	40.5	29.5	32.5	39.0	29.2
	Rural	26.7	28.2	25.8	32.9	40.6	29.5	32.7	39.5	29.4
	Urban	23.3	28.8	20.7	25.5	32.2	22.7	26.6	29.6	24.8
UTTAR PRADESH	Total	18.9	17.7	20.3	23.1	23.6	22.4	21.5	22.3	20.8
	Rural	19.0	17.8	20.3	23.1	23.6	22.5	21.6	22.5	20.8
	Urban	16.2	11.7	32.1	21.7	22.6	19.5	20.2	20.0	20.5
BIHAR	Total	20.0	20.3	19.7	21.1	22.0	20.1	23.1	24.9	22.2
	Rural	20.0	20.3	19.7	21.0	21.9	20.0	22.8	24.9	21.7
	Urban	21.5	22.1	20.5	24.8	25.7	23.8	31.5	24.6	37.0
SIKKIM	Total	30.5	34.1	28.2	31.1	36.8	27.1	32.4	30.3	33.7
	Rural	30.5	34.2	28.3	31.5	37.2	27.4	34.9	32.6	36.1
	Urban	18.2	12.0	20.6	21.5	25.6	18.5	17.4	20.0	14.8
ARUNACHAL PRADESH	Total	22.9	23.4	22.6	26.9	29.1	25.4	34.6	36.9	33.3
	Rural	23.1	23.6	22.7	27.2	29.5	25.7	33.7	36.7	32.0
	Urban	15.2	13.0	17.1	21.8	23.0	20.9	39.1	38.3	39.4

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
NAGALAND	Total	37.3	41.8	33.8	42.7	47.9	37.9	35.3	41.3	32.0
	Rural	38.0	42.3	34.6	44.0	49.0	39.4	38.5	43.2	35.7
	Urban	28.6	34.8	25.0	32.0	38.5	26.9	24.9	32.8	22.0
MANIPUR	Total	28.2	30.6	26.2	31.0	38.8	26.6	27.8	35.0	25.4
	Rural	28.6	31.1	26.6	31.4	39.4	27.0	28.4	36.2	25.9
	Urban	14.8	17.0	12.6	18.5	23.2	15.4	23.0	27.3	20.9
MIZORAM	Total	30.3	35.4	28.3	32.4	40.1	27.6	25.7	29.4	23.9
	Rural	30.9	36.4	28.9	34.6	47.4	29.2	30.7	35.1	29.1
	Urban	27.7	32.1	25.1	30.7	36.4	26.1	22.3	26.6	19.8
TRIPURA	Total	26.7	31.1	24.5	29.2	38.8	25.3	28.8	37.1	26.9
	Rural	26.7	31.2	24.5	29.2	38.8	25.3	28.9	37.3	27.0
	Urban	7.6	8.1	7.2	26.0	30.8	23.7	21.0	26.1	19.5
MEGHALAYA	Total	28.1	31.1	26.1	31.3	36.4	27.5	30.9	34.8	28.9
	Rural	28.2	31.2	26.2	31.5	36.7	27.7	31.0	35.5	28.7
	Urban	20.8	20.2	21.2	26.7	30.6	22.6	29.5	25.1	32.7
ASSAM	Total	28.2	33.9	24.8	28.3	39.7	23.0	27.1	36.8	25.1
	Rural	28.2	34.0	24.8	28.4	39.8	23.0	27.4	37.3	25.3
	Urban	21.9	25.0	19.0	23.2	30.5	19.1	19.7	20.9	19.4
WEST BENGAL	Total	20.8	19.7	22.3	27.0	30.1	24.7	26.3	29.8	25.2
	Rural	20.8	19.7	22.2	27.0	30.1	24.7	26.4	29.9	25.3
	Urban	26.3	23.5	30.5	25.8	28.5	23.0	24.8	28.7	22.5
JHARKHAND	Total	21.7	21.4	21.9	25.3	26.3	24.5	23.9	24.5	23.5
	Rural	21.7	21.4	21.9	25.4	26.4	24.6	24.0	24.7	23.6
	Urban	20.7	20.2	21.2	22.0	22.5	21.5	20.2	20.6	19.9
ODISHA	Total	20.6	19.1	22.3	28.1	33.4	25.3	28.3	31.9	27.3
	Rural	20.6	19.1	22.3	28.1	33.4	25.3	28.4	32.2	27.4
	Urban	20.1	19.6	20.9	26.5	30.6	23.8	25.8	26.6	25.2
CHHATTISGARH	Total	24.9	27.0	23.6	29.6	34.5	26.9	26.9	28.8	25.8
	Rural	24.8	27.0	23.5	29.6	34.7	27.0	26.9	28.9	25.8
	Urban	29.1	27.0	30.4	26.5	28.9	24.8	26.3	27.3	25.6
MADHYA PRADESH	Total	24.5	25.0	24.2	30.0	33.0	28.0	27.2	30.4	25.3
	Rural	24.5	25.0	24.2	30.0	33.0	28.0	27.3	30.5	25.6
	Urban	24.1	26.6	22.6	26.0	30.0	22.9	23.9	29.0	18.6
GUJARAT	Total	23.1	28.1	21.0	29.3	41.4	24.8	26.8	32.9	23.8
	Rural	23.1	28.1	21.0	29.4	41.6	24.8	26.8	33.5	23.6
	Urban	23.7	27.6	21.4	27.1	32.6	23.9	27.0	28.3	26.2
DAMAN & DIU	Total	13.9	6.3	16.0	12.9	16.3	11.0	8.3	0.0	14.3
	Rural	13.4	4.0	15.8	10.7	12.1	10.0	12.5	0.0	25.0
	Urban	42.9	40.0	50.0	30.8	30.0	33.3	0.0	0.0	0.0
DADRA & NAGAR HAVELI	Total	23.1	17.9	25.7	27.2	36.6	24.8	29.8	36.3	27.8
	Rural	23.7	18.1	26.4	27.5	37.2	25.1	33.0	40.8	30.6
	Urban	14.3	14.2	14.4	18.0	19.3	17.6	14.1	13.3	14.3

	Place of Residence	Cultivators			Agricultural Labour			Household Industry		
		P	M	F	P	M	F	P	M	F
MAHARASHTRA	Total	23.4	23.0	23.7	28.3	31.4	26.2	26.2	26.4	26.1
	Rural	23.3	23.0	23.6	28.5	31.7	26.5	27.4	27.6	27.3
	Urban	28.1	24.2	32.3	21.3	24.2	18.9	21.0	21.8	20.5
ANDHRA PRADESH	Total	22.9	22.4	23.4	25.3	27.2	24.2	26.5	29.0	25.2
	Rural	22.9	22.4	23.3	25.4	27.4	24.3	27.4	30.6	25.8
	Urban	27.5	27.1	27.9	20.9	21.3	20.6	20.6	19.9	21.0
KARNATAKA	Total	25.0	27.5	23.6	27.4	33.8	24.0	26.0	29.5	23.8
	Rural	25.1	27.6	23.6	27.6	34.0	24.1	26.7	31.0	24.3
	Urban	23.5	23.7	23.2	23.1	28.5	19.6	22.9	24.6	21.5
GOA	Total	14.0	12.6	15.3	9.8	10.1	9.7	16.1	16.4	15.9
	Rural	15.5	13.9	17.2	12.5	13.4	11.8	14.3	11.5	16.0
	Urban	5.5	5.6	5.4	3.3	3.1	3.4	21.4	30.0	15.8
LAKSHADWEEP	Total	0.0	0.0	0.0	0.0	0.0	0.0	12.3	14.0	11.3
	Rural	0.0	0.0	0.0	0.0	0.0	0.0	12.5	11.8	12.7
	Urban	0.0	0.0	0.0	0.0	0.0	0.0	12.2	15.0	9.5
KERALA	Total	17.7	16.5	19.0	16.4	18.7	14.2	15.8	18.3	14.1
	Rural	17.9	16.7	19.1	16.6	19.0	14.3	16.2	17.9	15.1
	Urban	3.0	2.3	4.3	8.3	10.2	5.4	12.8	21.1	6.6
TAMIL NADU	Total	21.0	19.1	23.2	20.1	20.7	19.6	24.1	23.4	24.4
	Rural	21.0	19.1	23.1	20.3	20.8	19.8	25.5	24.7	25.9
	Urban	23.0	20.4	25.0	17.2	18.4	16.0	17.5	15.6	18.2
PUDUCHERRY	Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Urban	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDAMAN & NICOBAR ISLANDS	Total	19.5	20.9	17.6	12.8	14.9	10.3	12.2	12.5	11.9
	Rural	18.7	19.5	17.6	12.8	14.9	10.3	12.2	12.5	11.9
	Urban	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Source:** Census of India, 2011, Note: P Person; M Male; F Female, Note: NA, Not Available

According to Census of India (2011) the proportion of scheduled tribe (ST) population in India was about 8.6 per cent of which male and female were about 8.4 and 8.6 and per cent respectively. The distribution of ST young marginal workers as discussed in the table 3.5 reveals that about 24.7 per cent scheduled tribe youth population was engaged in the cultivation followed by 28.3 per cent as agricultural labourer and 27.0 per cent were working in the household industry. However, a sex-wise distribution reveals that while 32.3 per cent of young ST men were engaged as agricultural labourers, 25.9 per cent women were engaged as agricultural labourers. Also, the share of women workers as agricultural labourers (25.9 per cent) was higher compared to cultivators (24.1 per cent). With regard to state-wise distribution of marginal women workers who worked as agricultural labourers, some of the Northeastern states reported a significant percentage.

Nagaland (37.9 percent) showed an increasingly higher proportion of ST women working as agricultural labourers. This may be due to the higher share of ST population in the State. The other states which reported a greater share of women working as agricultural labourers included Rajasthan (29.5 percent) followed by Madhya Pradesh (28.0 percent) and north eastern states of Mizoram (27.6 percent), Meghalaya (27.5 percent) and Uttarakhnad (27.1 per cent) A higher proportion of scheduled tribe youth marginal workers in rural areas largely depend on agricultural and allied activities for their survival.

Though the table above (3.5) has revealed a huge share of young women workers engaged as agricultural labourers, the Economic Censuses reveal the status of agricultural enterprises under proprietary ownership.

### 3.3 Women's Ownership in Agricultural Establishments

The All India Report on the Sixth Economic Census (2016) stated that majority of agricultural establishments under proprietary ownership were in rural areas and owned by men. As reported in Table 3.6, proprietary agricultural establishments under male ownership were 10.05 million (79.0 percent) whereas 2.76 million (21.5 percent) were owned by females at all India level. In rural areas, the distribution of male ownership was 9.34 million (78.9 percent) while for females it was 2.45 million (20.73 percent).

**Table 3.6: Establishments and employment in proprietary establishments by sex of the owner in India: 2013-14**

Ownership	Number of establishments			Number of workers		
	Rural	Urban	Combined	Rural	Urban	Combined
Male Owners	79.0	69.4	78.2	81.8	75.8	81.3
Female Owners	20.7	30.3	21.5	17.8	23.8	18.3
Other Owners	0.3	0.3	0.3	0.4	0.4	0.4

Source: Sixth Economic Census, 2013-14

However, there was a decline in women's ownership in agricultural establishments in rural areas from 21.15 per cent during the 5th EC to 20.73 per cent during the 6th EC. On the contrary, the ownership of rural males in agricultural establishments had increased from 78.85 per cent during the 5th EC to 78.95 per cent during the 6th EC (GoI, 2016). The participation of women in entrepreneurial activities and managing an enterprise on their own is affected by a lot of social and cultural constraints that women face. Lack of adequate skills, household domestic responsibilities, lack of access to finance, lack of decision-making abilities due to socio-cultural arrangements have constrained women's active agency (Samantroy and Tomar 2018).

**Table 3.7: Social Group wise percentage distribution of Women owned establishments during Fifth and Sixth EC**

Social Group	Fifth EC(2005-06)	Sixth EC(2013-14)
SC	12.36	12.18
ST	9.31	6.97
OBC	45.33	40.65
Others	33.00	40.20
All India (Aggregate Figure)	3544254	8050819

Source: Economic Census, 2005-06, 2013-14

The social group wise distribution of women owned establishments during the fifth and sixth economic census as discussed in Table 3.7, showed a decline in women-owned establishments among the SCs, STs and OBCs though there was an increase among 'Others'. It was reported that the women belonging to the OBC category (40.65 percent) had a greater share of ownership in establishments during the 6<sup>th</sup> EC but had witnessed a decline from 45.33 percent during the 5<sup>th</sup>EC to 40.65 during the 6<sup>th</sup> EC. Similarly, the other social groups namely the SCs reported a decline in women owned establishments from 12.36 percent during 5<sup>th</sup>EC to 12.18 percent during the 6<sup>th</sup> EC and among the ST women, the share had declined from 9.31 per cent to 6.97 percent during the 6<sup>th</sup>EC. The intersections of gender and caste become prominent as women's social group location contributes to their vulnerability and women remain in a disadvantageous position due to lack of mobility. Such figures lead to addressing the larger question of whether entrepreneurship among the social groups has led to their upward mobility or not and to understand whether entrepreneurial activity is only confined to remain as a necessity driven activity (Samantroy and Tomar, 2018)

**Table 3.8 Type, Sector and activity wise percentage distribution of Women owned establishments during Fifth and Sixth EC**

Type/Sector/Activity	Fifth EC(2005)	Sixth EC(2013)
Without Hired Workers	77.10	83.20
With at least one Hired Worker	22.90	16.80
Rural	74.10	65.12
Urban	25.90	34.88
Agricultural Activities	15.70	34.30
Non-agricultural Activities	84.30	65.70

Source: Calculated from unit level data

The above discussion indicates the various concerns that determine the quality of working conditions of female workers in agricultural activities

in India. The persistent vulnerability of women workers and their low status as workers is often determined by the size of their enterprise. It was reported that the share of women owned enterprises without hired workers had increased from 77.10 percent during the 5<sup>th</sup> EC to 83.20 percent during the 6<sup>th</sup> EC as shown in the above Table 3.8. Contrastingly, the share of women owned establishments with at least one hired worker had declined from 22.90 percent during 5<sup>th</sup> EC to 16.80 during the 6<sup>th</sup> EC. Lack of capital, adequate skills and knowledge, poverty and deprivation often push women to low-paying vulnerable employment. Due to the lack of access to government funding, other agricultural promotion schemes and lack of access to productive assets, women are unable to negotiate with the labour market choices and continue to remain in informal and vulnerable employment. In this context, it would be important to understand women's access to land and other assets.

### 3.4 Women and Land Ownership

The negative relationship between rural poverty and access to land, agrarian indebtedness and feminisation of agriculture has been brought out by some scholars (Agarwal 2016; Mathew 2012; Vepa 2005). Women are generally engaged in casual and self-employment in agriculture due to lack of access to land. Land continues to provide both direct benefits, such as growing crops or fodder or trees, and indirect benefits such as serving as collateral for credit or as an asset that can be mortgaged or sold during a crisis (Agarwal, 2016).

**Table 3.9: Average Size of Operational Holding of Women in India: 2005-06 to 2010-11 (State - wise)**

State/UTs	2005-06			2010-11		
	Individual Holdings	Joint Holdings	Total Holdings	Individual Holdings	Joint Holdings	Total Holdings
A & N Islands	1.47	2.45	1.75	1.32	2.59	1.77
Andhra Pradesh	0.99	1.21	0.99	0.94	1.62	0.94
Arunachal Pradesh	2.29	25.05	2.34	2.72	0.95	2.72
Assam	1.31	1.22	1.31	1.23	1.87	1.23
Bihar	0.39	0.55	0.41	0.35	0.47	0.37
Chandigarh	0.44	0.99	0.86	0.46	1.14	0.92
Chattisgarh	1.13	5.96	1.16	1.05	5.94	1.06
D & N Haveli	1.14	1.99	1.53	1.05	1.88	1.44
Daman & Diu	0.44	0.64	0.48	0.35	0.42	0.37
Delhi	0.70	1.33	0.87	0.69	1.12	0.81
Goa	0.51	0.79	0.52	0.83	1.83	0.85
Gujarat	2.05	2.14	2.10	1.82	1.94	1.89
Haryana	1.36	2.30	2.05	1.31	2.38	2.08

State/UTs	2005-06			2010-11		
	Individual Holdings	Joint Holdings	Total Holdings	Individual Holdings	Joint Holdings	Total Holdings
Himachal Pradesh	0.70	1.70	0.70	0.66	2.12	0.66
Jammu & Kashmir	0.46	0.53	0.48	0.42	0.55	0.45
Jharkhand	NA	NA	NA	0.79	1.10	0.87
Karnataka	1.37	1.19	1.36	1.28	1.55	1.28
Kerala	0.17	0.56	0.17	0.16	0.57	0.16
Lakshadweep	0.22	0.26	0.22	0.22	0.26	0.22
Madhya Pradesh	1.55	2.10	1.59	1.37	1.80	1.41
Maharashtra	1.27	1.56	1.27	1.25	1.47	1.26
Manipur	0.83	0.00	0.83	0.87	0.00	0.87
Meghalaya	1.17	0.00	1.17	1.35	0.00	1.35
Mizoram	1.05	0.00	1.05	1.01	0.00	1.01
Nagaland	4.84	6.26	4.85	5.16	0.00	5.16
Orissa	1.04	1.22	1.05	0.96	1.34	0.96
Pondicherry	0.62	1.09	0.64	0.39	0.48	0.39
Punjab	2.91	23.35	3.11	2.73	0.00	2.73
Rajasthan	2.92	3.24	2.96	2.38	2.87	2.44
Sikkim	1.26	0.88	1.23	1.31	0.00	1.31
Tamil Nadu	0.70	0.65	0.70	0.68	0.65	0.68
Tripura	0.37	0.74	0.38	0.42	0.49	0.42
Uttar Pradesh	0.59	0.78	0.64	0.53	0.74	0.58
Uttaranchal	0.72	1.32	0.78	0.71	1.31	0.76
West Bengal	0.46	0.00	0.46	0.44	0.00	0.44
All India	0.94	1.41	0.98	0.90	1.29	0.93

**Note:** agriculture census was not conducted in Jharkhand in 2005-06,

**Source:** Agricultural Census, 2005-06-to- 2010-11

The above discussion reiterates that, women's contribution to the agricultural activities would be significant due to financial independence, access to assets like land and individual autonomy. The information on the size of operational holdings of women has been as presented Table 3.9. It is important to argue that, the size of operational holdings is crucial and is largely associated with decision making in Agriculture and can contribute in fortification of Agricultural activities. However, an analysis of the data in Table 3.9 on operational holdings suggests that nearly 0.94 percent of individual holdings belonged to women while it was quite evident that, this proportion went down to 0.90 percent in 2010-11. However, some variations exist in the case of state-level analysis. As evident from the analysis presented in the table, the lowest proportion of operational holdings was recorded in Kerala (0.17 percent) in 2005-06 and (0.16 percent) during 2010-11 and the highest share was observed in Nagaland (4.84 percent) in 2005-06 and 5.16 percent in 2010-11. Furthermore, as per Agriculture Census 2005-06, about 1.41 percent joint holdings belonged to women and in 2010-11 the proportion of joint holdings was just 1.29

percent. Previous research evidence highlighted that women played a crucial role in agricultural operations and their ownership status is still critically examined. In most countries, men as a gender exercise dominance over the instruments through which their existing advantages of property ownership and control are perpetuated (Agarwal, 2016). Also, women located across various social groups have differential access to land.

**Table 3.10: Average Size of Holding by Size Group of Women by Social Groups in India: 2005-06 to 2010-11**

Size of Holding (in ha.)	2005-06			2010-11		
	Individual Holdings	Joint Holding	Total Holding	Individual Holdings	Joint Holding	Total Holding
<b>All Social Group</b>						
Marginal	0.35	0.41	0.36	0.36	0.39	0.36
SMALL	1.36	1.41	1.36	1.40	1.41	1.40
Semi-Medium	2.61	2.80	2.63	2.65	2.77	2.66
Medium	5.60	5.88	5.65	5.65	5.82	5.68
Large	15.21	<b>16.41</b>	15.48	15.45	<b>17.10</b>	15.83
All Classes	<b>0.94</b>	1.41	0.98	<b>0.90</b>	1.29	0.93
<b>SC</b>						
Marginal	0.34	0.37	0.34	0.34	0.37	0.34
SMALL	1.36	1.36	1.36	1.38	1.38	1.38
Semi-Medium	2.60	2.71	2.61	2.59	2.68	2.60
Medium	5.67	5.74	5.68	5.62	5.67	5.62
Large	15.37	15.98	15.48	15.52	16.88	15.72
All Classes	<b>0.68</b>	<b>0.83</b>	<b>0.69</b>	<b>0.67</b>	<b>0.79</b>	<b>0.68</b>
<b>ST</b>						
Marginal	0.46	0.47	0.46	0.46	0.48	0.46
SMALL	1.38	1.45	1.39	1.40	1.44	1.41
Semi-Medium	2.62	2.80	2.64	2.65	2.77	2.67
Medium	5.65	5.84	5.68	5.62	5.82	5.66
Large	14.98	16.84	15.35	15.71	16.55	15.88
All Classes	<b>1.38</b>	<b>2.21</b>	<b>1.45</b>	<b>1.28</b>	<b>1.94</b>	<b>1.34</b>
<b>Others</b>						
Marginal	0.35	0.41	0.35	0.35	0.39	0.35
SMALL	1.36	1.41	1.36	1.40	1.41	1.40
Semi-Medium	2.61	2.80	2.63	2.65	2.78	2.67
Medium	5.59	5.89	5.64	5.65	5.82	5.69
Large	15.24	16.37	15.50	15.40	17.18	15.83
All Classes	0.94	1.42	0.98	0.89	1.30	0.93

Source: Agricultural Census, 2005-06-to- 2010-11

The above table (3.10) provides the distribution of average size of holdings by size group of women among various social groups in this context, about 0.94 percent in 2005-06 individual holdings was operated by women against 0.90 percent in 2010-11. The average size of joint holding just 16.41 percent in 2005-06 and it increased to 17.10 percent in 2010-11. It is evident that with regard to land ownership, males have remained in an advantageous position due to rampant patriarchy and superior status enjoyed by men. The table also reports that there has been a decrease in average size of holding among women belonging to the SC community. It was evident that about 0.83 percent of joint holdings among SC women was reported in 2005-06 which decreased to 0.79 percent in 2010-11. The average size of individual holdings for SC women also decreased from 0.68 percent in 2005-06 to 0.67 percent in 2010-11.

Also, the average size of individual holdings for scheduled tribe (ST) women decreased from 1.38 percent in 2005-06 to 1.28 percent in 2010-11. Similarly, the average size of joint holdings decreased from 2.21 percent in 2005-06 to 1.94 percent in 2010-11. There is no denying the fact that women's access to land and control over property rights is critical in determining livelihood choices for women. However, women's land right has not received the desired policy attention. Keeping in view the diverse socio-cultural context of the country and long history of marginalisation of certain social groups, it becomes imperative to understand the linkages between gender and land rights through the intersections of caste and gender. Further the issue of ownership and control over land need to be seen from the perspective of social location of women and the gender relations existing within households. Some of the scholars working on women and land rights have clearly brought out the differences ownership and control over land which remains critical since most South Asian women face significant barriers to have legal claims in landed property as well as in exercising control over any land they get (Agarwal, 2016).

In view of the above discussion, it would be imperative to understand the distribution of operational holdings<sup>5</sup> by men and women. It is usually agreed that the Indian agriculture system is influenced by several socio-cultural and economic factors including caste hierarchy and social backwardness. It has been observed that women who were engaged in various agricultural activities were predominantly involved in sowing, transplanting, fertiliser and pesticide application, hybridisation, irrigation, harvesting and post-harvesting (Balasubramanian; Tamizoli & Murugakan 2002)

<sup>5</sup> The Report of the Agriculture Census 2010-11 defines an operational holding as "all land which is used wholly or partly for Agricultural production and is operated as one Technical Unit by one person alone or with others without regard to title, legal form, size or location"

**Table 3.11: Percentage distribution of number and area of operational holdings by Gender and social-Group in India: 2005-06 to 2010-11**

Size of Holding (in ha.)	2010-11						2005-06					
	Number			Area			Number			Area		
	M	F	T	M	F	T	M	F	T	M	F	T
<b>ST</b>												
<b>Below 0.5</b>	30.7	33.5	31.0	5.8	6.8	5.9	26.9	30.4	27.2	4.5	5.5	4.6
<b>0.5-1.0</b>	22.8	23.3	22.9	11.2	12.8	11.4	22.2	22.9	22.3	9.8	11.5	10.0
<b>1.0-2.0</b>	24.0	23.9	24.0	22.3	25.0	22.6	25.7	25.0	25.6	21.6	24.0	21.8
<b>2.0-3.0</b>	10.5	9.7	10.4	16.3	17.1	16.4	11.5	10.6	11.4	16.3	17.0	16.3
<b>3.0-4.0</b>	4.6	4.0	4.5	10.1	10.1	10.1	5.1	4.5	5.1	10.5	10.5	10.5
<b>4.0-5.0</b>	2.7	2.1	2.6	7.8	6.9	7.7	3.0	2.5	2.9	7.8	7.5	7.8
<b>5.0-7.5</b>	2.7	2.1	2.7	10.7	9.4	10.6	3.3	2.6	3.2	11.9	10.5	11.8
<b>7.5-10.0</b>	1.1	0.7	1.0	5.8	4.5	5.7	1.3	0.9	1.2	6.5	5.4	6.4
<b>10.0-20.0</b>	0.8	0.5	0.8	6.7	5.0	6.5	1.0	0.7	0.9	7.4	5.8	7.2
<b>20.0 &amp; Above</b>	0.2	0.1	0.2	3.2	2.4	3.2	0.2	0.1	0.2	3.7	2.4	3.6
<b>SC</b>												
<b>Below 0.5</b>	55.8	59.3	56.2	16.2	18.5	16.5	54.3	59.1	54.8	15.3	18.2	15.6
<b>0.5-1.0</b>	21.3	21.3	21.3	18.7	22.2	19.0	21.4	20.6	21.3	17.9	21.1	18.2
<b>1.0-2.0</b>	14.6	13.2	14.4	25.0	26.7	25.2	15.4	13.7	15.2	25.1	27.0	25.3
<b>2.0-3.0</b>	4.4	3.6	4.3	12.9	12.4	12.8	4.7	3.8	4.6	13.2	12.9	13.2
<b>3.0-4.0</b>	1.6	1.2	1.6	6.8	5.9	6.7	1.8	1.2	1.7	7.2	6.1	7.1
<b>4.0-5.0</b>	0.9	0.6	0.8	4.7	3.7	4.6	0.9	0.6	0.9	4.7	3.7	4.6
<b>5.0-7.5</b>	0.9	0.6	0.8	6.4	4.8	6.3	0.9	0.6	0.9	6.5	4.8	6.3
<b>7.5-10.0</b>	0.3	0.2	0.3	3.0	2.1	2.9	0.3	0.2	0.3	3.2	2.3	3.1
<b>10.0-20.0</b>	0.3	0.1	0.3	4.4	2.7	4.2	0.3	0.2	0.3	4.7	2.8	4.5
<b>20.0 &amp; Above</b>	0.1	0.0	0.1	2.0	1.1	1.9	0.1	0.0	0.1	2.2	1.2	2.1
<b>Others</b>												
<b>Below 0.5</b>	46.4	51.3	47.0	9.4	11.6	9.6	44.1	49.6	44.8	8.2	10.6	8.4
<b>s0.5-1.0</b>	19.9	20.3	19.9	12.1	15.7	12.5	19.7	20.1	19.8	11.1	14.5	11.4
<b>1.0-2.0</b>	17.9	16.9	17.8	21.5	25.5	21.9	18.5	17.5	18.3	20.2	24.3	20.6
<b>2.0-3.0</b>	7.2	5.9	7.0	14.5	15.0	14.6	7.7	6.4	7.6	14.4	15.2	14.5
<b>3.0-4.0</b>	3.3	2.3	3.2	9.4	8.5	9.3	3.7	2.7	3.5	9.8	9.1	9.7
<b>4.0-5.0</b>	1.9	1.2	1.8	7.0	5.8	6.9	2.2	1.4	2.1	7.5	6.3	7.4
<b>5.0-7.5</b>	2.0	1.2	1.9	10.0	7.8	9.7	2.3	1.4	2.2	10.9	8.6	10.6
<b>7.5-10.0</b>	0.7	0.4	0.7	5.3	3.7	5.1	0.9	0.5	0.9	6.0	4.4	5.9
<b>10.0-20.0</b>	0.6	0.3	0.6	7.1	4.6	6.8	0.8	0.4	0.7	8.0	4.9	7.7
<b>20.0 &amp; Above</b>	0.1	0.1	0.1	3.7	1.9	3.5	0.2	0.1	0.2	4.1	2.1	3.9
<b>All Social Groups</b>												
<b>Below 0.5</b>	46.2	50.9	46.8	9.5	11.7	9.7	44.0	49.4	44.6	8.4	10.7	8.5
<b>0.5-1.0</b>	20.3	20.7	20.4	12.6	15.9	12.8	20.1	20.3	20.1	11.5	14.8	11.7
<b>1.0-2.0</b>	18.1	17.0	17.9	21.9	25.6	22.1	18.7	17.6	18.5	20.8	24.5	20.9
<b>2.0-3.0</b>	7.1	5.9	7.0	14.6	15.0	14.5	7.6	6.4	7.5	14.5	15.2	14.5
<b>3.0-4.0</b>	3.2	2.3	3.1	9.3	8.4	9.1	3.6	2.6	3.4	9.6	9.0	9.5
<b>4.0-5.0</b>	1.8	1.2	1.8	6.9	5.8	6.7	2.1	1.4	2.0	7.3	6.2	7.1
<b>5.0-7.5</b>	1.9	1.2	1.8	9.8	7.7	9.5	2.2	1.4	2.1	10.6	8.5	10.3
<b>7.5-10.0</b>	0.7	0.4	0.7	5.2	3.7	5.0	0.9	0.5	0.8	5.8	4.3	5.7
<b>10.0-20.0</b>	0.6	0.3	0.6	6.8	4.5	6.6	0.7	0.4	0.7	7.6	4.9	7.4

Size of Holding (in ha.)	2010-11						2005-06					
	Number			Area			Number			Area		
	M	F	T	M	F	T	M	F	T	M	F	T
20.0 & Above	0.1	0.1	0.1	3.5	1.9	4.0	0.2	0.1	0.2	3.9	2.0	4.5

Source: Agriculture Census, 2005-06 and 2010-11

The above Table 3.11 shows that number and area of operational holdings and average size per holding by size-classes and gender in India in 2005-06 and 2010-11. It is evident from the table that there has been a substantial gap in the proportion of holdings operated by men and women. It is quite important to note that higher share of operational holdings was found with lower size of the holdings i.e between 0.5 hectare to 2.00 hectare. Further, in the context of social groups, slightly declining trends were observed in area of operational holdings for the women. In case of other category, as per Agriculture Census 2005-06, higher size of operational holdings and lesser representation of women in the share of holdings. However, figures calculated through Agriculture Census 2010-11 have shown the inverse association between farm size and nature of operational holdings.

**Table 3.12: Average Size of Operational Holding in India: 2005-06 to 2010-11**

State/UTs	2005-06					2010-11				
	IH	JH	ST	IH	TH	IH	JH	ST	IH	TH
A & N Islands	1.60	2.43	1.77	5.31	1.88	1.49	2.52	1.76	6.18	1.85
Andhra Pradesh	1.20	1.74	1.20	10.28	1.20	1.08	1.54	1.08	9.13	1.08
Arunachal Pradesh	3.28	17.57	3.29	6.10	3.33	3.57	0.98	3.57	1.30	3.51
Assam	1.01	2.04	1.01	58.26	1.11	1.00	2.40	1.01	51.37	1.10
Bihar	0.40	0.58	0.42	2.01	0.43	0.38	0.50	0.39	1.04	0.39
Chandigarh	0.71	1.19	1.09	0.00	1.09	0.75	1.40	1.29	0.00	1.29
Chhattisgarh	1.47	8.17	1.50	16.79	1.51	1.33	8.55	1.36	9.32	1.36
D & N Haveli	1.13	2.13	1.42	3.95	1.43	1.09	2.01	1.37	3.40	1.38
Daman & Diu	0.46	0.61	0.49	2.20	0.50	0.33	0.46	0.37	3.03	0.38
Delhi	0.90	2.06	1.50	1.27	1.49	0.86	1.88	1.45	1.27	1.45
Goa	0.75	1.29	0.76	220.01	1.15	1.08	2.46	1.12	16.40	1.14
Gujarat	2.24	2.11	2.19	16.79	2.20	2.06	1.94	2.01	15.57	2.03
Haryana	1.58	2.48	2.17	7.30	2.23	1.57	2.48	2.18	9.17	2.25
Himachal Pradesh	1.03	2.26	1.03	10.64	1.04	0.99	2.80	0.99	6.99	0.99
Jammu & Kash- mir	0.59	0.83	0.67	2.52	0.67	0.53	0.80	0.61	3.72	0.62
Jharkhand	NA	NA	NA	NA	NA	0.95	1.80	1.17	2.63	1.17
Karnataka	1.63	1.58	1.63	4.77	1.63	1.54	1.85	1.55	5.78	1.55
Kerala	0.21	0.89	0.21	1.72	0.23	0.21	0.78	0.21	2.02	0.22
Lakshadweep	0.25	0.41	0.25	0.46	0.27	0.25	0.41	0.25	0.46	0.27
Madhya Pradesh	2.00	2.33	2.02	12.42	2.02	1.77	2.03	1.78	9.49	1.78
Maharashtra	1.45	1.74	1.45	5.65	1.46	1.44	1.50	1.44	3.96	1.44
Manipur	1.14	0.00	1.14	7.00	1.14	1.14	0.00	1.14	7.00	1.14

State/UTs	2005-06					2010-11				
	IH	JH	ST	IH	TH	IH	JH	ST	IH	TH
Meghalaya	1.17	0.00	1.17	4.53	1.18	1.37	0.00	1.37	1.53	1.37
Mizoram	1.19	0.00	1.19	30.42	1.22	1.14	0.00	1.14	1.81	1.14
Nagaland	6.92	8.45	6.93	6.37	6.93	6.03	0.00	6.03	4.17	6.02
Orissa	1.14	1.62	1.14	21.98	1.15	1.03	1.71	1.03	28.14	1.04
Pondicherry	0.73	1.12	0.75	2.88	0.78	0.61	0.84	0.62	3.45	0.66
Punjab	3.88	13.02	3.94	10.31	3.95	3.75	11.53	3.76	12.45	3.77
Rajasthan	3.09	4.17	3.37	7.64	3.38	2.78	4.02	3.06	8.51	3.07
Sikkim	1.43	1.73	1.45	3.64	1.48	1.40	0.00	1.40	3.38	1.42
Tamil Nadu	0.82	0.60	0.82	7.14	0.83	0.79	0.60	0.78	6.82	0.80
Tripura	0.47	0.79	0.48	13.53	0.50	0.49	0.61	0.49	1.80	0.49
Uttar Pradesh	0.69	0.95	0.80	2.53	0.80	0.64	0.91	0.75	2.45	0.76
Uttaranchal	0.76	1.35	0.90	5.73	0.92	0.77	1.33	0.88	6.34	0.89
West Bengal	0.76	0.00	0.76	47.77	0.79	0.74	0.00	0.74	47.49	0.77
All India	1.17	1.49	1.21	6.62	1.23	1.10	1.39	1.14	6.46	1.15

IH- Individual Holdings, JH- Joint Holdings, ST- Sub Total (Individual + Joint), IH- Institutional Holdings, TH- Total Holdings

**Note:** agriculture census was not conducted in Jharkhand in 2005-06, **Source:** Agricultural Census, 2005-06-to- 2010-11

Two important aspects are evident from Table 3.12; Firstly, the size and nature of operational holdings plays a vital role to determine the pattern of land ownership and information about the distribution of property by the individual or jointly. Further information on the size of operational holdings would also contribute in understanding the implementation of several agriculture development programmes. Secondly, it provides an insight into the share of land largely used for agricultural activities. The above table (3.11) suggests that, at all India level, about 1.17 percent individual holdings were acknowledged while in 2010-11 it had witnessed a decline to 1.10 percent. The findings show that nearly 1.49 percent jointly operated as seen in 2005-06 had decreased to (1.30 percent) in 2010-11. The other operations where declining trends were observed and it highlighted the growing culture of residential units in the nearby agriculture sector, lesser profitable margins from agriculture productivity and lack of government's intention to fortify the agriculture sector and make it more technology oriented and profitable or attractive particularly to the young agrarians.

### **Focussed Group Discussion on Agricultural Lands**

*The focussed group discussions carried out in the three day workshop at V.V. Giri National Labour Institute highlighted on various important policy perspectives to be undertaken for promoting youth employment in agriculture.*

*Some of the limitations with regard to continuance in agriculture as an occupation are the short size of agricultural lands. The respondents remarked that the government may restrict from selling of agricultural lands.*

### 3.5 Promotion of Women in Agriculture

Previously, with aim of promoting and analysing the women's participation in agricultural activities has been discussed in various grounds. Women workers have been deeply associated with burden of heavy unpaid work and lesser exposure for equal kind of work opportunities. Sanghi; Srija & Vijay (2015) have discussed the importance of vocational training and basic skill orientation and their functionality in the labour market among women especially in the 15-24 age groups.

There is an evidence to show that there is a significant relationship between landlessness, poverty and technological changes in the agriculture which make women more deprived in labour market. Historically, in Indian society women have less control over ownership of agricultural land, assets and its associated parameters which affect their involvement in various activities.

Aggarwal (2018) suggested a new kind of farming called *group farming* in which small farmers enhance their productivity and get affordable returns. Furthermore, in group farming farmers share their land, capital, input cost, labour and skills and cultivate it together and divide rewards and output returns in equal portions. Thus, this exercise can be important particularly, for women farmers who face multiple kinds of discrimination in both farm and non-farming operations.

### 3.6 Summing Up

The chapter provided a detailed discussion on the contribution of women in agriculture. The above discussion clearly highlighted that in the history of Indian agriculture, women's involvement in various agricultural operations has remained largely unacknowledged. Though the participation of women in agriculture has declined over the years, yet a large proportion of women continue to remain engaged in agricultural activities. It is evident that low levels of education, location of women across social groups, lack of ownership rights, the dearth of decision making authority and burden of household responsibilities have pushed women to low ends of agricultural activities largely being confined to working as agricultural labourers. Further, lack of access to land as determined by the extremely low land holding size leads to a precarious situation and pushes them to vulnerable employment. However, it is important to note that wage differentials, irregular working hours, equations of caste-class and religion, lack of social exposure and weak understanding about technology-oriented methods make women's contribution distressful and it needs accurate assessment and implementation from government and society as well. Although, it seems from this that, the agriculture is the largest employment producing sector for rural female workers while their contribution and involvement in this sector is lower than their male counterparts.

## Chapter Four

# Role of Technological Advancement and Policy Initiatives in Indian Agriculture

### 4.1 The Context

This chapter deals with the role of technology innovations and policy initiatives to ensure the technical efficiency in agriculture and government's efforts to make agriculture sector more productive or attractive for the young farmers. There is growing evidence that technological based innovations are the chief ingredients of economic growth (Chandrashekar & Basvarajappa, 2001). Globally, innovations in agriculture have made it more advanced with increasing productivity and optimum use of available resources. Fundamental to this perspective, technology has played a vital role in shaping the growth trajectory of Indian agriculture (Chand & Parappurathu 2012; Bhalla, 1979).

In Indian context, in the post-independence period, the introduction of technological change in the 1960s in the shape of High Yielding Varieties (HYVs) has been one of the major changes in the agricultural sector (Pai, 1987). The early phase of 1960s when Indian agriculture was striving with multiple weaknesses there was a need for a solid technological and innovative approach that would transform Indian agriculture. Furthermore, several causes were responsible for the renovation of Indian agriculture after post-independence. Mid 1960s was the period when modernisation of Indian agriculture was initiated to achieve growth in cereal productivity and applicability of technological approach at global level. To further understand, the green revolution was heavily responsible for economic imbalance and large interregional disparities in agriculture (Chakravarti, 1973). An important development during this period was technological up gradation that helped to enhance irrigation services and the use of quality fertilizers and high yielding crops especially wheat and rice. A large proportion of the workforce is still dependent on the agricultural sector i.e 48.9 per cent employment share in 2011-12 but it has reduced to 47.3 per cent in 2015-16 . Moreover, the majority of workforce in India are still concentrated in the informal economy and are largely dependent on traditional methods of operations that influence their productivity. In context of developments in technology, government of India has successfully announced various technological approaches such as, *Bharat Net*, *Make in India*, *Start-up-India* to ensure improved internet connectivity and develop online substructure and resultantly make India digitally empowered.

In the context of this debate, the present chapter explores the situation of youth in rural areas and traces why young farmers withdraw from agricultural operations, have adopted alternative occupations and have migrated to cities. The chapter highlights on access to modern technology and technical advice and the reasons for non-accessibility. In this context, an insight into the usefulness of technical advice is also brought out in the chapter. Furthermore, the chapter also discusses the role of different ministries, state governments and training partners that have developed various policies and schemes that examine how government addresses youth-related concerns and promotes agriculture for the younger generation

#### 4.2 Access to Technical Advice in Agriculture

Access to modern technology and technical advice in the agricultural process plays a vital role to determine the effectiveness, productivity and practices of farming culture for enhancing the efficiency in the agricultural operations. One of the concerns that need to be highlighted in this regard is that, technology provides certain perspectives which positively help farmers to modernise their farming culture. However in the Indian context, majority of workforce who are involved in this sector lack basic education and technical skills. Therefore, availability of technical equipment and its proficiency is widely documented but their accessibility to less educated, poor farmers is another area of concern for the government and the policy makers.

**Table 4.1: Reasons for not accessing technical advice for any crops in India for the period July 2012- December 2012 to January 2013- June 2013**

Source of Technical Advice	Visit-1					Visit-2				
	1	2	3	9	Total	1	2	3	9	Total
Extension Agent	14.4	12.3	11.3	10.9	12.7	14.8	12.6	11.4	11.5	12.9
Krishi Vigyan Kendra	13.5	14.5	11.2	10.1	13.2	13.7	14.7	11.1	9.8	13.3
Agricultural University/ College	12.6	16.0	11.2	10.2	13.5	12.8	16.2	11.1	9.8	13.7
Private Commercial Agents (including Drilling Contractor)	13.2	13.0	12.9	10.4	13.0	13.4	12.9	12.7	10.1	12.9
Progressive Farmer	10.9	9.5	13.5	14.7	11.1	10.4	9.4	14.0	14.0	11.0
Radio/TV/Newspaper/ Internet	11.0	8.2	12.5	18.5	10.5	10.3	8.1	12.7	19.4	10.3
Veterinary Department	11.1	11.9	14.7	13.6	12.3	10.8	11.7	14.5	13.5	12.2
NGO	13.4	14.6	12.7	11.7	13.6	13.8	14.5	12.5	11.9	13.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Source:** Computed from unit level data from NSSO 70<sup>th</sup> Round, 2012-2013,

**Note:** not aware - 1, not available - 2, not required - 3, others - 9.

Table 4.1 shows the reasons for not accessing technical advice by the agricultural households for the purpose of crop production during two visits from the period July-December 2012 and January-June 2013. A detailed analysis of the data on technical advice as per source of technical advice shows that, progressive farmers (11.1 percent during visit 1 and 11.0 percent during visit 2) and Radio/TV/Newspaper/Internet (10.5 percent during visit 1 and 10.3 percent during visit 2) were two major sources which highlighted lesser proportion of access of technical advice during both the visits. Global economy perspective shows that, technical advice in the recent agriculture activities is crucial to maintain efficiency and fulfil the market demands. With respect to access to technology, it was revealed that the veterinary department reported that technical advice was not required (14.5 percent during visit 2).

It was also evident that the highest proportion of extension agents i.e. 14.8 percent during visit 2 reported that they were not aware about the availability of technical advice which needed to be adhered in the agricultural activities for better productivity. For developing a strong technical base for agricultural unit, it is essential to grow skilled manpower and training schools for encouraging young farmers to apply the methods in agricultural activities. As evident in Table 4.1, both the NGO sector (14.5 percent during visit 2) and the Krishi Vigyan Kendras (14.7 percent during visit 2) reported that technical advice or information was not available for implementation in agricultural operations. With the increasing focus of the government on promoting agri-tiech start-ups<sup>6</sup> and innovation, the issue of non-accessibility of technical advice is a serious concern that demands systematic investigation and policy attention. The Ministry of Agriculture has also introduced several portals like the [agmarket.gov](http://agmarknet.gov.in/)<sup>7</sup>, [seed net India portal](http://seednet.gov.in/)<sup>8</sup>, [farmers portal](http://farmer.gov.in/)<sup>9</sup> and [mkisan](https://mkisan.gov.in/default.aspx)<sup>10</sup> for providing information ranging from seeds to marketing ,crop management, risk management, sms services with the aim of promotion of agricultural activities and improving the overall situation in agriculture. In this context, it becomes imperative to understand the accessibility of these portals and information sources for young farmers.

<sup>6</sup> Agri-tech startups aim at promoting innovation and entrepreneurship in Agriculture and support technology base.

<sup>7</sup> For details visit <http://agmarknet.gov.in/>

<sup>8</sup> For details visit <http://seednet.gov.in/>

<sup>9</sup> For details visit <https://farmer.gov.in/>

<sup>10</sup> For details visit <https://mkisan.gov.in/default.aspx>

**Table 4.2: Access of technical advice by whether recommended advice adopted in India for the period July 2012- December 2012 to January 2013- June 2013**

Source of Technical Advice	Visit-1			Visit-2		
	Yes	No	Total	Yes	No	Total
Extension Agent	11.0	8.3	10.5	10.0	6.2	9.3
Krishi Vigyan Kendra	5.8	5.2	5.7	5.7	5.2	5.6
Agricultural University / College	2.5	2.2	2.5	2.4	2.0	2.3
Private Commercial Agents (including Drilling Contractor)	8.4	7.2	8.1	9.3	6.7	8.8
Progressive Farmer	29.0	12.6	26.0	28.4	11.3	25.4
Radio/TV/Newspaper/Internet	26.2	55.6	31.6	26.1	59.5	32.0
Veterinary Department	15.6	7.1	14.1	16.5	7.3	14.9
NGO	1.5	1.9	1.6	1.8	1.8	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

**Source:** Computed from unit level data from NSSO 70<sup>th</sup> Round, 2012-2013

In the wake of several efforts of the government for promotion of technology base in agriculture and innovation, it would be important to assess whether recommended technical advice was adopted. In view of this, the above table 4.2 tries to understand whether recommended advice was adopted for the seasonality of agricultural productivity in India. The results above suggest that, role of media, social media and its associated partners for promoting technical advice for agricultural activities is highly disparaging with 59.5 percent (visit 2) not adopting technical advice that calls for an urgent necessity to consider the restructuring and alteration of their operative activities in synergy with the government's various innovative models for promotion of agriculture through adequate use of technology. There is no denying the fact that, in the present day context, the role of media is extremely significant and it can play a crucial role in advertising and highlighting several issues on agricultural productivity that has impact on the efficiency of farm and non-farm sectors. The recent developments reflect that agriculture university/college and private commercial agents are chief contributors for applied technical advice for agricultural promotions and play an important role in making agriculture scientific and innovative. In view of the above discussion, it would be important to investigate on the reasons for not adopting technical advice.

**Table 4.3: Having accessed technical advice by reasons for not adopting for the period July 2012- December 2012 to January 2013- June 2013**

Source of Technical Advice	Visit-1						Visit-2					
	1	2	3	4	9	Total	1	2	3	4	9	Total
Extension Agent	10.8	11.3	7.2	5.7	5.9	8.3	8.8	7.5	3.6	5.4	6.0	6.2
Krishi Vigyan Kendra	4.5	7.5	3.7	0.7	6.3	5.2	5.4	5.1	4.6	1.8	6.0	5.2
Agricultural University /College	4.2	1.7	1.3	3.6	1.4	2.2	4.5	1.5	1.4	1.8	1.3	2.0
Private Commercial Agents (including Drilling Contractor)	9.6	6.4	6.8	7.1	6.2	7.2	8.3	8.2	6.9	7.1	4.9	6.7
Progressive Farmer	14.6	10.8	7.3	25.5	14.9	12.6	10.2	9.3	10.2	23.2	12.9	11.3
Radio/TV/ Newspaper/Internet	48.6	55.6	66.0	51.8	52.9	55.6	54.3	63.5	66.8	54.5	55.2	59.5
Veterinary Department	5.1	5.6	5.5	5.0	10.9	7.1	6.4	3.2	4.5	5.4	12.2	7.3
NGO	2.7	1.2	2.3	0.7	1.5	1.9	2.2	1.7	2.0	0.9	1.5	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Source:** Computed from unit level data from NSSO 70<sup>th</sup> Round, 2012-2013, **Note:** reasons for not adopting: lack of financial resources - 1, non-availability of input and physical resources - 2, lack of technical advice for follow-up - 3, difficulty in storage, processing and marketing of products - 4, others - 9.

As discussed above, though India has made necessary developments in information and technology that has contributed in strengthening major sectors yet, a large majority of the farming community are left behind due to non-accessibility and several socio-economic and cultural factors. The above table (4.3) revealed that lack of financial resources is the major determinant that creates obstacles for adopting or using technical advice for enhancing productivity. In contrast to this debate, the interaction of capital and development has been widely recognised in various societies in different sectors. Moreover, appropriate technical advice to explore ways to enhance productivity in agriculture has been cited in many debates. It has been observed that the Progressive Farmer (14.6 percent during visit 1 and 10.2 during visit 2) has reported *lack of financial resources* as an important deterrent for not having adopted technical advice that was provided. The other reasons reported by the Progressive farmer included *non-availability of input and physical resources* (10.8 percent, Visit 1 and 9.3 percent visit2) and *lack of technical advice for follow up* (7.3 percent visit 1 and 10.2 percent, visit 2). Also, 10.8 percent (during visit 1) of the extension agents have reported that they could not adopt technical advice due to *lack of financial resources*. However it is surprising to note that, about 63.5 percent (Visit 2) of the media sources like radio, TV, newspaper etc have

reported that there was 'no availability of input and physical resources and a significant proportion i.e 66.8 percent (Visit 2) have reported that the reason *lack of technical advice for follow up*.

Though the role of media in promoting technical information for enhancing agricultural growth is important, yet it has limited contribution in this area that need to be strengthened with the aim of addressing the various bottlenecks.

**Table 4.4: Access to technical advice by usefulness of advice for the period July 2012- December 2012 to January 2013- June 2013**

Source of Technical Advice	Visit-1				Visit-2			
	useful	not useful	don't know	total	useful	not useful	don't know	total
Extension Agent	10.8	19.2	14.5	11.0	9.7	22.9	8.1	10.0
Krishi Vigyan Kendra	5.8	6.4	2.5	5.8	5.7	6.2	0.9	5.7
Agricultural University / College	2.5	4.2	0.0	2.5	2.3	3.4	0.9	2.4
Private Commercial Agents (including Drilling Contractor)	8.2	13.6	6.3	8.4	9.2	12.0	9.0	9.3
Progressive Farmer	29.1	25.2	28.9	29.0	28.5	22.6	32.4	28.4
Radio/TV/Newspaper/ Internet	26.2	21.0	37.7	26.2	26.1	22.3	41.4	26.1
Veterinary Department	16.0	6.2	9.4	15.6	16.8	7.5	7.2	16.5
NGO	1.4	4.4	0.6	1.5	1.7	3.1	0.0	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Source:** Computed from unit level data from NSSO 70<sup>th</sup> Round, 2012-2013

The above table 4.4 tries to understand the usefulness of technical advice that was received. Earlier debates have clearly described that, access of technological advancement in agriculture has contributed immensely in accelerating the growth of agricultural process. As evident in the table (4.4) above, 19.2 percent (visit 1) and 22.9 percent (visit 2) of the Extension Agents have reported that the technical advice provided was *not useful*. Also, a significant proportion of Progressive Farmers i.e 25.2 percent (visit 1) and 22.6 percent (visit 2) have reported that the technical advice provided was *not useful*. However, 13.6 per cent of private commercial agents replied that technical advice was *not useful* during the first visit which decreased slightly to 12.0 per cent during the next visit. It can be also pointed out that there are significant variations in the access of technical advice in Krishi Vigyan Kendra and Agricultural universities though they represent organisations of the government and are responsible to circulate techno-based information to the people concerned.

**Table 4.5: Impact of Access to Technical Advice for any of the Crops in India for the period July 2012- December 2012 to January 2013- June 2013**

Source of Technical Advice	Visit-1						Visit-2					
	1	2	3	4	5	Total	1	2	3	4	5	Total
Extension Agent	11.0	9.8	22.2	4.4	13.7	11.0	9.9	9.1	21.3	28.1	10.3	10.0
Krishi Vigyan Kendra	5.8	5.9	5.7	11.1	7.8	5.8	5.4	6.4	4.8	12.5	15.5	5.7
Agricultural University /College	2.8	2.0	1.6	6.7	2.6	2.5	2.5	2.0	2.0	0.0	3.1	2.4
Private Commercial Agents (including Drilling Contractor)	8.0	8.6	12.5	31.1	7.2	8.4	9.1	9.5	10.8	18.8	6.2	9.3
Progressive Farmer	27.8	32.5	25.6	20.0	28.1	29.0	27.3	32.1	24.3	9.4	20.6	28.4
Radio/TV/ Newspaper/Internet	25.1	29.1	24.7	15.6	27.5	26.2	24.9	28.9	28.3	25.0	26.8	26.1
Veterinary Department	18.4	10.1	5.6	8.9	10.5	15.6	19.4	9.9	6.5	6.3	15.5	16.5
NGO	1.2	2.0	2.2	2.2	2.6	1.5	1.6	2.1	2.3	0.0	2.1	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Source:** Computed from unit level data from NSSO 70<sup>th</sup> Round, 2012-2013,

**Note :** beneficial - 1, moderately beneficial - 2, no effect - 3, harmful - 4, don't know - 5

Contrastingly, it is also important to understand the impact of access to technical advice on people and institutions with regard to the benefits derived from such information. It is surprising to note that the Progressive Farmer (25.6 percent during visit 1 and 24.3 percent during visit 2), media sources (24.7 visit1, 28.3, visit 2), extension agent (22.2 percent, visit1 and 21.3 percent, visit 2) and private commercial agents (12.5 percent, visit1 and 10.8 percent, visit2) reported lesser impact of technical advice to implement the technical advice for agricultural growth.

However, the Krishi Vigyan Kendra which is the nodal centre to promote or encourage agricultural activities through dissemination of knowledge on agriculture and farming activities, has also reported that there was no significant impact of technical advice provided. Further, the NGO sector has also reported minimum impact to endorse work towards providing technological inputs in the agricultural process. Therefore, from a policy perspective these areas have highlighted major gaps in utilisation of technological changes in agricultural activities which may improve the prospects of employment for young farmers in the agricultural sector. In view of the above discussion, there is a need for thorough probing into the situation to identify the gaps in access and use of technical advice. In the wake of recent technological advances with promotion of start-ups and innovative models, it becomes imperative to address the gaps identified in promotion of technical advice to young farmers.

### **Focussed Group Discussion (FGD)**

*Agriculture related education should be commonly available to youth as information is provided on other vocations like Management, Engineering etc.*

*There is a need to introduce vocational training streams for providing agriculture related trainings. The trainings need to emerge as value added trainings that may be imparted to the farmers. The trainings need to be targeted at farmers providing skills that are market oriented.*

### **4.3 Policy Initiatives undertaken by the Government to promote Youth Employment in Agriculture**

The early stages of agricultural reforms during the 1960s followed by the Green Revolution, several developments were undertaken in the field of agriculture. Agricultural development through increase in productivity, enhancement of income for rural poor were believed to be the major changes associated with the Green revolution. Keeping in view the huge demographic dividend with a burgeoning youth population, the agricultural sector has immense potential to absorb youth. But a question which arises here is how far the youth in India, get attracted to this sector. Rural youth in India face innumerable challenges like underemployment, unemployment and poverty which leads to massive migration to cities. However, the government has introduced various policies to promote agricultural growth and productivity and employment within the sector in the recent years.

The UNDP's Youth Global Programme for Sustainable Development and Peace (Youth-GPS, 2016-2020) has also reiterated the need to invest in youth as it is considered first and foremost human rights imperative. The report further states that investing in youth can enable developing countries to reap a demographic dividend, contributing to the reduction of poverty and raising living standards. Many of the countries with the largest portions of youth today are amongst the poorest in the world, but they are also on the cusp of a demographic transition that can yield this dividend (UNDP, 2016). In order to address the demographic dividend and as a part of nation-building activities, the government of India has introduced various schemes, plans, policies and programmes that aim at promoting youth employment in various sectors. In this regard, the National Youth Policy, 2014 introduced by the Ministry of Youth Affairs and Sports is an important policy document that aims to empower the youth of the country to achieve their full potential by creating a productive workforce with priority on education, employment and skill development and promoting entrepreneurship with a focus on disadvantaged youth (GoI, 2014).<sup>11</sup>

With regard to some of the initiatives undertaken by the government of India, the Pradhan Mantri Fasal Bima Yojana (PMFBY) is a recent

crop insurance scheme that was introduced in 2016 in the wake of unpredictable nature of farming and farmers suicides in certain parts of the country. The scheme aims at supporting sustainable production in agriculture by providing financial support to farmers suffering crop loss/damage, stabilise farmer's income, encourage farmers to take up innovative and modern agricultural practices and ensuring flow of credit to the agriculture sector<sup>12</sup>. The Agriculture Skill Council of India (ASCI) is a non-profit concern working under the Ministry of Skill Development and Entrepreneurship is an important skill development initiative that aims at upgrading skills of farmers, wage workers, self-employed workers engaged in both organised and unorganised segments of agriculture and allied sectors.<sup>13</sup> This initiative would immensely benefit the youth as it would enhance their skill potential through various training opportunities provided under the scheme and its partner institutions. Another important initiative of the government on water conservation and management is the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) launched on 1<sup>st</sup> July 2015 under the Ministry of Agriculture and Farmers Welfare. PMKSY has been approved for implementation across the country with an outlay of Rs. 50,000 crore in five years.<sup>14</sup>

Apart from this, some of the other initiatives under the Ministry of Agriculture and Farmers Welfare include the launching of various web portals for accessibility of information on agriculture and agro-marketing. As discussed in the previous section, the government has been promoting agri-tech start-ups under the Start-up India scheme which was launched in 2016 by the Prime Minister of India. It is a flagship initiative of the Government of India, intended to build a strong eco-system for nurturing innovation and Start-ups in the country that will drive sustainable economic growth and generate large scale employment opportunities.<sup>15</sup> Under the initiative, the government aims to empower Start-ups to grow through innovation and design. The objective is to support the technology base by funding the best fundamental concepts while helping talented and creative innovations to pursue promising avenues at the frontier of the technology. It will provide start-ups with access to priority infrastructure, and make agriculture an attractive sector for the country's best brains<sup>16</sup>. There is no denying the fact that such initiatives will contribute in encouraging the youth to consider agriculture as a viable sector for employment.

<sup>11</sup> For details please see (GoI 2014), National Youth Policy, Ministry of Youth Affairs and Sports, Government of India. available at [http://www.rgniyd.gov.in/sites/default/files/pdfs/scheme/nyp\\_2014.pdf](http://www.rgniyd.gov.in/sites/default/files/pdfs/scheme/nyp_2014.pdf)

<sup>12</sup> Operational Guidelines of the Pradhan Mantri Fasal Bima Yojana, available at [https://pmfby.gov.in/pdf/Oprational\\_Guidelines.pdf](https://pmfby.gov.in/pdf/Oprational_Guidelines.pdf)

<sup>13</sup> For details please visit <http://asci-india.com/index.php>

<sup>14</sup> For details please visit <http://pmksy.gov.in/>

<sup>15</sup> For details please visit <https://www.startupindia.gov.in/pdf/file.php>

### **FGD on Direct Marketing Methods to Farmers**

*There is a need to provide capacity building initiatives for rural youth in value added agricultural products, packaging, marketing etc. Also, there is a need to establish government trading centres at rural areas.*

However, in the context of these developments and the efforts of various Ministries to promote agriculture and empower youth, one needs to further investigate on the scope of convergence of various schemes to maximise their impact on youth population in the country. As the Agriculture Skill Council of India (ASCI) has partnered with the Pradhan Mantri Kaushal Vikas Yojana that operates under the National Skill Development Corporation (NSDC) for providing industry specific skill training for livelihood opportunities. It is believed that the scheme would benefit 10 million youth during 2016-20 and is an important flagship programme for livelihood promotion. There is no denying the fact that such initiatives would contribute in skill up gradation of youth in the agriculture sector and enable them to have better employment opportunities.

#### **4.4 Summary**

In view of the above discussion, it is apparent that technology can play a prominent role in modernisation of farming practices. Earlier studies had taken into account that, technology-based approach has brought about changes in the employment pattern and also the availability of workforce particularly agricultural labour including, females. It is disturbing to note that, the majority of Indian workers have worked in extreme conditions and have been languishing in the informal economy that has multiple challenges. This implies that technological advancements are the most cited area of consideration for young farmers that make agricultural process highly scientific and increase the productivity, reduce the incidences of joblessness, change the mobility pattern, address the widening of the poverty gaps that affects the livelihood. The accessibility of technology and its impact is an important parameter to understand agricultural growth.

Further, the interactions of women with technology and inventions are best seen as prime contributors of one's understanding of the intersection of capitalism and patriarchy in the west (Bourque & Warren 1987). For instance, one needs to verify several concerns like; what could be the possible drivers which makes agriculture more attractive or effective to the young farmers especially women workers? What are the possible initiatives or steps the Government should introduce for young farmers to make their livelihood healthier or affluent? However, to answer these questions a deeper investigation (both qualitative and quantitative) need to be undertaken.

<sup>16</sup> For details please visit <https://www.startupindiahub.org.in/content/sih/en/agriculture-grand-challenge.html>

## Chapter Five

# Concluding Reflections and Policy Recommendations

ILO's recent report on Global Employment Trends for Youth 2017 reported that in developing countries the unemployment rate among youth is expected to remain stable at 9.5 per cent in 2017 and 2018. However, considering the large cohort of young people entering the labour force each year, the number of unemployed youth in developing countries is projected to increase by half a million between 2016 and 2018. Also, youth in developing countries continue to be plagued by working poverty stemming from the irregularity of work and lack of formal employment and social protection (ILO, 2017). In this situation, it is extremely challenging for the youth to find decent and productive employment, escape from working poverty and benefit from the 'demographic dividend'. There has been an increasing recognition for encouraging the potential of young people to engage in decent and productive jobs for inclusive sustainable development.

Presently, India is experiencing a huge demographic dividend and a burgeoning youth population and globally occupying second position after China in the size of population. With this huge youth bulge, creating jobs for youth entering the labour market remains critical for promotion of decent employment and economic growth. Though the country has witnessed sectoral shifts in the recent years, yet agriculture still remains a source of livelihood for millions of families in the country. In spite of increasing concern regarding employment in agriculture and subsequent developmental programmes and policies, a lot more still needs to be done from a policy perspective. In the recent decades, the weak marketing of crops, high banking debt, incidences of farmer's suicides, the pattern of mobility especially youth population to cities and lack of proper implementation of governmental policies have led to a dismal picture reflecting a bleak agricultural employment scenario in the country. There is no denying the fact that the major difficulties that are being faced by farmers of India are: (1) depleting water level; (2) crop failures; (3) size of operational land holdings and leasing system; (4) pressure of credit agencies or money lenders; (5) high cost of investment; (6) unavailability of farm labour; and (7) soil conservation and expensive equipments and (8) lack of technical knowledge. The construction of operational holdings accompanied by maintenance and ownership of farmland is a crucial area of concern among Indian farmers. The grave condition of Indian

farmers often provides an extremely discouraging picture with regard to considering agriculture as a promising sector for Indian youth.

In view of the above, the present study was undertaken to analyse and assess the situation of youth in agriculture and understand the ways and means to promote youth employment in agriculture. The study was divided into five chapters which may be summarized as follows: The first chapter provided a background and context to the study followed by the review of existing studies is a vis identification of research gaps and an insight into the methodology used for undertaking the study. The second chapter highlighted on the sectoral change and agriculture across various age cohorts in India with a focus on the youth population. It was found that young workers in the (15-24 age group) were involved in various informal activities and were closely associated with low productive operations. Agricultural sector was dominated by youth who were illiterate and highly unskilled. Further, a gendered analysis suggested that young male (15-24 age group) workforce participation was higher compared to their female counterparts. It further indicated that nearly 41.4 per cent male workforce participation was found in 2001 while it decreased to 40.1 per cent in 2011. However, in case of females, the work participation among the youth slightly increased from 10.2 per cent in 2001 to 12.7 per cent in 2011. The chapter also highlighted on the concentration of social and religious groups by broad employment categories.

The third chapter described the involvement of women in various farming activities in India with an insight into women's ownership of establishments. The gendered perspective of employment reveals that despite the increasing involvement of women in agriculture, they are victims of multiple discrimination such as, low wages for the equal work, irregular working hours and unequal treatment due to social identities. It is argued that over 35 per cent of all agricultural workers in India are women. Due to higher level of dependency and social restrictions Indian women have been experiencing countless complexities in their work, mobility and input and output marketing (Aggarwal, 2018). Thus, there is an urgent need for reinforcing accurate gender sensitive policies to address gender-based concerns in the agricultural sector.

The fourth chapter focussed on the role of technological advancement and policy initiatives in Indian agriculture. Findings of this chapter show that, technological innovations have played a vital role to improving and supplying the productivity and profitability in the agricultural process. Furthermore, rural marketing and budgeting constraints reflect the quality of technical assessment in agriculture. Results from NSSO 70th round, reveal that government institutions and their associated partners need to

adequately promote the use of technological innovations in agricultural activities. One of the major problems that is highlighted is that majority of Indian farmers are still illiterate and less familiar with technical knowledge. Besides, young people are more interested in salaried jobs or in entrepreneurship in the present times.

Overall, the major findings from all chapters suggest future perspectives of how agriculture could be transformed for efficient economic growth and attractive to young people.

### 5.1 Policy Recommendations

The following recommendations have been made on the basis of the present research study.

**Role of Technology in Agriculture:** Indian agriculture is mostly based on traditional methods of operation. However, in the recent times, the onslaught of modern technology and technological innovations has opened up plethora of opportunities for developing the agricultural sector. Agricultural production would need to grow globally by 70 per cent by 2050 and more specifically by almost 100 per cent in developing countries, to feed the growing population alone. There is urgent need to embrace new technologies like biotechnology, nanotechnology, high-tech protected cultivation and modern irrigation methods to accelerate agriculture production (Gautam and Kumar, 2014). It would be the joint responsibility of the Central Government, State Governments and their training partners to promote technology to make agriculture scientific and attractive to the farmers especially, young people. One of the examples of such an initiative is the National Initiatives on Climate Resilient Agriculture (NICRA) that was launched in February, 2011 to promote systematic research and develop climate estimating technology to strengthening the cropping pattern<sup>17</sup>. The project was launched by the Indian Council of Agricultural Research supported by the Ministry of Agriculture and Farmers Welfare. Such initiatives need to be promoted in the wake of climate change and risks associated with it.

#### **Strengthening of Rural Crop Marketing and Investment in Agribusiness:**

To enhance agricultural productivity improved rural marketing plays a vital role. This promotes agricultural products and enhances the purchasing power for sustenance of agricultural activities. There is no denying the fact that over the years, agricultural trade and marketing has undergone tremendous transformation but the changes have not been able to adequately address the situation of distress in agriculture. There is a

<sup>17</sup> For details please see <http://www.nicra-icar.in/nicrarevised/>

need for investment in agricultural marketing and trade for promotion of agribusiness vis a vis promoting agribased-entrepreneurs. Some of the emerging areas for youth in agribusiness are in agricultural production (production of high-yielding seeds, organic farming, floriculture etc), processing, infrastructure, trade and others. Some of these activities can be undertaken by small and micro enterprises (Acharya, 2007).

**Promotion of Agricultural Education for Encouraging Career Development of Young Professionals:** There is a need to promote education programmes on agriculture that will contribute in awareness generation among the youth to consider agriculture as a viable option for employment. There is a need for providing adequate training and skill development to the youth in the area of sustainable agriculture and also facilitate knowledge networks among youth interested in agriculture. The introduction of diploma/degree courses in agriculture for rural youth through facilitation of fellowships will enable the rural youth to consider agriculture as an area for potential employment.

**Strengthening Women's Role in Agriculture:** Predominantly, agriculture has remained a male dominated sector and women are concentrated as low-paying waged labour in agriculture. Since women are generally engaged as agricultural labourers than cultivators with the concentration being high among the Scheduled Caste women, there is an urgent necessity to understand the situation of women labour in agriculture through a probing on the intersections of gender and caste in determining occupational choices for women. The low land holding potential of women and lack of access to land is also an important indicator for understanding women's vulnerability in agriculture. There is a need to recognize women's role and contribution in agriculture through adequate policy attention. Subsequent policy attention is required in States that have reported greater percentage of women engaged as agricultural labourers and lowest operational holdings. The access to land and facilitation of adequate technology with promotion of skills are extremely important for decent employment and sustenance of women in agriculture.

**Promotion of Employability, Capacity Building and Skills Development:** There is a need to provide vocational skills to young people who are likely to seek employment in agricultural activities. It is joint responsibility of government, state governments and their training partners to promote technology to make agriculture scientific and striking to the farmers especially, young minds. The Attracting and Retaining Youth in Agriculture Programme (ARYA) that was recently launched by the Indian Council of Agricultural Research is an important initiative for attracting and empowering youth in rural areas to take up various agriculture, allied and

service sector enterprises.<sup>18</sup> Since the programme would operate through Krishi Vigyan Kendras in various States, it would enable in promoting skill development and entrepreneurial activities among rural youth. Such initiatives need to be promoted at district and village level so that it reaches out to the rural youth.

**Resolve Debt Allied Concerns:** According to *India Spend* one of the digital dailies of India, nearly 70 percent of India's 90 million agricultural households spend more than their average monthly income which pushes them to debt<sup>19</sup>. In this context, there is a need to have adequate policy attention in terms of access to resolve the debt situation in agriculture. Though several states have announced farm loan waivers, there were reports of a situation of fiscal deficit among certain states<sup>20</sup>. However, there is a need to have subsequent policy attention on formulating an institutionalized system that not only minimizes debt concerns but also reduces the risk of fiscal deficit.

**Investment in Agricultural Policies for Inclusive Development:** There is a need to formulate agricultural policies and schemes that aim at addressing the differential concerns of the youth across social groups to participate in agriculture. As reported in the Twelfth Plan Document, public investment in agriculture which had increased substantially during the last three years of the Tenth Plan had stagnated in the Eleventh Plan (GoI, 2013). In this context, there is a need for proper investment in different areas of agriculture that is aimed at inclusive development of farmers, agricultural workers and others. Also, there is a need to incorporate youth employment as integral to policies, programmes and plans on agriculture.

**Increasing Investment in Agricultural Research for Promoting Youth Employment:** It is generally believed that research in agriculture has helped to understand the transformations in this sector. Modern agricultural activities demand technical knowledge for its sustenance and in this regard, adequate investment in research and development in agriculture is extremely essential from a policy perspective. The changes associated with climate change demands a systematic and thorough investigation of the situation of climate vulnerability and the impact it has on agriculture which can be achieved through targeted research. As outlined in the Twelfth Five Year Plan Document, there is a need to focus on multi-disciplinary areas of agriculture, develop research consortia platforms,

<sup>18</sup> For details please see <https://dfr.icar.gov.in/Extension/ARYA#>

<sup>19</sup> <http://www.indiaspend.com/cover-story/70-of-indias-farm-families-spend-more-than-they-earn-debt-main-cause-of-suicides-26738>

<sup>20</sup> <https://www.thehindubusinessline.com/news/farm-loan-waivers-to-raise-state-deficits-by-108-tn-india-ratings-report/article9995895.ece>

nurturing entrepreneurship development for youth through management of technologies for commercialization and research for breakthrough technologies for enhancing growth and economic impact( GoI,2013)

**Partnership with Other Organizations for Attracting Youth to Agriculture:** There is a need develop and strengthen partnerships with various organizations like the government, banks, civil society, entrepreneurial groups, academia etc for promotion of agricultural sector. There is a need to establish linkages between various institutions like agricultural Universities Krishi Vigyan Kendras, training centers and local communities to promote awareness on the importance of agriculture and help the youth in getting connected with networks on agriculture .Such initiatives will not only promote agriculture but will also enable the youth in developing their co-operatives, organizing themselves as a group and sharing of best practices amongst each other.

**Sustainable Agriculture and Natural Resource Management:** The management of natural resources is central in promoting sustainable agriculture that has improved access to land, capital and other productive assets. Particularly, emphasis can be placed on empowering the small and landless or poor farmers and women. The youth can play a prominent role in natural resource management through the use of technology and access to information. The young progressive farmers with adequate knowledge and information can play a prominent role is conservation agriculture which is aimed at enhancing natural biological processes through combination of technological innovations for improving rural livelihoods.

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