Abstract

Agriculture plays a crucial role in the development of the rural economy of developing countries like India. Besides contributing food safety to the nation, the agricultural sector is the largest sector in economic activity and creating employment for a major section of the population [Tripathi & Prasad (2010)]. Around 54.6% of labourers of the total rural workforce are engaged in the Indian agricultural sector [70th Round NSSO data (2013)]. These labourers are engaged on another person's land either for wages in money or kind or the combination of cash and kind [Census of India (2001) & (2011)]. They are one of the socially and economically backward classes in India [Unni (1988)]. The availability of fewer numbers of working days, low real wage rate, marginalization of landholdings, higher incidence of poverty, and indebtedness are the key economic challenges of these labourers. In the background, the thesis aims to investigate four economic challenges such as declining employment participation rate in agriculture, gender wage discrimination, high incidence of Poverty, and low accessibility of institutional credit of the agricultural labour households in India with special reference to West Bengal. The first three chapters of the thesis deal with the introduction, literature review, and research objectives respectively.

Chapter-4 of the thesis – 'Push and (or) Pull? Drivers of Labour Force Participation in Indian Agriculture' will observe that the labour force participation rate in the Indian agricultural sector is gradually declining. According to NSSO surveys on the Employment and Unemployment Situation in India, the labour force participation rate in agriculture in India has been declined from 74.1% in 1993-94 (50th round) to 61.39% in 2011-12 (68th round). This trend in the agricultural labour market is observed both at the state level as well as the national level. The average growth of the labour force participation rate in the agricultural sector is highly negative in some states such as Himachal Pradesh, Kerala, J&K, Bihar, U.P, Punjab, and Orissa. Except in Gujarat, the remaining states also have faced a negative average growth rate of workforce participation in agriculture. This chapter, therefore, wants to investigate the possible causes of the declining labour force participation rate in agriculture. Here both possible push and pool factors behind this decline are considered simultaneously. Six rounds of state-level NSSO data on the Employment and Unemployment Survey of India during 1993-94 to 2011-12 and its 20 major states are considered for the study. Applying the fixed effect panel data regression

technique after considering state-specific possible factors, it is found that the gradual decline of per capita land holdings is the major push factor responsible for the gradual decline of the labour force participation rate in Indian agriculture. An increase in the agricultural wage rate reduces the employment opportunity in the farming sector which may 'push' poor labourers towards the non-farming sector. The higher education (secondary and above) among the agricultural labourers encourage them to 'push' from the farming sector to comparatively high-paid non-farm activities. On the contrary, employment opportunities in the construction sector 'pull' the unskilled, uneducated, or poor labourers towards the non-farm sector for an additional income in the slack season of agriculture to cope up with the risk and uncertainty in agricultural production. The hike of non-farm real wage and Self-employment within the non-agricultural sector are noted to be significant pull factors for the gradual decline of the labour force participation rate in Indian agriculture.

Chapter-5 of the thesis- 'Gender Wage Gap in The Agricultural Labour Market of India: An Empirical Analysis' will try to understand the changing scenario of gender wage discrimination in the agricultural labour market in 18 major Indian states over time. In our male-dominated rural society, there is a belief that male labourers are much more productive than female labourers. Based on this belief the female agricultural labourers are paid less than their male counterparts. By analyzing the various rounds data of Agricultural wage income (AWI) in India, the chapter observes that the gradual enhancement of the male-female wage gap among the agricultural labourers is in the states like Kerala, Tamil Nadu, Andhra Pradesh. In Jharkhand, Gujarat, Bihar, and Uttar Pradesh, the absolute gender wage gap is observed low over the years. Out of the eighteen states considered here, only in three states, i.e. in Bihar, Himachal Pradesh, and Rajasthan, the absolute gender wage gap has shown a declining trend over 2010-11 to 2015-16. Concisely, the study shows the prevalence of substantial variations of the gender wage gap across states during our period of analysis. In this context, there is a need to examine the possible factors which are responsible for reducing gender wage discrimination in the Indian agricultural labour market. The investigation is based on the secondary data available in 'Agricultural wage income (AWI) in India, which is provided by the Directorate of Economics and Statistics (DES), Government of India. The chapter considers the period between 2010-11 to 2015-16 and 18 major states of India. The possible factors which can create an impact on the gender wage gap are the expansion of MGNREGP, Self Help Group, primary education among rural women, expenditure on the social sector as a percentage of net state domestic products, and the cropping intensity. It initially assumes that the Cropping

Intensity of a state at a specific time is very much dependent on the net irrigated area of that state at that time. Our endogeneity test supports our claim. So, the Instrumental variable method is applied in our Fixed Effect panel regression. The result shows that an expansion of education among rural women and their participation in self-help groups can enhance their empowerment and bargaining strength during the time of deciding the agricultural wage rate. Cropping intensity through the improvement of irrigation facilities is another vital instrument to minimize the gender wage gap in rural areas. This non-farm employment opportunity enhances the demand of female labourers which help them to bargain for better wage and sometimes similar wage rate of that the male agricultural labourers. It can reduce male and female wage discrimination in the agricultural labour market in India. But the participation of women in MGNREGP and social sector expenditure as a percentage of NSDP fails to create any impact on the gender wage gap.

Chapter-6 of the thesis- 'Survey Design and Sample selection for the empirical study' will be discussed in detail about the design of the sample survey and field investigation of the district of East Medinipur of West Bengal. In the district, Bhagawanpur block-1 was purposively selected as it is one of the economically backward blocks as well as the largest block of the East Medinipur district of West Bengal. Among the ten Gram Panchayats, we have randomly chosen two large Gram Panchayats: Mahammadpur-I and Mahammadpur-II. Out of 22 villages of these two GPs, nine villages were chosen randomly from those two Gram panchayats. Information on demographic profile, family details (information on education, health, and standard of living), occupational condition, details of family wealth, and credit accessibility of the formal and informal sector were collected per agricultural household. The field survey was conducted between April and May 2019. Therefore, our reference period for this field study was from April 2018 to March 2019. The total sample for this investigation is 405 agricultural labour households and they are divided into two categories-(i) 120 landless labourers and (ii) 285 marginal farmers who have possessed only their farming land within 0.5 hectares. Based on the primary survey data, Chapter-7 and Chapter-8 are examined the relationship between poverty, and employment diversification, and the role of the credit market on the livelihood of the agricultural labour households respectively.

Chapter-7 of the thesis**-** 'Occupational Diversification as Livelihood Strategy among the Agricultural Labour Households of West Bengal, India' will be observed that employment participation in agriculture as an agricultural labourer is not enough to generate a decent earning for their survival throughout the year. Hence, the household head participates or (and) more than one able-bodied household members participate in various skilled and unskilled diversified activities for their subsistence level of income. Based on the field-based investigation of the Bhagawanpur block-1 of the district of East Midnapur of West Bengal, this chapter initially tries to investigate the possible decision-making variables influencing more than one earning member of an agricultural labour household. Probit regression shows that if the sample agricultural labour household has operational holding, then the possibility of a single earning member of that household is much higher. But if the household head is aged and (or) the female member has taken loans from SHG for income-generating activity and (or) if any household member except the main earning member has some technical skill, then we observe multiple earning members among the agricultural labour households. The chapter then examines the role of occupational diversification as a livelihood strategy among the agricultural labour households of West Bengal to reduce their incidence of poverty. For this investigation, initially, the Simpson Diversification index and the Berry Diversification Index related to occupational diversification are calculated. Then the poverty status among the households is determined by calculating adult equivalent monthly per capita consumption expenditure. Using Probit regression with the instrumental variable analysis, the study confirms that the possibility to keep an agricultural labour household above the poverty line if more than one adult member of that household participates in different types of occupations throughout the year. The result further shows that the participation of household head in different occupations in the entire reference period apart from working as an agricultural labourer reduces the possibility of poverty of that household. The higher operational land and accessibility of self-help group loans for an income-generating activity of female member(s) of the household are another two key factors to play an important role to keep an agricultural labour household above the poverty line. On the contrary, the dependency ratio of the family, non-income generating loans from SHG, and the dependency of the informal loans are likely to enhance the possibility of the households falling into a high incidence of poverty.

Chapter-8 of the thesis- ‘Accessibility of institutional credit among the agricultural labour households and its impact on their livelihood’ will be addressed where it is observed that despite the major structural changes in the Indian credit system, landless and near landless agricultural labour households are still facing difficulties while accessing formal credit services [Kumar, Singh, and Sinha (2010)]. The Reserve Bank of India shows that the growth rate of agricultural credit was 3.8 percent in 2017-18, against 12.4 percent in 2016-17 [RBI (2018)]. The dependency of non-institutional credit has been increased from 36 percent in 1990-91 to

44 percent in 2012-13 [NSSO (2013)]. In this context, Chapter-8 tries to examine the possible factors influencing the accessibility of institutional credit factors which can increase the probability of accessing the formal credit of the agricultural labour households. The study is based on a village-level field investigation in the district of East Medinipur, West Bengal. Probit regression analysis shows that the agricultural labour households belonging to backward classes (SC, ST, and OBC) have less possibility of receiving institutional credit than the general caste agricultural labour households. Land ownership enhances the possibility of getting institutional credit among agricultural labour households. The study also confirms that the membership of SHG, diversified farm and non-farm income, and higher financial literacy index are the significant determinants to increase the probability of institutional credit for these households. Using the two-stage least square method the study then investigates the role of institutional credit on the livelihood (or monthly per capita income) of poor households. It is observed that the monthly per capita income of the agricultural labour households can increase if they use institutional and non-institutional sources of loans in income-generating activities. A greater number of family labourers engaging in agriculture and its allied activities can enhance the monthly per capita income. The study also suggests that the younger age of the household head and the less dependency on the informal credits for consumption purposes of the households increases the possibility of improving the livelihood of the agricultural labour households.

Chapter-9 summarizes the major findings of the thesis and draws the concluding remark. Lastly, Chapter-10 suggests some possible policy recommendations for attaining livelihood security of the agricultural labour households by reducing financial risks and vulnerability.