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A Systematic Literature Review on Livelihood Diversification of Agricultural Labourers in India

Pulakesh Pradhan

Research Scholar, Dept. of Geography, Ravenshaw University, Cuttack, Odisha, India

Dr. Ranjana Bajpai

Professor, Department of Geography, Ravenshaw University, Cuttack, Odisha, India

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Abstract

Agricultural workers are ones who work in fields as cultivators in exchange for cash, kind or share of produce. In order to ensure global food security, they play a prominent, although invisible role in it. The rural labour economic restructuring and transition of small independent farmers to wage labourers due to property division, is increasing the labour households while declining those of cultivators. More labour and less work means job uncertainty and rising livelihood constraints. In India, the growth in absolute numbers and proportion of agricultural labour has suppressed the cultivators, leading to livelihood uncertainties and rising economic imbalances. This study provides an extensive bibliometric and meta-analysis on diversification of livelihoods of agricultural labourers in India. The initial search in Web of Science, Scopus, PubMed, and ScienceDirect for the current purpose resulted more than 1339 records but after careful filtering only 476 records were taken for further investigation. After going through a duplicate check, inclusion and exclusion criteria finally 85 studies from 2002 to 2025, focused on India were taken up for in-depth investigation. These reviewed the evolution of agricultural labour livelihood, their problems, and how livelihood patterns and determinants have changed over time. The results showed that West Bengal and Kerala had the most studies on agricultural labour, with studies on economics, geography, health and other disciplines. Thematic assessment of literature was later conducted to provide more specific information, and the results show that agricultural labourers need immediate attention to their alternative livelihoods.

Keywords: Agricultural Labour, Livelihood Diversification, Agrarian Distress, Bibliometric Analysis.

1. Introduction:

Agricultural labourers are one of the key factors of the Indian agrarian economy. They are the driving force behind this huge economic system to ensure food security. They possess limited or no land and are dependent on wage income for their survival (Surender, 2022). They are not responsible for the crop loss due to environment shocks, market fluctuations, etc.; a responsibility that lies with the cultivators or the farms (Barua, 2024). According to the census of India, from 2001 to 2011, the agricultural labour population grew at 6.77 percent and for the first time since independence the number of agricultural labourers

surpassed the cultivators (Gupta, 2016). This is a clear indication of a major economic restructuring in the Indian rural economy. It leads to structural conversion and feminization of agricultural labour within rural demography (Garikipati, 2009). Rapid population growth with limited land resources leads to parental property segmentation and further reduction in per-capita agricultural land availability. This is often insufficient to generate market surplus families who barely manage their household expenditures (Mahapatra, 2007). Recent studies found an interesting fact that the wage income families are getting better work opportunities, generating more livelihood than the marginal cultivators (Narayanamoorthy and Sujitha, 2022). Yet agricultural workers are still suffering from economic distress due to limited availability and seasonal nature of the work (Kawalaga et al., 2025). To maintain the family expenditure, they are often exposed to chronic indebtedness and sometimes forced to work as bonded labour (Motiram, 2007). They are also exposed to several occupational hazards like the use of pesticides which leads them to skin diseases, respiratory issues, neurotoxicity, burning of eyes, musculo-skeletal diseases, etc. (Bhavana et al., 2024). The climatic stress like the drought, flood, heatwaves, cyclones etc. systematically put them in more unfavourable conditions (Revi, 2008). However, as the studies reveal, the livelihood diversification acts as the most efficient coping process towards dealing with the social and financial crisis (Saha and Bahal, 2015). It works as a coping mechanism for the rural poor (Dey, 2018). The two driving forces behind this switch are the pull and the push forces: the first one points to progressive diversification, while the second is distress driven (Jakimow, 2012). Wage stagnation, unemployment, and economic distress act as the push components, whereas stable income, better employment and higher wages act as pull factors (Kumar et. al., 2020). The agricultural labour switches from farm to non-farm has been mostly shaped by the distress driven rather than the opportunity driven (Rahman and Mishra, 2020). Although in rural India the structural transition is in place, but the issues like wage stagnation, unemployment and extreme gender discrimination in agricultural work place still remain unchanged (Jose, 2017).

2. Research Gap and Objectives:

The scientific literature on agricultural labour is highly fragmented in different disciplines, with their own disciplinary siloes. Mostly, the empirical studies focus either on the socio-economic viewpoint or geographical outlook, but understanding it from the interconnected sphere is really rare and highly necessary. Some studies specifically focus on the issues like wage discrimination, government policy practices and demographic transition, others on migration and feminization of agricultural labour. There is an absence of comprehensive bibliometric assessment to map the intellectual structure of the agricultural labour livelihood research. This study bridges the gap and brings together scientific sources for an exhaustive understanding of agricultural labour livelihood diversification and different aspects of it. The specific objectives of this study are:

1. To quantify and map the scientific production on agricultural labour livelihood research and do a bibliometric study.
2. To conduct a meta-analysis of the selected works to gain the in-depth understanding labour the rural labour market, geographical importance, wage, wealth, migration and gender discrimination etc.

3. Study Area and Research Methodology:

The geographical scope of this study is to critically analyse the several spatial and temporal dimensions of the agricultural labour and livelihood conditions of India. Because of the physiographic and topographic diversity in India the agricultural pattern and the labour demand vary internally. This evaluates with the lenses of zones affected by distress like agricultural drought or having water scarcity and progressive zones with agriculturally well-developed and availability of sufficient irrigation facilities. Further, this study continues with bibliometric assessment first and followed by the meta-synthesis of the information for an in-depth understanding.

3.1. PRISMA Framework and Data Collection

This study sticks to the standard PRISMA scheme and draws on it in the agricultural labour livelihood diversification. The initial extensive search from the major databases like Web of Science, Scopus, PubMed, and ScienceDirect returns over 16000 results. After the title and abstract screening, duplication elimination, and full text availability, a total of 85 final literatures were included in this study. The complete selection process is illustrated in Figure 1.

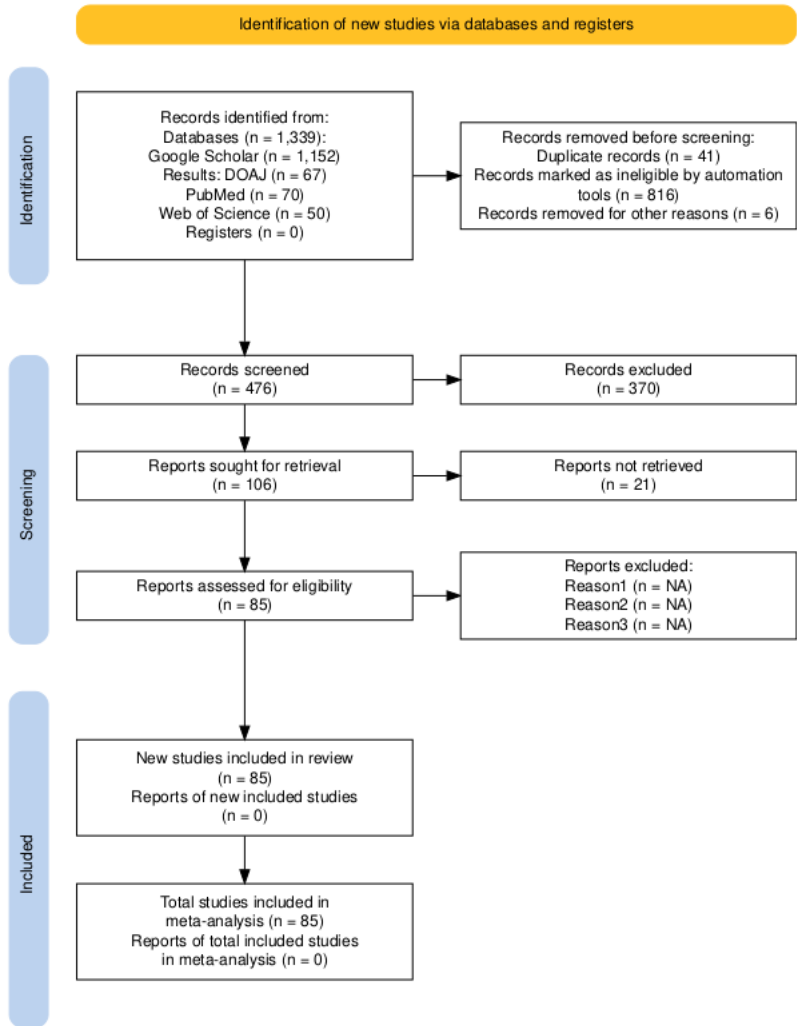
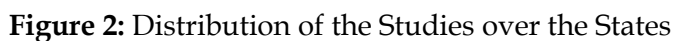


Figure 1: PRISMA 2020 Flow Diagram



4. Bibliometric Analysis:

The three field plot also known as the bibliometric Sankey diagram is one of the key diagrams to understand the flow of the knowledge and the relationship among different bibliometric concepts. It demonstrates the complex relationships of authors, keywords, and sources. It is helpful in visualizing the multi-disciplinary nature of the topic. In the present study (Figure 3), the concept of agricultural labour livelihood has been summarized in the figure. The thickness of the keywords like agriculture, geography, and economics demonstrates the combination of these disciplines in livelihood research. The Indian Journal of Labour Economics, the International Journal of Industrial Agriculture are some of the few crucial journals. The reputed authors' publications are very limited, while most studies have non-repeating authors.



4.2. Annual Scientific Production

Annual scientific production helps to identify the past patterns of publications and future trends. In this study the progression of the agricultural labour studies has been categorized into certain phases (Figure 4). Upto 2011, termed as the incubation period where very a smaller number of publications were there and after that the accelerated phase of growth of the publications was seen with fluctuations. Notable peaks can be found in 2016, 2018 and 2020, indicating growth of the publications. This portrays the growing scholarly attention to agricultural labour studies. Agrarian distress, climate change, and occupational safety concerns are some of the major focus areas.

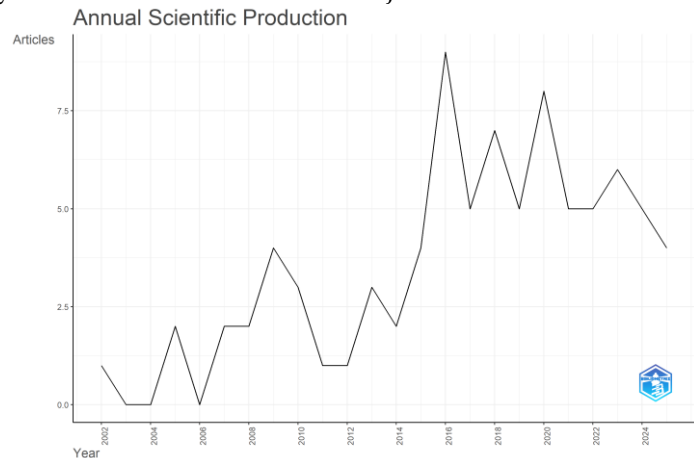


Figure 4: Annual Scientific Production

4.3. Authors' Production over time

To get a comprehensive information about the research trajectories, longevity, and citation impacts of the leading researches and scholars of this field, authors' production over the time is a key indicator. The matrix on active publications uncovers research trends, research community inputs, and core researchers in this type of research. The duration cycle of the research citation impacts the per year citations. In Figure 5 larger and darker nodes for the certain researchers indicate major contribution. Supriya Garikipati around 2008-2010, Amit Kundu between 2016 and 2021, Ashok M Mehendale, and Deepika Yadav in recent times were the major contributors in this research focus.

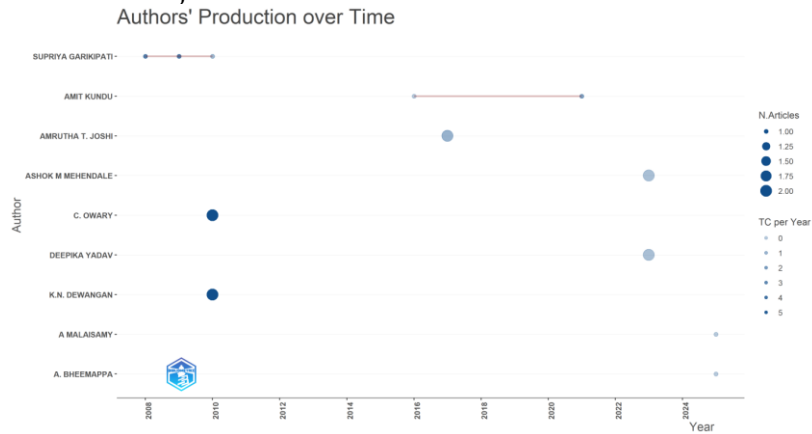


Figure 5: Authors Production Over the time

4.4. Bradford’s Law and Most Relevant Sources

The Bradford Law, proposed by Samuel C. Bradford in 1934, aims at determining the main journals with the greatest concentration on a particular research area (Alvarado, 2016). In present context it is used for the identification the concentration of the literature on the agricultural labour livelihood diversification studies (Figure 6). It highlights the concentrated nucleus of the scattered scientific literature surrounded by multi-disciplinary periphery. The core zone, which is zone 1, consisting of 18 sources, embodies the productive resource published in the bulk of the fundamental research in the present research topic. Zone 2 and Zone 3 consist of the 28 and 27 studies that represent the multi-disciplinary nature of the research topic. It mathematically confirms the highly fragmented but concentrated nature of agricultural labour research. The selected group of journals derived the core academic disclosure.

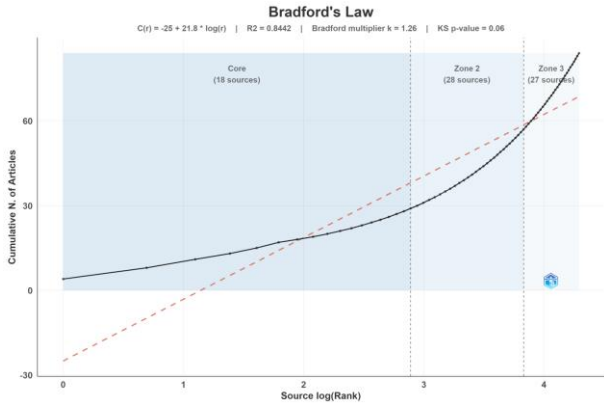


Figure 6: Bradford’s Law of Scientific Productions

4.5. Life cycle of Annual Production

While the Bradford’s Law illustrates where literature belongs, the life cycle models when and how fast the literature is published. It illustrates the progression of a research field from sub-discipline to an active multi-disciplinary science. It is currently in the exponential growth phase and points to a rapidly expanding field (Figure 7 and Figure 8). The cumulative production has a steep upwards slope indicating the highly unstructured research domain. A sudden vertical increase in the cumulative growth curve, indicating a sudden change in policy or climatic shock, points to an abrupt increase in this subject’s importance.

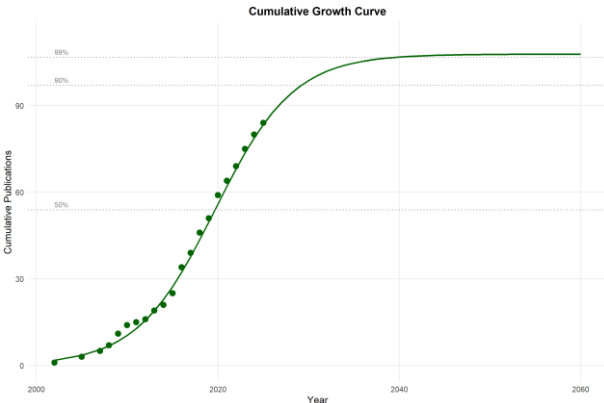
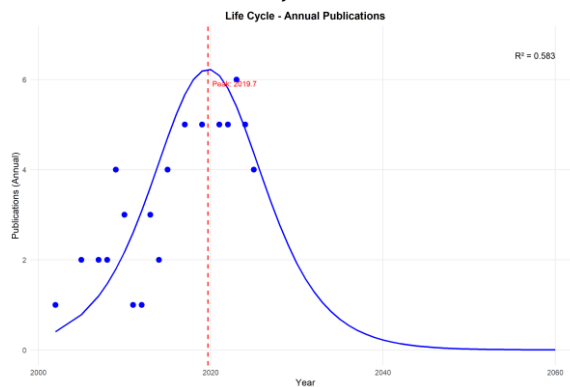


Figure 7: Life Cycle of Annual Productions



from the central micro-economic discourse. Medicine, population, and environmental health are the niche themes under the circumstances, while business, livelihood, and biology act as the bridges between them.

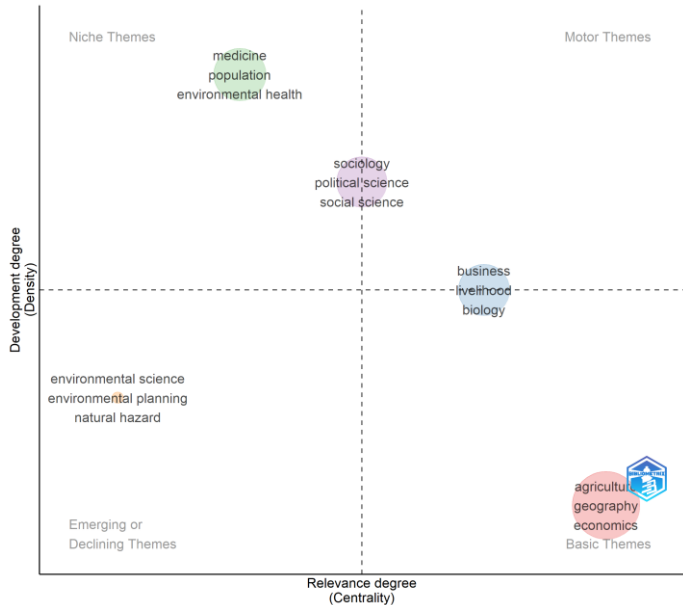


Figure 10: Thematic Map

4.8. Evolution of Methodologies

The methodological landscape of livelihood studies has evolved considerably from the simple descriptive statistics to modern study frameworks. The application of spatial geographic information system techniques helps to get the locational context and understand better. The Sustainable Livelihood Framework, Livelihood Diversification Index, Structured Equation Modelling, etc. techniques are now-a-days state of the art to capture the quantitative and qualitative aspects of the study.

5. Meta Synthesis:

5.1. Agricultural Labour Landscape in India

The agricultural labour market in India is undergoing noticeable structural changes. The cultivators are transforming to the agricultural labour class (Kumar and Lal, 2022), because of which demographic and socio-cultural changes are happening in the rural society. In the age of modernization and mechanization, traditional farming has lost its viability (Gathorne-Hardy, 2016). Several strides reported wage income exceeding crop cultivation income for the marginal farmers (Narayanamoorthy and Sujitha, 2022). Studies of 2018-19 reported 46% of Indian states witnessed cultivators’ families becoming agricultural labour; earning more than 50% of their income from the wage employment (Narayanamoorthy and Sujitha, 2022). The agriculturists are a prismatically and historically disadvantaged group (Sumit and Bhat, 2021). They are facing chronic unemployment and structural migration (Chakraborty, 2019). They really have to rely on the local landlords for their livelihood; sometimes, indebtedness turns them into bonded labour (Motiram 2007). Historical and socio-economic evaluation highlighted that the progress largely depends on the agricultural economy (Kumar and Murugesan, 2018).

5.2. Labour Market, Wages and Employment

The Indian agricultural labour market is highly fragmented and diverse in nature. They are working informally and are highly influenced by local labour regimes like the village bodies or political bodies (Pattenden, 2016). In India, after the 2006 implementation of the MGNREGA scheme, the rapid growth of the agricultural labour wage witnessed (Kundu and Talukdar, 2016). This is complemented by rising productivity and technological advancements (Shanmugan and Baria, 2019), but after 2014-15, slow agricultural wage growth was witnessed (Das and Usami, 2023). The wage stagnation-like situation was caused by the limited price increase of agricultural produce and manual labour was being replaced by machinery (Jose, 2017). The wage growth rate has become less than 1% over the years (Das and Usami, 2023). The problems for agricultural labour are further magnified by the compound micro-economic shocks, consecutive drought, Covid-19 pandemic, and so on (Balwinder-Singh et al., 2020). This has caused a serious disruption in the production of agricultural labour supply (Preusse et al., 2024).

5.3. Livelihood Diversification Determinants and Strategies

Due to seasonal availability of work and low wage and wage stagnation, livelihood diversification is not a luxury but a necessity for the agricultural labour community (Kundu and Das, 2022). It acts as a vital survival strategy for poverty reduction and lowers the impacts of climatic shocks and vulnerability (Dey, 2018). These are pushing components or distress-driven diversification, mainly caused by the climatic risks like drought, flood etc, shrinking land holdings, agrarian distress etc. (Das, 2016), although it can be progressive diversification also, like the pull factors include better non-farm livelihood opportunity, higher wage, improved infrastructure, etc. (Wagale et al., 2020). These strategies can of three types:

1. On-farm diversification like engage in the livestock, dairy, or poultry farming, utilization of the animal waste or crop residue for agricultural byproduct making (Bhattacharjee et al., 2023; Shinde and Gupta, 2016).
2. Non-farm diversification refers to the work outside the farming works like as construction workers, brick kilns, micro enterprise like the bidi binding, mat making, tailoring, etc. (Reddy et al., 2022; Ito and Kurosaki 2009).
3. Seasonal or the circular migration is widely used as the livelihood option for the rural poor families. The migration location and the nature of works vary season to season. Geographical spread greatly affects migration (Nandi and Sarkar, 2020; Debnath, 2021).

The empirical evidence shows the combination of farming and non-farm activities is very productive to improve the livelihood condition of the family significantly. It rises food security, reduces vulnerability, and shields households from poverty (Rahman and Mishra 2020; Saha and Bahal, 2015).

Figure 11 and Figure 12 derived from analyzing the literature visually represent the complex networks of livelihood determinate and strategies adopted by the agricultural labourers. It illustrates the interactions between the push and pull factors. Besides, it also highlights how intimate agrarian distress leads to informal urban expansion.

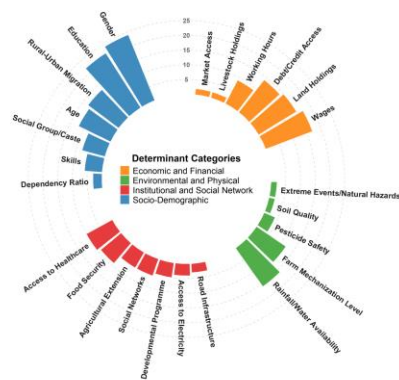


Figure 11: Determinants of Livelihood Diversification



Figure 12: Livelihood Diversification Strategies

5.4. Health, Occupational Safety and Climate Stress

Agricultural labourers work under the open sky and exposed to several environmental risks and are mostly devoid of occupational safety regulations (Bhavana et al., 2024). They suffer from extreme physical and economic hazards and distress, leading to multiple types of diseases like muscle and posture related discomfort (Gangopadhyay et al., 2005; Dewangan et al., 2010). To minimize physical drudgery, integration of regional data along with anthropogenic data is critical for productive planning and management (Patel et al., 2016). They are also exposed to several chemical related problems like the devastating and unregulated long-term exposure to the toxic organo phosphate cause several health diseases (Mohanty et al., 2013). Without proper personal protective equipment (PPE). They are exposed to the pesticides and get infected by the poisonous substance (Manwani 2018; Thakur et al., 2020). Respiratory problems, neurotoxicity, total oxidant, and cognitive impairments are some of the results of such exposure (Chakrabarti et al., 2025; Ogut et al., 2015). Agricultural labour community faces chronic health effects which working on the tea plants or in the tobacco burden (Roy et al., 2013; Parikh et al., 2005). Rising climatic extremes like frequent heatwaves and droughts leads them to heat struck, dehydration and heart attack risk etc. due to exposed to excessive solar radiation (Revi, 2008).

5.5. Migration and Feminization

Agrarian distress leads to the distress and young male members of the families are migrating towards the urban centers for construction and other type of works in search of high wage and social regulation (Reja and Das, 2019; Gowri Shankar et al., 2025). It leads to rapid feminization and also gradually transforming rural gender dynamics (Garikipati, 2009). Women share the burden in terms of weeding, coppicing, or transplanting (Anusha and Mehta, 2021). This trend not merely leads to the female empowerment rather it deepening vulnerability though resource farm empowerment (Garikipati and Pfaffenzeller, 2012). The employers or the cultivators exploit them by paying less in comparison to the economically hazardous without mechanical support (Vaddiraju, 2015). High female concentration leads to higher mobility rates in rural areas (Garikipati, 2008). Women are rarely acknowledged for the empowerment they are taken as the physical toll (Pavithra, 2017). The women in the distress-driven areas are continuously adopting to the seasonal migration to coping with poverty and economic constraints (Nandi and Sarkar, 2020).

5.6. Policy Interventions and Schemes

Policy interactions at the macro level resulted mixed outcomes. The MGNREGA has increased the contestability or negotiation power of the agricultural labour (Basu, 2013). Because of it, the cultivators slowly increase the wage to match it (Katoch et al., 2020). Micro credit systems like the Self-Help Groups empower rural women for new economic startups (Kundu and Das, 2022). There are certain regions having sparse population density facing agricultural labour shortage (Gunabhagya et al., 2017; Joshi, 2017). Although with several government schemes and practices, agricultural progress is happening, but for the landless agricultural labour, the situation has not much improved. For example, the agricultural subsidies schemes like the PM KISAN, the landlord cultivators get the benefit as the owner of the agricultural labour are systematically excluded from that (Meenakshi and Panneer, 2020). Comprehensive guidelines and framework for the agricultural labourers' occupational health and safety concern are still lacking (Yadav, Joshi, et al., 2023; Mohini et al., 2022).

6. Significance of Agricultural Labour Livelihood Study:

This study is highly significant in the Indian perspective as it tracks how rural labour households are able to maintain their livelihood needs in changing temporal and spatial contexts (Mahapatra, 2007). They are an extremely vulnerable, rural unorganized section of the community (Sumit and Bhat, 2021). The rising trend of agricultural labour share and feminization of the Indian rural workforce indicates massive structural shifts (Gupta, 2016; Parida, 2025). The desire of the rural youth to get out of the uncertain agricultural labour work migration has become the easiest solution for them, so their livelihood has become spatially diversified (Gahlawat, 2025; Debnath, 2021). It is very pivotal to address the hidden occupational health hazards due to agrochemical exposure and extreme events like drought, heatwave, flood, etc. in agricultural landscapes (Mehendale, et al., 2023). This study explains the need for a livelihood diversification study that takes into account the evolution of the agrarian economy (Jakimow, 2012). Highlighting critical blind spot, the current policies have led to specific and systematic exclusion of the landless agriculture labours (Vaddiraju, 2015). It advocates inclusive and inter-sectional advancement.

7. Conclusions:

In conclusion, this review emphasises the temporal shifts, spatial variability, and methodological transitions of agricultural labour livelihood in India. The diversification of livelihood in India works as a temporary coping process to a permanent structural necessity (Kundu and Das, 2022). Agricultural workers are the largest segments of the rural workforce but trapped under the precarious economic conditions, hazardous occupational and environmental risks that make their lives miserable (Barua, 2024). Due to the parental land fragmentation among their children, the independent cultivator families are converting to wage labour. Climate variability and frequent exposure to extreme events make things more complicated (Gupta, 2016). This leads to the migration of young male members in search of better and stable livelihood options for their family forced to migrate (Emerick, 2018). This leads to demographic restructuring of the rural workforce uncover the gender disparity. As a consequence, women empowerment or feminisation of the rural workforce becomes more of distress, rather than empowerment (Meenakshi and Panneer, 2020). The need to maintain the family day to day work, taking care of the children and other family members and also look for the wage works for income. Over the decades, the wage of agricultural labour has been rising very slowly compared to economic inflation rates (Nag, 2024). Exposure to several health issues caused by the use of toxic pesticides leads to respiratory, skin, and urinary problems. Although the MGNREGA, like public schemes, positively influence the wage increase and offers a safety net of 100 days work guarantee (Kundu and Das, 2022). But most of the agricultural related subsidies, etc., centre on the owner of the land, the cultivator and structurally exclude the labour class; this needs to be agricultural labour oriented who needs the most livelihood security (Meenakshi and Panneer, 2020).

8. Recommendations:

To deal with the situation of agricultural labour livelihood dynamics, strong government policies formulation and effective implementation are needed. Comprehensive policy advancement with government subsidies and incorporation of a debt relief program are an urgent necessity. It should decouple the pension and insurance schemes from land ownership to properly address agricultural labour concerns. Occupation safety nets must be immediately imposed dealing with the agro-chemicals and pesticides. The use of Personal Protective Equipment (PPE) kits will reduce health risks so use of this produce must be practically operationalized. There should be more investment in women-friendly agriculture tools. Gender disparities in terms of wages or the work culture need to change by stabilizing the wage disparity and providing more female-led micro economic opportunities that leads them to live a life with dignity. Rural skill binding programs must be resilient and speeded up. Rural areas have the abundance of raw materials with proper training and distribution networks micro enterprises led by community like Self-Help Groups (SHG) or individual initiatives can solve the problems very effectively. Finally, the social infrastructure growth needs to be done in focus of better health care, child education, and sustainable society development.

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