

Introduction

1.1 Prelude to the study

A substantial rural population of India predominantly relies on primary economic activities such as cultivation. Thus, emphasis has to be placed on fostering rural livelihoods. A livelihood encompasses individuals, their capacities, and their sources of sustenance, which encompass food, earnings, and resources (Ellis, 2000). The current work deals with sustainable livelihood, which will be able to uphold or improve the local and global resources essential for sustaining livelihoods while generating positive outcomes for other livelihoods. Side by side, it can effectively manage the crisis by ensuring resources for future generations. The present study explores the extent of sustainable livelihood in underprivileged rural areas of the studied region. The study seeks insight into the challenges of weak man-land ratios (marginal farmer, landless, sharecropper) that lead to pseudo employment and circular mobility, poor education performances, and poverty situations). These factors limit the opportunities for achieving sustainable livelihoods in a region facing resource constraints. Therefore, monsoon-based low production primarily involves monocropping, with Aman paddy being the predominant crop throughout the region. The rural people of the study area are engaged as self-employed and waged employees¹ in primary economic activities and subsidiary economic activities². These include practicing subsistence agriculture, fishing, livestock ranching, artisanship, daily wagers as agricultural labour, and unorganized sector workers (brick factories, stone quarrying, rice mills, plantations, transportation services, household industries, and others).

Further, the studied population needs permanent earning sources. Therefore, they need to rely on multiple economic activities altogether. These factors contribute to the fragility of the rural economy. Moreover, rural people often face a lack of employment and livelihood crises during lean seasons, which compel them to diversify their economic opportunities (Chakraborty, 2014).

¹ A person casually engaged in other's farm or non-farm enterprises

² A person may be pursuing one economic activity or non-economic activity almost throughout the year in the principal usual activity status and also simultaneously pursuing another economic activity for a relatively shorter period in a subsidiary capacity.

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Therefore, an effort has been made to enhance sustainable livelihoods through strategies such as i) augmenting resource utilization intensity, ii) diversifying and enhancing the complexity of small-scale farming, iii) incorporating rural entrepreneurship in livelihood systems, and iv) fostering economic synergy at a local level. The notions of net sustainable livelihood effects on the rural people and their intensity have to be investigated empirically. The said investigation involves considering various elements, such as i) environmental and ii) social sustainability, and iii) evaluating the net effects of competition and externalities (Chambers and Conway, 1991).

1.2 Conceptual framework

Jangal Mahal, a remotely located, deeply forested (mainly *Shorea Robusta*) underprivileged region in West Bengal (WB), is considered the study area/location in Fig. 1.1 for the current work. Further, the selected region is an extension of the Chhotonagpur Plateau, which comes under the semiarid zone. Monsoon-based monocropping is a basic characteristic used to identify the region. Again, regarding water extraction, it is found that irrigation is a primary concern for crop production from this perspective. However, there is a huge demand for portable drinking water throughout the year, especially in dry months. So, mitigating the demand for water should be considered an essential aspect (Sahoo *et al.*, 2023). The ethnic people of the studied area have been primarily dependent on natural resources for a long time. Moreover, these people lack legal land ownership. However, they were granted some small patches of land following the 1979 *Operation Barga*. Though, it was sometimes unsuitable for their survival due to its size, nature, and other anthropogenic issues. Thus, the people studied substantially depend on the forests. Out of forest products, the researcher has considered nontimber products such as fueling wood and leaves as one of the sources of income. However, these indigenous people lack these livelihood sources (Bera *et al.*, 2021). Both the men and women are equally participating in economic activities in the focused area. They have almost equal contributions to household prosperity. However, women can enjoy the lowest social status. It is even seen that the minorities of this locality also support their families in terms of earnings. Therefore, there is a considerable gap between the rural inhabitants and essential education. These people have an abysmal performance in education. In most cases, the students of the selected area drop their formal schooling after eight standards

because the people in the area are alienated from quality jobs. Moreover, these all are not sufficient to carry out their livelihood and cope with poverty.

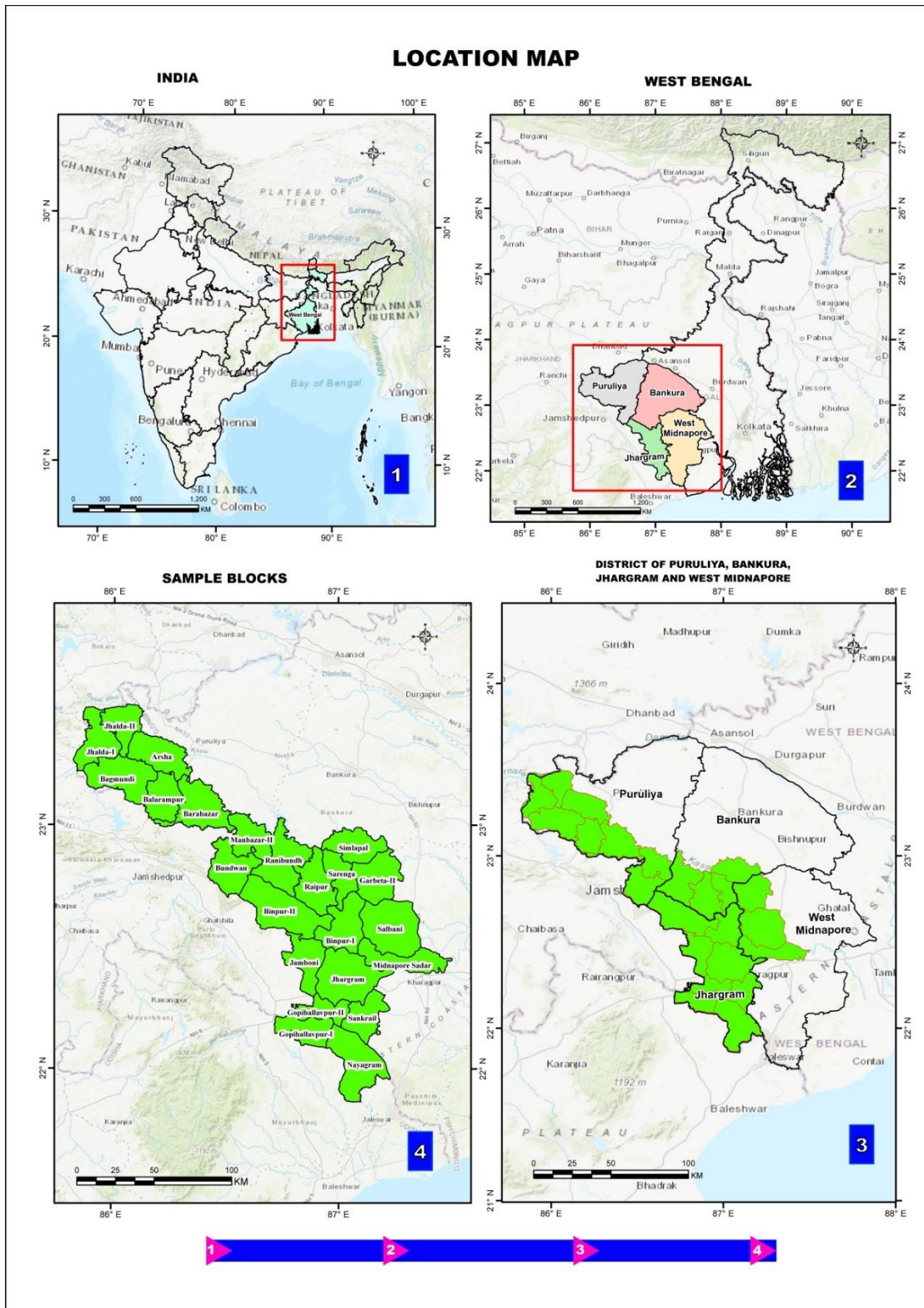


Fig. 1.1 shows a geographical map of the Study Area

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As a result of these chronic issues, recently, they have been forced to move towards other professions due to the seasonality of work in their native places. The current research attempts to provide an analytical structure on the issue and examine the problems with the help of a ground-level survey. Considering issues, the present study focused on the optimum sustainable utilization of locally available natural and human resources. Therefore, our work prioritizes the interlinking and modulation of natural and human resources through fruitful intervention of different agencies to achieve a self-reliant rural economy.

The analysis revealed the need to promote the improvement of resilience building through livelihood possibilities to empower rural women and households. The need to empower women is paramount in ensuring adequate access to resources. The scholarly literature has already discussed the importance of rural women in the context of development and their societal roles. A deeper understanding and appreciation of their relevance may be achieved when these women possess suitable livelihoods, contributing to various impactful aspects.

A large section of the state of West Bengal has a marginal population that resides in the *Jangal Mahal*. Most specifically, six marginal communities³, which include Santal, Savar, and Sardar Scheduled Tribe (STs), and Dhibor, Kalundi, and Singh Scheduled Castes (SCs), are considered for this research. It is interesting to mention that almost half of the ST population of West Bengal live in *Jungle Mahals* of Midnapore, Purulia, and Bankura of South West Bengal (Office of the Registrar General of India, in West Bengal, Data highlights: The Scheduled Tribes, Census of India, 2001, www.censusindia.gov.in p. 01).

1.2.1 Defining livelihoods as concepts and approaches

A livelihood ‘comprises the capabilities, assets (stores, resources), and activities required for a means of living’ (Chambers and Conway, 1992). It encompasses human beings, their capacities, and their sources of sustenance. Further, rural communities' livelihood depends on their primary economic activities (Guha, 2004). A livelihood is

³ The populations experience discrimination due to unequal power relationships across the economic, political, social and cultural grounds since pre independence period.

sustainable when it can cope with and recover from poverty-related stresses and shocks to enhance its capabilities and assets (Chakraborty, 2014). Ellis (2000) argued in their study on the “sustainable livelihood approach” that it is becoming increasingly difficult for households to meet their needs adequately through reliance on a single activity or income source.

The area exhibits significant regional, social, and economic differences, particularly in the backward regions where many inhabitants rely on primary activities. A detailed inquiry has been conducted to determine the detrimental impact of the geographical location on the area's overall development. This study focused on examining the extent of stakeholders' dependency on natural resources and the possible ways by which natural resources can be more efficiently used and managed in these parts, as the people of these districts depend highly on primary economic activities for their livelihoods. One potential approach to mitigating regional inequities involves the optimization of regional revenue. This will entail utilizing both natural and human resources, with a particular emphasis on optimizing the utilization of human resources. Moreover, the population of the area has the potential to be transformed into a valuable asset, serving as a resource rather than a burden.

1.2.1.1 Marginalized households

It is found that implementing government programmes and plans has enhanced the living conditions for marginalized households. These people did not get suitable work throughout the year. The study found that the studied people work for less than 183 days (or six months), including all kinds of economic activities. The situation is expedited through agricultural activities and supported by rugged topography and delicate vegetation, resulting in challenges such as substandard soil quality. These significantly impede the achievement of sustainable land utilization. Potential consequences of unsustainable land use in the region include a decline in the quality and quantity of agricultural output, which could threaten future generations' health and sustenance (Tatlidil *et al.*, 2009).

1.2.1.2 Income diversification

In the designing process of this research, the author first investigated environmental, social, and economic dimensions of farming and rural environment to secure a

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sustainable livelihood in the research area. This study has shown the fundamental concerns that threaten agricultural resources and rural livelihoods. Then, its decided on what economic practices should be viable in the region to provide sustainable use of the available resources. Thus, mobility and migration should be viewed as a form of income diversification that can facilitate the intensification and innovation of agriculture. Small family farms can frequently contend with large commercial farms, particularly in producing premium foodstuffs like fresh fruits and vegetables, so long as they have reliable access to markets.

1.2.2 The concept of sustainable livelihoods

A sustainable livelihood encompasses integrating capabilities, equity, and sustainability. In its most basic form, livelihood refers to how an individual obtains the necessary resources to sustain their existence (Krantz, 2001). A livelihood is the foundation for developing and utilizing capabilities, regarded as the desired outcome. Further, capabilities serve a dual purpose: to achieve a desired outcome and sustain one's livelihood. Conversely, capabilities act as a means to acquire and maintain a livelihood. Equity encompasses both a desired outcome and a methodological approach. A fundamental understanding of equity necessitates the provision of sufficient and satisfactory livelihoods for all people, which serves as the ultimate objective. In this context, the sustainable management of local resources is considered a value in its own right, serving as an ultimate objective. Additionally, it serves as a method to ensure the continuity of livelihoods for future generations.

1.2.2.1 Factors influencing livelihood outcomes

Numerous primary factors contribute to formulating a livelihood strategy. The livelihoods in question exhibit an ascriptive nature, as observed in rural areas, which dictate their occupational roles, such as potters, shepherds, or washer people. Similarly, gender, a construct shaped by societal norms and expectations, significantly influences people's engagement in various livelihood activities. Alternatively, a human being could be born into a particular sociocultural context and undergo socialization. In such cases, the people's occupation may subsequently lead to the establishment of new households within the same occupational domain. Furthermore, numerous

occupations are not fixed or singular. Specific people rely heavily on the social, economic, and ecological environment in which they are situated when attempting to earn a living through improvised means. Human being or households may also opt for subsistence by considering migration and education as crucial points.

1.2.3 The determinants of rural livelihood diversification

Chambers *et al.* (1998), Sahn (1989), and Agarwal (1990) all attest to the intrinsic nature of seasonality in rural life. Agricultural labor market-dependent marginal households (maximum of them possess <1 acre of arable land, monocropping, and get <183 days of waged work in a financial year) are subject to the same cyclical activity levels inherent to farm families due to seasonality. Further, seasonality impacts both on-farm and off-farm labor markets annually by causing returns to the fluctuating labor time, or the per day or week income; in this contrast, peak labor demand is noticed in the agricultural productive time such as cropping and harvesting. Transportation of harvested agricultural commodities to store/market or distribution centers requires a substantial amount of labour work hours which significantly depends on the availability of labour from temporary labour markets. This causes variation in on-farm returns. Temporary labour markets emerge, for instance, to facilitate the transportation of recently harvested produce from farms to stores or distribution centers, which can lead to fluctuations in off-farm returns. According to the farm household model (Alderman and Sahn, 1989; Ellis 2000), alterations in occupation transpire due to seasonality, which induces a reallocation of labour time from processes with lower to higher returns. Further, seasonal migration may transpire when the resident household's harvest is scarcely adequate to sustain itself rather than as a means to supplement the household's income (Toulmin, 1992). In such situations, the resident group's means of subsistence are diversified. However, this does not result in a transformation of the group's income sources; instead, the group's size adjusts to account for its seasonal insufficient food supply (Ellis, 2000). In this context, it will be sound to mention the role of rural education (exceptionally professional skill based).

1.2.3.1 Role of education for rural livelihood

Education plays a pivotal role in yielding various benefits for people and society, including numerous external elements. Additionally, it is widely acknowledged as a crucial determinant in fostering income equality to mitigate poverty and inequality. The research undertaken has a noteworthy association between education and income, observed at both the macro and local levels (Walsum *et al.*, 2014). A study by Shamim (2002) suggests that education is responsible for around 30 percent (%) of the variability in individual incomes within the southern districts of India. Moreover, the amalgamation of education and experience accounts for around 50 percent (%) of the observed variance. In this context, education helps to alter labor incentives by equipping people with the necessary qualifications and abilities to engage in more productive and rewarding employment opportunities (Mondal *et al.*, 2018; Mondal, 2022). The South Western region of West Bengal exhibits comparatively lower levels of development than other states in India. Eliminating prevalent illiteracy inside a specific state could be perceived as a remedy for fostering holistic development⁴ among its populace (Ahmed, 2019). The significance of literacy lies in its function as the fundamental basis of a hierarchical educational framework (Shamim, 2002). The analysis incorporates the shift in socioeconomic conditions by estimating potential targets for diverse development indicators in underdeveloped regions. The study proposes the necessary enhancements in various indicators to eradicate human poverty and backwardness, thereby elevating socioeconomic conditions. The findings are anticipated to have practical implications for regional planning. Agricultural policies aim to reduce rural poverty and attain food self-sufficiency by strongly emphasizing rural areas. A growing body of literature describes it as a method to enhance food security and improve the livelihoods of impoverished producers (Bakker *et al.*, 2000). Local traders frequently contribute to creating non-agricultural employment through the local processing of agricultural products. Rural markets can significantly impact the livelihoods of the most impoverished rural communities by granting them access to non-agricultural endeavors that demand minimal capital and expertise (Hoang *et al.*, 2014). Additionally, they fulfill a critical function in ensuring

⁴ Holistic development is concerned with the development of the human being from social, economic, physical, mental etc., perspectives

that their populace and the rural regions around them have access to fundamental services like healthcare and education.

1.2.4 Women's involvement in household maintenance

In the study area, forests are rich in resources, including green manure, animal food, and tools. Women and girls are the primary collectors of many forest products, including firewood and feed. The level of women's empowerment in a given country is primarily determined by its economic, social, and political makeup. To achieve gender equality during the Ten Five Years Plan (2002-2007), it was necessary to focus on women's economic and social empowerment, eliminating discrimination against women, and providing gender justice. Women's involvement in family management is still unrecognized in the focused area due to male-biased legislation and societal norms (Agarwal, 2018). The current form of SDG 5 severely limits its potential and cannot guarantee the targets. Before anything else, consider the accessibility of farmland. Access through inheritance, and by extension, implicitly through the family, is the primary focus of SDG Target 5. A. While this expands access, the term "following national laws" watered it by avoiding the need to address the requirement of changing national laws to be more inclusive of all genders. As previously mentioned (Agarwal 1994, FAO 2011, Agarwal 2018), cultural norms and gender prejudice within families and communities impede the implementation of women's democratic rights.

1.2.4.1 Women's participation in economic activities

Several challenges need to be adequately addressed to facilitate meaningful advancements and enhance the efficacy of existing women empowerment efforts in India, and it is imperative to address a significant array of problems. Despite women constituting up to 52% of the country's population, they face substantial challenges and hardships in their living conditions (Chatterjee and Dwivedi, 2023). In this regard, providing women with enough training and the necessary skills to make educated decisions is crucial to improving socioeconomic conditions. The manifestation of substantial change will only occur when there is a fundamental alteration in societal attitudes and norms (Chaves-Avila *et al.*, 2020). Multiple

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concerns exist that require attention to enhance the overall well-being of women in India.

These measures encompass various aspects, such as facilitating the availability of affordable cooking fuel for rural women, improving access to sanitation and safe drinking water, and promoting women's involvement in decision-making processes. These factors advocate for gender pay equity, combating the exploitation of women, increasing women's political participation, addressing poverty among women, and enhancing the security of women engaged in daily agricultural activities.

1.2.4.2 Extension strategies for empowerment of women and rural youth

The indispensable nature of women's contribution to the socioeconomic success of a nation cannot be overstated. Women experience cumulative inequities in both industrialized and developing countries as a result of discriminatory socioeconomic practices. The current circumstances are considerably more critical, particularly for rural women. Regrettably, the significant role played by women in agricultural output within Third World agrarian systems (particularly in Africa and Asia) is often overlooked. In contemporary times, there has been a surge in scholarly attention from economists, sociologists, and scientists toward the matter of gender-based discrimination faced by female farm labourers. Consequently, there has been a growing emphasis on performing a comprehensive examination of this discriminatory phenomenon, which has become a significant focal point of concern on a global scale and within the context of rural India (Beniwal, 2013). Therefore, discussing the resilience of livelihood is crucial in building a self-reliant rural economy and promoting the holistic development of India.

1.2.5 Livelihood resilience

It refers to the ability of social systems to cope with and recover from vulnerability. It focuses on how rural residents perceive changes in the social environment and how they modify their way of living based on existing knowledge and social learning (Christensen *et al.*, 2012; Cutter *et al.*, 2008). It provides a new perspective on livelihood research and can help us understand how farmers maintain their livelihood level in adversity (Forster *et al.*, 2014). Adger (2000) introduced the concept of

resilience into the field of social science, and this study focuses on community resilience and livelihood resilience. Our work focused on the challenges faced by marginal communities in maintaining their livelihoods, particularly in the face of inequality and geographical extremities such as climatic and physiographic hindrances. Resilience is defined by Kane and Yohe (2000) as the capacity to adapt and change circumstances effectively and to minimize the adverse effects of unforeseen events.

1.2.6 Livelihood and mobility

At scale, migration has resulted in positive feedback for rural communities, but these benefits are not experienced uniformly (Deshingkar and Akter, 2009). People who produce higher earnings through more skilled opportunities develop new hierarchies of social networks that create new growth opportunities (more options for a better livelihood). However, unskilled labour migrants still depend on existing social networks. Whether skilled or unskilled, educated or with limited education, bilocal migrants contribute to the rural economy and its development. Rural development, in particular, is closely affected by the patterns of this migration, mainly through remittances (Lucas, 2007). Migration may offer an escape from poverty among those who face limited opportunities (biased manland ratio caused pseudo employment, marginal farmer, landless, sharecropper in the area, which leads to circular mobility and rural to urban migration, a more significant number of dependents per household) in rural areas, while others are compelled to migrate. Opportunities from migration also provide relief in the form of additional income for families and relatives who remain in rural areas and might not be able or reluctant to migrate. In this context, bilocal migration contributes significantly to the development of rural regions. Furthermore, this kind of migration may develop into a broader range of opportunities for adapting to future shocks and stressors, which might currently threaten family livelihood (De Haan *et al.*, 2000).

1.2.7 Livelihood diversification

People pursue this type of migration as a means to diversify their economic sources and cope with the challenges posed by the lean season. Seasonal migrant labourers are pushed into the labour market because of chronic poverty and the limited availability

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of work locally (Chakraborty, 2014). Therefore, the current research explores 'livelihood diversification' as a strategy to combat poverty, either by necessity or choice (Ellis, 2000). It is an integral dimension of the development agenda for strengthening rural livelihood and sustaining livelihood security (Mehta, 2009). Serrat and Serrat (2017) further extend this approach.

1.2.8 Sustainable Livelihood Approach

The sustainable livelihoods approach (SLA) is a way of thinking about development activities, objectives, scope, and priorities (Ellis, 2000). The approach is grounded in the evolving understanding of the lives of the poor and vulnerable, as well as the significance of policies and institutions (Serrat and Serrat, 2017), as illustrated in Fig. 1.2. SLA primarily prioritizes the people. It helps to frame the economic sources in the following ways–

- Responsive and participatory
- Multilevel
- Conducted in partnership with the public and private sectors
- Dynamic
- Sustainable

Moreover, it is the connection between people and the overall enabling environment that influences the outcomes of livelihood strategies. It brings attention to people's inherent potential in terms of their skills, social networks, and access to physical and financial resources, and ability to influence core institutions, which are the significant provisions of SDGs.

1.2.9 Role of Sustainable Development Goals (SDG)

Sustainable development offers a framework for fostering economic, social, and environmental well-being in rural regions, making it crucial for rural development. Rural communities can prosper by implementing sustainable practices and policies (Laszlo and Laszlo, 2007; Chaves-Avila and Gallego-Bono, 2020; Ahmad *et al.*, 2023). The current study tried to evaluate the role of Sustainable Development Goals (SDGs) 8 and 5 in sustenaning of rural livelihood from the perspective of an

underprivileged society. The primary emphasis of this study is to promote resilience and secure a self-reliant rural economy. Therefore, this study specifically targets Goals 8.3, 8.5, 8.6, Goals 5.1, and 5A of the SDGs to evaluate the employment and gender development in the *Jangal Mahal* area of West Bengal.

1.2.9.1 SDGs Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all

Goal 8.3 of the SDGs: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation to encourage the formalization growth of micro, small, and medium-sized enterprises, including through access to financial services

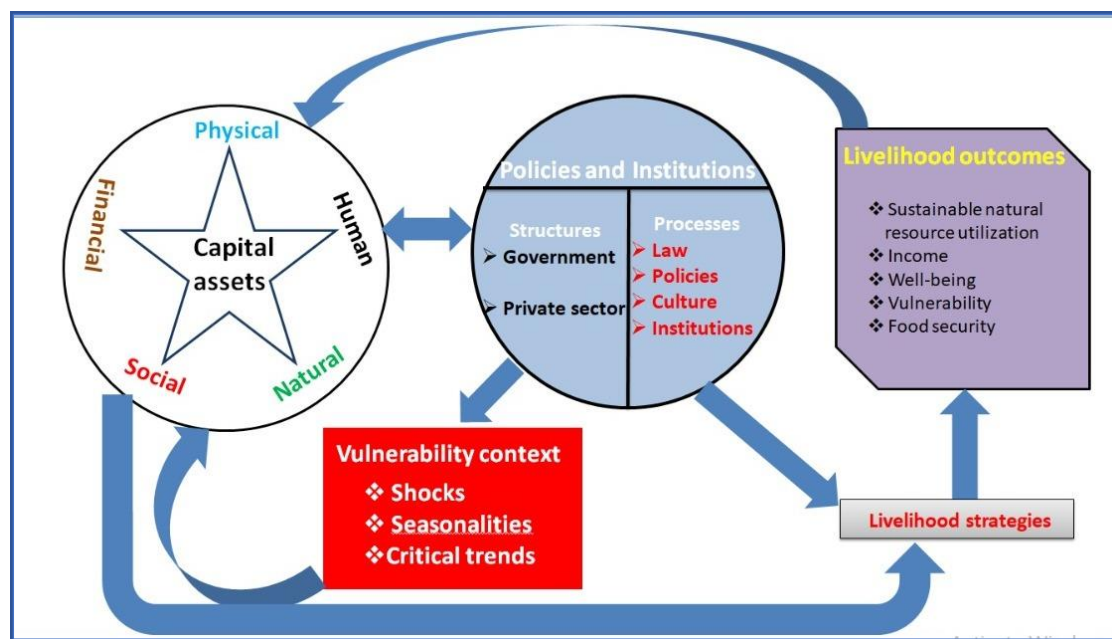


Fig. 1.2 shows Sustainable Livelihood Approach
Source: Serrat and Serrat, 2017

Goal 8.5 of the SDGs States that a rural area must "achieve adequate and worthwhile work and decent wages regardless of gender, and offer equal wages for jobs of equal value"

Goal 8.6 of the SDGs calls for a significantly lower percentage of young people not in school, training, or the workforce

1.2.9.2 SDGs Goal 5: Achieve gender equality and empower all women and girls

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Goal 5.1: End all forms of discrimination against all women and girls everywhere

Goal 5A: An Undertake reform to give women equal rights to economic resources and access to ownership and control over land (source: <https://unric.org/en/sdg>).

1.3 Location and identification of the study area

The area under study is located on the fringe of the *Rahr* Bengal and the Chhotanagpur plateau forest complex, namely *Jangal Mahal*. It is situated in the western and southwestern parts of West Bengal. It spreads over Bankura, Purulia, and Paschim Medinipur (presently bifurcated into Paschim Medinipur and Jhargram) districts of West Bengal. The history of our study area, or so-called “*Jangalmahal*,” is different. The region between Birbhum, Bankura, Midnapore, and the hilly terrain of Chhotonagpur was known as *Jungle Mahal*⁵ in the 18th century. To coordinate the administration in this tract, a regulation (Regulation XVIII of 1805) was enacted in 1805 in which the tract named the *Jungle Mahal*, approximately from 21°50'23"N to 23°50'32"N latitude and 85°50'43"E to 88°55'15"E longitude (The Gazette of India, Ministry of Law and Justice, Legislative Department. New Delhi, 2nd January 2007). The western part of South Bengal, including a significant portion of Paschim Midnapore, Bankura and Purulia District (latitude 21°45'00"/N to 23°30'00"/N and 85°45'00"/E to 87°30'00"/E) is now literarily marked as “*Jangalmahal*” (Mondal *et al.*, 2018, Mondal, 2022). The total study area is 8487 sq. km. (Fig. 1.1), where the densely forested area is ~29% (2439 sq. km) along with ~18.31% (1554.3 sq.km.) of the mixed forested area and ~27% (2331.45 sq. km.) agricultural land area.

1.3.1 Justification for selection of the study area: Research problems

Three out of four districts (Purulia, Bankura, and West Medinipur) of the study area come under the “*Red Corridor*.” The name given to those districts experiencing considerable *Naxalite-Maoist* agitations. The sole reasons for these agitations are socioeconomic and a long history of deprivation. These districts are among the poorest in the nation. The area encompassed by the *Red Corridor* tends to have stratified societies with caste and feudal divisions (Sultan, 2014). Further, much of the

⁵ The region between Birbhum, Bankura, Midnapore, and the hilly terrain of Chhotonagpur was known as *Jungle Mahal*⁵ in the 18th century.

area has high indigenous populations. Their long history of deprivation and poverty is well known to all. The characteristic of this region is that it has non-diversified, solely sector-based economies. Deplorable agricultural extension facilities, sometimes supplemented with mining or forestry, are the mainstay of the economy, which is often unable to support rapid population increases.

The region has several important natural resources, including minerals, forestry, and potential hydroelectric generation capacity. However, the presence and recurrence of drought very frequently and the scarcity of underground water have compelled the people of these areas to rely heavily on forests to sustain their daily lives. Roy and Hazra (2020) said that this region's principal source of rainfall is the southwest monsoon, and annual rainfall varies in the range of 1100 mm to 1500 mm. Further, a high relative humidity was observed in monsoon months, and there was a sharp consistency in temperature (7°C in winter months whereas 46.8°C in summer months). The recorded maximum and minimum rainfall in the studied area is 2152 mm (2017) and 820.4 mm (1966), respectively (Bhattacharjee, 2020). Geologically, this region is a part of the Chhotanagpur Gneissic Complex (CGC) under Singbhum Craton, which originated during the Cambrian era. Lithologically, the region is characterized by granitic-gneiss and pegmatite rocks, whereas phyllite and mica schist are mainly confined to the south and southeastern parts of the region. Other important rocks in the studied area are quartzite, intrusive granite, and meta-sedimentary rocks such as crystalline limestone and calc-granulite (Bera and Ghosh, 2019; Bera *et al.*, 2021). It is important to note that the region is experiencing a severe water crisis, particularly from February to June. According to the Department of Land Resource, the major drought-affected blocks are Jaipur, Baghmundi, Balarampur, Bandwan, Manbazar I & II, Arsha, etc. Further, the study area exhibits significant regional, social, and economic differences, particularly in the backward regions where a substantial majority of the population relies on primary activities.

1.3.2 The historical context of *Jangal Mahal*

The name "*Jungle Mahal*" is derived from its location between the districts of Birbhum, Bankura, Midnapore, and the mountainous area of Chhotonagpur. It was a region formed by several different separate chiefdoms and British colonies. Now a

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day it is part of rural West Bengal in India mainly populated by indigenous peoples and known for its lush forests. With the passing of Regulation XVIII in 1805, the areas known as the *Jungle Mahal(s)* were removed from the authority of the magistrates of the Burdwan, Birbhum, Bankura, and Midnapore districts. As a result, the *Jungle Mahal(s)* now have their dedicated magistrate. There was a total of twenty-three Paraganas and Mahals in the resulting district (Google Wikipedia).

1.3.3 Concept of land ownership of the marginal people

The possession and total control of a piece of land, including the right to cultivate, alter, and sell, is commonly considered as land ownership (Bakshi, 2008). This concept is frequently associated with the socioeconomic development of rural areas. However, the tribal concept of land in historical times was different. Community ownership and land management responsibility were the leading strings of underprivileged societies. They owned land as part of their livelihood rather than any economic object (Siddique, 1996). Their social system, division of labour, and agricultural modes of production all shattered with the influx of colonial administration.

The southwestern plateau area of West Bengal, commonly called *Jangal Mahal*, is the abode of various indigenous stocks of populations. These people are deprived of sustainable livelihood necessities even after more than 70 years of independence. Image 1.2 shows an overall look of the study area. The abolition of nonregistered land rights in these communities significantly worsened their economic and cultural conditions. Furthermore, an individualistic lifestyle exacerbates inequality in marginal societies with respect to land ownership and other forms of wealth. The decency of their life may be altered through proper land management and allied economic activities (Bhattacharjee, 2020). In this context, *Operation Barga*, also known as the *Bargadar* Revolution, was a significant land reform initiative implemented in the Indian state of West Bengal. Further, the indigenous societies took a long time to adapt to individual land ownership. Unfortunately, most of them had meager areas of infertile land, which made it difficult to sustain their families with agriculture. The issue had been addressed to some extent during the land reform policies of the West Bengal State Government. The state government has started

community engagement after the success of the Joint Forest Management (JFM) program in forestry management. The issuance of individual *pattas*⁶ and community *pattas* was focused on after the enactment of the Forest Rights Act (FRA) in 2006. However, little success has been achieved due to bureaucratic attitude and apathy in the present system (Bhattacharjee, 2020).



Image 1.1 shows a glimpse of the study area.

1.3.4 Problems of the study area

The development of underprivileged *Jangal Mahal* (JM) is a burning issue. This region became familiar after the episodic ‘*Maobadi*⁷’ uprisings and Maoist movement in the first decade of present century, especially from December 2008 to the 2011. Therefore, the primary concerns of the current study are—

- Natural barriers—physiography and climatic situations,
- Scarcity of basic amenities—disparity in distribution and unequal access,
- Inadequate means, low amount of daily wages — no fixed income, disparity in daily expenses

⁶ The West Bengal Land Reforms Amendment Act (1979) significantly reduced rural poverty by giving land ownership to the landless and sharecroppers through Operation Barga, which is called *patta* (entitlement deeds) land.

⁷ *Maobadi* is an extremist group that became more furious in 2008s onwards in West Bengal.

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- Seasonal employment and Pseudo employment— underemployment
- Lack of alternative livelihood sources— circular mobility and migration
- Participation of women in the workforce— discrimination and lack of women agencies

1.4 Research questions

The studied area has a higher proportion of indigenous populations. Their long history of deprivation and poverty situations is a known fact. Therefore, the people of the studied area rely heavily on the forests. The study seeks insight into the challenges posed by weak man-land ratios, specifically those of marginal farmers, landless individuals, and sharecroppers, which can result in pseudo-employment, circular mobility, poor educational performance, and poverty. Moreover, the rural people of this region often face a lack of employment and livelihood crises during lean seasons (except monsoon months). Therefore, people pursue seasonal migration as a means to diversify their economic sources and cope with the poverty- related risks. Therefore, the research aims to address all the previously mentioned issues by formulating three broad research questions (why the research).

Considering the above stated points, the study decided to deal with some specific directions. **The focus of the present study is to find suitable solutions to the following questions—**

- i) How do intra-regional inequalities relate to individual income disparities and the consequences of the poor economic situation?
- ii) What initiatives does the government take to mainstream marginalized people?

Furthermore, what the demands of the inhabitants are related to essential services?

1.5 Review of Literature in Brief

In past decades, several researchers have attempted to study different aspects of the *Jungal Mahal*. A brief overview of the past studies is noted in the preceding section.

Jungle Mahal: Land, People, and Social Relations

Jungle Mahal encompasses the regions of North and North-West Midnapore, South-West Bankura, and Southern Purulia. A rivalry emerged between the hill and plain areas due to environmental changes that led to the development of deserted lands. This area served as a barrier between the common people and the hill dwellers, which could not routinely launch attacks on the lowlands (Sahoo *et al.*, 2023). The Santals deforested the land for farming and settled in the *Jungle Mahal* region, with other forest inhabitants such as Paharias, Kharias, Lodhas, Santals, and Bhumij peasants, in the late 1800s (Dhibor and Siddique, 2017). Included in the group were paiks, chuars, and forest zamindars. In the 18th century, the area, including Birbhum, Bankura, Midnapore, and the mountainous Chhotanagpur region, was called *Jungle Mahal*. To streamline the management of this area, a rule (rule XVIII of 1805) was implemented in 1805. This law specifically pertained to the *Jungle Mahal* region (The Gazette of India, Ministry of Law and Justice, Legislative Department, New Delhi, 2nd January, 2007).

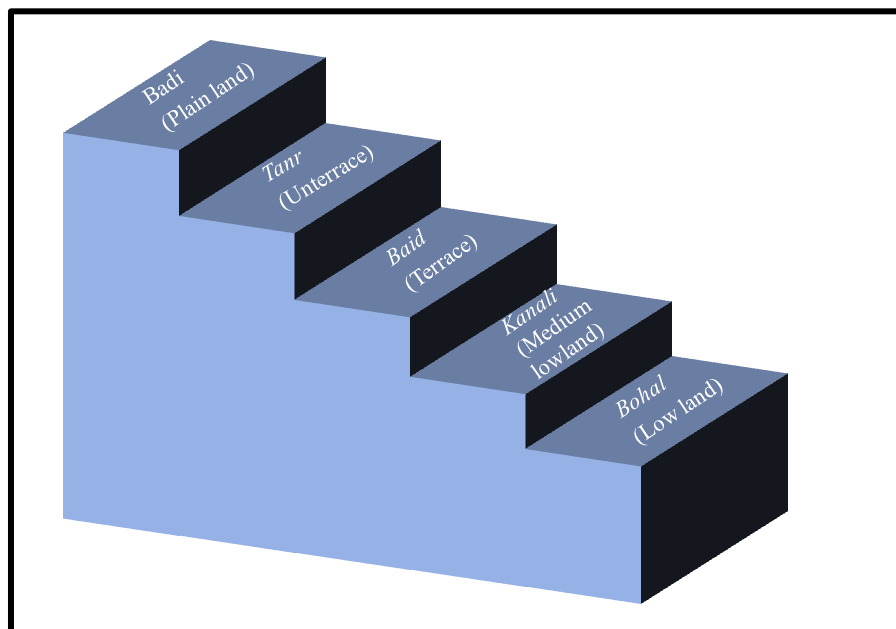


Fig.1.3 shows agricultural land transect

The land formations in this region can vary depending on the terrain and soil. They can include steep slopes (with gradients exceeding 10%), highland/barren hillocks (known as *Dungri*), upland areas (referred to as *Tanr*), midland areas (known

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as Baid), and lowland areas as presented in Fig. 1.3. Further, the uplands are deficient in humus and essential plant nutrients, resulting in significant degradation (Basu, 2015). These undeveloped regions support agricultural activities with low levels of intensity and production and may even be wholly abandoned. The midlands' terraced paddy fields are characterized by shallow soil and little water retention. Approximately 70% of the agricultural land in this region, which includes both highland and midland areas, is dependent on rainfall for the growth of crops. In addition, the fertile lowlands cultivate yearly paddy harvests. Despite sufficient rainfall levels to support crop development, the uneven rainfall distribution over the crop season leads to moisture stress conditions at crucial stages of crop growth, leading to frequent crop failures in the above stated area. To enhance the soil moisture levels and alleviate mid-season moisture stress (in crops cultivated in uplands and midlands), in-situ rainwater gathering techniques have been implemented at a micro-watershed level. Moreover, these techniques save monsoon rainfall. They regulate soil moisture levels, enhance agricultural productivity, and restore severely degraded soils to a state appropriate for plant growth and grassland establishment. Indigenous methods of conserving soil and water, such as in-situ rainwater harvesting, have received more recognition and admiration in recent years. The area marked by drought and semi-arid conditions sees a substantial decrease in yearly rainfall due to climate change. This climatic situation has negative consequences for the agricultural sector, the primary income source for rural women. Moreover, restricted access to water resources has a detrimental impact on several sectors, including pottery, gardening, craftwork, and poultry operations.

According to Chatterjee (2017), four districts of *Jangal Mahal* have an average yearly rainfall of 1000 mm. However, the majority of this rainfall, specifically 90 percent, occurs within three months from June to August. Furthermore, the terrain is characterized by rolling hills and consists of porous lateritic soil, leading to inadequate moisture in the lower layers of soil. This poses a significant risk to the crop. The crop's susceptibility and production are significantly impacted by the fluctuating rainfall patterns, which include occasional dry periods between two consecutive rainfalls. As a result, the extended periods of drought negatively impact the crop, leading to reduced productivity and revenue for farmers. This, in turn, traps

small landholding farmers in a continuous cycle of poverty. Furthermore, there is a tendency to excessively utilize underground water for the purpose of irrigation, which is undesirable. The cumulative impact of these factors has contributed to the impoverished socioeconomic circumstances prevalent in the arid regions of West Bengal.

In India, agriculture is highly vulnerable to risks and uncertainties, and marginal and small farmers among all farm groups are most susceptible to the effects of climatic variability (Kelkar, Narula, Sharma, & Chandna, 2008; Pandey & Jha, 2012; Sudha Rani, Satyanarayana, & Bhaskaran, 2015). The impact of extreme weather events and natural resources on which farmers are dependent aggravates their vulnerability (Singh *et al.*, 2017). It has been noted that climate change will further intensify and smallholding farmers (> 80%) will be most affected, as they entirely rely on climate-sensitive livelihoods (from agriculture) and have a low adaptive capacity (Chingala, Mapiye, Raffrenato, Hoffman, & Dzama, 2017).

The world's drylands are delicate ecosystems due to severe climate conditions and increasing human activities. However, these areas comprise a significant portion of the world's greatest land reserves and offer diverse resources. Further, the dryland area benefits that are essential to the livelihoods of millions of population. The semiarid and arid zones are located in the tropical and sub-tropical regions of the world. They cover over 30% of the world's total land and are home to around 20% of the people across more than 50 nations (Sivakumar, *et al.*, 2005, Chatterjee, 2017).

The semi-arid regions serve as the habitat for socioeconomically disadvantaged people. The absence of adequate infrastructure, effective communication systems, quality education, and sufficient employment prospects exacerbates poverty and forces people to largely depend on natural resources for their sustenance. Drylands in India include almost 10% of its total land area. The drylands of West Bengal (WB) mainly encompass a portion of the 'Chhotonagpur Plateau' located inside the state. Specifically, the Purulia, Bankura, West Medinipur, and Birbhum districts have most of the WB drylands. It is essential to mention that agricultural operations are constrained in this region by various factors such as little rainfall, limited subsurface water supplies, and rocky soil. As a result, the local

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livelihoods significantly rely on natural resources owing to the absence of alternative work. The progress and advancement of West Bengal and India cannot be fully appreciated without the improvement and empowerment of these neglected residents (Chatterjee, 2017).

The soil types in this area consist of three main categories—

- i) Residual kinds that are formed from the weathering of granites, gneisses, and schist,
- ii) Lateritic soil is found in the upland areas, and
- iii) Clay loam to clay soil found in the lowlands.

The majority of the soil region exhibits acidity with a low pH value ($\text{pH} < 7$). Further, the soil of this region typically contains 0.04%, 0.005%, and 0.01% of nitrogen phosphorus (expressed as P_2O_5) and potassium (expressed as K_2O), respectively. The soil has a diminished level of fertility, mainly characterized by a scarcity of organic matter (Chatterjee, 2017). Further, the soil texture, soil structure, slope aspect, topography, temperature, rainfall, runoff, and water availability are all considered in land capacity assessment in previous studies (Hussain, 2005). Mondal (2019) provided evidence that the CDBs, specifically Sarenga (0.73), Ranibandh (0.37), Khatra (0.81), and Raipur (0.61), exhibit a notably low Land Capability Index (LCI). The southwestern plateau region of West Bengal is abundant in biotic resources (Bhattacharjee, 2020). A significant number of tribes rely on forest products as their main source of income in this region (Sahoo *et al.*, 2023). West Bengal and *Jangal Mahal* have a higher proportion of marginalized communities than India's national average. It is important to remember that the region being discussed consists of 15% Scheduled Tribes (STs) and 22% Scheduled Castes (SCs) of the total population of this region. Dhibor and Siddique (2017) have identified discrepancies in land distribution, unemployment rates, adverse labour conditions, and limited access to extension services as the main reasons causing poverty in the region. The primary objective of the West Bengal Land Reforms Amendment Act (1979) is to establish a long-lasting means of support for those who do not own land and those who work as sharecroppers (Bandyopadhyay, 1979; Bandyopadhyaya, 1981). The lifestyle and communal living of the Santal, Mahato, Sabar, and Bhumij have been extensively

recorded by Roy (2015) and Bandopadhyaya (2000) in their earlier studies. Lieten (1992) mentioned the total number of families in rural West Bengal and compared the number of bargadars (assuming 5 members in a family, 1 bargadar per family). Moreover, they come to the position that 16% of rural families in West Bengal are dependent on barga cultivation, mainly where 58.94% of the rural population of West Bengal lives below the poverty line.

In the 29th round ‘Rural Labour Enquiry’, the usual occupation was classified under four categories: (i) agricultural labour, (ii) non-agricultural labour, (iii) other occupation, and (iv) no occupation. This definition of usual occupation was adopted to categorize the population according to their usual occupational pattern and also to find the relationship with the respective current weekly activities. (Rawal, 2014). Earlier reports suggest that the increased earnings, consistent employment, and mobility of agricultural laborers during certain seasons are crucial for the survival of the population during periods of low economic activity (De Haan, Brock & Coulibaly, 2002; Keshri and Bhagat, 2013; Singh *et al.*, 2011; Sundari, 2005). In this context, their ability to move is directly or indirectly connected to the seasonal decline in agricultural productivity in their home region (Agarwal, 1990; Beck, 1989) and corresponds to the timing of crop harvests in both the migrant destinations and their home villages (Rai, 2020). Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Orissa are the dominating states of seasonal migration where young rural people travel throughout the season of crop harvesting and sowing with the most insignificant women involvement (Rai, 2020; Thapa and Yadav, 2015). It is well known from Ravenstein’s Law of Migration that women mostly migrate over short distances for economic reasons. Similarly, it might be argued that the seasonal migrations of women agricultural laborers (WALs) are restricted to the neighbouring affluent areas. Prior research conducted by Garikipati (2008), Gautam (2017), Keshri and Bhagat (2010), Mishra (2016), and Sundari (2005) has also examined the economic advantages of seasonal migration. Further, Rogaly *et al.* (2001), Rogaly (2010), and Sundari (2005) examined the factors contributing to seasonal migration, which include landlessness, unemployment, limited job prospects in the home region, and work chances with better salaries in the destination location. Additionally, they have highlighted that this particular form of temporal migration is strongly influenced by

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the seasons and family relationships. Further, migration is strongly connected to several challenges such as inconsistent income and food availability, health issues, inadequate sanitation, and a lack of social safety nets. In addition, the authors Rogaly *et al.* (2001), Rogaly (2010), and Sundari (2005) have examined the significance of seasonal movement in the livelihood plans of both genders. Seasonal migration is driven by the fact that the money generated from their farm products is insufficient to feed their household (Toulmin, 1992). In such instances, the resident group undergoes livelihood diversification (Ellis, 2000). Our present research region is located in the "red corridor," which refers to districts witnessing significant Naxalite-Maoist agitations recently. The primary causes of these protests are socioeconomic factors and a lengthy history of impoverishment. According to the report of (Sultan, 2014; Chatterjee, 2017), these districts are among the most economically disadvantaged in the country. According to Nandi and Sarkar (2020), women who are financially disadvantaged and have lower levels of education have limited chances to gain experience and often resort to seasonal migration in order to sustain their livelihoods. In order to achieve comprehensive improvement in rural society, it is necessary to empower women by enabling them to make decisions and establish their own agency. It provides a means to do something for their well-being (Deshingkar and Start, 2003; Ghosh *et al.*, 2015). Hence, a comprehensive education system can provide an equitable opportunity for people to secure employment, allowing those who have been marginalized to support themselves in difficult circumstances (Benjamin & Kanchana, 2019). The southwestern region of West Bengal has lower levels of development compared to other states in India, marked by widespread illiteracy and a lack of knowledge. According to Shamim (2002), it should be seen as a universal remedy for fostering all-encompassing growth within its populace. One crucial element of the 2030 Agenda is promoting an economic development plan that prioritizes justice, fairness, and full employment. This focuses on sustaining economic expansion (Cingano, 2014; OECD, 2015). Further, the rural markets have the potential to greatly improve the lives of the poorest rural populations by providing them with opportunities to engage in non-agricultural activities that need little money and skill (Hoang *et al.*, 2008).

Hence, supporting rural small-scale domestic enterprises, namely those producing artisan and handcraft items using locally sourced materials, would be advantageous. Establishing partnerships with rural entrepreneurs and connecting them to global markets can achieve this (Gough and Rigg, 2012). Despite their neglect, some argue that the interstitial or "in-between" characteristics of rural handicrafts make them intriguing. Inherently rooted within a specific spatial context are rural handicrafts. Their manufacturing is mostly in rural regions, relying on locally acquired raw materials and utilizing local, often traditional, expertise. They also employ local labour and have a marketing strategy firmly focused on the local market. However, rural handicrafts are currently facing numerous challenges that are placing significant pressure on their survival. Further, the competition from mass-produced alternatives is eroding their traditional markets, sources of raw materials are drying up (Wherry, 2006a), and the growth of alternative employment opportunities is taking people out of rural areas, often at the very time of the year when handicrafts are traditionally made (Rigg, 2001), and tastes are being transformed by processes of modernization (Gough, 2010). Wherry (2006b) asserts that the specific conditions of its creation and trade distinguish the "authentic object" in today's global marketplaces (emphasis in original). Consequently, there exists a conflict between the ideal nature of handicrafts and the necessary adaptations they must undergo to thrive amidst significant societal transformation and swift modernization.

Promoting women's empowerment is crucial in guaranteeing sufficient access to household resources for women living in rural areas. The academic researchers have previously examined the significance of women living in rural areas concerning development and societal responsibilities. A more profound comprehension and admiration of their significance may be attained when these women possess robust means of earning for living, which leads to diverse favourable outcomes.

Hak *et al.* (2016) and Sachs (2012) emphasize the importance of sustainable development goals (SDGs) in addressing ongoing gender-based discrimination against women. They argue that promoting gender equality and empowering women in various areas is crucial for sustainable development. Rural women predominantly allocate a significant portion of their time to unpaid household duties, leading to

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limited opportunities, such as constrained access to resources, which hinders their ability to enhance productivity. Further, a significant portion of the rural population consists of females. Rural areas typically display a relative lack of socioeconomic advancement and overall well-being for the bulk of their inhabitants. The problems mentioned earlier might be attributed to limited or inadequate availability of resources, such as a lack of emerging technology and enhanced procedures, as well as a lack of cash to enhance and expand their ways of subsistence. Ogunlela and Mukhtar (2009) contend that the causes above have rendered rural regions susceptible to poverty. Furthermore, it is crucial to recognize that the presence of patriarchal societies in JM plays a pivotal role in this problem, as these societies endorse sociocultural and political ideologies that grant privileges to males (Mutopo, 2014). Women have been marginalized due to the existence of patriarchy, which has limited their ability to access productive resources, markets, and services.

The insufficient assistance and monetary providing offered by government entities and partners have been recognized as potential elements that contribute to the restricted ability to recover from difficulties witnessed in the lives of women living in rural areas. It is necessary to create and enhance robust measures to guarantee women's ability to earn a living in rural areas, decrease poverty rates, and advance economic empowerment for women (Davies *et al.*, 2013). In this context, previous reports employed a sustainable livelihood approach to evaluate the resilience and sustainability of livelihoods. Implementing initiatives that support women in reaching their full potential empowers them and contributes significantly to the socioeconomic progress of communities (Ellis & Freeman, 2004; Frost *et al.*, 2007; Kristjanson *et al.*, 2014; Scoones *et al.*, 1996). The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) plays a significant role in giving economic resilience. However, it is inadequate for a household to depend on studies that suggest that to attain empowerment via the lives of resilient rural women, it is crucial to have access to competitive markets and entrepreneurial education, together with sufficient financial support.

Walsum *et al.* (2014) have examined the primary institutional and political elements contributing to the disparity between evidence and mainstream policies or

financing objectives in dryland management. They have examined two agricultural paradigms: the prevailing paradigm that supports modernization, large-scale operations, and specialization. Furthermore, the agroecological paradigm focuses on the ability of farming communities and their ecosystems to withstand and recover from disturbances. Subsequently, they have engaged in a conversation about several real-life instances, each demonstrating that agroecological methods may result in threefold benefits: heightened productivity, enhanced sustainability of natural resources, and improved food security.

1.6 Research gap

Most of the reviewed literature has focused on climatic, environmental, and cultural determinants of *Jangal Mahal*. Most previous studies have neglected to consider the economic bases. Therefore, our work emphasized the understanding of socioeconomic determinants behind chronic underdevelopment. The current study examines the gaps in development and livelihood crises in the '*Jangal Mahal*' region. It considered the lives and livelihoods of marginalized people. The present study aims to provide sustainable solutions to mitigate the risk factors behind poverty and its associated challenges. Therefore, it is necessary to examine the gaps in understanding factors contributing to the socioeconomic underdevelopment of the '*Jangal Mahal*' region. The researcher identified numerous issues and attempted to propose potential resolutions. Therefore, after conducting a thorough review of the existing literature, the researcher has identified this study topic as one that requires significant attention and focus.

1.7 The objectives of the current study are decided as follows—

- i) To assess the spatial patterns of livelihood crises in the study area,
- ii) To analyze the different drivers of intra-regional inequality that cause marginality,
- iii) To appraise women's role in crisis management in the context of a marginal society,
- iv) To investigate the relationship between income level and education from the perspective of a marginal society, and

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v) To understand the role of government in mainstreaming marginal people of the studied area.

1.8 Methodology

1.8.1 Methodological framework

The study was carried out in four *Jangal Mahal* districts of West Bengal. To execute the study, a multistage random sampling technique (Fig. 1.4) was considered for selecting study sites and households in the four districts namely, Bankura, Purulia, Jhargram, and Paschim Medinipur, considered in the first stage of our study. Further, twelve (12) Community Development Blocks (CDBs) were chosen (Table 1.1) from respective districts in the second stage from the twenty three CDBs. In the third stage, twenty four (24) gram panchayats (GP)

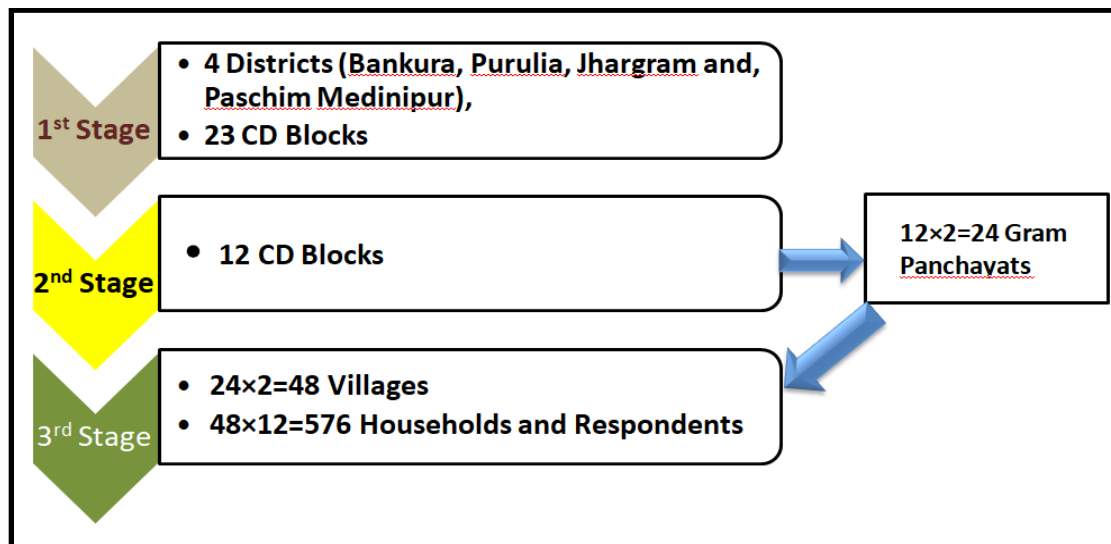


Fig. 1.4 Multistage Sampling Framework

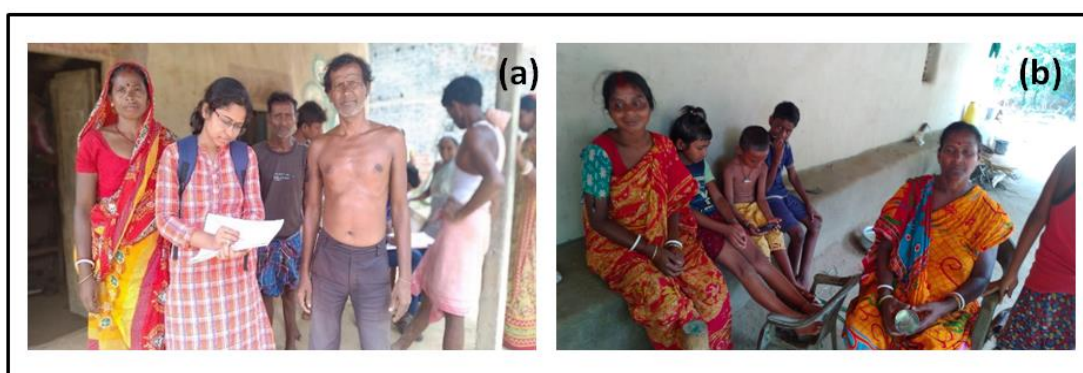
have been chosen for a fruitful study. Additionally, two villages were selected from each GP. In this process, forty-eight villages ($24 \times 2 = 48$) were chosen based on deprivation from the CDBs at the third stage (four villages from each CDBs). The author interviewed 576 respondents (one respondent from each household) from the age group of 30 to 60 years. Each village consisted of twelve households, totaling $48 \times 12 = 576$

Table 1.1: Details of the Sample Selection Framework

CDBs	GPs	Villages	No. of Respondents
Jhargram	Lodhasuli, Radhanagar	Saltoria, Santaldiha, Joykrishnapur, Kuldiha	48
Binpur-I	Baita, Lalgarrh	Jashpur, Baita, Lalgarrh, Netai	48
Binpur-II	Belpahari, Banspahari	Belpahari, Bamandiha, Chakadoba, Panchapani	48
Salboni	Shalboni, Shatpati	Bulanpur, Chaktarini, Satpati, Pathri	48
Garbeta-II	Goaltore, Makli	Mahalisai, Bandhi, Peruabad, Amjhore	48
MDP Sadar	Dherua, Shiromani	Shirishdanga, Chandra, Barua, Shiromani	48
Sarenga	Goalbari, Sarenga	Goalbari, Sukhadali, Kuldiha, Sarenga	48
Raipur	Raipur, Dheko	Dharampur, Uparbanda, Baksi, Dheko	48
Ranibandh	Ranibandh, Rautara	Ranibandh, Laldi, Khejura, Rautara	48
Bandwan	Kumra, Bandwan	Harada, Jashpur, Sirsigora, Bandoan	48
Baghmundi	Ajodhya, Baghmundi	Rella, Chorida, Baghmundi, Rangadih	48
Jhalda-I	Jhalda-Darda, Ilu-Jargo	Jhalda, Baghbinda, Ilu, Jargo	48

Source: Most deprived villages were chosen from the Socio Economic Caste Census (SECC) data 2011.

The fieldwork was carried out between March 2020 to August 2022 in three phases (Images 1.2a and, 1.2b).



Images 1.2 (a) and (b) show Data collection

The mixed-method approach (Fig. 1.5) collects and analyzes qualitative and quantitative data to meet the research goals (Creswell and Clark, 2011; Bryman, 2006). This method is suitable for identifying inequality and properly clarifying social science research. For quantitative data collection, this research used the survey

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method with the semi-structured questionnaire. On the other hand, Focus Group Discussions (FGDs) and case study methods were used for qualitative data collection. Both bivariate and multivariate statistics such as a Non-parametric one-way ANOVA (Kruskal-Wallis test), Pairwise comparisons using Wilcoxon rank sum test with continuity correction, Robust generalized linear model (GLM with Gaussian distribution), ANOVA (Analysis of variance), Multiple Regression, Poisson regression, and Kendall's correlation have been used for the analysis of the quantitative data. Further, the statistical analysis uses various software such as SPSS and R Studio. In the present study, the maps have been prepared using ArcGIS version 10.8.2. Additionally, focus group discussions (FGDs) and case study methods have been used to collect qualitative data regarding participants' perceptions and opinions about their crises and challenges. Twenty (20) FGDs were conducted from the twelve CDBs for in-depth investigation; each group included eight people from marginal communities. Each interview took 90 to 110 minutes. Then, twenty case studies have been conducted to learn about people's perceptions of chronic underdevelopment and unfavorable environmental conditions. The collected information was analyzed by applying the grounded theory approach. A SWOT (strengths, weaknesses, opportunities, and threats) analysis has been performed to assess the prevailing situation and to develop suitable strategies.

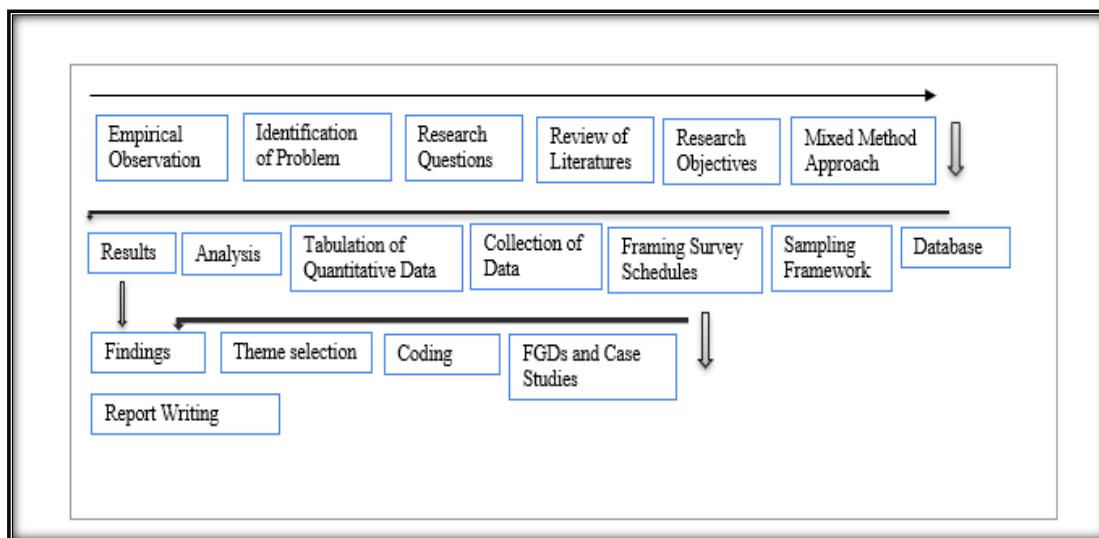


Fig.1.5 Methodological framework

1.8.2 Database

In this study, both primary and secondary data have been considered. Regarding secondary data, we have collected the Census of India, Socio Economic Caste Census (SECC), ESRI, USGS Earth Explorer, and Google Earth Pro in selected regions, considered secondary data sources in the present study. As far as primary data are concerned, we have conducted an in-depth field survey to understand rural livelihood better.

1.9 The uniqueness of the study

Most of the literature surveyed has focused on climatic, environmental, and cultural determinants. The present work emphasizes understanding the socioeconomic determinants behind underdevelopment. The current study examines the gaps in backwardness and livelihood crises in the '*Jangal Mahal*' region. In this context, we considered the livelihood stress of marginalized people. Our present research tries to provide sustainable solutions to mitigate the risk factors behind poverty and its associated challenges.

1.9.1 Relevance of the study

The current work constitutes a significant contribution to the management of natural resources and their reliance in the semiarid *Jangal Mahal* regions of West Bengal. These areas hold significant socioeconomic-political importance, even on a national scale. According to the research, economists may provide alternate strategies for attaining growth and development by assigning a monetary value to natural resources. Ecologists and environmental scientists can collaborate with economists to develop effective strategies for managing and conserving natural resources. This study may also assist planners and politicians in overcoming obstacles to implementing suitable development strategies in semiarid regions in West Bengal and other parts of India. Furthermore, there are promising opportunities for our work. This study enables academics and researchers from various fields to examine agricultural and rural credit policies, rural entrepreneurship and self-sustaining economies, nutrition and women's health, women's involvement in rural development, cultivation in drought-prone areas, and related topics. Small and medium-sized public enterprises, in conjunction with

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government and non-government institutions, can establish a sustainable platform to enhance the economic status of the impoverished.

1.9.2 Design of the thesis

To achieve the goals mentioned above, we organize the thesis as follows: Aside from this introduction chapter, it primarily talks about the area as a whole, focusing on the stress of livelihood and sustainable livelihood, methods, and an overview of the prior studies.

Chapter II delves into the study area's physical and socioeconomic environments.

The essential components of this study began with Chapter III. It discusses how poor-quality human resources, limited opportunities, and a low man-land ratio contribute to delayed economic growth and poverty.

Chapter IV describes marginalized people's persistent poverty, which causes them to use circular mobility to search for means of subsistence.

Chapter V explains how gender inequality harms women's economic well-being and social status.

Chapter VI elaborates on how cultural and educational contexts are crucial to integrating underprivileged society with the mainstream.

Chapter VII then evaluates government policy implications, prescribes recommendations for ensuring a standard situation, and

Chapter VIII closing remarks.