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LIVELIHOOD PATHWAYS AND RESILIENCE OF PAHADI KORWA COMMUNITIES IN THE TRIBAL LANDSCAPE OF KORBA DISTRICT

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Abstract

Sustainable livelihood strategies are fundamental to increasing the socio-economy well-being, perhaps in vulnerable rural communities that are exposed to environmental shocks, and market contraction. Taking into consideration this research, this review reveals data from empirical and conceptual studies in order to understand the relationship between livelihood assets, adaptive strategies and institutional mechanisms in determining livelihood outcomes. Using the Sustainable Livelihood Framework (SLF), the work includes an analysis of interactions between human, natural, social, physical and financial capital and between them and strategy choices like agricultural intensification, diversification, migration, off-farm employment and entrepreneurship. Factors that increase resilience are central to the review, which focuses on innovation, social protection programs and technology adoption. Key areas of research gaps include the absence of longitudinal data sets, the scarcity of gender-disaggregated research and the little consideration of digital technologies in livelihood research. The study leads to the conclusion that sustainable livelihood strategies have to be multi-dimensional, dynamic, and context specific to promote resilience and long term sustainability.

Keywords: Adaptation, Livelihood assets, Livelihood strategies, Resilience, Rural development,

Sustainable livelihood framework (SLF), Sustainable livelihoods, Vulnerability.

INTRODUCTION

Livelihoods are the foundation, from which human survival and well-being flow, defining the human source of means of obtaining resources, income and ensuring socio-economic security [1]. Within the ambit of the developing regions, specifically rural and semi rural locales, livelihoods are fashioned out of a multifaceted interplay between natural resource endowments, socio economic structures, institutional setups and environmental contingencies. In the past few decades, growing pressures such as climate change, resource degradation, demographic growth, globalization and market volatility have multiplied vulnerability - thereby contributing to a drive among scholars, policymakers and development practitioners to develop strategies that promote income generation but that will have an accompaniment of resilience and sustainability [2]. In this context of a dynamically changing landscape, sustainable livelihood strategies have therefore been an area of interest in development scholarship that points to the need for long-term, adaptive, and comprehensive strategies for livelihood enhancement.

The concept of sustainable livelihoods has come to the fore largely due to the seminal work of Chambers and Conway (1992) and was subsequently institutionalised by several key development agencies such as DFID, FAO and UNDP. In so doing, these organisations promoted the Sustainable Livelihood Framework (SLF), a systematic construct to understand how individuals live within their socio - economic context whilst optimally utilising available assets and mitigating shocks from outside the system.

Within the SLF, households are assumed to have five basic forms of capital, namely human capital, natural capital, social capital, physical capital and financial capital that together make up the basis for their livelihood decision. This framework argues that livelihoods are constantly dynamic, under continual pressure from a series of humidity contexts including climatic events, market fluctuations, political turbulence and profoundly embedded socio-cultural constraints. Consequently, any strategy for maintaining livelihoods has to have adaptive qualities, and therefore allows households to diversify their income sources, dampen their exposure to risks and strengthen their long-term resilience.

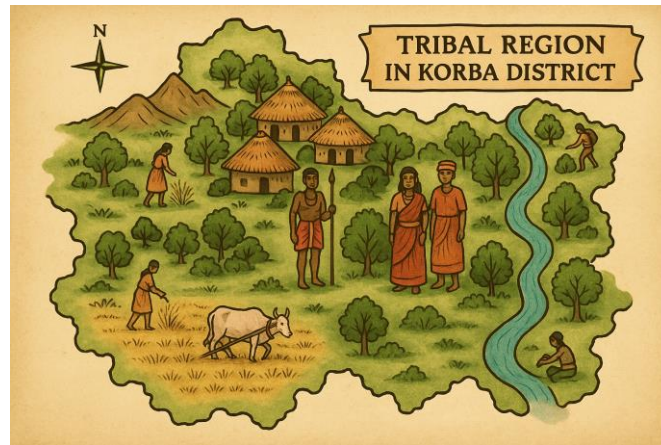


Figure 1. Tribal Region in Korba District

In many developing economies, agriculture remains the main livelihood activity; however, the sole reliance on agriculture in developing economies has gradually become unsustainable because of erratic climatic conditions, land fragmentation, declining soil fertility and volatile market prices [4]. Accordingly, households are participating in diversified strategies in terms of non-farm employment, migration, entrepreneurship and service-oriented income generating activities. Such diversification is widely recognized as a key process in bringing about resilience, stabling of income trajectories, as well as in ensuring mitigation of shock vulnerability.

The empirical literature reviewed in this manuscript explains that diversification is associated with a strong positive correlation in improved food security, increased adaptive capacity and greater socio-economical mobility. Moreover, education, vocational training and skill development acquisition significantly strengthens human capital, thereby facilitating human capital accumulation across households, so that these could engage in more productive and sustainable livelihood pathways. Institutional support plays a central role in influencing the outcome for a sustainable livelihood. The confluence of national policies, rural development programmes, microfinance initiatives, social protection programmes and the roles of community based organisations all have an influence over livelihood opportunities and accessibility of resources. Governmental interventions such as crop insurance schemes, public employment programmes, infrastructure development (including irrigation) or cooperative societies have a critical role to play in reducing the vulnerability and increasing the resilience of marginalised populations. Concurrently, the role of non - governmental organisations (NGOs) and self - help

groups (SHGs) in strengthening the social networks, bringing financial literacy and enabling group action is significant. Nonetheless, in the literature, some persisting barriers for sustainable livelihood progress have become apparent, that is, inequitable resource distribution, governance deficits, neglected institutional reach, and gender disparities in many regions.

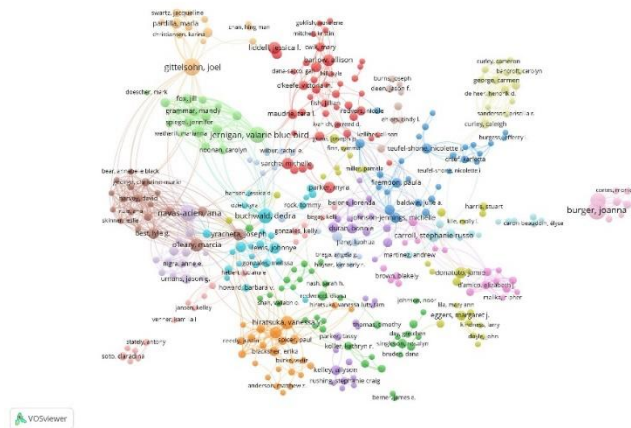


Figure 2. Bibliographic mapping Author's wise

In modern scholarship, technology innovations have become more and more essential determinants in shaping the sustainability of livelihoods [6]. Notably, the new advantages in digital technologies, mobile networks, geographic information systems (GIS), climate-safe agriculture, early warning systems, and markets information platforms are progressively changing usual livelihoods practises. These instruments provide households with the ability to access timely information, embrace modern agricultural techniques, manage risks faced in production and also interact with wider markets. Nevertheless, despite their promising potential, the benefits accrued from technology are unevenly distributed, due to the existence of entrenched socio- economic inequalities, lack of digital literacy and infrastructural constraints. Consequently, livelihood models based on technology therefore require greater analytical attention with context-specific implementation to ensure inclusivity and effectiveness. Given the multidimensional nature of livelihoods, a holistic review of available research is an absolute necessity in order to capture patterns, gaps, and emerging trends in sustainable livelihood strategies [7]. Although many studies have been conducted separately, looking at different aspects of livelihood assets, diversification, climate impacts and institutional role, there still remains a need to synthesize the overall findings in a cohesive understanding that can be used for policy, practice and theory. This review therefore

aims to fill this gap by critically analysing the insights from twenty academic studies by providing the factors that determine and the strategies and outcomes associated with sustainable livelihoods. Based on a broad spectrum of empirical and conceptual work, the paper presents a coherent knowledge base that could be used to develop more effective, equitable and resilient livelihood systems. In light of this background, sustainable livelihood strategies should not be seen as a set of interventions to reduce poverty but instead as a complex approach that addresses human capacity building and improving environmental resilience and ensuring social economic stability. Current global challenges - not least climate change, resource scarcity and socio-political volatility - make an understanding of the sustainability of livelihoods more indispensable than ever. By untangling the co-optimal interactions of assets, institutions, and adaptive strategies that can influence the spouse or the assets to the livelihood summaries, this review facilitates that understanding and provides scholarly contributions to the future research and policy interventions that seek to promote sustainable development and community resilience.

Research Design

The research adopts a qualitative, synthesis-oriented review design aimed at systematically The study of the current knowledge of sustainable livelihood strategies. This design involves no primary data collection, where this study instead uses the sole sound of critical evaluation and synthesis of formerly published scholarly work. A research design based on review is appropriate since sustainable livelihoods involve numerous dimensions, such as assets, vulnerability, adaptation and institutional support, which is necessary to be synthesized across different research contexts and traditions.

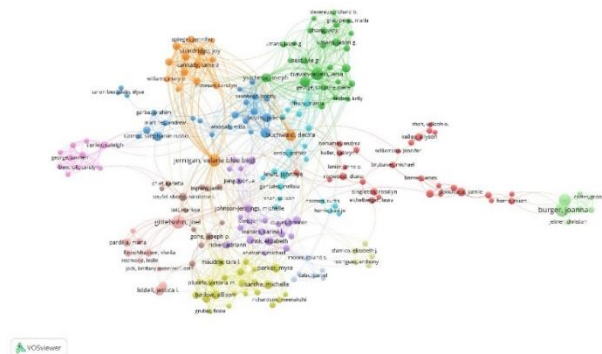


Figure 3. Author's Interconnection Review

The design brings foreground not breadth, but rather depth, thereby putting much more emphasis on conceptual lucidity, thematic pertinence, and discernment of emergent patterns. Drawing from a series of insightful studies (twenty strictly selected research studies), this research design helps in developing a comprehensive understanding of the evolutionary path in livelihood strategies and identifies the determining factors underlying the long term sustainability of these livelihood strategies in both rural and semi-rural contexts.

Sustainable Livelihood Framework (SLF)

The Sustainable Livelihood Framework (SLF) forms the basis for conceptual understanding in this investigation. Devised by DFID and with the ingredient inspiration of the foregoing scholarship of Chambers and Conway, the SLF provides an ordered lens through which one may understand the way that people engineer and sustain their livelihood strategies within complex socio - economic and environmental configurations. *The framework has essential components:*

1. Livelihood Assets (Capital):

- a. Human capital:* The compound of skills, formal education, and health: basically the intrinsic and extrinsic capacities that people mobilise inside socioeconomic systems.
- b. Natural capital:* The amount of land, water supply, and natural resources that make up the physical environment for the subsistence to develop
- c. Social capital:* The interconnected associations, institutional linkages and interpersonal relations which are conducive toward collective action as well as the dispersion of information within communities.
- d. Physical capital:* The infrastructural frameworks, the tool sets, and the technology assets serving as a source of support for productive activities and for promoting human well-being.
- e. Financial capital:* The value of the income, accumulated savings and access to credit mechanisms that provide the individuals with the economic leverage with which to continue and expand their livelihood strategies.

- 2. Vulnerability Context:** The combination of exogenous and endogenous factors, such as anthropogenic climate change, natural disasters, market and other shocks, political instability and demographic factors that collectively determine the security of livelihoods by affecting the resources and opportunities that households can access.

3. ***Transforming Structures and Processes:*** The policies, institutions, prevailing cultural norms, and modes of governance that govern societies exert a decisive influence on how easy or hard it is for individuals and communities to access and mobilize assets and how much these assets affect their prospects for livelihoods.
4. ***Livelihood Strategies:*** This is the repertoire of activities and choices that the households use to maintain their well-being which includes agriculture, wage work, entrepreneurship, migration, diversification etc.
5. ***Livelihood outcomes:*** Seeing the results of these strategies representable outcomes on from an income level, overall well-being, food security, resilience to shocks, reducing vulnerability, and sustainable management of natural resources.

Analytical Framework

The analytical framework used in the present review is built on the Sustainable Livelihood Framework (SLF) itself, but it represents an advance on this development in that it integrates them with thematic and comparative analytic techniques. This methodology provides an orderly means through which the chosen corpus of literature can be interpreted which can lead to an understanding of general thematic patterns. *Accordingly, the analytical framework develops in the following stages:*

1. ***Categorization of Data:*** The totality of the data obtained from the literature was systematically categorized by the four main elements of the Social-Economic Livelihood Framework (assets, vulnerability, institutions, strategies, and outcomes) that was used in this study made sure that any given datum could rigorously be placed within the analytical schema.
2. ***Identification of Patterns:*** Cross study comparisons were done to identify the convergences and divergences that form the basis of quintessential drivers of livelihood transformation such as climatic perturbations, land access dynamics, educational attainment, market opportunities and policy interventions.
3. ***Comparative Analysis Across Contexts:*** Empirical studies that have started in very different geographical contexts and socio- economic levels were compared in an applied setting to elucidate the modulation of livelihood strategies by contextual variables, the mechanisms by which settings affect the adaptive response.

4. **Integration of Institutional and Technological Factors:** The moderating role played by state-run schemes, non-governmental organisations, micro-finance schemes and emerging digital ICTs were thus assessed as critical factor in livelihood sustainability, through interaction between these factors, which in turn provide a reinforcing or limiting capability towards adaptive capacity.
5. **Deriving Thematic Insights:** Through iterative, systematic analysis, salient themes have emerged - namely diversification, resilience, adaptation, gendered roles and technology adoption - all pointing to inter-related different avenues through which households navigate the complexities of livelihood change.

Table 1. Major Problems Faced by People in the Study Location

Problem Category	Specific Problems Faced by People	Description / Manifestation in Daily Life	Impact on Livelihoods
Economic Challenges	Limited income sources	Most households depend on agriculture, daily wage labor, or forest produce	Leads to unstable and low annual income
	Lack of access to credit	High dependence on moneylenders; limited banking services	Prevents investment in farming, livestock, or small business
	Unemployment & seasonal work	Agriculture is rain-dependent; no off-season jobs	Increased poverty during lean periods
Environmental Challenges	Irregular rainfall	Rain-fed agriculture highly vulnerable	Crop losses and food insecurity
	Droughts / floods	Frequent climatic shocks	Damage to fields, livestock, and houses

	Degradation of forest resources	Decline in NTFPs, fuelwood, fodder	Reduces livelihood options for dependent households
Social Challenges	Low literacy & education levels	Limited access to quality schools	Reduces human capital and employment opportunities
	Gender inequality	Women have limited access to resources and decisions	Decreases household adaptive capacity
	Weak social networks	Limited participation in groups, SHGs or cooperatives	Lack of collective bargaining and support
Health Challenges	Poor access to healthcare	Long distance to hospitals; shortage of medicines	High morbidity reduces labor availability
	Malnutrition & poor sanitation	Limited awareness & facilities	Weakens productivity and resilience
Infrastructure Challenges	Poor road connectivity	Difficult transportation for goods and people	Limits market access and emergency services
	Lack of irrigation facilities	Dependence on monsoon	Lower crop yield and income uncertainty
	Inadequate housing	Many households in kuccha structures	High exposure to disasters

Institutional Challenges	Limited awareness of government schemes	Households unaware of subsidies, benefits	Low utilization of development programs
	Weak governance / local support	Poor coordination in development efforts	Slow livelihood improvement
	Low access to markets	Few regulated markets; low bargaining power	Farmers forced to sell at low prices
Technological Challenges	Low digital literacy	Lack of awareness & skills to use ICT tools	No access to market prices, weather warnings
	Minimal use of modern farming tools	Traditional dependency	Low productivity and higher risk

Synthesis Approach

The present investigation indulges in thematic synthesis methodology thereby paving way for amalgamation of heterogeneous studies into a set of cogent, integrative findings. *The synthesis path stages:*

Descriptive Synthesis: At this first stage, all the chosen studies were carefully summarized in terms of their objectives, methods, main findings and relatedness to the topic of sustainable livelihood. This systematic condensation ensured that a comprehensive familiarization with the whole data set was ensured.

Thematic Coding: Structured process of coding was used to attach labels or context and content to gobs of meaning including "livelihood diversification", "institutional support", "vulnerability factors", "livelihood assets" and "resilience building". These codes ensured an organized framework of the data for subsequent analyses.

Analytical Synthesis: The coded information was analyzed to identify the relationships and interdependencies. *For example:*

- a. *Constraints of livelihood assets drive the diversification efforts.*

- b. *Climate shocks modify the range of livelihood alternatives.*
- c. *Technological challenges help develop the issue of resilience.*

Pahadi Korwa Community (Korba District, Chhattisgarh)

The Pahadi Korwa is a Particularly Vulnerable Tribal Group (PVTG) majorly found in forested and hilly landscape in Korba, Surguja, Jashpur and Raigarh in Chattisgarh.

In the Korba district, their settlements are located in hamlets in remote forested slopes and foothills where the community lives in a typical life style that is strongly connected to the natural environment. Consequently, the Pahadi Korwas are among the most marginalized and socio economical tribal communities of Central India as reflected in consistently low literacy levels, limited livelihood opportunities and problems in their development.

Historically, Korwas have relied largely on forest-based resources, practising shifting cultivation, hunting, gathering and subsistence farming. While some of these practices have reduced in response to forest regulations and environmental degradation, Non-Timber Forest Produce (NTFPs) like mahua flowers, tendu leaves, chironji and medicinal plants continue to be of prime importance to the community. Seasonal collection of these forest products is also an important income source especially for women. [11,12,13,14].

Table 2. Government Schemes Available for Pahadi Korwa Community

Scheme Name	Purpose	Relevance to Korwa Community
Forest Rights Act (FRA) 2006	Provides land rights and forest resource access	Essential for land tenure security and NTFP dependence
PVTG Development Scheme	Special funding for education, housing, livelihood enhancement	Direct benefit program for Korwas
MNREGA	Provides 100 days of wage employment	Major wage source during lean seasons

Public Distribution System (PDS)	Food grains at subsidized rates	Reduces food insecurity
PM Awas Yojana – Gramin	Housing construction support	Helps replace kutchha houses
Ayushman Bharat	Free health insurance for families	Important due to poor healthcare access
Integrated Tribal Development Agency (ITDA)	Tribal welfare projects	Skill training, agriculture support, community development
Livelihood Mission (NRLM)	Promotes SHGs and income-generating activities	Enhances financial and social capital for women
Mid-Day Meal & ICDS	Nutrition support for children and mothers	Reduces malnutrition
PM-KISAN	Income support for small farmers	Beneficial for Korwas with small landholdings

The ***Pahadi Korwa*** community shows organization on the basis of small clusters on the basis of kinship, where there is high cultural bonds. Traditional customs, oral folklore and rituals are the key axis of their social life [15][16]. Nonetheless, despite this strong cultural identity, the community faces serious socio-economic challenges including low literacy rates, limitations to healthcare access, inadequate documentation and widespread social exclusion, that limit their ability to fully participate in government welfare initiatives. Within Korba district, many hamlets are very far from the public educational and healthcare institutions and thus create conditions for a continued dependence on traditional knowledge and practices [17][18].

The livelihoods of people in the Pahadi Decision Korwa regions are thus still quite fragile, due to a curving complex of limited livelihood options, including rain-fed agriculture, small ratio of cultivated land, human-wildlife conflict, especially with elephants, and degradation of the eco-

system due to mining in nearby areas. Agricultural productivity is weakened due to a shortage of irrigation facilities, associated with improper soils, and the lack of use of modern agricultural technologies. Consequently, the predominance of daily wage labour, collection of forest resources, seasonal migration and small-scale animal husbandry are the coping strategies of the majority of households.

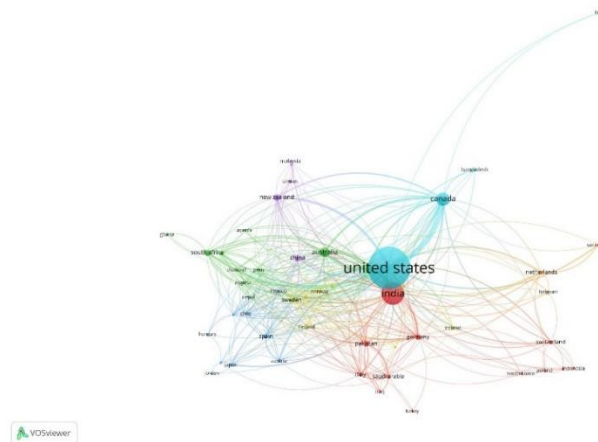


Figure 4. Country-wise study of the tribal community

The weakness of the community's institutional support, lack of awareness of government schemes and as well as significant barriers of the formal credit system aggravate the condition of the community. These conditions result in under-ability of the community to access the resources and the community's effective participation in national development programmes. Many families have no necessary documents such as Aadhaar cards, ration cards, and records about the ownership of their land, and thus they are excluded from major welfare programs such as Forest Rights Act (FRA), the Public Distribution System (PDS), or employment programs such as MGNREGA. Contrastingly, the Korwa community has a series of intrinsic strengths that provide an ecological knowledge, a diversified subsistence practices, a high level of social cohesion and a high level of resilience in resource scarce environments. A well-planned intervention in the form of livelihood diversification, focusing on specific skill development, non-timber forest product (NTFP) value addition, infrastructure improvement and covering the implementation of welfare programmes could significantly boost sustainable livelihood outcomes for the community.

Map-Style Description of the Tribal Region in Korba District (Chhattisgarh)

Korba district is located in the north-eastern corner of the state of Chhattisgarh and is a part of the Chhota Nagpur plateau region. The geography of the district is highly diverse and includes dense arboreal cover, rolling hilly terrains, river valley and settlements with low population densities thus making it the prominent tribal corridor of the state. The tribal domain spreads majorly over the northern and eastern sector covered by forests, in which the indigenous Pahadi Korwa, Baiga, Gond and other tribal communities are found [21][22].

Location and Boundaries

- a. *North: Surguja District*
- b. *East: Jashpur District and part of Odisha border region*
- c. *South: Raigarh and Bilaspur Districts*
- d. *West: Koriya District*

The Pahadi Korwa communities mostly live in hilly clusters of Kartala, Hardi and Pali and rugged interiors of Korba tehsil. These areas are characterized by their adjoining sal, teak, bamboo and mixed deciduous forests.

Table 3. Mapping information of Tribal Region in Korba District

Mapping Component	Description (Korba District Tribal Region)
Geographical Location	Located in north-eastern Chhattisgarh; part of Chhota Nagpur plateau; significant tribal concentration in forested and hilly regions.
District Boundaries	North: Surguja District; South: Bilaspur & Raigarh; East: Jashpur; West: Koriya.
Major Tribal Blocks	Kartala, Pali, Korba, Hardi - Dharamjaigarh border region.
Key Tribal Communities	Pahadi Korwa (PVTG), Gond, Baiga; Pahadi Korwas mainly in hilly and forest interiors.
Topographical Features	Undulating hills, dense sal forests, bamboo belts, scattered plateaus, seasonal streams (<i>jhiriya</i>).

Terrain Type	Hill slopes (<i>dongar/pahadi</i>), foothill plains, forest cores, fragmented agricultural patches.
Forest Cover Zones	Eastern Kartala hills, Pali block bamboo forests, central Korba sal forest belt, Hardi hilly plateaus.
Major Pahadi Korwa Settlements	Jhanjh, Saraitola, Bhaisajhar, Nawapara (Kartala); Hardi interior hamlets; remote Korba forest clusters.
Resource Zones	- Mahua belts: Kartala & eastern hills

DISCUSSIONS AND CONCLUSIONS

Study includes a synthesis of the massive body of literature on sustainable livelihood strategies and puts them into the context of realities of vulnerable communities, specifically the Pahadi Korwa population of Korba district. Across the reviewed studies, a consistent pattern emerges, which is that sustainable livelihoods are shaped by the interplay of livelihood assets, vulnerability contexts, institutional support, and the adaptive capacities of households. The Sustainable Livelihood Framework (SLF) is an effective analytical tool to understand such multidimensional relationships. Evidence indicates that those households that possess a better portfolio of human, natural, financial and social capital are more likely to gain diversified and resilient livelihood strategies and those with limited assets are caught in poverty and vulnerability cycles.

An analysis of the Pahadi Korwa population reveals an archer's bouquet of structural impediments, namely, sub - standard literacy rates, poor institutional linkages with them, progressive forest degradation, poor infrastructural presence, rampant exploitation of the market and hazards induced by climatic changes. These constraints relate to the prevailing discourses in scholarly work that assume the insecurity of livelihoods among the tribal and rural communities as a result of systemic marginalization and environmental pressures. In contrast, the Korwa community has retained several salient assets, including ancestral ecological know-how, good social cohesion, and a modal of diversified subsistence strategy which, if they tap into these assets through well designed interventions, could form the basis of sustainable developmental pathways.

The aggregate insights that could be gleaned from the extant literature do underscore the imperative of sustainable livelihood strategies being tailored to context, augment asset bases and be buttressed by institutional frameworks. Augmenting livelihood assets, improving access to

education and health services, expanding market linkages, protecting land tenure and integrating technology-driven interventions within the development fabric are key levers for strengthening household resilience. In the case of PVTG communities, exemplified by the Pahadi Korwas, formulation of targeted policy instruments, adoption of inclusive governance mechanisms and design of development interventions which resonate in their culture are indispensable for assuring the sustainable and durable improvement of livelihood strategies according to their well-being and social security.

FUTURE SCOPE

Future studies on sustainable livelihood strategies may focus on the production of long term, longitudinal data in order to appropriately depict the changes in livelihood strategies over time, especially in the case of vulnerable tribal communities like Pahadi Korwas. It is wrong to ignore the fact that it becomes necessary to include advanced technologies like GIS mapping, remote sensing, and AI-based predictive modelling which help to determine the probability of vulnerability more precisely and optimize the resource plan.

Furthermore, more studies need to interrogate gender specific with youth specific livelihood challenges; the existing literature is not sufficiently attentive to the variations within the household. Such research should also focus on the synergy between environmental degradation, mining activities and climate variability and its impact on the sustainability of livelihoods in the Korba district.

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Author Contributions

- Priyanka Bhagat: Conceptualization, Methodology, Writing – Original Draft, Data Collection, Analysis, Writing – Review & Editing.
- Dr. Anupam Tiwari: Visualization, Supervision, Project Administration.

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