

## ADAPTATION TO LIVELIHOOD AND STRATEGIES FOR SURVIVAL OF THE MANKIRDIAS AND HILL-KHARIA TRIBES IN MAYURBHANJ, ODISHA

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### Abstract

The Research examines adaptive livelihood and survival of the two PVTGs, Mayurbhanj, Odisha, Mankirdias and Hill-Kharia tribal groups, in the context of a highly increasing ecological, economic, and institutional pressures. The study uses a methodology that is mixed, which involves the use of a household survey, interviews, and focus group discussions to determine how these communities cope with resource scarcity and insecure land tenure, as well as market dependency. Results indicate that livelihood diversification, Non-Timber Forest Product (NTFP) collection (31%), wage labour (27%), and smallholder cultivation (22%) are still the most commonly used coping strategies that are facilitated by social cooperation and gendered division of labour. Adaptation is however, mostly responsive and of a short-term nature with structural limitations that include poor application of the Forest Rights Act, reduced forest productivity and low access to welfare programs. The increasing involvement of women in the process of forest collection and local trade indicates the development of agency, but it also increases the inequality of workloads. The analysis finds that to ensure sustainable adjustment of these communities, a multi-layered approach is needed, which involves safe tenure, value-added NTFP businesses, gender-sensitive measures, and participatory forest management. Using traditional ecological knowledge coupled with institutional assistance, the study shows avenues of moving beyond a situation where people survive to attaining sustainable resilience among the people who depend on forests.

**Keywords:** Mankirdias tribe, Hill-Kharia tribe, livelihood adaptation, NTFP-based economy, sustainable resilience, Mayurbhanj, Odisha.

### 1. Introduction

Tribal communities are one of the most vulnerable and yet resilient group within the Indian social and ecological context. The forests, mountains, and rivers surrounding them are linked to their lives in an intricate way, as these are resources that have both been used as the sources of livelihood and as their cultural objects. Nonetheless, over the past decades, such ecosystems have experienced rapid changes because of deforestation, mining, industrial expansions, and changes in climate. These changes have quite literally shifted the foundation of resources on which a good number of the tribal groups rely. Specifically, the Mankirdias and Hill-Kharia tribes of the Mayurbhanj district in Odisha can be considered the examples of the difficulties in the process of adjusting the traditional livelihood patterns to the emergent socio-economic demands. Being nomadic hunter-gatherers and forest-reliant cultivators, these populations are subjected to multidimensional limitations in the form of limited access to forests, weak land tenure, and the governmental participation in the mainstream economies.

The current research is geared towards knowing how these communities manage to make their way out of these constraints using adaptive and survival strategies. In examining their changing livelihood regimes, the study will help shed light on the greater processes of tribal adjustment in forested areas of India, in the East. In particular, it looks at the relationship between the environmental degradation, the policy system and the resilience of the community-this problem has importance not only to Mayurbhanj but also to other tribal areas in India.

### **1.1 Background and Context**

Particularly Vulnerable Tribal Groups (PVTGs) The Mankirdias and Hill-Kharia tribes were formally recognized as such by the Government of India. The fact that they usually settled in places deep into the forests of Mayurbhanj district indicates that they have over time been coexisting with the nature. Conventionally, their means of livelihood was in the form of hunting, gathering, shifting cultivation, and harvesting of non-timber forest products (NTFPs) including honey, mahua flowers, sal leaves, and wild tubers. These were not economic activities but aspects of an ecological ethos based on sustainable use and common ownership.

Their traditional rights and resource access have however been curtailed over time due to the colonial and postcolonial policies on forest management, population pressures and government led conservation programs. The enclosures of forests, the wildlife reserves, and the acquisition of land by industries have reduced their subsistence base. Also, climate variability, which has taken the form of unpredictable rainfalls, soil erosions and forest fires, has also put a pressure on local ecosystems. This has seen the two tribes diversify their livelihoods to include wage labor, seasonal migration and minor trading.

The responses of these tribes to adapt in this way can therefore be found on the interplay of environmental change, socio-political marginalization, and cultural resilience. A written account of such processes will offer information about how indigenous communities redefine themselves as survival strategies in uncertainty and low-agency environments.

### **1.2 Rationale and Significance of the Study**

Adaptation of tribes to the shifting livelihood is not a matter of simple economic accommodation and is basically, complicated cases of identity negotiations, cultural continuation and ecological ethics. The argument behind the choice of Mankirdias and Hill-Kharia tribes lies in the fact that they received as little academic attention as a unique approach to livelihoods as the rest of Odishan tribes like the Santals or the Juangs. Although they are deemed as PVTGs, their adaptive approaches have not been well documented in policy and academic literature.

Moreover, their analysis of their strategies is part of various areas of investigation. Developmentally it is a source of evidence to design inclusive livelihood interventions, that are coherent to the local realities and not by using blanket market-based solutions. In social science perspective, it adds to theoretical discourse on resilience and vulnerability as well as indigenous adjustment as part of the Sustainable Livelihoods Framework. Lastly in the policy standpoint, it is in line with national objectives of sustainable tribal development as stipulated in the Forest Rights Act (2006), Tribal Sub-Plan, and UN Sustainable Development Goals (SDGs), especially Goal 1 (No Poverty) and Goal 15 (Life on Land).

### **1.3 Objectives and Scope of the Study**

Developing on these issues, this paper aims at achieving three main goals:

1. To record existing livelihoods portfolios and coping mechanisms within the Mankirdias and Hill-Kharia tribes, both in terms of the traditional and new sources of income.
2. To examine the forces of change and vulnerability which inform their adaptability, both ecological, economic, and institutional.
3. To recommend policy and programmatic initiatives that have the potential of strengthening resilience and sustainability in these communities.

The study is analytical and empirical in scope. It is based on field evidence in the chosen villages of Mayurbhanj and contextualizes the results within the wider theoretical arguments of how the tribal livelihood adapts. The study is not only focused on describing the survival mechanisms but

also critically evaluating its effectiveness, sustainability and inclusiveness. Through this, it helps in the realization of how the marginalized forest-dwelling peoples redefine their living lives in the face of evolving socio-ecological situations.

## **2. Review of Litreature**

The economic lives of tribe populations have been an academic topic of interest especially in the parts of the world where subsistence livelihoods and reliance on the environment are the basic features of social structure. Generational research on rural livelihoods has highlighted the fact that diversification is a critical adaptation strategy to reduce risks linked to ecological unpredictability, market fluctuations and social exclusion (Chambers, 1983). Livelihood diversification in tribal communities like Mankirdias and Hill-Kharia in Mayurbhanj, Odisha, is not only an economic policy but a cultural process that is inherent in the community relations, the local knowledge systems as well as the customary norms. These groups are known as Particularly Vulnerable Tribal Groups (PVTGs) who are a case in point of the complications of the interrelation of resource dependence, ecological vulnerability and policy exclusion.

Behera and Panigrahi (2020) give one of the most straightforward accounts of the livelihood issues and survival strategies of the Hill-Kharia and Mankirdias tribes in Mayurbhanj and how these communities cope with the changing ecological and institutional environment. According to their research, the livelihood still composes a dependence on forests, and the economy is based on gathering, hunting and non-timber forest product (NTFP) collection. Nevertheless, limited access to forests and the diminishing resources force households to diversify to the wage labour and seasonal migration. These results correspond to the framework of sustainable livelihoods, which assumes that in the unstable conditions of natural capital, communities use some other resources, such as social networks and human labour, to provide livelihoods.

Behera (2024) develops this theme by discussing the continuity and shifting cultural trends in tribal communities of Odisha and adds that the economic shifts can be frequently followed by the change of the cultural identity, social integration and traditional ecological knowledge of the people. This cultural negotiation can be exemplified by the change in livelihood structure of the Mankirdias and the Hill-Kharia in which the communities compromise their traditional practices based on the forest with adaptive responses brought about the external intervention and integration into the market. On the same note, Kolay and Khatua (2024) also emphasize that PVTGs in the whole of India experience multidimensional livelihood pressures due to geographical isolation, lack of education and policy inefficiencies. Their writing on livelihood patterns and development strategies will give them a comparative context, as they will be placed in the context of marginalized tribal adaptation.

Another important aspect of tribal adaptation is forest dependency and management of the common property resources. Traditionally, access and use of forest resources were controlled by collective norms and mutual agreements of customary institutions. But these systems have been interfered with by market integration and conservation policies with the balance between subsistence and commercial extraction being reconfigured. With the Similipal forest region of Odisha as the case study and focusing on productivity and marketed surplus of NTFPs, Jena (2021) identifies how traditional extraction patterns have been transformed under the influence of the market. Although the NTFP commercialization offers cash revenue to the tribes, they also face fluctuating prices and unscrupulous middlemen, which makes them more vulnerable. The results highlight the two-sidedness of the market integration- it may strengthen and weaken depending on the availability of market information, bargaining power and backing by the institutions.

Complementary details can be found in the work of Bansal (2024), who explains the overall role of agro forestry and tree based livelihoods in developing a country. Though it is not specifically on PVTGs, the work offers a good context since it also shows that managing the forest resource sustainably can increase resilience and ecological sustainability in the rural areas. Among the tribes such as the Mankirdias and Hill-Kharia tribe, applying agro forestry systems and forest based businesses to the livelihoods may fill the gap in existing ecological knowledge and modern development paradigms. These can be used in conjunction with the Capability Approach proposed by Sen according to which the truth is not in terms of increasing income or output but in the widening of real freedoms of people to allow them to live well.

The co-relationship between livelihoods, vulnerability and adaptation among the Mankirdias and Hill-Kharia is therefore a mutually dynamic negotiation between the structure and agency. These societies exist in a tight space in which there is ecological degradation, weak institutional access, and marginalization of the socio-political sphere. However, with adaptable adjustment, that is, diversification, pooled resources, and strategic market entry, they are exceptionally resilient. Their survival strategies are a good example of what the Sustainable Livelihoods Framework defines as the notion of livelihood security as a result of a combination of interactions between assets moderated by both institutional and environmental aspects.

This literature review was compiled through the theoretical approach of the Sustainable Livelihoods Framework and the Capability Approach as a way of giving a comprehensive perspective on the adaptation processes. The SLF focuses more on access to assets and institutional connection in determining the livelihood outcome, and Sen model emphasizes more on the normative market by considering human freedom and agency. In the case of the Mankirdias and Hill-Kharia, adaptation does not just include ecological and economic risks but also seeking dignity, cultural survival, and empowerment under the new structural restriction.

In general, the literature reviewed proves that livelihood adaptation in these tribes is multidimensional, and it is based on ecology, culture, and governance. The current literature (Behera and Panigrahi, 2020; Kolay and Khatua, 2024; Jena, 2021) is united by a necessity in the creation of policies that should incorporate the traditional resource management systems with the current development interventions. Empowering institutions in the community, providing access to forest products fairly in the market and providing more basic services such as health and education are essential in promoting adaptive capacity. The synthesis of these writings offers the theoretical and practical basis of scrutinizing the process by which the Mankirdias and Hill-Kharia bargain the survival amidst environmental and socio-economic changes in Mayurbhanj.

### **3. Study Area: Mayurbhanj District and the Mankirdias & Hill-Kharia Tribes**

Mayurbhanj district is a district in Odisha in the north that is positioned between 21 16 N -22 34 N and 85 40 E - 87 11 E with an area of approximately 10418 sq. km. Odisha is its biggest district and one of the most forested districts with almost a forest cover of 43 percent. It is centred on the Similipal Biosphere Reserve, which serves as a means of livelihood to a significant tribal community. The Census of India (2011) indicates that the population of the district is 2.51 million people, with almost 59 percent Scheduled Tribes.

These include Mankirdias (Mankirdia) and Hill-Kharia (Pahari Kharia) tribes which are identified as Particularly Vulnerable Tribal Groups (PVTGs) because of their small number, forest-based livelihood, and low socioeconomic indicators. They live in remote hilly regions in blocks of Jashipur, Karanjia and Thakurmunda with heavy sal forests. Mankirdias used to be semi-nomads

as hunters and gatherers, and were famous in rope-making of murva fiber, honey collection and NTFP collection. The Hill-Kharia is a mixture of shifting and settled farming and forest harvesting and seasonal labor migration.

The challenges that both tribes have to deal with constantly include land insecurity, the productivity of forests decreasing, and the lack of access to education, healthcare and credit. Forest products like mahua, sal leaves, honey and tamarind are significant providers of their livelihood. Women take the center stage in the collection and marketing of NTFP, whereas men have gotten involved in wage labor and farming. Even amidst the adversity, the traditional standards of collaboration, sharing of resources and common decision-making keep the community resilient. These groups are being assisted by government programs like Forest Rights Act (2006), MGNREGA and Micro Projects Program on PVTG Development but not well implemented.

**Table 1: Socio-Demographic Profile of Mayurbhanj District**

Parameter	Details	Source
Geographical Area	10,418 sq. km	Govt. of Odisha (2023)
Forest Cover	43.1%	Odisha Forest Dept. (2022)
Total Population	2,519,738	Census of India (2011)
Scheduled Tribe Population	58.7%	Census of India (2011)
Major Tribal Groups	Santal, Munda, Bhumij, Bathudi, Mankirdias , Hill-Kharia	SCSTRTI Odisha
Literacy Rate	63.2%	Census of India (2011)
Key Livelihoods (PVTGs)	NTFP collection, shifting cultivation, wage labor, rope-making	Behera & Panigrahi (2020)

Essentially, the Mankirdias and Hill-Kharia tribes of Mayurbhanj are the communities that depend on forests but are going through ecological, economic and institutional changeovers. Their innovative methods of livelihood, which are traditional but influenced by external forces, make the district a critical case to analyzing resilience and survival among the PVTGs in India.

#### 4. Methods

This research has utilized the mixed-methods design to look at the livelihood adaptation and survival mechanisms of the Mankirdias and Hill-Kharia tribes in Mayurbhanj, Odisha. The design used was a combination of quantitative and household surveys and qualitative interviews and observations to have both the measurable trends and comprehensive views of the community.

##### 4.1 Research Design

To be able to provide a comprehensive analysis, a mixed-methods framework was employed. The quantitative survey involved the collection of data on the socio-economic status, income sources, landholding and livelihood diversification, whereas qualitative methods were used to investigate the perceptions, cultural norms and coping systems. The data collection instruments were:

- Demographic and livelihood profile questionnaires at the household level.
- Semi structured interviews with elders, women and leaders.
- Adaptation and seasonal livelihood cycle focus group discussions (FGDs), and

- A day-to-day observation of activities in livelihoods and in the market.
- This set up enabled data triangulation that makes results more accurate and rich in context.

#### **4.2 Sampling and Data Collection**

Purposive stratified sampling was employed in the study to select four villages (two Mankirdias and two Hill-Kharia villages) on the basis of ecology and livelihood diversity. A sample of 200 households, 30 key informants interviews and four FGDs (2 males and 2 females groups) were used to gather data. The interviews were based on the local language with the help of trained interpreters. There were ethical process like informed consent, voluntary participation and confidentiality that were strictly adhered to.

#### **4.3 Analytical Approach**

Two simple inferential tests and descriptive statistics (frequencies, means, and cross-tabulations) were used to analyze the quantitative data to determine the livelihood trends and relationships. Qualitative data were transcribed, coded and thematically analyzed in order to find out common themes like forest dependence, migration and adaptation strategies. The data of the survey, interviews, and observations were triangulated to ensure validity and reliability.

In general, this interdisciplinary method allowed having a balanced perspective in the way Mankirdias and Hill-Kharia communities adapt their livelihood to ecological, economic, and institutional change.

### **5. FINDINGS AND ANALYSIS**

In this part, the empirical results of the study will be revealed using the field data gathered in the selected Mankirdias and Hill-Kharia settlements in the Mayurbhanj district. The quantitative and qualitative information is applied to know the livelihood structures, income composition, adaptation patterns, and vulnerabilities that are mostly present in these tribal communities.

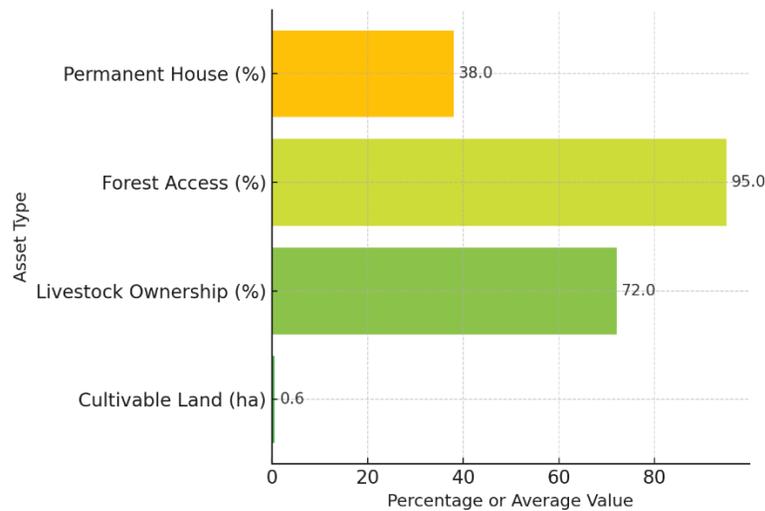
#### **5.1 Socio-Economic Profile**

The socio-economic status of the sampled households reflects a pleasing resource base as well as a high reliance on the neighboring forest ecosystem. The household size is 5.2 people and majority of the households are in semi-permanent houses and possess small plots of land (average 0.6 ha). Approximately 72 and 95 percent of households rear small livestock (goats, poultry) to earn additional income and food, and to collect non-timber forest products (NTFPs) locally, respectively.

In this table 1, the key household assets in Mankirdias and Hill-Kharia tribes are provided which indicate that the tribes rely on land, livestock and forest resources as security of livelihood.

**Table 1:** Distribution of Household Assets

<b>Asset Type</b>	<b>Average/Share</b>
Cultivable Land (ha)	0.6
Livestock Ownership (%)	72
Forest Access (%)	95
Permanent House (%)	38



**Figure 1:** Distribution of Household Assets

The statistics indicate that access to the forests (95%), is almost universal in all households surveyed, which demonstrates the importance of forests ecosystems in supporting everyday needs and earnings. Another significant secondary asset is livestock ownership (72%), which is a source of food and of economic security. Conversely, the cultivable land area (average 0.6 ha) and permanent houses (38%) are small, which indicate a weak asset base and semi-subsistence life. The findings show that natural resources especially forests are the source of livelihood resilience to these tribal groups.

### 5.2 Household Income Sources and Livelihood Diversification

Patterns of household income demonstrate that the forest-based activities are over-relied upon. NTFP collection and sale form the largest portion (31) of total income, followed by wage labour (27), smallholder cultivation (22), seasonal migration (12) and petty trade/handicrafts (8).

Such diversified income base depicts how the tribes have strategically adapted to the uncertainty in the ecological and market environment. Forest products are also essential in subsistence and wage labour and migration sources of cash liquidity in lean harvest periods.

This table 2 describes the major sources of income of Mankirdias and Hill-Kharia households in Mayurbhanj district that illustrates the percentage contribution of each activity to the income of the household.

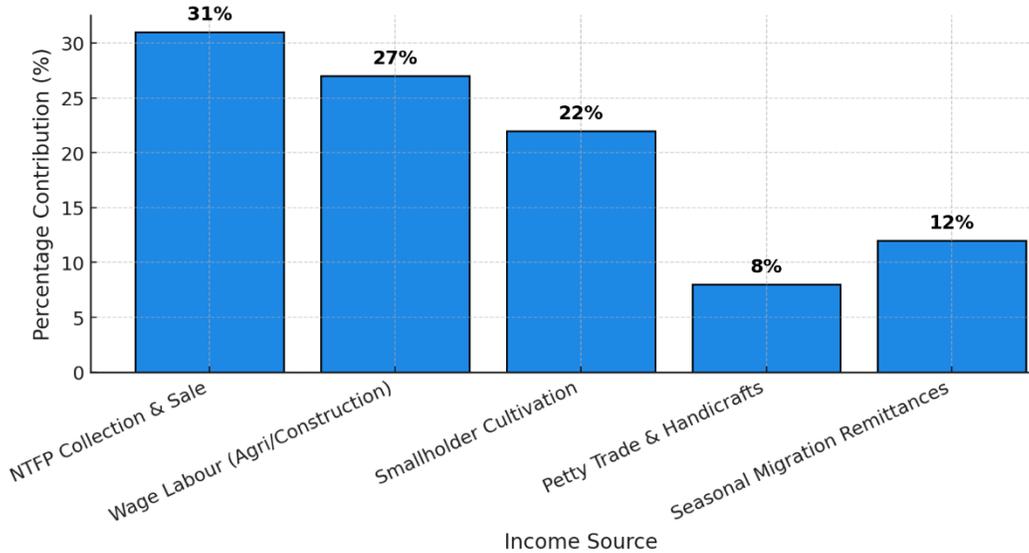
**Table 2:** Household Income Sources of Mankirdias and Hill-Kharia Tribes

Income Source	Percentage Contribution (%)
NTFP Collection & Sale	31
Wage Labour (Agriculture/Construction)	27
Smallholder Cultivation	22
Petty Trade & Handicrafts	8
Seasonal Migration Remittances	12

The results indicate that the Non-Timber Forest Product (NTFP) collection and sale (31%) is the foundation of tribal lives, and then there is wage labour (27%), and smallholder cultivation (22%). Minor but important and vital cash inflows are petty trade (8%) and seasonal migration remittances (12%). The allusions indicate that although forest reliance is central, the rise in involvement of

wage labour and migration indicates a slow diversification of sources of income to sustain livelihood insecurities.

Bar chart that shows the relative contribution of various sources of income to the total household income between Mankirdias and Hill-Kharia tribes.



**Figure 2:** Income Source Distribution among Households

As seen (the figure 2) clearly, the activities of NTFP as the basis of income prevail in the structure, which reinforces the fact that people keep depending on forest ecosystems to survive and trade. Wage labor and subsistence farming become the two additional sources of income that strike a balance between subsistence and the market. This is due to the relatively smaller share of migration and trade, which underscores the limited integration into the larger economy, which ensures that value addition and institutional support of forest-based livelihood way of life is necessary.

### 5.3 Coping and Adaptation Strategies

The qualitative results emphasize the dynamic and adaptive quality of livelihood of the two tribes. Households mix the old forms of the traditional knowledge with the new livelihood opportunities to cope with environmental and economic pressure. It has been found that there are five important adaptation mechanisms:

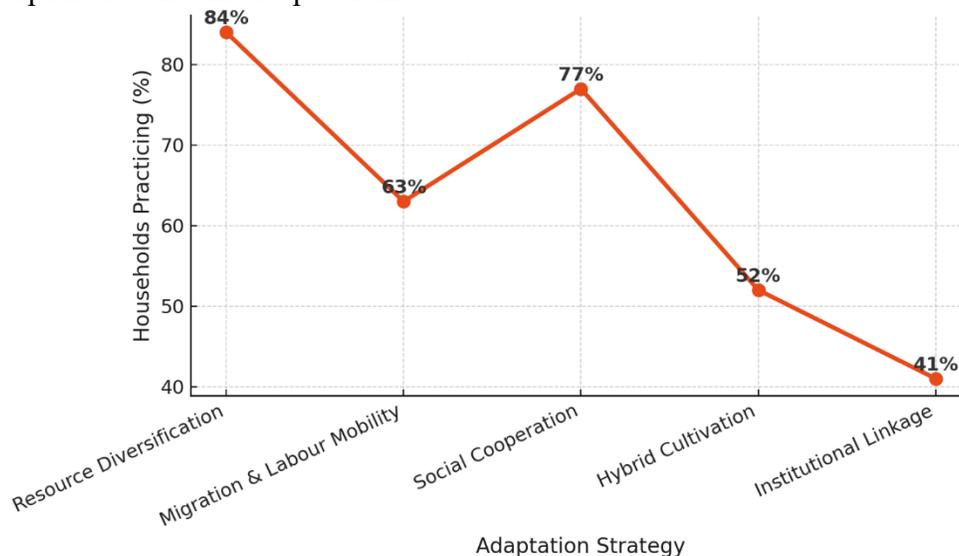
1. Resource-based diversification - gathering more NTFP and making petite value addition (e.g. drying mahua, refining honey).
2. Labour mobility/ migration - men do seasonal migration, and women do the forest collection and small trading.
3. Social capital and mutuality – sharing of labour, informal system of credit, and access to resources due to clan.
4. Hybrid cultivation procedures - gradual transition between shifting to semi-permanent cultivation with home gardens.
5. Discriminatory involvement in MGNREGA and FRA programs on income or land security: formal institution negotiation.

This table 3 shows the various adaptation and coping mechanisms the Mankirdias and Hill-Kharia households have adopted to deal with the ecological and economic issues. It is the ratio of households that have adopted each strategy to support their lives.

**Table 3:** Coping and Adaptation Strategies among Households

Adaptation Strategy	Households Practicing (%)
Resource Diversification	84
Migration & Labour Mobility	63
Social Cooperation	77
Hybrid Cultivation	52
Institutional Linkage	41

The data show that the most widespread adaptive mechanisms are resource diversification (84) and social cooperation (77) and they signify the community dependence on collective actions and diversified use of resources. Labour mobility (63%), hybrid cultivation (52%), and institutional linkage (41%), are also important economic shields and emerging strategies based on integrating old practice with new external support system. These results indicate that the process of adaptation within the tribes is community-based and it is shifting towards mixed livelihoods. The line chart of showing the percentage of households embracing the different adaptation strategies being employed, resource diversification and social cooperation seem to be the most common responses to livelihood problem.



**Figure 3:** Adaptation and Coping Strategies among Households

The figure 3 indicates that the households have gradually been relying on diversified forest and agricultural practices in addition to robust social networks in order to sustain the environmental and economic strains. Migration and hybrid cultivation are the additional measures that ensure income stability in lean seasons. The comparatively low rate of institutional linkages (41%), emphasizes the importance of opting to enhance the awareness and availability of government and NGO programs to boost adaptive capacity.

#### 5.4 Barriers and Vulnerabilities

Although both communities have adaptive practices, they are both limited by structural barriers. According to the field data, the most urgent is insecure land tenure (reported by 78% of respondents), the next is the declining forest resources (69 percent), market fluctuations (61

percent), female imbalance in the workload (54 percent), and lack of access to development schemes (49 percent).

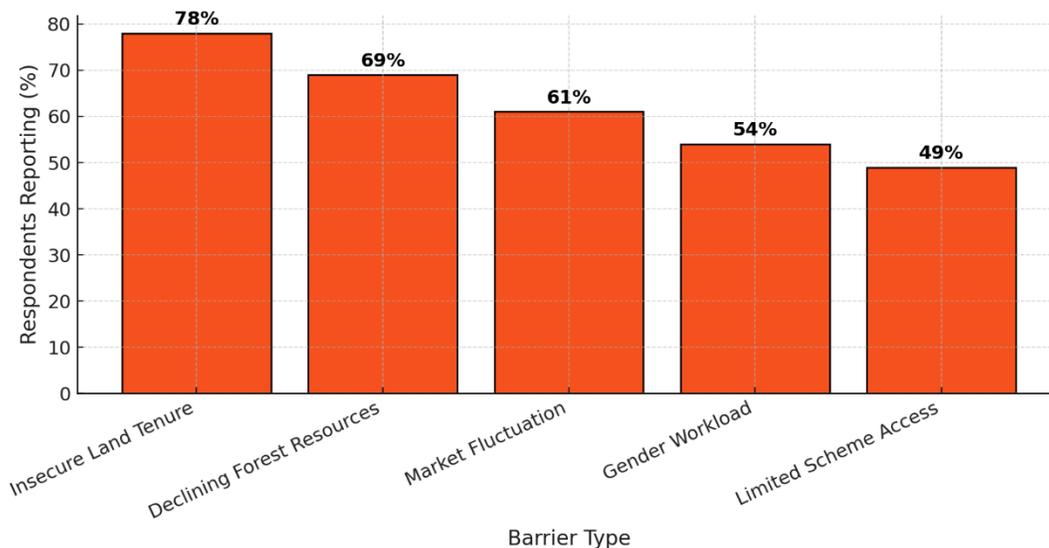
This table 4 indicates the main livelihood challenges of the Mankirdias and Hill-Kharia households in Mayurbhanj. Most of the respondents indicated unstable land tenure as well as dwindling forest resources as the greatest challenges to their livelihood.

**Table 4:** Major Barriers and Vulnerabilities Reported by Respondents

Barrier Type	Respondents Reporting (%)
Insecure Land Tenure	78
Declining Forest Resources	69
Market Fluctuation	61
Gender Workload	54
Limited Scheme Access	49

As indicated, 78 percent of the respondents cited insecure land rights as the primary challenge with 69 percent citing forest resource depletion. The effect of market shocks (61%), gender differences in workloads (54%), also put a systemic pressure on the household and almost half (49%), the respondents report problems with accessing government programs. These results have shown that institutional and environmental factors join hands in sabotaging adaptation of sustainable livelihoods.

Bar graph showing the percentage of households who report major livelihood limiting factors with insecure tenure as the most widespread problem followed by forest degradation and market uncertainties.



**Figure 4:** Major Barriers and Vulnerabilities

This figure clearly shows that the issue of insecure tenure still dominates among the tribal households, and the issue makes their potential to invest in either agricultural or forest-based ventures unattainable. Livelihood instability is further worsened by the interaction of the ecological degradation and unstable market prices, and more so, women who are disproportionately burdened with the workload. In general, the number highlights the fact that

structural weaknesses are still limiting adaptability and sustainability of livelihoods in the long term.

### **5.5 Case Vignette: Women's Agency in Adaptation**

A Hill-Kharia woman of Jashipur explained the increasing forest collection efforts on her part as a result of her husband seasonally migrating, and extending her forest gathering days to three or six days per week. She became a member of a Self-Help Group (SHG) later, borrowed minimal money on a small loan and purchased seeds and soaps and started selling them at the weekly haat. The case at hand is an illustration of migration, economic agency of women, and social capital of communities in the operations of livelihoods within households.

### **5.6 Summary of Findings**

The findings indicate that the Mankirdias and Hill-Kharia societies use multi-layered strategies of adaptation that are based on traditional knowledge, social cooperation and flexible labour structures. Ecological degradation and institutional barriers, however, still do not do them any favor in the long run when it comes to long-term livelihood security.

Their adaptive responses should be changed to be transformed to be based on sustainable resilience rather than short-term coping through strengthening land rights, enhancing NTFP market connections, gender-inclusive programs, and better access to welfare schemes.

## **6. Discussion**

The data indicates that the livelihood system of the Mankirdias and the Hill-Kharia tribes are transforming rapidly due to the forces of degrading the ecological environment, reliance on the market, and altering policy environments. This is the case, even though these communities remain vulnerable as a result of their diversification, social cooperation and adaptability to changing resource conditions. Their reactions are the indicative method of balance between custom and innovation by demonstrating how marginalized forest-dependent communities negotiate their way to survive under limited options. These adaptive strategies are discussed in terms of agency, institutional support, and social differentiation, which provides information about the overall workings of tribal resilience in Mayurbhanj.

### **6.1 Interpreting Adaptation as Constrained Agency**

Mankirdias and Hill-Kharia tribes exhibit high levels of agency in dealing with livelihood issues by diversifying their source of income in the form of NTFP collection, wage labour and smallholder cropping. Their capacity to adapt, however, is limited by structural barriers, including poor access to land through insecure land tenure, and lack of adequate market accessibility as well as institutional support. Adaptation is therefore more a short term and responsive strategy to ensure survival in the present and not survival in the long run. As much as households are ingenious when it comes to the integration of traditional and modern livelihoods, they cannot attain long-term resilience due to the lack of supporting policies.

### **6.2 Role of Institutions and Policy Levers**

The presence of strong local institutions contributes to high livelihoods to a large extent. In the villages where customary government and decision-making is intact the vulnerability becomes lower where the mechanisms of sharing resources absorb the shocks. However the migration and administrative marginalization have weakened these systems making them more vulnerable. Existing policies like Forest Rights Act (FRA) and MGNREGA have potential but are not exploited because of the delays in the process and the lack of awareness. Adaptation can be institutionally sustainable by strengthening tenure recognition, developing NTFP cooperatives and ecological restoration.

### **6.3 Gender and Intergenerational Dimensions**

The effects of adaptation are disproportional in both genders and generational differences. There has been an increase in the economic activities of women in collection of forest and small trade but this has been associated with increased workloads and reduced control over income. The influx of young people has also interfered with the passing of traditional ecological knowledge since it lowers the local labour force, and the community unity. Equal participation can be achieved by empowerment of women by obtaining credit and engaging youths in skill-based ecological businesses to guarantee continuity in the adaptive practices.

### **6.4 Integrating Insights**

In general, the adaptation between Mankirdias and Hill-Kharia tribes can be discussed as a result of equilibrium between resiliency and constraint. Their community-based systems of coping and ecological knowledge give them a sense of stability, yet the institutional neglect, the deterioration of the environment and gender inequality remain as obstacles to change. It needs to adapt well and this is achieved through the provision of secure rights, inclusive governance and gender responsive development, combining traditional wisdom and access to modern policy interventions in creating sustainable livelihood resilience in the tribal areas of Mayurbhanj.

### **7. Conclusion**

The authors find out that Mankirdias and Hill-Kharia tribes of Mayurbhanj, Odisha possess astonishing resilience and adaptability to environmental degradation, reliance on the market, and institutional marginalization. Their lives are still largely dependent on forested products especially Non-Timber Forest Products (NTFP) with supplementation in wage labour, small-scale agriculture, and seasonal migrations. These strategies are indicative of pragmatism to adapt to uncertain environments and not a shift toward sustainable empowerment. Although the community-based cooperation and traditional ecological knowledge is still a good resource, community obstacles that continue to hamper the transformative change include insecure land tenure, declining forest productivity, and restricted access to welfare programmes. The growing involvement of women in household economies is a good sign of adapting to changes, although their increasing workload and limited ability to use their financial resources reveal the necessity of gender-sensitive actions. The study highlights that it is important to not only reinforce the land and forest rights by effective implementation of the Forest Rights Act but also combine the value-added NTFP enterprises, cooperative marketing and inclusive skill development programs to achieve meaningful improvement in tribal livelihoods. Sustainable adaptation of both the Mankirdias and the Hill-Kharia tribes would finally be found in the integration of traditional activities with the institutional support, so that the resilience can be then transformed not just to coping to be able to survive, but also to be able to develop sustainably.

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