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Enhancing Subjective Well-Being in Rural and Tribal Communities in India: Pathways, Cultural Identity, Resilience, and Policies

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Abstract: Subjective well-being (SWB) reflects individuals' evaluations of their lives, including cognitive judgments of life satisfaction and emotional experiences of happiness, stress, and anxiety. While substantial literature has examined SWB in urban populations, relatively less attention has been devoted to understanding rural residents' subjective well-being, particularly in developing economies.

This paper explores pathways, impacts, and policy frameworks for enhancing SWB in rural communities. Drawing on conceptual and empirical literature, it identifies drivers such as digital inclusion, social capital, access to health, and agricultural transformation, alongside barriers including income inequality, poor living conditions, and gender disparities. Using illustrative data and synthesized evidence, we demonstrate that SWB has a significant impact on rural development outcomes, including farm productivity, labour participation, household resilience, and social harmony. The study highlights the precariousness of tribal livelihoods in the face of modern development challenges. Poor access to digital connectivity, banking services, and modern healthcare accentuates their sense of exclusion. Nevertheless, their attachment to land, forests, and traditional rituals provides meaning, identity, and spiritual satisfaction, contributing positively to subjective well-being despite material deprivation.

The paper concludes with policy recommendations for inclusive and sustainable rural revitalization, aligned with the United Nations Sustainable Development Goals (SDGs), particularly Goals 3 (Good Health and Well-being) and 8 (Decent Work and Economic Growth). This paper contributes to the growing scholarship by examining the multidimensional drivers of rural SWB, identifying impacts on socioeconomic and agricultural outcomes, and providing actionable policy pathways.

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Introduction

Enhancing the subjective well-being of rural residents is vital for improving individual lives and crucial for achieving rural revitalization and fostering a harmonious society. Ensuring healthy lives and promoting well-being for all ages is also required to achieve the United Nations' Sustainable Development Goals (i.e. Goal 3). Subjective well-being (SWB) has emerged as a crucial dimension of human development, surpassing traditional economic indicators to capture how individuals assess their lives in terms of both satisfaction and emotional states (Diener et al., 2018). Positive SWB, reflected in optimism, happiness, and resilience, fosters social cooperation, creativity, and productivity, whereas negative states, such as stress, isolation, and poor health, reduce both individual potential and community harmony.

Despite growing global interest in SWB, rural and tribal populations remain underrepresented in academic discourse and policy debates. These communities face challenges that directly impact their well-being, including limited access to education and healthcare, economic marginalization, exclusion from digital and financial ecosystems, and vulnerability to environmental stressors. For instance, many tribal groups in Odisha, - a state in eastern India, such as the Juang and Kutia Kondh, report low levels of material security but rely on cultural identity, kinship, and reciprocity to sustain psychological resilience. Such experiences underline the fact that well-being cannot be reduced to income alone, but is also shaped by cultural practices, ecological stability, and community solidarity. Their subjective well-being is shaped not only by material constraints, like poor health infrastructure, low literacy, and food insecurity, but also by collective traditions of kinship, ritual, and reciprocity that foster community resilience (Mishra, 2019).

The Kutia Kondh of Kandhamal, similarly, encounter pressures from land alienation, market intrusion, and displacement caused by development projects. These stressors often erode their cultural identity and security, negatively impacting SWB. However, their collective practices-such as sharing resources, preserving sacred groves, and celebrating communal festivals-enhance social cohesion and psychological resilience (Padhi & Panigrahi, 2020).

Enhancing SWB in such contexts, therefore, requires multi-dimensional policy approaches-expanding access to healthcare, education, and digital inclusion, while

respecting traditional knowledge systems, cultural practices, and community-led resource management. Sustainable livelihood programs, women's self-help groups, and participatory forest management can improve both material conditions and psychosocial well-being by fostering autonomy and agency. Thus, the experiences of the Kutia Kondh, Juang and other tribal groups in Odisha reveal that subjective well-being cannot be measured solely by material wealth. It must integrate cultural identity, ecological balance, and community solidarity dimensions that are often invisible in conventional development discourse but essential for holistic human flourishing.

Literature Review

Subjective well-being encompasses the cognitive and emotional evaluations that people make of their lives, reflecting both the positive and negative aspects of their psychological health. Positive subjective well-being outcomes, such as happiness, can contribute to collaborations between co-workers, promote employees' curiosity, creativity, and innovation, and motivate people to succeed at work and persist in efforts to achieve their goals. Moreover, workers with higher life satisfaction are more likely to be healthy and productive, as healthier workers tend to take fewer sick leaves. In comparison, the adverse subjective well-being outcomes, such as stress and loneliness, arising from work and life activities can reduce work productivity, damage individuals' physical health and disrupt social harmony.

Despite the rich findings in the literature on subjective well-being, there is a notable lack of focus on the well-being of rural residents. While some research has investigated the impact of factors such as information and communication technology adoption, market participation, and poverty alleviation programs on farmers' subjective well-being, the existing studies in the field fall short of providing a complete picture of the drivers and barriers to enhancing rural residents' subjective well-being. For example, other socioeconomic and individual factors, such as the macroeconomic environment, government policies, agricultural production, employment, and health conditions, may also influence the subjective well-being of rural residents. In addition, previous studies have predominantly focused on happiness and life satisfaction as positive outcomes of subjective well-being, while stress and loneliness have been identified as negative ones. It is worth emphasising that subjective well-being extends beyond these traditional outcome dimensions. For example, positive subjective well-being can also be captured through metrics such as confidence about the future, optimism, resilience, emotional stability, and social connectivity. Similarly, negative subjective well-being may include

measures of feelings such as depression, anxiety, future-related worries, helplessness, low self-esteem, and hopelessness. Consequently, there is a pressing need to investigate the factors influencing rural residents' subjective well-being through these alternative and more comprehensive measures, as well as the impacts of subjective well-being.

The concept of subjective well-being (SWB) has received substantial attention in the fields of psychology, economics, sociology, and development studies. At its core, SWB reflects the way individuals perceive and evaluate their lives, encompassing both cognitive judgments and affective experiences (OECD, 2013). The mental component refers to evaluative aspects such as life satisfaction, optimism about the future, and perceived quality of life. It captures how people think about their life circumstances in relation to their aspirations and expectations. The affective component, on the other hand, includes the frequency and intensity of positive emotions (e.g., joy, contentment, enthusiasm) and negative emotions (e.g., stress, anxiety, sadness). Together, these dimensions offer a more comprehensive understanding of well-being compared to purely economic measures, such as income or consumption.

Traditional research on SWB has been dominated by measures of happiness and life satisfaction, especially in extensive cross-national surveys such as the World Happiness Report and Eurobarometer studies (Jorm, A F et al. 2014). While these indicators have been helpful for cross-country comparisons, scholars increasingly argue that they are insufficient to capture the broader psychological and social realities of individuals, especially in diverse rural settings. For example, two individuals with similar levels of life satisfaction may differ significantly in terms of their resilience, social connectedness, and emotional stability, which are equally important aspects of SWB.

Recent advances in measuring SWB have thus attempted to incorporate multidimensional indicators, such as optimism, confidence in the future, coping ability in the face of shocks, sense of belonging, and perceived social support (Dolan, Layard, & Metcalfe, 2011). At the same time, negative dimensions have also been expanded beyond stress and loneliness to include depression, anxiety, hopelessness, and low self-esteem. This shift reflects a growing recognition that subjective well-being cannot be reduced to a single index but must be understood through a spectrum of positive and negative psychological states that together shape individual and community outcomes.

Subjective Well-Being in Rural Contexts

The application of SWB research to rural contexts is relatively recent, although it is increasingly seen as crucial for understanding rural livelihoods and development

outcomes. Rural residents' SWB is shaped by a variety of interrelated economic, social, health, and environmental factors, each of which carries particular significance due to the structural disadvantages of rural life.

Economic factors are among the strongest determinants of rural well-being. Studies consistently show that income stability, employment opportunities, and livelihood diversification improve life satisfaction and optimism. Conversely, rural residents are often exposed to income volatility due to seasonal agricultural cycles, price fluctuations, and climate shocks. Such instability heightens feelings of insecurity, stress, and helplessness. Access to credit and financial inclusion through microfinance or rural banking has been shown to boost SWB by providing households with greater control over consumption and investment decisions (Banerjee et al., 2015).

Social capital also plays a critical role in shaping rural SWB. Close-knit networks, kinship ties, and community participation provide emotional support and resilience in the face of hardship. Studies in both developed and developing countries find that trust in neighbours, participation in cooperatives, and strong family cohesion are positively correlated with happiness and psychological stability (Grootaert & van Bastelaer, 2002). On the other hand, experiences of social exclusion-whether due to caste, ethnicity, or class divisions-undermine self-esteem and sense of belonging, thereby reducing SWB.

Health and education access are equally central. Research indicates that individuals with better physical and mental health tend to report higher levels of well-being (Layard, 2003). However, rural residents often face limited access to healthcare facilities, skilled medical personnel, and preventive care. Mental health issues are particularly neglected in rural regions, where stigma and lack of services exacerbate psychological distress. Similarly, access to quality education enhances optimism, life satisfaction, and resilience, but rural children frequently face barriers such as long travel distances, inadequate infrastructure, and teacher shortages.

Environmental conditions are uniquely influential in rural areas due to their dependence on natural resources. Water availability, soil quality, and climate stability are not only crucial for agricultural productivity but also for residents' sense of security and hope for the future. Environmental degradation, droughts, floods, and other climate risks contribute to anxiety, depression, and hopelessness. Studies in climate-vulnerable regions show that environmental shocks can reduce both income-based and psychological dimensions of well-being, often triggering migration and social dislocation (Tripathy, 2015b).

Compared to urban populations, rural residents encounter a complex set of interrelated challenges that significantly increase the risks of negative subjective well-being (SWB) outcomes. Poverty and inequality are more pronounced in rural regions, where employment opportunities are scarce, wages are lower, and livelihoods often depend on seasonal or informal agricultural labour. This economic distress leads to persistent financial insecurity, limited ability to invest in education or healthcare, and heightened vulnerability to debt cycles, all of which contribute to stress, anxiety, and feelings of helplessness.

A second factor is environmental vulnerability, as rural livelihoods are heavily dependent on natural resources and climatic stability. Farmers face recurrent risks from droughts, floods, soil degradation, and crop failures, which not only undermine household incomes but also erode confidence in the future. The psychological consequences of repeated exposure to environmental shocks include heightened anxiety, uncertainty, and even depression, particularly when adaptation options such as irrigation, insurance, or diversification remain limited.

Equally important is the issue of restricted access to healthcare and digital technology, which limits rural residents' ability to cope with economic and environmental pressures. In many rural areas, healthcare facilities are inadequate, mental health services are absent, and digital connectivity remains poor. As a result, opportunities for building resilience through preventive care, telemedicine, online education, or market participation via digital platforms remain underdeveloped, reinforcing a sense of exclusion and marginalisation.

Finally, gendered burdens exacerbate the well-being gap. Rural women, especially those engaged in subsistence farming, face a dual workload: contributing to agricultural production while shouldering unpaid domestic labour and caregiving responsibilities. This unequal division of labour contributes to fatigue, stress, and reduced self-esteem, while structural barriers restrict their access to land, credit, and decision-making power. Taken together, these overlapping disadvantages create a systemic risk of lower SWB in rural contexts compared to urban populations, where greater economic diversity, infrastructure, and institutional support provide more substantial buffers against distress.

Gaps in Research

Despite the growing body of research on subjective well-being, significant gaps persist when applying it to rural populations. First, there is a lack of comprehensive

measurement tools that go beyond happiness and life satisfaction. While these remain important indicators, they do not capture broader aspects such as resilience, optimism, social connectedness, and psychological stability, which are particularly salient for rural communities exposed to economic and environmental uncertainty. Without such measures, research risks underestimating the true scope of well-being challenges in rural areas.

Second, there is insufficient focus on marginalized groups within rural populations, such as women, the elderly, and children. Gender differences in SWB are especially pronounced in rural settings, where women face structural disadvantages in access to land, credit, education, and healthcare. Similarly, elderly rural residents often experience loneliness, reduced mobility, and a lack of social care services, all of which negatively affect their psychological well-being. Children in rural areas face challenges of malnutrition, inadequate schooling, and vulnerability to child labour, all of which have long-term implications for their subjective well-being. The neglect of these subgroups means that current findings may provide only a partial picture of rural SWB.

Third, there is a paucity of studies exploring the linkages between SWB and rural productivity. While some research has demonstrated the impact of well-being on labour force participation and health outcomes (Oswald, Proto, & Sgroi, 2015), few studies have explicitly examined how SWB influences agricultural decision-making, adoption of new technologies, or farm performance. Understanding these linkages is crucial because improvements in SWB may translate directly into enhanced productivity, innovation, and resilience in rural economies. Conversely, negative SWB may undermine agricultural sustainability by reducing motivation and the capacity for risk-taking.

Thus, while the literature on subjective well-being has made significant strides, there remains a need for broader conceptualization, more inclusive research designs, and stronger integration with rural development outcomes. Mitigating these gaps will not only advance academic understanding but also inform policies aimed at enhancing both the psychological and material well-being of rural populations.

Conceptual Framework

This study employs a multi-level conceptual framework that aims to capture the interconnections between the determinants of subjective well-being (SWB), the outcomes it produces, and the policies necessary to sustain improvements, particularly in rural contexts where vulnerabilities are multidimensional. At the

first level, pathways are understood as the conditions and enabling factors that influence SWB, encompassing economic empowerment through income stability, livelihood diversification, and financial inclusion; digital inclusion, which provides access to information, markets, and services while bridging rural-urban divides; social cohesion fostered by trust, family ties, and community participation, which enhances resilience and collective action; and environmental security, which reduces the psychological and economic anxieties arising from climate risks and resource degradation. At the second level, these pathways translate into concrete impacts that shape both individual and collective outcomes.

Positive SWB contributes to higher labour force participation, greater motivation and productivity, improved resilience against shocks, adoption of agricultural innovations, and a reduced burden on household and public health systems. Conversely, negative SWB diminishes human capital, reduces innovation, and imposes higher social and medical costs. At the third level, policies play a critical role in reinforcing pathways and amplifying impacts. Targeted social safety nets cushion households against income shocks; healthcare reforms extend access to both physical and mental health services; gender equity initiatives address structural inequalities that constrain women and marginalized groups; and community-driven rural development ensures that interventions are context-specific, participatory, and sustainable. Collectively, this framework highlights the dynamic interplay between structural conditions, psychological well-being, and policy interventions, offering a holistic approach to enhancing SWB in rural societies.

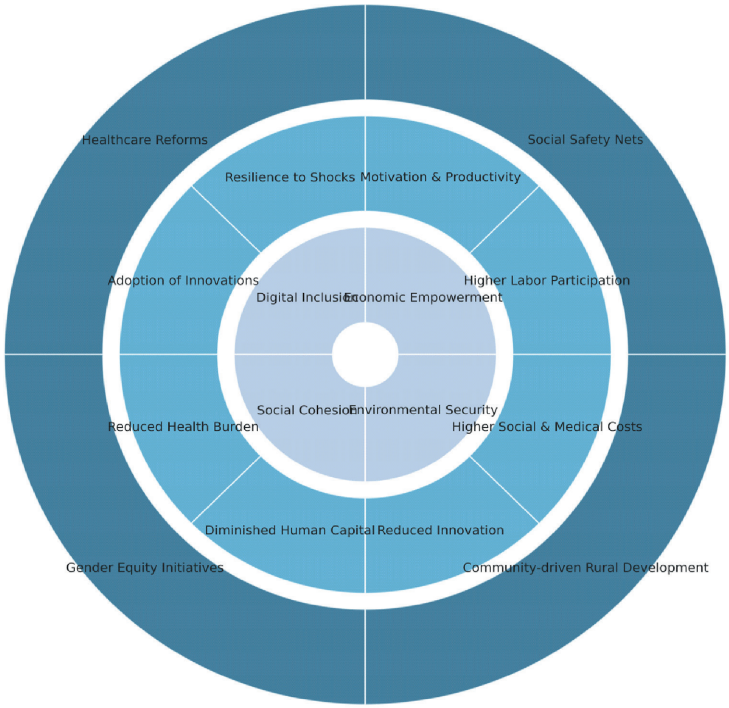
Objectives

The study aims to (1) investigate the multidimensional drivers, barriers, and pathways influencing the subjective well-being of rural residents across economic, social, technological, health, and environmental dimensions, and (2) evaluate the impacts of subjective well-being on rural productivity, labour participation, resilience, and community development to provide actionable policy recommendations for sustainable rural revitalization.

Methodology

This research adopts a comprehensive and multi-layered methodological approach, relying primarily on secondary sources while integrating both quantitative and qualitative evidence. Academic journals, peer-reviewed articles, policy reports, case

Framework for Pathways, Impacts, and Policies on SWB



Linkage Chart: Pathways → Impacts → Policies

studies, government databases, and publications from international development agencies form the core data sources. A systematic review method is employed to critically examine, categorise, and synthesise existing literature, enabling the identification of recurring patterns, persistent gaps, and comparative perspectives across diverse country contexts.

Table 1: Conceptual Framework Linking Pathways, Impacts, and Policies for Rural SWB

Pathways (Determinants)	*Positive SWB Outcomes*	*Negative SWB Risks*	*Impacts on Rural Development*	*Policy Interventions*
Economic inclusion	Optimism, satisfaction	Stress, poverty anxiety	Higher income, job creation	Microfinance, rural credit, skill training
Digital & financial inclusion	Social connectedness, empowerment	Exclusion, helplessness	Improved market access, resilience	Broadband access, digital literacy
Health and education access	Happiness, resilience	Illness, depression	Reduced medical burden, productive workforce	Universal health coverage, rural schools
Gender and social equality	Confidence, self-esteem	Loneliness, marginalization	Increased female participation, equity	Gender-sensitive policies, SHGs
Environmental sustainability	Security, stability	Climate anxiety, hopelessness	Sustainable agriculture, reduced migration	Climate-resilient farming, NRM policies

Drivers and Constraints of Rural Subjective Well-Being

This research adopts a comprehensive and multi-layered methodological approach, relying primarily on secondary sources while integrating both quantitative and qualitative evidence. Academic journals, peer-reviewed articles, policy reports, case studies, government databases, and publications from international development agencies form the core data sources. A systematic review method is employed to critically examine, categorize, and synthesize existing literature, enabling the identification of recurring patterns, persistent gaps, and comparative perspectives across diverse country contexts.

Rural subjective well-being (SWB) is shaped by a complex interplay of economic, social, technological, health, and environmental factors. While specific drivers create opportunities for higher life satisfaction, resilience, and optimism, structural constraints often exacerbate vulnerabilities, leaving rural residents at greater risk of diminished

well-being compared to their urban counterparts. In Odisha, home to a significant tribal population and some of India's most resource-rich but developmentally lagging districts, these dynamics are particularly pronounced.

Economic Drivers

Economic stability is one of the most decisive factors shaping rural well-being. Secure income sources, livelihood diversification through non-farm employment, and access to affordable credit reduce financial vulnerability while enhancing life satisfaction by providing stability and upward mobility. For example, in parts of Koraput and Rayagada, self-help groups supported by the Mission Shakti program have enabled women to access microcredit, leading to improved household income and empowerment (Tripathy 2015b, 2022).

However, persistent poverty and indebtedness remain key constraints. Many tribal households, remain trapped in cycles of borrowing from moneylenders at exploitative rates, leading to financial stress and feelings of helplessness (Sarangi, 2011). The precarious nature of agricultural livelihoods, which are highly dependent on erratic monsoons, further exacerbates insecurity. Informal jobs, often the only alternative, fail to provide stability or social protection, undermining optimism and reinforcing vulnerability.

Social Drivers

Social capital plays a crucial role in rural SWB. Strong kinship ties, community trust, and supportive networks provide both emotional strength and practical assistance during crises. Among the Dongria Kondhs of the Niyamgiri Hills (Odisha), collective rituals, festivals, and shared resource management practices not only reinforce cultural identity but also foster a sense of belonging and resilience (Padel & Das, 2010). Such traditions help sustain psychological well-being despite economic hardships.

Conversely, social exclusion and discrimination undermine confidence and restrict participation in community life. Caste-based hierarchies continue to marginalize Dalit groups in rural Odisha, limiting their access to education, water sources, and community decision-making spaces (Thapa, 2015). For tribal communities, displacement due to mining projects in Keonjhar district of Odisha, has disrupted kinship networks and eroded social cohesion, leading to heightened stress and weakened self-worth (Dash 2022). Intergenerational disadvantages stemming from exclusion further widen disparities and perpetuate psychological distress among vulnerable groups.

Technological Drivers

Technological inclusion has become an increasingly important driver of rural well-being. Access to digital technologies, particularly information and communication technology (ICT), empowers rural households to engage in markets, access welfare schemes, and maintain social connections. However, digital exclusion continues to create inequalities. In remote tribal areas of the Malkangiri and Kandhamal districts of Odisha, poor internet connectivity, affordability constraints, and low digital literacy hinder households from accessing these opportunities (Tripathy, 2021b). As education and government schemes increasingly shift online, digitally marginalized family's risk being left behind, reinforcing the urban-rural divide and contributing to frustration and alienation.

Health and Environmental Drivers

Health and environmental conditions strongly influence emotional stability and resilience. The availability of healthcare facilities, sanitation, and nutrition correlates positively with reduced stress and improved psychological well-being. The expansion of ASHA workers under the National Rural Health Mission has improved maternal and child health outcomes in rural Odisha, enhancing women's confidence in healthcare services (Tripathy et al., 2016). School-based nutrition programs, such as the Mid-Day Meal Scheme, have further contributed to child health and, indirectly, parental peace of mind (Pal et al. 2024). For tribal household's dependent on forests, deforestation and climate change threaten not only material survival but also cultural identity, amplifying psychological stress.

Table 2: Determinants of Rural Subjective Well-Being

Category	*Positive Drivers*	*Negative Constraints*
Economic	Livelihood diversification, microcredit	Poverty, unemployment, debt
Social	Kinship ties, community participation	Discrimination, exclusion
Technological	ICT adoption, mobile banking	Digital divide
Health	Preventive healthcare, insurance	Lack of medical facilities
Environmental	Sustainable farming, irrigation	Climate shocks, land degradation

We understand that subjective well-being (SWB) plays a crucial role in shaping both individual behaviour and collective outcomes in rural societies. It goes beyond income measures to capture how people perceive their quality of life, satisfaction, and

emotional stability. In rural contexts, where livelihoods are deeply intertwined with agriculture, social networks, and environmental conditions, SWB has far-reaching implications. Its influence is visible in socioeconomic participation, consumption choices, health-related outcomes, and farm-level performance. Understanding these impacts helps policymakers and practitioners design interventions that not only address material poverty but also promote mental and emotional resilience.

Table 3: Impacts of Rural SWB on Development Outcomes

Dimension	Positive SWB Effects	Negative SWB Effects
Labor Market	Higher participation, productivity	Withdrawal, absenteeism
Household Economy	Increased savings, investments	Reduced consumption, debt cycles
Health Outcomes	Reduced medical burden	Stress-related illnesses
Farm Productivity	Adoption of technology, innovation	Low risk-taking, stagnation

Impacts of Subjective Well-Being on Socioeconomic Outcomes

High levels of SWB have consistently been linked to improved socioeconomic outcomes in rural communities (Diener et al., 2018). Households with greater life satisfaction tend to show higher labour force participation, as individuals feel motivated and capable of engaging productively in economic activities. Workers with positive psychological outlooks are often more innovative and committed, which translates into increased productivity at both individual and community levels (De Neve & Oswald, 2012). This optimism also extends to household financial decisions: rural families with higher SWB are more willing to invest in children's education, adopt new income-generating activities, and expand small enterprises (Sen, 1999). Increased confidence and hope lead to higher levels of household consumption, which, in turn, stimulate local markets and rural development. Furthermore, positive SWB reduces the burden of stress-related illnesses, lowering healthcare costs and enabling families to channel resources toward growth-oriented investments (OECD, 2013).

Conversely, negative SWB significantly constrains socioeconomic well-being. Feelings of hopelessness, insecurity, and anxiety often push individuals to withdraw from labour markets, resulting in lower productivity and reduced household earnings. Financial stress associated with poverty and indebtedness also discourages saving and investment, creating cycles of vulnerability (Tripathy, 2021a). In many cases, deteriorating SWB manifests in higher health expenditures, as stress, depression, and

psychosomatic illnesses increase dependence on medical care (Sahu, et al. 2024). The economic drag of such adverse impacts is considerable, making SWB not merely an individual issue but a broader developmental concern.

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On Farm Performance

The agricultural sector, central to rural livelihoods, is susceptible to the impacts of SWB. Farmers with high levels of life satisfaction and optimism are more open to adopting new agricultural technologies, such as improved seeds, soil management practices, and irrigation innovations (Sahoo, & Samantaray, 2021). This openness to innovation is closely linked to psychological resilience, which allows farmers to endure the inherent risks of agriculture. For instance, crop diversification-a key strategy for mitigating climate risks-requires a degree of confidence and future orientation, both of which are strongly associated with higher SWB.

Moreover, SWB has a positive impact on farmers' willingness to adopt sustainable practices. A sense of well-being fosters long-term planning and investment, such

as maintaining soil fertility and conserving water, rather than pursuing short-term gains (Tripathy, 2020). On the contrary, negative SWB often discourages risk-taking and innovation. Farmers experiencing stress, anxiety, or a sense of futility may be reluctant to adopt new methods, instead relying on outdated or unsustainable practices (Tripathy, 2015a). This not only hampers productivity but also weakens their ability to withstand environmental shocks. Thus, SWB operates as both a driver and outcome of rural development. Positive well-being fosters economic participation, resilience, and innovation, whereas negative well-being perpetuates cycles of poverty, ill health, and stagnation. Recognizing SWB as a developmental priority enables more holistic policies that integrate psychological health with economic and agricultural advancement.

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Case Study 1: Ecosystem-Based Well-Being among the Indigenous Lodha Tribe in West Bengal

In mainstream economic discourse, well-being is often equated with income growth or consumption. However, indigenous communities offer a much more layered understanding of what it means to live well. A qualitative study of the Lodha tribe in West Bengal illustrates how subjective well-being (SWB) is embedded within ecology, culture, and collective solidarity rather than material prosperity alone.

The Lodha, a marginalized tribal community, define well-being in holistic terms that integrate health, kinship, ecological access, cultural rituals, and social identity. The

study, based on participatory observation and in-depth interviews, revealed that forests played a central role in both the livelihoods and happiness of the local population. Access to medicinal plants, edible forest produce, and traditional healing systems was considered vital for maintaining physical and mental health (Majumdar, & Chatterjee, 2022). Equally, cultural practices such as festivals, storytelling, and ritual worship were not viewed merely as entertainment but as core sources of emotional fulfilment, intergenerational learning, and social bonding.

Unlike individualistic notions of happiness, the Lodha perspective underscores collective well-being. Kinship ties, reciprocal labour arrangements, and communal gatherings were highlighted as essential buffers against adversity. Even in times of economic hardship, the strength of these networks provided a sense of dignity and a feeling of belonging. Well-being was thus understood less in terms of individual accumulation and more as a shared, relational achievement that bound the community together.

The study also emphasized the fragility of this ecosystem-based well-being under external pressures. Deforestation, restrictive forest policies, and exclusionary development programs disrupted access to traditional resources. The erosion of ecological systems, in turn, generated psychological distress and a deep sense of dislocation. For the Lodha, the loss of forests was not only an economic shock but a cultural rupture, undermining identity, spirituality, and collective resilience (Tripathy, 2015a).

Community members repeatedly stressed that improvements in housing, healthcare, or education, while appreciated, could not compensate for the loss of cultural traditions and ecological security. This highlights a critical gap in state-driven development models: policies designed around income poverty often neglect the ecological and cultural dimensions of well-being that matter most to indigenous groups.

The Lodha case demonstrates that well-being in tribal contexts is multidimensional, relational, and ecological. It cannot be reduced to individual satisfaction or material wealth. Policies aimed at tribal welfare must therefore go beyond economic transfers to embrace cultural preservation, ecological sustainability, and mental health considerations. Supporting community institutions, strengthening forest rights, and safeguarding sacred landscapes can protect both livelihoods and happiness. The key takeaway is that subjective well-being among indigenous peoples is inseparable from their ecological and cultural environment. Development interventions that ignore this connection risk intensifying marginalization and distress. In contrast, ecosystem-

sensitive and culturally contextual policies can sustain not only material needs but also dignity, identity, and psychological security.

Case study 2: Watershed-Based Well-Being and Livelihood Sustainability among Rural Households in Maharashtra

Field studies covering 160 households across four districts highlighted the role of watershed management in linking participation, perception, and livelihood well-being (Tripathy, 2010; Tripathy, 2013; Tripathy, 2017). Farmers with higher perception of watershed benefits reported stronger participation, while low perception constrained involvement, as seen in Nanded. The findings suggest that disseminating knowledge and strengthening farmer ownership is critical for watershed sustainability.

In India, millions of poor and marginal farmers struggle with soil erosion, degraded rain-fed land, and multiple agro-climatic and market risks, making sustainable management of land and water crucial for productivity, resource conservation, and equitable livelihoods. A comprehensive developmental strategy based on integrated management of land, water, and other production resources, coupled with appropriate cropping and agro techniques, is necessary to achieve sustainable production in these areas. Emphasizing soil-water-plant conservation, this approach can help to ensure the long-term viability of rain fed agriculture and support the livelihoods of rural communities in these regions. The vast natural, human and other resources of the area have not been properly managed due to failure of various land based development programs; and hence, to check further depletion of the existing resources and to bring about socio-economic changes keeping a balance between the production and the environment, to mitigate some of the basic question of survival such as: long-term self-reliance and sustainability in the livelihood system, regeneration of bio-mass and the degraded eco-system, entitlement and equitable control over community, and economic viability of a self-managed resources system at the micro-level etc. the alternative viable opportunity available is watershed development approach only when boosted through micro-finance (Tripathy, 2010, 2013, 2017). The study surveyed 160 households across four districts, four blocks, and four villages. From each district, one village-Baserge (Kolhapur), Mandhal (Nagpur), Walke-Shirgoan (Raigarh), and Takarala (Nanded)-was selected, with 40 households covered in every village to ensure balanced representation. This study investigated the nexus of farmers' perception, participation, livelihoods, and their implication for sustaining watershed management program in Maharashtra.

Participation Index is calculated for responses on participation in planning meeting of Soil and Water Conservation Programme, sharing of information in the planning meeting, offering suggestions in the meetings, specifically with respect to check dam and forest tree planation and motivation of other farmers to participate in the meetings. Perception Index is calculated based on responses to perception of benefits of the watershed to the locality, biodiversity, and sense of ownership (Tripathy & Prasanna 2023c).

The formulas for deriving the indices are:

$$\text{Participation Index} = \frac{\sum_{J=1}^{N} Y_{ij}}{N} \times 100$$

$$\text{Perception Index} = \frac{\sum_{J=1}^{N} Y_{ij}}{N} \times 100$$

Where,

Y_j = 1, if the farmer responds Yes to participation in the jth activity; and 0 otherwise

N = Total number of respondents

The calculated results are presented in the scatterplot and tables as follows:

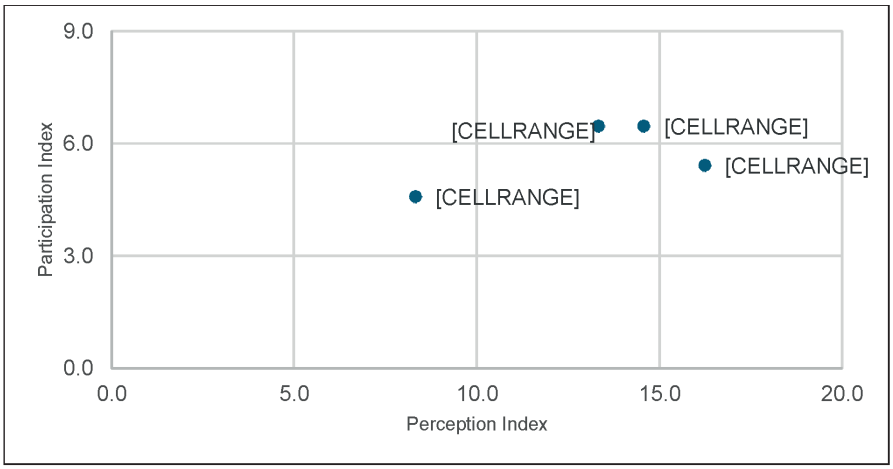

Figure 1: Participation and Perception Indices

Source: Calculated values from field survey

As figure-1 demonstrates, participation of the farmers in watershed management is directly correlated with their perception of benefits of the programme. For example, Nanded district scores low on participation because, the perception index is also low – meaning, the farmers in the district are not fully convinced of the benefits of watershed management. Whereas Kolhapur and Nagpur fare better in participation because the farmers of the district view the benefits of the programme more positively, as demonstrated by the corresponding perception index. From a policy implementation view, this is an important finding, and this conveys a conclusion that the government agencies need to do more fieldwork to disseminate information about the benefits of watershed management programmes to the farmers. The break-up of the calculated values is presented in Table 4.

Table 4: Perception, Benefit, Ownership and Participation Indices

District	*Perception Index*	*Benefit perception Index*	*Ownership perception Index*	*Participation Index*
Kolhapur	13.3	18.8	2.5	6.5
Nagpur	14.6	20.0	3.8	6.5
Raigarh	16.3	21.9	5.0	5.4
Nanded	8.3	11.3	2.5	4.6

Source: Calculated from field survey

Table 4 above unfolds, the cities of Nagpur and Raigarh reign supreme in the hierarchy of benefit perception and ownership. Meanwhile, Kolhapur and Nagpur hold the upper hand in terms of participation. It is Raigarh district that stands tall in both aspects, basking in the glory of perception and participation. Alas, the district of Nanded suffers from a low standing in both categories of benefit perception and participation. The findings reveal a lack of ownership perception values among farmers, which hinders their active participation in watershed management (Tripathy & Prasanna, 2023c).

Case Study 3: Well-Being and Sustainable Livelihoods among Tribal Rural Households in Odisha

Odisha, with a population of 4.7 crore as of 2025, continues to exhibit a paradox in its development trajectory. While 55.6 per cent of its workforce remains employed in agriculture, the sector contributes only marginally to the state's gross domestic product. Poor infrastructure, declining soil fertility, and limited industrial

penetration compound rural livelihood vulnerabilities. Within this broader context, the state's tribal communities, who constitute nearly 23 per cent of its population, face disproportionate deprivation, including chronic unemployment, ecological degradation, and exclusion from mainstream development (Tripathy, 2023b).

Field-based studies on the Juang and Kutia Kondh tribes provide valuable insights into how structural livelihood challenges intersect with subjective well-being among tribal communities in Odisha. The Juang, a Particularly Vulnerable Tribal Group (PVTG) concentrated in Keonjhar district, have long been the focus of development interventions. A detailed household study across six Juang villages-Ghungi, Kundhei, Toranipani, Tangarpada, Talapada, and Gonasika-covering 100 households, revealed persistent deprivation despite four decades of targeted support from the Juang Development Agency (Tripathy, 2023a).

Key challenges include low literacy, poor health outcomes, inadequate infrastructure, and insecure forest rights. Livelihoods remain heavily dependent on the forest, with minimal diversification or upward mobility. The absence of effective implementation of the Forest Rights Act has deprived Juang households of legal ownership and sustainable access to minor forest produce, leaving them vulnerable to exploitation by middlemen and traders.

Well-being deficits manifest not only in material poverty but also in psychological distress and social exclusion. Lack of opportunities for education and dignified work fuels alienation among youth, often pushing them toward distress migration. Despite abundant natural resources, systemic failures in planning and execution perpetuate a cycle of deprivation.

In contrast, the Kutia Kondh of Belghar in Kandhamal, another PVTG, display remarkable ecological stewardship through practices such as shifting cultivation (podu chasa), small-scale horticulture, and reliance on forest resources (Padhi, & Panigrahi,2020). Their expertise in cultivating pineapples, bananas, and jackfruits reflects adaptive ingenuity that sustains household consumption and modest income. However, they remain trapped in poverty due to inadequate infrastructure, limited irrigation, and persistent illiteracy.

Household surveys in six Kutia Kondh villages-Burlubaru, Deogada, Germeli, Guchuka, Gunuspa, and Tidipadar-revealed gaps in electricity, drinking water, and housing. Seasonal food insecurity forces distress migration to brick kilns, plantations, and stone-crushing sites in other states. This dependence on precarious external labour markets undermines both economic stability and family well-being. The ecological

foundation of the Kutia Kondh life is increasingly under threat. Deforestation, climate change, and rising commercial demand for timber erode the forests and sacred groves that sustain both their livelihoods and their cultural identity. The loss of these resources disrupts not only material security but also spiritual well-being, underscoring the profound connection between ecology and happiness in tribal societies once again.

Together, the experiences of the Juang and Kutia Kondh tribes underscore the limitations of conventional development approaches that equate progress solely with income or infrastructure. For these communities, well-being is shaped by access to resources, ecological continuity, cultural identity, and institutional empowerment. Structural livelihood deprivation without cultural sensitivity results in persistent poverty and psychological distress, while sustainable ecological practices without institutional support leave communities vulnerable to external shocks.

The key lesson is that subjective well-being and livelihood security must be pursued simultaneously. Policies should prioritize secure forest rights, remunerative NTFP markets, and education that bridges traditional knowledge with modern skills. At the same time, livelihood interventions must respect ecological balance and community identity, ensuring that development enhances rather than erodes the cultural and psychological foundations of well-being (Tripathy, 2015a; 2023b).

Table 5: Policy Pathways to Enhance Rural Subjective Well-Being

Policy Area	Specific Strategies	Expected SWB Outcomes
Digital Inclusion	Broadband, ICT training, e-governance	Confidence, empowerment, optimism
Health & Education	Universal health coverage, telemedicine, schools	Reduced anxiety, improved resilience
Gender Equity	SHGs, credit for women, social care	Higher self-esteem, reduced loneliness
Climate Adaptation	Crop insurance, sustainable farming	Reduced climate anxiety, optimism
Social Safety Nets	Pensions, targeted cash transfers	Reduced helplessness, greater security

Concluding Remarks

Evidence from the Lodha, Juang, and Kutia Kondh tribes in India indicates that indigenous well-being is closely tied to access to forests, the continuity of traditions, and solidarity within social networks, where disruptions often lead to psychological distress and exclusion.

The overarching lesson is that sustainable development must integrate economic growth with cultural continuity, empowerment, and ecological balance. Policies that fail to acknowledge these dimensions risk reinforcing marginalization, while inclusive frameworks that weave them together can unlock durable improvements in subjective well-being. In rural Odisha, rural SWB is shaped by the interplay of livelihood diversification, strong community ties, digital inclusion, ecological resilience, and accessible healthcare. When these factors operate effectively, they generate optimism, a sense of belonging, and collective strength. However, when structural disadvantages, such as poverty, indebtedness, or weak health systems, prevail, they amplify distress and erode confidence.

Understanding this duality is crucial for designing interventions that simultaneously mitigate vulnerabilities and expand opportunities, ensuring that the gains of development are equitably distributed. Rural SWB should therefore be understood as a multidimensional construct where economic security, social cohesion, psychological stability, and environmental sustainability reinforce one another. Households that enjoy higher SWB exhibit greater resilience, invest in education and health, adopt innovative farming practices, and participate in collective action, thereby sustaining livelihoods in more productive and enduring ways. Conversely, negative well-being generates insecurity, discourages innovation, fosters indebtedness, and intensifies health burdens, perpetuating cycles of poverty across generations.

The evidence emphasizes the need for integrated interventions that combine digital and financial inclusion, equitable education, gender-sensitive empowerment, climate-resilient agriculture, and improved healthcare delivery. Alongside these, recognition of cultural identity, ecological wisdom, and local governance institutions is vital since they provide not only material support but also intangible dignity and psychological assurance to rural and tribal populations. Measuring SWB, therefore, requires a broadened framework that incorporates resilience, future confidence, trust, and emotional security in addition to economic indicators. These approaches provide a holistic evidence base for shaping development policies. Ultimately, enhancing rural SWB demands strategies that reduce structural inequalities, respect cultural traditions, and nurture ecological sustainability while embedding dignity, resilience, and collective identity at the centre of rural development.

Enhancing Rural Subjective Well-Being

Consequent upon the loss of employment and income due to recurrent droughts and agricultural distress, marginal farmers, landless agricultural labourers, and

the weaker sections of the rural population in Odisha frequently resort to distress migration, underscoring the urgent need for transformative livelihood interventions that can enhance subjective well-being.

The implementation of Trickle Up (TU), in collaboration with the Odisha Livelihood Mission (OLM), since 2015 in the Bangomunda block of Balangir district, demonstrates how graduation models targeting ultra-poor households can mitigate distress migration by combining asset transfers, livelihood training, and social empowerment, thereby securing dignified survival and long-term well-being (Tripathy, 2021a).

Digital inclusion represents a critical pathway in this transformation. However, the tribal-dominated districts of Odisha, such as Malkangiri, Kandhamal, and Rayagada, continue to remain digitally deprived due to poor internet penetration, unreliable connectivity, and unaffordable devices, which perpetuate inequalities in access to markets, education, and essential services (Azim Premji Foundation, 2020). Affordable broadband connectivity, rural ICT centres, and last-mile digital infrastructure not only bridge the rural–urban divide but also open channels for telemedicine, e-learning, digital banking, and market linkages, empowering marginalized communities to reduce economic insecurity and expand their participation in development processes.

Financial inclusion, achieved through mobile banking, SHG-led credit linkages, and microfinance, has already demonstrated empowering effects in Odisha, as evidenced by women's collectives in Kandhamal under the Mission Shakti initiative, which have diversified incomes through small businesses, poultry rearing, and traditional handicrafts, enhancing economic resilience and subjective well-being. The synergistic impact of digital and financial access extends beyond enhancing incomes to provide a sense of dignity, autonomy, and security, enabling rural communities to engage productively with modern economic systems while preserving their indigenous values and aspirations. In this way, digital and financial inclusion form an indispensable pillar of rural subjective well-being, acting as enabling factors for poverty reduction, enhanced social participation, and reduced vulnerabilities against recurrent climate shocks and livelihood insecurities that have historically undermined tribal and rural communities in Odisha.

Strengthening Health, Education, and Gender Equity

The socio-economic development of tribal households, particularly in Odisha, necessitates reimagining education not merely as literacy, but as an enabling

instrument that expands fundamental freedoms and capabilities, enabling marginalized groups to overcome historical deprivation and live with dignity and subjective well-being (Sen, 1999; UNDP & OPHI, 2018).

Persistent poverty, recurrent droughts, and shrinking access to natural resources have compelled marginal farmers and landless households to migrate seasonally, severely disrupting children's schooling, social integration, and intergenerational human development, which exacerbates cycles of educational deprivation among tribal households (NFHS, 2016). Systemic barriers such as child labour, gender disparities in enrolment, and poor infrastructure in tribal-dominated districts like Koraput, Rayagada, and Kandhamal highlight how structural inequities in education translate into exclusion, with tribal girls suffering disproportionately due to social norms and unpaid domestic responsibilities (Oxfam, 2021). The COVID-19 pandemic further accentuated this disadvantage, as digital learning remained inaccessible for nearly 60 per cent of children. High internet costs, electricity shortages, and unaffordable smartphones excluded rural households, deepening the educational gap between tribal regions and urban centres (Azim Premji Foundation, 2020).

Similarly, inequalities in healthcare compound the exclusion, with the absence of universal health coverage pushing millions into poverty annually, while vulnerable tribal populations, already burdened by malnutrition, high maternal mortality, and inadequate infrastructure, remain disproportionately affected (Oxfam India, 2021). The study reveals that the most significant proportion of tribal women, about 43.33 per cent, were married at a young age, between 19 and 26 years old, while an overwhelming majority of 38 out of 60 respondents, constituting 63.33 per cent, were illiterate. Nearly 68.33 per cent lived below the poverty line, highlighting the multiple vulnerabilities shaping their health and socio-economic conditions simultaneously.

Although institutional deliveries have shown improvement over time, tribal pregnant women continue to encounter severe challenges in accessing maternal health facilities under the Janani Suraksha Yojana (JSY), where Accredited Social Health Activists (ASHAs) have undoubtedly raised awareness but require stronger institutional backing and improved strategies to ensure safe motherhood and equitable access to entitlements. The National Rural Health Mission (NRHM) envisions a transformative role by targeting the social determinants of health through coordinated interventions in water, sanitation, nutrition, housing, education, and employment, and by linking these efforts with parallel government programs to reduce poverty, exclusion, and entrenched gender discrimination that severely constrain health outcomes.

To make these goals achievable, more potent synergy between NRHM and schemes like the Integrated Child Development Scheme and the Mahatma Gandhi National Rural Employment Guarantee Act is essential, ensuring that health interventions operate within a broader framework of sustainable livelihood security. Policy interventions such as the NABARD-supported Wadi model, which integrates horticulture, soil and water conservation, women's empowerment, and health services, demonstrate how holistic livelihood security frameworks simultaneously improve household nutrition, ecological sustainability, and gender empowerment, thereby improving subjective well-being (Tripathy, 2020 a).

The strengthening of healthcare infrastructure in tribal-dominated districts must prioritize mobile health units, nutrition programs, and maternal and childcare facilities. At the same time, educational reforms should emphasise contextualised curricula that integrate indigenous knowledge systems, ecological wisdom, and modern skills, creating inclusive opportunities for sustainable development (Tripathy, 2025).

Gender equity is another critical dimension, as rural women and PVTG groups, such as the Dongria Kondh and Bonda, have historically faced systemic marginalization. However, marginalization has led SHGs to emerge as transformative vehicles for empowerment, market participation, and enhanced household decision-making, thereby reshaping social norms and well-being. The example of Dongria Kondh women in Rayagada, who organized cooperatives to market turmeric and millet at remunerative prices, illustrates how collective bargaining enhances both material well-being and socio-cultural resilience, reinforcing women's agency in decision-making and strengthening household security. Similarly, livelihood training initiatives under the Bonda Development Agency in tailoring and weaving have not only enhanced income security but also expanded women's self-confidence, enabling greater participation in community governance and social empowerment.

Social protection measures such as pensions, food security, and subsidized healthcare remain crucial for vulnerable elderly populations, however, exclusion errors in tribal districts highlight the need for stronger grievance redressal, monitoring, and transparency to ensure that marginalized groups are adequately covered by welfare schemes. Integrating healthcare, education, and gender-sensitive reforms into a comprehensive framework, rural households in Odisha can overcome historical deprivation, reduce vulnerabilities, and expand the pathways of resilience and dignity that constitute the essence of subjective well-being.

Promoting Climate-Resilient Agriculture and Sustainable Livelihoods

Field studies in the Dasmantpur block of Koraput district reveal how shifting cultivation practices, combined with overdependence on forests, have led to deforestation, soil erosion, declining productivity, and distress migration, highlighting the urgency of promoting climate-resilient agricultural strategies.

The revival of millet cultivation by Dongria Kondh farmers in Rayagada district, supported by state and NGO programs, illustrates how traditional crops can enhance nutritional security, cultural identity, and ecological sustainability, while simultaneously strengthening resilience against climatic fluctuations (Padhi, 2020). Similarly, organic turmeric cultivation in Kandhamal has opened premium markets for tribal farmers, demonstrating how sustainable agriculture can create economic opportunities, improve household incomes, and enhance subjective well-being by reducing livelihood insecurities and fostering pride in indigenous produce.

The NABARD-supported Wadi programme, successfully piloted in Gujarat and later adapted for Odisha, demonstrates how horticultural plantations combined with soil and water conservation measures generate long-term employment, ecological restoration, and household-level resilience, thereby mitigating migration pressures and improving rural well-being (Padhi, 2020, Tripathy, 2020). Strengthening Farmer-Producer Organisations (FPOs) and cooperatives has emerged as a critical strategy for reducing exploitation by intermediaries, ensuring better price realization, and enhancing collective bargaining power, as seen in Koraput, where tribal FPOs market tamarind and Sal leaf plates.

Decentralized processing of non-timber forest products (NTFPs), combined with cooperative marketing, represents another critical intervention for tribal households, as it not only enhances income security but also enables communities to preserve indigenous knowledge systems and ecological stewardship (Tripathy, 2024). Promoting agroforestry, watershed development, and mixed-cropping models can help restore degraded lands, create employment opportunities, and reduce vulnerability to recurrent droughts, thereby creating sustainable livelihoods that are both economically viable and ecologically balanced. In this context, balancing economic aspirations with ecological conservation becomes vital for the long-term future of tribal rural households. Empowering local governance institutions and enabling participatory decision-making are essential to ensure that communities retain ownership over development processes. Strengthening climate-resilient agriculture, promoting sustainable livelihoods, and integrating ecological stewardship into development planning, Odisha can ensure that

tribal households achieve dignified survival, resilience against shocks, and an enduring sense of subjective well-being that transcends mere income measures.

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