

RESEARCH ARTICLE

Rural transformation in the Global South: Livelihood shocks, Diversification and Household well-being

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Abstract

Rural livelihoods in developing countries are increasingly detached from agriculture and, by extension, from land-based activities. Households diversify their livelihood portfolios in response to the vulnerability of poverty and its multifaceted consequences. Grounded in the Sustainable Livelihoods Framework, this study examines the determinants of rural livelihood diversification and its subsequent impact on household well-being in the Global South. This study differentiates between voluntary and involuntary drivers of diversification, identifying key factors such as the household asset base, market imperfections, seasonality of poverty, and demographic variables (including education, age, gender, and household size) as critical determinants of livelihood diversification at the household level. The findings underscore that while the diversification of rural livelihoods generally fosters household resilience to economic and environmental shocks, contributing to enhanced income, food security, asset accumulation, and child welfare, it also carries certain negative repercussions. These include the exacerbation of social stratification, widening of income disparities, and the reinforcement of gender-based inequalities. In light of these findings, it is crucial for developing countries to develop policy frameworks that promote livelihood diversification to address household poverty. Governments should facilitate investment in rural infrastructure development, improve technology and skills, and expand rural credit schemes.

Keywords: Rural Livelihoods, Diversification, Developing Countries, Determinants, Household

JEL classification: H2, 01, C33, 055

Introduction

“Diversification is the norm” (Barrett et al., 2001:1). This assertion is less disputable in assessing rural livelihoods in the developing world, as very few rural people restrict their income generation to one source (Barret and Reardon, 2000; Ellis, 2000; Olkeba et al., 2024). As rural incomes have come under pressure due to population increases, climate change variability, and market volatility (Perret and Mathebula, 2005; Barret et al., 2001; Nyathi, 2024), livelihood diversification has become an alternative to overcoming poor living conditions in rural areas (Ellis, 2000). In light of the notion that resources available in rural areas are aligned with issues of geographical positioning and climatic conditions (Padilha and Hoff, 2011; Nyathi et al., 2022), it is plausible to engage the perception that rural livelihoods have stretched beyond farming because of varying resource endowments and constraints (Olkeba et al., 2024). According to Fabusoro et al. (2010), farmers have diversified their productive activities and embraced a range of other productive livelihood activities. His assertion

concur with Reardon in Ellis (2000), who suggests that 30 and 50 percent of household income in sub-Saharan Africa is earned from non-farm sources.

In contrast, in some countries in Southern Africa, the non-farm sector can reach 80–90 percent (Ellis, 2000; Word Bank, 2020). Livelihood diversification is restricted to various farm or off-farm activities and encompasses the sociological dimension of gaining a living (Quandt, 2018; Ayana et al., 2022). Extended kinship networks are part of the livelihood strategies employed by rural households (Berry in Ellis, 2000), and in countries such as Pakistan, Bangladesh, and Sri Lanka, remittances from family members working in the Persian Gulf account for 15 percent of household income. Taking advantage of the readily available capital in most rural communities, that is, land and labour, farmers have not remained confined to crop production, livestock rearing, fishing, and forest management (Ellis, 1998; Barrett and Reardon, 2000; Khatun and Roy, 2012; Nyathi, 2024). Indeed, many strategies provide an escape for those struggling to meet ends in rural areas. Instead, integrating multiple income-generating techniques serves as a viable solution for those seeking to improve their financial circumstances and enhance their standard of living (Quandt, 2018; USAID, 2020). In Africa, non-farm income contributes approximately 42 percent of the total income, 40 percent in Latin America, and 32 percent in Asia (Reardon et al., 1998). Approximately 34.4 percent of the rural households in India are employed in the non-farm sector (Lajouw and Shariff, 2004). In the Eastern Himalayan region of India, as stated by Micevska and Rahut in Rahut et al. (n.d.), 60 percent of rural household income is derived from the non-farm sector. In the Mexican Tejido sector, more than half of a farm household's income comes from a non-farm sector (Janvry and Sadoulet, 2001). These empirical findings across the developing world indicate rural people's reliance on non-farm livelihood strategies and the extent to which such strategies are salient in reducing poverty and sustaining rural life (Word Bank, 2020). Prompting rural population diversification is a multifarious factor aggregated by Barrett et al. (2001) within the 'push and pull factor perspectives.' Ellis (1998) elucidated that the motivational factors of livelihood diversification follow a sequence of causes and motivations that vary across households at a specified time and for similar families at different points in time.

This study reviews the empirical findings of various studies on rural livelihood diversification and its implications for households in developing countries. This article is organized as follows. The first provides specific definitions of rural transformation, livelihood diversification, and poverty. These terms are then applied in the context of this review. The second section focuses on the sustainable livelihood approach and household diversification. This section aims to elucidate how the proponents of this approach explain diversification. The third section investigates the factors contributing to impoverished livelihoods in the rural areas of developing countries.

Discussion of terms, Conceptual Positioning, and Relevance to the Paper

The following section delineates the central concepts of rural transformation, livelihood diversification, and poverty and situates them within the overarching discourse of determinants that influence rural livelihood diversification. Given their pivotal role in the discussion, a justification for their pertinence to the current study was provided.

Rural transformation

Rural transformation involves sweeping changes (Steel and van Lindert, 2017). These include shifts in farming practices, changes in the use of rural areas, movement of people across locations and sectors, and new dynamic interactions between primary and other sectors (Jayne et al., 2018). According to Schmitz (2016), rural transformation is vague. It describes a profound and complex process of change with not only economic, but also social and cultural dimensions (Pasini, 2016; Schmitz, 2016; IFAD, 2021). Several studies have shown that improved connectivity is a major driver of rural livelihood transformation and local development in these countries (Satterthwaite, 2007; Pasini, 2016; Jayne et

al., 2018). The rapidly developing infrastructure for information and communication technologies (ICTs) has significantly altered livelihood patterns and rural-city connections. Overall, there has been an increase in the number of people with access to mobile phones. Large improvements in rural connectivity, such as technological infrastructure, have increased regional mobility dynamics (UN-Habitat, 2010; World Bank, 2020). Such connectivity and rapid mobility have triggered rural livelihood diversification and transformation (Pasini, 2016). Transformations in agricultural production systems also create additional rural non-farm labour opportunities for local people, stimulating positive socioeconomic dynamics in the region (Steel and van Lindert, 2017). Migration must be considered as a balanced movement from rural areas to cities. Instead, it has been shaped by a chain of connections in which rural and urban livelihoods interact on a movement continuum (Satterthwaite, 2007; UN-Habitat, 2010; USAID, 2020).

Livelihood diversification

Livelihood diversification refers to the process by which households construct a diverse portfolio of activities and social support capabilities in their struggle for survival and improvement of their living standards (Ellis, 1998; Steel and van Lindert, 2017). To address this definition, Barrett et al. (2001) posit that livelihood diversification requires diversification of their allocated assets and activities. Livelihood diversification refers to the strategies employed by households to cope with life trends, reduce their vulnerability, and respond to shocks and seasonal changes (Perret and Mathebula, 2005; Brysecon, 2000; Chambers and Conway, 1992; IFAD, 2021). The diversification process comprises a wide array of activities ranging from on-farm (agricultural) to off-farm (non-agricultural) (Stack and Sukume in Rukuni et al., 2006). As Ellis (1998) noted, livelihood diversification is neither a rural nor a developing-country phenomenon. Livelihood diversification is a tactic that has been embraced by households worldwide, irrespective of their location in urban or rural areas or developed or developing countries (IFAD, 2021). This study focuses on rural communities in developing nations in terms of livelihood diversification. To illustrate this, it is worth noting that farmers in these communities have broadened their range of activities beyond crop cultivation and animal husbandry. Thus, diversifying livelihoods is the most appropriate and accurate way to characterize the current state of rural farming communities.

Rural poverty

The notion of rural poverty is inherently contentious, encompassing a wide range of social, economic, and political issues (IFAD 2001; Ayana, 2022). Regrettably, many definitions of rural poverty focus solely on economic deprivation, disregarding the socio-political dimensions of poverty. To explore livelihoods comprehensively, it is essential to consider the multi-dimensional aspects of poverty, as various livelihoods are significantly influenced by economic, social, and political factors (Chambers and Conway 1991). Economically, the World Bank (1992) defines rural poverty as the inability to meet basic needs, while Hope (2004) expanded this definition by citing the basic needs approach, which views poverty as the absence of material resources necessary to fulfil basic needs, such as food, health, education, and employment. In its broader social context, rural poverty encompasses all forms of deprivation, including the lack of access to safe water, sanitation, health care, and education, which negatively impact life expectancy, knowledge, and basic income required for a decent standard of living (Akindola 2009). From a political perspective, rural poverty is characterized by powerlessness and exclusion from decision-making processes (Sen 1999; Akindola 2009), as individuals who lack the power to influence these processes are considered poor (Ashley et al. 2003; Ayana et al. 2022).

The Sustainable Livelihoods Approach and the Livelihoods Diversification Question

A sustainable livelihood framework is an analytical tool employed to analyse livelihoods. Carney (1998, 1999) and Scoones (1998) developed this framework. According to the sustainable livelihood

approach, households can make a living by harnessing five types of capital: natural, physical, social, financial, and human capital. This process occurs in an environment influenced by institutional and structural factors (DFID, 2000; Chimhowu and Hulme, 2006). The Sustainable Livelihood Framework (SLF) identifies vulnerability to shocks, trends, and seasonality as major threats to rural livelihoods. Rural households manage these vulnerabilities through livelihood diversification (Ellis, 1998; Barrett et al., 2001). The sustainable livelihood approach recognizes that rural households earn a living through various activities, including farming (agriculture intensification/extensification) as one of the options, as well as migration (Scoones, 1998; Steel and van Lindert, 2017).

This approach explores the combination of livelihood resources that allows a household to diversify its activities and with what outcomes, given a particular context, as Scoones (1998) identifies. Three primary approaches to livelihood management have been identified in response to these questions: agricultural intensification/extensification, livelihood diversification, and migration (Scoones, 1998; Ayana et al., 2022). Within these categories, various options are available for the rural population. As Scoones suggests, individuals can sustain their existence through agriculture, diversify their income streams, or migrate for employment. Diversifying income is a strategy employed by households to mitigate the effects of seasonality and manage their vulnerability to a complex array of risks (Chimhowu and Hulme, 2006; Barrett et al., 2001; Ellis, 2000; IFAD, 2021).

The livelihoods of individuals living in rural areas who lack access or have limited access to natural resources, including land, forests, water, and pastures, are vulnerable to various challenges, such as difficulty in obtaining food and assets and recovering from markets or natural shocks (Unruh, 2004; Olkeba et al., 2024). Hence, access to natural resources is crucial to establishing sustainable livelihoods in rural areas. Advocates of this approach suggest that sustainable livelihoods can be achieved by combining different types of capital, including natural, financial, human, social, and physical resources (Scoones, 1998; Carney, 1998; DFID, 2000). However, Unruh (2004) argues that possessing natural capital does not necessarily guarantee the ability to build sustainable livelihoods. Commenting on land distribution to landless individuals to provide livelihood assets in developing countries, such as Zimbabwe, Kepe, and Cousins (2002), emphasizes that land alone is insufficient as a resource for livelihoods. Rural communities can access various capital resources to construct farm- and non-farm-based livelihoods (Scoones, 1998). Therefore, to establish sustainable livelihoods in rural areas, it is essential to provide access to diverse capital resources (Steel and van Lindert, 2017; Olkeba et al., 2024).

Impoverished Rural Livelihoods in Developing Countries

Developing countries, particularly the African continent, are significantly burdened by development shocks such as poor economic performance, food insecurity, the HIV/AIDS pandemic, climate change, environmental degradation, population explosions, massive unemployment, and political instability (Clover, 2004; Ringler et al., 2010; Handley et al., 2009; Olkeba et al., 2024). These pervasive factors have contributed to extreme poverty levels, with the rural population being the hardest hit (Dercon, 2009). Unfortunately, rural agro-defined livelihoods have deteriorated in relation to income earning and rural life sustenance (Sinha and Lipton, 1999; Nyathi et al, 2023). This section examines the primary factors that induce poverty and collapse of rural livelihoods in developing countries. While the causes of poverty vary, this discussion focuses on a selected group. The World Bank (2007) emphasized that 70% of the poor live in rural areas, and approximately 86% of rural people depend on agriculture as a major source of revenue. However, any interference with agricultural operations can negatively impact diverse activities aligned with agriculture, ultimately leading to livelihood failure (Diallo et al. 2024).

Policy changes have not significantly impacted most rural populations in developing countries, and policy uncertainties have exacerbated their situations (Handley, 2009; Steel and van Lindert, 2017). In the 1980s and the 1990s, macro-financial lending institutions such as the International

Monetary Fund and World Bank prescribed economic structural reform measures for developing countries, as outlined by Stott (1994). These measures include cutbacks in government expenditure, trade liberalization, privatization, and financial liberalization. The poor were disproportionately affected by these policies, as Jones (2011:32) acknowledges:

Structural Adjustment Programs are often accompanied by social problems, especially in vulnerable groups such as the poor and the unemployed. With market forces determining price levels, in the short term, prices are likely to increase beyond the reach of the poor.

The implications of these policies extend to a range of social challenges such as limited access to health and education services, high levels of unemployment, and reduced food production resulting from the elimination of agricultural subsidies (Cavanagh et al., 2001; Nyathi et al., 2018). The consequences of such constraints include food crises, preventable disease outbreaks, and the excessive exploitation of natural resources. These and other factors have contributed to the decline in rural livelihoods, including farming and bartering (Kinsey, 201; IFAD, 2021).

Population growth has been linked to the exacerbation of poverty in developing countries (McNicol 2003). Strain on limited resources caused by an expanding population can lead to depletion of the resource base and environmental degradation, as indicated by Knudsen (2006). The work of Hardin (1968), as cited in Bajpai et al. (2012), depicts the consequences of population-induced impoverishment through the overexploitation of common-property resources, which he termed 'The Tragedy of the Commons.' Hardin posited that the excessive use of common-property resources can result in a decline in productivity, with immediate and disproportionate impacts on the poor. Knudsen pointed out that Knudsen environmental degradation is an inevitable outcome of the overuse of natural resources. In the UNESCO Courier of November 1991, Jacques Cousteau wrote, "The damage people inflict on the planet is proportional to demographics and the level of development." This statement supports the notion that unchecked population growth can have severe and far-reaching negative effects on the shared resources. Livelihoods that depend on natural resources such as land, water, and forests are particularly vulnerable to the environmental consequences of population growth (Michler and Josephson, 2017).

Health Pandemics and Livelihoods Diversification

The HIV/AIDS pandemic has had a profound and far-reaching impact on household structures, particularly in sub-Saharan countries (Van de Waal and Whiteside, 2003). This pandemic has had a devastating effect on the productive age group, which includes individuals aged 15–49 years, causing household structures to break down as parents and elderly members succumb to the disease (Clover, 2003; Ladzani, 2009). The loss of income, skills, and labour due to the breadwinner's death negatively impacts the livelihoods of the remaining household members (Clover, 2003). Not only does the disease result in death, it also requires care, which can divert productive assets towards the care economy (Ashfold, 2006). In rural economies, livestock and farm produce are the primary assets for disposal. Given that 86% of the rural population depends on agriculture (World Bank, 2007), disposal of livestock and other productive farm assets can reduce farm-based production, leading to poverty in rural areas (Sakuhuni et al., 2011). This, in turn, compromises major on-farm and non-farm livelihoods, exacerbating household income and food deficits and increasing their vulnerability to poverty (Minyiwab et al., 2024).

The COVID-19 pandemic has profoundly disrupted livelihoods worldwide, presenting severe challenges that have complicated the straightforward narrative of diversification as a pathway to resilience (Dube et al, 2023). Particularly in vulnerable economies, an abrupt economic downturn exposes and exacerbates existing vulnerabilities, complicating efforts toward diversification. The pandemic led to widespread job losses, especially in sectors such as tourism, hospitality, and retail, which were heavily restricted by health measures (Dube et al, 2023). In regions dependent on

tourism, such as Bali, Indonesia, while some workers shifted to agriculture or started home-based businesses to mitigate income loss, the transition could have been smooth and sufficient to replace previous earnings (UNDP, 2020). The necessity to diversify quickly into unfamiliar sectors often results in steep learning curves and minimal institutional support. In urban settings, particularly in developing countries, the expansion of the gig economy, although providing some relief, was not a panacea. For instance, in India, many who turned to gig work found it precarious, characterized by instability and a lack of benefits, which underscored the fragility of such employment options (Kumar, 2022).

Similarly, while digital platforms offer new avenues for trade and commerce in Africa, not all small-scale traders and artisans can effectively transition to or compete in the digital marketplace, highlighting digital divides and the need for significant support in digital literacy and access (Banga and te Velde, 2020). In rural areas of Africa, the decrease in remittances due to global economic slowdowns has forced many to rely more heavily on subsistence farming. However, diversification into non-farm activities such as handicrafts or local trading often requires initial capital and market access, which are more readily available. This situation exposes the limited reach of support systems and the infrastructure necessary to facilitate such transitions (Sitko et al., 2022). The challenges in livelihood diversification during the pandemic illustrate the need for a more nuanced understanding of resilience and economic recovery (Dube et al, 2023).

Climate Change and Environmental Shocks

Climate change undermines livelihoods, especially among the poorest rural communities, which are largely dependent on farming and fishing (World Meteorological Association (2021). Climate change is the destabilization of agro-based livelihoods in fragile ecosystems. The impacts of climate change are particularly felt by vulnerable groups such as the elderly, homeless individuals, persons with disabilities, and children who are already living in poverty (World Bank, 2021). Similarly, the fishing industry faces challenges due to warming oceans and changing sea currents, which affect fish populations and migratory patterns. A study by the Food and Agriculture Organization (FAO, 2020) highlighted that these changes can lead to decreased fish catches, affecting the income and food security of communities reliant on fishing. The socioeconomic implications of climate change-induced disruptions in agro-based livelihoods extend beyond food security and income. The Intergovernmental Panel on Climate Change (IPCC, 2022) highlights that prolonged droughts and unreliable rainfall patterns can lead to long-term poverty cycles as families are forced to use their savings or sell assets to cope with crop failures or reduced fishing yields. This economic strain can limit access to education and healthcare, further exacerbating rural communities' vulnerability (IFAD, 2021).

Determinants of Rural Livelihoods Diversification

As previously mentioned, livelihood diversification has emerged as an alternative for individuals residing in rural areas, particularly in light of declining incomes resulting from population growth (Ellis, 2000; Barrett et al., 2001). It is crucial to investigate the wide range of factors that motivate farmers to diversify their livelihoods. It is important to note that diversification is not solely driven by constraints or adverse conditions faced by the disadvantaged; rather, it can be influenced by incentives provided by on-farm and non-farm activities (Barrett et al., 2005; Adi, 2007). As Ellis (1998) suggests, livelihood diversification can be a deliberate decision made by a household (as a result of choice and opportunity) or an involuntary strategy employed in response to internal household crises. The basis of diversification can be specific to a particular location, such as an agro-ecological zone, or related to exposure to natural disasters and risks (Ellis, 1998; World Bank, 2021). This study does not aim to provide an exhaustive or definitive account of the factors driving household livelihood diversification. Instead, it focuses on exploring the major determinants, which include

the household's asset base, market imperfections, seasonality, age, household size, the gender of the household head, and education (IFAD, 2021; Nyathi, 2024).

Household's asset base

Household assets are essential in determining a livelihood and can include natural, physical, social, financial, and human resources of value to the household (Rahut et al., undated; Asmah, 2011). Without effectively utilizing these assets, rural households may resort to non-farm and on-farm activities to sustain their livelihoods (Michler and Josephson, 2017). When there are disparities in productive assets between household members and households, livelihood diversification is likely to occur (Barrett et al., 2001; Barrett and Reardon, 2000; Rahut et al., undated). For instance, a study conducted by Scoones et al. (2011) in Masvingo Province, Zimbabwe, found that farmers without start-up assets could not accumulate wealth and remained impoverished, leading them to abandon farming and pursue alternative livelihoods with low income returns. Similarly, a study by Fabusoro et al. (2010) in Nigeria found that farmers diversified their livelihoods because of a lack of modernized production inputs, which limited farm production and resulted in a scarcity of disposable farm output, prompting farmers to engage in supplementary livelihood activities.

The wealth level plays a crucial role in determining the household assets and income available in households (Ellis, 1998; Steel and van Lindert, 2017). As Barrett and Reardon (2000) suggest, the types and amounts of assets owned by a household and the income generated directly affect the livelihood activities that can be pursued and the extent to which they can be pursued. In countries such as Kenya and Cote d'Ivoire, there is a clear correlation between higher income diversification, wealth, and income (Barrett et al., 2000). This finding supports the notion that wealthy people are more likely to engage in profitable non-farm income-generating activities, as they are free to do so. Conversely, the poor, trapped in an asset poverty cycle (Barrett et al., 2001; Asfaw et al., 2018), are limited to low-income on-farm activities and struggle to transition to higher return activities (Michler and Josephson, 2017). A study conducted by Adi (2007) in Eastern Nigeria indicates that involuntary household livelihood diversification is particularly prevalent in rural Africa due to the high prevalence of poverty in the region. In contrast, in Asia, the situation is characterized by widespread landlessness, leading to reliance on off-farm and non-farm activities for survival. In Africa, land is not necessarily a scarce resource, but certain location-specific factors, such as a lack of access to services and opportunities, contribute to the diversification of household livelihoods (Ellis, 1998; Michler and Josephson, 2017; Olkeba et al., 2024).

Market imperfections

As Ellis (1998) described, market inefficiencies or market failures (Barrett et al., 2001) push people in developing countries to shift away from farming as their primary means of livelihood. The most significant market inefficiency is the need for more credit availability in rural economies, particularly Africa (Ellis, 1998; Ellis, 2000). Farmers in developing countries often require more collateral to secure loans (Barrett et al., 2001). One potential asset that can be used as collateral is land; however, in most cases, it is not acceptable. Limited credit availability remains a pressing issue in rural Africa (Ellis, 2000). Farmers often cannot use land as collateral to secure loans because land tenure insecurity prevents them from obtaining title deeds from their respective governments (Steel and van Lindert, 2017). Secure land tenure is a fundamental human right to manage land resources, invest in land, and sustain land use (Adams, 2001; Bakker et al, 2021).

Seasonality of poverty

Income volatility and consumption smoothing associated with seasonality (Ellis, 1998) often lead farmers to seek alternative livelihood strategies to supplement their farming income. Ellis further emphasized the significance of seasonality by explaining that if the marginal return on labour time

in agriculture for individuals falls below the wage return from self-employment outside farming, households may engage in off-farm and non-farm activities. Ellis (2000) argues that in sub-Saharan Africa, rural labour markets are underdeveloped, making migration a more common response to fluctuations in farm labour needs than securing local wage work. Therefore, owing to the difficulties in achieving consumption smoothing, households diversify their income sources (Michler and Josephson, 2017). A study conducted by Fabusoro et al. (2010) in Ogun State, Nigeria found that households diversify their income sources to mitigate the instability caused by seasonality, which aligns with Ellis's (2000) argument. Furthermore, to minimize the risks related to income fluctuations and food shortages caused by seasonality, rural households view it as a prudent strategy to engage in a diverse range of income-generating activities (Bakker et al, 2021).

Migration and remittances are important in explaining livelihood diversification in Africa. Short cyclic migration, such as small-scale cross-border trade, constitutes 70% of all informal African activities and 30–40% of intra-SADC trade, estimated at 17, 6 billion (ILO, 2020). Migrant households have higher ratings for their livelihood indicators than non-migrant households. In the Zimbabwean context, Nyahunda and Tirivangasi (2020) note that migration can assist in adapting to climate change impacts because the remittances sent by relatives can supplement food reserves, buy farm inputs, and settle healthcare bills and other basics in response to climate change impacts (Nyahunda and Tirivangasi 2020). Empirical data from other countries such as Nigeria and Egypt, among the top remittance-receiving countries in Africa, further illustrate the importance of migration to household economies. In 2019, the World Bank reported that remittances to Nigeria exceeded \$25 billion, constituting around 5% of the country's GDP (World Bank, 2019). In Egypt, remittances were even more impactful, reaching \$26.4 billion in the same year, accounting for approximately 8.8% of the GDP. Households receiving these remittances often experience improved livelihood indicators, such as better access to healthcare and education, and increased investment in agriculture and small businesses, which are critical for adapting to and mitigating the impacts of climate change (Nyathi, 2024). Migrant households use remittances to improve their housing conditions and invest in food security, which are crucial factors in climate adaptation (USAID, 2020). Despite these benefits, migrant households face several challenges (IFAD, 2021). Remittance dependency can make households vulnerable to economic and political instability in host countries (USAID, 2020).

Age

A study conducted by Khatun and Roy (2012) revealed that the age of the household head is a demographic feature that influences livelihood diversification. According to their findings, younger household heads are more interested in and have access to non-farm livelihood activities than elderly headed households are. Age determines the degree of diversification of a household's livelihood activities (Neglo et al., 2021; IFAD, 2021). Gordon and Craig (2001) argued that age is sometimes a determinant entry criterion for livelihood activities. Age can be divided into two dimensions: the household head's age and household members' age. Households with a head aged 49 years or younger are presumed to be more likely to engage in non-farm livelihood activities than farming alone (Fabusoro et al., 2010). In China, rural young people aged 16–30 years are more likely to participate in non-farm activities than the elderly (Rahut et al., undated). A study conducted by Akaakohol and Aye (2014) in Makurdi, Benue State, Nigeria also supports the argument that age is a determinant entry factor in non-farm activities. Ellis (1998) highlighted that as the household head advances in age, the range of activities pursued is reduced. The age of household members becomes a demographic issue, as a household with members aged five or older has a greater probability of engaging in non-farm livelihood activities and enhancing household income (Asmah, 2011; Bakker et al, 2021). However, access to productive assets is crucial to achieving significant gains from such households (Neglo et al., 2021).

Household size

The size and structure of a household plays a critical role in enabling alternative livelihood activities (Attanasio and Krutikova, 2020). Larger households, particularly those with a greater proportion of young male members, are more likely to engage in diverse activities and increase household income, provided that all members work and contribute to household welfare (Reardon, 1997; Micevska and Rahut, 2008; Fabusoro et al., 2010). Khatun and Roy's (2012) study of rural livelihood diversification in West Bengal found a positive relationship between household size and livelihood diversification. This suggests that larger households have a broader labour supply, which increases the potential for diversification and can lead to net benefits in improving the household economy. The welfare effect of the relationship between a large household and diversification opportunities depends on whether the household engages in diversification as a risk-aversion or asset-accumulation strategy (Attanasio and Krutikova, 2020). As Ellis (1998) noted, family size determines the degree of engagement in both on- and off-farm activities.

Education

The level of education possessed by the household head and other household members plays a pivotal role in shaping household livelihood diversification (Nyathi, 2024). Education has a significant impact on the adoption of non-farm livelihoods, as it enhances the skills and training that are essential for building and strengthening production networks (Gordon and Craig, 2001; Janvry and Sadoulet, 2001; Micevska and Rahut, 2008; Singh et al., 2019). Households with higher levels of education can diversify into profitable and high-paying livelihood activities, whereas households with lower levels of education are limited to low-income livelihood activities (Nyathi et al., 2018). This point is further emphasized in a study by Khatun and Roy (2012) in West Bengal, India. According to Adi (2007), education provides individuals with skills relevant to activities outside farming. Fachamps and Quisumbing (2003) also highlight the importance of education in rural Pakistan, where educated males earn higher non-farm incomes and shift their labour away from farm activities to non-farm household activities. As a human capital factor, education enables household members to pursue alternative opportunities to supplement agriculture (Nyathi et al., 2018). Combining skills, training, and knowledge is a gateway to developing non-farm and off-farm livelihood activities (Singh et al., 2019).

Gender of household head

An important relationship exists between the gender of the household head and the primary economic activities that the household engages in (Assan, 2014; Diallo et al., 2024). Women can perform livelihood activities similar to men, but studies have shown that men can choose alternative activities that women are socially and culturally restricted from pursuing (Hussein and Nelson, 1998; Lanjouw and Lanjouw, 2001; Loison, 2019). Gender dynamics may restrict and facilitate access, control, and ownership of essential productive assets that are crucial for diversifying economic activities (Diallo et al., 2024). In African societies, patriarchy often disadvantages women (Moser, 1993). Consequently, female-headed households are perceived as less likely to diversify than male-headed households are, and if they diversify, they are likely to engage in low-income earning activities (Beyene, 2008; Akaakohol and Aye, 2014). A study by Akaakohol and Aye (2014) in Makurdi, Benue State, Nigeria revealed that male-headed households are 9.7% more likely to diversify into non-farm livelihood activities than female-headed households.

Therefore, participation in diversification activities and the distribution of benefits vary between men and women (Ellis, 2000; Loison, 2019), which affects households' ability to cope with and recover from shocks and stress. Female-headed households were the households most affected. Culture is the primary factor influencing gender-differentiated household livelihood diversification (Lanjouw & Lanjouw, 2001). For instance, in India and Nepal, lower castes work as blacksmiths, tailors, and

cobblers, whereas Brahmins work as priests (Rahut et al., undated). Women's ability to engage in income-generating activities in Africa is constrained by gender relations, which confine them to time-consuming care economy activities (Moser, 1993; Ellis, 2000). In light of this thesis, it is crucial to observe that the diversification opportunities available to women tend to be less remunerative and profitable than those undertaken by men (Loison, 2019).

Social capital, networks and informal support systems

When discussing the diversification strategies adopted by rural communities in developing countries, it is crucial to highlight the importance of social networks and informal support systems. For example, kinship networks often facilitate the distribution of resources during times of need, such as sharing food, providing shelter, or pooling money for medical expenses. De Weerd and Dercon (2006) discussed how these networks in Tanzania assist households in managing health shock risks, demonstrating the practical utility of social capital. Similarly, reciprocal labor arrangements allow communities to maintain agricultural productivity even when individual households face labor shortages due to illness or lockdown measures. Community savings groups, known as rotating savings and credit associations (ROSCAs), have proven essential (Zambrano et al., 2023). These groups involve members contributing a fixed amount to a common pot, which is then assigned to one member on a rotating basis. These groups have allowed members to continue investing in their farms or small businesses during crises and to sustain local economies. Informal mechanisms enhance community resilience by fostering a sense of collective identity and mutual obligation, which are crucial during crises. Aldrich and Meyer (2015) explored how social capital is a foundation for community resilience, particularly in response to disasters and economic downturns.

Contribution of Diversification Livelihoods on Household Well-being

Anecdotal evidence on livelihood diversification indicates that rural households often adopt diversification strategies or engage in various activities to create sustainable livelihoods and enterprises (Bryceson, 2000; Loison, 2019; Neglo et al., 2021). This is done to cope with and recover from stress and shocks and to maintain and improve their capabilities and asset base (Scoones, 1998; Ellis, 1998; Barret et al., 2001; Ellis et al., 2003; Nyathi, 2024). Diversification is seen as a means of equitable growth in rural economies and an effective strategy for transforming persistent deprivation in rural households (Loison, 2019). Livelihood diversification significantly impacts a household's capacity and ability to secure food and consistently provides for its members (Assan, 2014). Furthermore, it enhances access to and availability of food products, improves food storage and consumption, and augments overall food security (Block and Webb, 2001; Nyathi, 2024). A study conducted by Asmah (2011) in Ghana revealed that households engaged in non-farm activities are more likely to experience positive impacts on welfare. On average, 50% of the total household income in rural Nigeria is generated from farming, whereas the remaining income is derived from non-farm activities (Adepoju and Obayelu, 2013).

Ellis et al. (2003) argued that alternative livelihood strategies can provide additional income and resources that may be difficult for rural households to obtain, thus enabling livelihood diversification as an effective accumulation strategy that leads to improved income and assets, ultimately serving as a pathway out of poverty (Bryceson, 2000). In support of this view, Fabusoro et al. (2010) found that non-farm livelihood activities accounted for approximately 69% of Nigeria's rural household total income. Furthermore, a study conducted by Israr et al. (2014) in the Shangla district of Khyber Pakhtunkhwa, Pakistan, revealed that the accumulation of household assets increased as households diversified from crop farming to non-farm and on-farm activities due to improved incomes. Specifically, the total income contribution from non-farm sources in Shangla District averaged 69.4% and the average income per household per annum after diversification was Rs. 300,811 (Israr et al., 2014).

Ellis (1999) posits that diversification has both favourable and unfavourable consequences for households' living standards. Diversification helps minimize the detrimental consequences of seasonality by employing labour and creating additional sources of income during off-peak periods. Ellis (1998) suggests that seasonality causes household income volatility and consumption-smoothing issues because of the disparity between household consumption and irregular income streams. By diversifying their livelihoods, households can effectively address seasonal variations in income and food supply, thereby overcoming consumption-smoothing difficulties (Nyathi, 2024). In households where there is a discrepancy between the amount of land and the number of people, particularly among Zimbabwe's A1 farmers (Moyo, 2004) and where land markets do not function effectively (Barrett et al., 2001), the utilization of abundant labour through wage employment can be an alternative solution. This can increase households' well-being by diversifying their income sources and generating higher returns from wage labour (Nyathi et al., 2018). When credit markets are limited or non-existent, returns from non-farm activities become crucial for overcoming working capital constraints and purchasing necessary farming inputs and other assets (Barrett et al., 2001; Singh, 2019). This improvement in property endowment is essential for households to access farm inputs, which enhances on-farm investments and increases food stores (Dedehouanou and McPeak, 2020). Given the constraints on working capital, diversification is necessary to improve off-farm earnings, which are crucial for raising household income to meet expenses such as taxes, consumption goods purchases, and school fees (Barrett et al., 2001; Minyiwab et al., 2024).

Diversification plays a vital role in risk reduction by allowing households to distribute their risk across various activities (Nyathi, 2024). As the household economy relies heavily on income, diversification leads to a more efficient use of resources and skills. It enables the pursuit of income-earning opportunities that are geographically dispersed (Ellis, 2000). By engaging in additional income-generating activities beyond crop farming, households can generate additional financial resources to improve their asset quality (Ellis et al., 2003; Minyiwab et al., 2024). When women are encouraged to participate in livelihood activities, diversification can enhance their independent income-generating abilities and reduce their burden on the care economy (Block and Webb, 2001; Dedehouanou and McPeak, 2020). Livelihood diversification has been found to have detrimental effects on household economies. Research has revealed that this practice exacerbates income disparities between impoverished rural populations and wealthier individuals (Barrett et al., 2001; Minyiwab et al., 2024). Specifically, poor households may need to help acquire productive assets and secure local food supply. In contexts where men primarily benefit from diversification, women may be relegated to non-income-generating activities, which can impact a household's care economy and food security (Block and Webb, 2001; Loison, 2019).

Diversification and Policy Implications

The literature reviewed in this study indicates that the rural economy, which is often farm-based and 86% dependent on agriculture (World Bank, 2007), deviates from this conventional perspective. In practical terms, rural livelihoods have expanded beyond farming to include both on- and off-farm activities (Barrett et al., 2001) as people respond to various shocks and strive to improve their income levels. It is essential to recognize that any policy initiative aimed at poverty reduction and enhancing the incomes of rural populations that fails to incorporate the diversification of income-generating activities is likely ineffective. Ellis (1998) argued that policies that intentionally promote or discourage the diversification of rural economic activities directly impact poverty reduction and income distribution. To address this situation, it is crucial to design policies that consider the diverse activities rural people pursue in their struggle for survival. This is expected to create a conducive environment for rural populations to increase their income levels, which can subsequently reinvest in agriculture as a primary source of livelihood (Loison, 2019).

This discourse demonstrates that financial market imperfections can prompt household livelihood

diversification, as farmers often encounter difficulties accessing credit lines for agricultural investments and high-income activities (Nyathi et al., 2022). According to Ellis (1998), the limited access to microcredit restricts diversification in rural areas. To address this issue, policymakers must prioritize land tenure security, enabling credit extension to impoverished rural populations (Schmitz, 2016; Nyathi et al., 2018). Nevertheless, in regions or countries where land is perceived as a political tool or election bait, ensuring land tenure security may be met with resistance as it poses a risk of power erosion (Dedehouanou and McPeak, 2020). Another policy challenge is ensuring that opportunities for livelihood diversification, particularly in a nonfarm economy, are accessible to the majority of the poor in rural areas (Barrett et al., 2001). Unfortunately, many rural poor need more education, skills, financial resources, and social capital to engage in lucrative livelihood activities that can help them quickly escape poverty (Nyathi et al., 2022; Nyathi, 2024). In light of this, national governments must ensure that financial lending institutions are available and accessible in rural communities and that skill development programs are implemented there (Nyathi et al., 2018; World Bank, 2020). As Barrett et al. (2001) argue, it is unthinkable for poverty reduction strategies and policies to ignore the nonfarm sector; thus, policies that support the nonfarm economy are essential in addressing the poverty issue in many developing countries.

Agriculture holds significant importance not only in economic terms but also in social and political contexts in predominantly agrarian societies of developing countries, particularly in sub-Saharan Africa, as per existing theoretical and empirical evidence (World Bank, 2007; Loison, 2019). For example, the Zimbabwe land reform policy was designed from an agrarian perspective, as noted by Scoones et al. (2011). However, advocating policies that promote livelihood diversification remains a challenge. First, policies opposing national development goals might face rejection from the political side (Moyo, 2011; World Bank, 2020), especially among those who consider land reform crucial for addressing the agrarian question, which is a fundamental aspect of the national question. Second, agriculture significantly contributes to GDP and employment in most countries, especially in sub-Saharan Africa, where smallholders depend on agriculture for their livelihoods. Therefore, promoting diversification may lead to a decline in national GDP and massive unemployment, making it a policy implication (Schmitz, 2016; Dedehouanou and McPeak, 2020).

Conclusions

This study highlights the critical role of livelihood diversification in shaping rural households' well-being in developing countries. While rural livelihoods have traditionally been tied to agriculture, increasing pressures, such as climate change, market volatility, and population growth, have driven households to diversify their income sources. Diversification enhances resilience, helps households cope with shocks, reduces poverty, and improves food security. However, this also brings challenges, including widening income disparities, social stratification, and gender inequality, which must be addressed to ensure equitable rural development. These findings emphasize the need for targeted policies that support both on-farm and non-farm livelihood activities. These should include investments in rural infrastructure, access to credit, and skill development programs that empower marginalized groups, particularly women and smallholder farmers. In addition, the study underscores the importance of addressing structural constraints such as land tenure insecurity and market imperfections, which limit opportunities for sustainable livelihoods. Policies aimed at addressing the multiple dimensions of poverty, including gender and environmental factors, should be integrated and mutually supportive. Advancing progress in one area can help accelerate progress in others. The view that poverty-related policies exist in opposition to each other is misguided—while policy trade-offs may occur, they can be effectively managed. Empowering the poor is crucial for driving the policies and investments necessary to promote inclusive, pro-poor growth and tackle poverty in its various forms. To achieve this, the state's policymaking processes must be transparent, accountable, and responsive to the needs and interests of the poor. In addition, policies and resources should focus

on expanding the economic opportunities available to disadvantaged populations.

Future research should explore diverse rural well-being factors in order to provide actionable policy and program design insights. Key areas include examining the complexities of livelihood diversification, focusing on gender dynamics, and the multi-dimensional impacts on well-being. Studies should also evaluate climate adaptation strategies such as climate-resilient agriculture and technology to identify scalable innovations for resilience. Research on climate-induced migration is crucial for understanding the socio-economic impacts and potential vulnerabilities of rural households. The impact of livelihood strategies on child well-being and intergenerational mobility should be explored to break the cycles of poverty. Finally, there is a need to evaluate the effectiveness of current rural development policies in developing countries, focusing on inclusive frameworks that benefit smallholder farmers, women, and marginalized groups. These studies can guide the development of resilient and equitable rural transformation strategies to address immediate and long-term challenges.

Biography notes

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