



Livelihood Strategies of Ethnic Minority Households: A Case Study in Vietnam

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Abstract

This study assessed the livelihood status of Dao households in Yen Cu Commune (currently Yen Binh Commune, Thai Nguyen Province), a mountainous area facing various socio-economic challenges, and simultaneously analyzed differences between pure agroforestry households and mixed-livelihood households. Data were collected from a survey of 52 households (27 specialized agroforestry households and 25 mixed-livelihood households) in three villages: Ban Chao, Thai Lao, and Ban Chang. Descriptive statistics and comparative methods were employed to analyze livelihood resources, activities, and outcomes. The results indicated that livelihood resources remain limited, reflected in low educational attainment, small and fragmented agricultural landholdings, unstable irrigation conditions, and low financial accumulation capacity. Household livelihoods still rely mainly on agriculture and forestry, with a modest level of diversification. Mixed-livelihood households achieved significantly higher average annual income compared to pure agroforestry households (304.58 million VND/year versus 171.37 million VND/year), and also exhibited higher per-labor income (83.68 million VND/person/year versus 57.84 million VND/person/year). In addition, livelihood vulnerability persists due to risks such as floods, droughts, animal and crop diseases, as well as constraints in accessing information, technology, and credit. Based on these findings, the study recommends promoting livelihood diversification, improving human resource quality, ensuring efficient natural resource management, strengthening infrastructure investments, enhancing financial accessibility, and reinforcing social linkages to foster sustainable livelihoods for Dao households.

Keywords: *Farmer Household Livelihoods; Dao Ethnic Group; Vietnam*

1. Introduction

According to the report by the Committee for Ethnic Minority Affairs and the General Statistics Office (2020), the poverty rate among ethnic minority communities is 31.0%, while the near-poverty rate is 15.7%. Notably, only 5.4% of the labor force possesses formal educational qualifications or vocational

certificates, and merely 13.6% are employed in non-agricultural sectors. Additionally, the proportion of workers engaged in occupations requiring technical expertise or managerial capacity remains extremely low, accounting for only 1.6%. In Vietnam, poor ethnic minority groups represent a vulnerable labor segment in livelihood development that requires special attention; however, existing research remains insufficient and lacks comprehensive perspectives (Nguyen Thi Giang Huong and Dao Thi Kim Lan, 2022). To support ethnic minorities in escaping poverty and improving quality of life, the Communist Party and the State have prioritized policies aimed at stabilizing livelihoods for the poor and ethnic minorities (Tran Huong Giang et al., 2023).

Over the past two decades, rural livelihoods and the livelihoods of ethnic minority groups have received considerable scholarly attention both domestically and internationally. Classical studies such as (Ellis Frank, 2000) argue that household livelihoods depend on the level of access to various forms of capital and the degree of livelihood diversification. International studies further affirm that livelihood capital and vulnerability contexts are foundational factors shaping household livelihood strategies and outcomes. Robert Chambers and Gordon Conway (2024) emphasize that household resilience and livelihood improvement are determined by capabilities, assets, and adaptive capacities against environmental and economic shocks. Building on this theoretical foundation, Scoones Ian (1998) and the Department for International Development (1999) contend that uneven access to different types of capital—human, natural, financial, physical, and social—leads to distinct livelihood strategies across household groups. Within vulnerable mountainous contexts, Trincsi Kate et al. (2014) highlight that geo-ecological conditions and development policies directly influence the livelihood diversification of ethnic minority groups, while Rachmat Mulia et al. (2021) emphasize that youth outmigration and socio-cultural transitions have significantly reshaped the ability of rural households to maintain and transform their livelihoods.

Although international studies have clarified multiple determinants of rural household livelihoods, several gaps remain. As pointed out by Jonathan Rigg (2006), rural livelihoods in Southeast Asia have become increasingly diversified and less dependent on agriculture, resulting in dispersed and de-territorialized income sources. This raises critical requirements for re-evaluating livelihood analysis frameworks that traditionally rely on land- and agriculture-based models. Christine Bonnin and Sarah Turner (2012) further indicate that livelihoods of mountainous ethnic minority groups are significantly shaped by state interventions. Their research sheds light on how Hmong and Dao households negotiate, adapt, and creatively resist policy pressures, thereby revealing notable diversity and agency in their livelihood strategies.

Despite existing findings on the influence of resources, policies, and contextual conditions on mountainous communities, several research gaps persist. First, most studies tend to describe livelihood diversity and dynamics without systematically analyzing differences among households with varied livelihood strategies, particularly between agricultural-specialized and mixed-livelihood households—an increasingly common livelihood structure yet underexplored in the context of ethnic minorities in Vietnam. Moreover, Sarah Turner and Jean Michaud (2008) highlight that prior research often focuses more on external determinants such as policy and market forces while understating internal household-level disparities in resource endowment that may lead to divergent livelihood outcomes.

Yen Cu Commune (currently Yen Binh Commune, Thai Nguyen Province) is classified as a highly disadvantaged mountainous locality, where the average gross production value per capita in 2024 reached only 28.78 million VND (Yen Cu Commune People's Committee, 2023). The population is composed largely of ethnic minorities characterized by sparse and uneven settlement patterns: Tay people concentrate in central areas with better infrastructure, whereas Dao communities inhabit higher and more remote mountainous zones. Dao livelihoods primarily depend on traditional agriculture and forestry, which remain unstable and highly vulnerable to external shocks. Therefore, analyzing household resource

endowments and income-generating arrangements is crucial for understanding livelihood characteristics across sub-groups and for identifying appropriate and sustainable development strategies.

The theoretical framework and analytical approach employed in this study are grounded in the livelihood concept defined as the combination of household capabilities, assets, and activities (Robert Chambers and Gordon Conway, 2024), and are shaped by differential access to livelihood capital groups (Department for International Development, 1999; Scoones Ian, 1998). Accordingly, the study proposes an analytical framework examining the relationship between household resource endowments, livelihood activities, and livelihood outcomes, in which five capital groups (human, natural, physical, financial, and social) are considered foundational determinants influencing livelihood strategy choices between two household types: (i) pure agroforestry households primarily relying on agriculture and forestry, and (ii) mixed-livelihood households combining agricultural with non-agricultural activities. These distinct strategies lead to differentiated livelihood outcomes related to income, economic stability, and risk coping capacity, while also being influenced by external drivers such as policy conditions, natural environment, and market fluctuations. This framework enables a systematic and comparative evaluation of livelihood disparities between Dao household groups, thereby elucidating key determinants of livelihood success within mountainous contexts.

2. Methodology

2.1. Data Sources

This study utilizes secondary data on the natural, economic, and social conditions of Yen Cu Commune obtained from reports of the Communal People's Committee, along with relevant scientific literature. In addition, primary data were collected through a survey of 52 Dao ethnic minority households (27 pure agroforestry households and 25 mixed-livelihood households) in three villages: Ban Chao, Thai Lao, and Ban Chang. The selected households all have permanent residence registration and are actively engaged in production and business activities within the locality. Household information was collected through direct interviews with household heads.

2.2. Research Methods

The study employs two main research methods: descriptive statistics and comparative statistics. Descriptive statistics are used to analyze secondary data and household survey information, thereby providing an overview of the study area, household conditions, livelihood resources, activities, and livelihood outcomes of ethnic minority households. These analyses form the basis for subsequent analytical steps.

Comparative statistics are applied to identify differences between household groups. By comparing livelihood capital indicators, livelihood activities, and livelihood outcomes between pure agroforestry households and mixed-livelihood households, the study clarifies the distinct characteristics of each group, thus determining differences in livelihood conditions and strategies.

3. Research Findings and Discussion

3.1. Current Status of Livelihood Capital among Dao Ethnic Farming Households in Yen Cu Commune

3.1.1. Human Capital

The educational attainment of Dao ethnic households remains relatively low, predominantly at the primary school level. The proportion of household heads with only primary education is higher in the

agroforestry group compared to the mixed-livelihood group (51.85% vs. 40%), while the mixed-livelihood group shows a higher proportion of household heads completing upper secondary school (20% vs. 3.71%). Professional and technical qualifications are also limited, with only the mixed-livelihood group having household heads holding college or university degrees (8%), whereas none in the agricultural–forestry specialized group meet this qualification.

A similar disparity is observed among the labor force. Labors with upper secondary education and vocational training are more concentrated in mixed-livelihood households, while those in pure agroforestry households show a high proportion of individuals with only primary education or below and without vocational training (86.25%). The average age of household heads in both groups is approximately 47 years, which may constrain the ability to access and apply new technologies, particularly among agricultural–forestry specialized households whose livelihood practices rely largely on traditional experience.

A total of 171 laborers were recorded, of which the mixed-livelihood group accounts for a higher proportion (53.22%), despite having a similar number of households as the pure agroforestry group. Gender distribution is relatively balanced. In terms of employment sectors, 77.19% of workers are engaged in agriculture and forestry; however, pure agroforestry households are almost entirely dependent on these activities, whereas mixed-livelihood households exhibit a higher proportion of non-agricultural labor, reflecting a more diversified livelihood structure.

3.1.2. Physical Capital

Survey results reveal that physical assets among Dao households remain limited, particularly in housing conditions. Residents primarily live in three housing types: traditional stilt houses, temporary houses, and permanent houses. The proportion of stilt houses is significantly higher among pure agroforestry households compared to mixed-livelihood households (51.85% vs. 32%), while the mixed-livelihood group presents nearly twice the proportion of permanent houses compared to the pure agroforestry group (48% vs. 25.93%). The proportion of Grade-4 houses is similar between the two groups (approximately 20–22%). These figures indicate that most households still lack sufficient economic capacity to construct permanent housing that meets safety and sanitation standards under the new rural development criteria.

3.1.3. Financial Capital

The proportion of households with financial savings is relatively high (94.23%), with the mixed-livelihood group achieving 100% compared to 88.89% in the pure agroforestry group. This difference reflects the superior income-generating capacity of the mixed-livelihood group due to diversified livelihood activities and more effective risk mitigation. In terms of savings scale, mixed-livelihood households achieve an annual average of 72.55 million VND per household, which is more than 2.5 times higher than agricultural–forestry specialized households (30.37 million VND per household). The gap of nearly 42 million VND per household per year demonstrates the markedly greater effectiveness of the integrated livelihood model.

Table 1. Savings of Dao Ethnic Farming Households in Yen Cu Commune

Indicator	Pure agroforestry households (n = 27)		Mixed-Livelihood Households (n = 25)		Overall Average	
	Quantity (HHs)	Proportion (%)	Quantity (HHs)	Proportion (%)	Quantity (HHs)	Proportion (%)
Total surveyed households (HHs)	27	100,00	25	100,00	52	100,00
Households with savings (HHs)	24	88,89	25	100,00	49	94,23
Total savings (million VND)	728,98	-	1813,60	-	2542,58	-
Average annual savings per household (million VND/HH/year)	30,37	-	72,55	-	51,89	-

Source: Household Survey Data, 2025

3.1.4. Natural Capital

A total of 40.38% of households reported a shortage of productive land, in which mixed-livelihood households experienced a significantly higher level of land scarcity (52%) compared with pure agroforestry households (29.63%). Conversely, 66.67% of pure agroforestry households perceived their current land area as “adequate.” However, this perception does not fully reflect the actual situation, as many households possess land but lack labor due to elderly household heads and out-migration of young workers for wage employment. Consequently, land resources are not effectively utilized. Thus, mixed-livelihood households face difficulties in terms of land area, while pure agroforestry households suffer from labor shortages, creating a “dual challenge” for livelihood development. Enhancing land-use efficiency requires integrated solutions, including land resource support, vocational training, technology transfer, and promoting production models that match the actual local labor conditions.

3.1.5. Social Capital

Dao ethnic minority households demonstrate a high level of social cohesion, particularly within kinship networks and village communities, and maintain close connections with local mass organizations, such as the Women’s Union, Farmers’ Union, Veterans Association, and local authorities. The Women’s Union and Farmers’ Union are the two organizations with the highest participation rates among both household groups (over 70%), in which pure agroforestry households participate slightly more due to their stronger attachment to traditional agricultural activities. In contrast, participation in cooperatives and the Youth Union remains relatively low, reflecting challenges in attracting young labor into collective economic models or youth-led community activities, despite the existence of two well-performing tea cooperatives in the locality. Overall, participation is concentrated in traditional socio-political organizations, indicating the need for innovation in organizational activities to enhance engagement and livelihood support amid rural economic transformation.

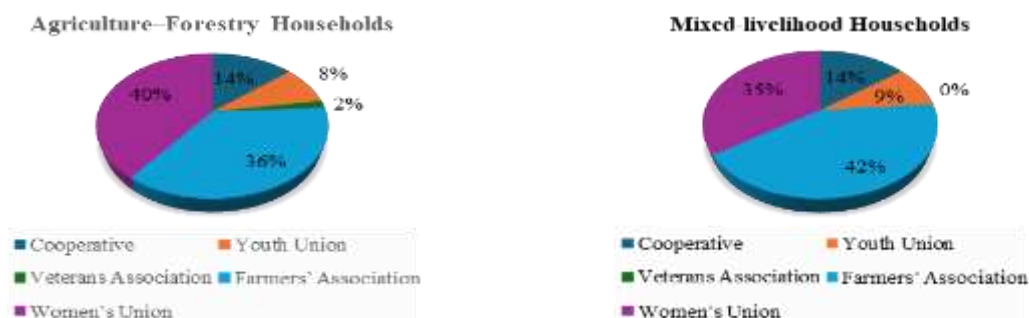


Figure 1: Participation of Dao Ethnic Minority Farming Households in Socio-Political and Community Organizations

3.2. Livelihood Activities and Livelihood Outcomes of Dao Ethnic Minority Households in Yen Cu Commune

3.2.1. Livelihood Activities

The livelihoods of Dao households in Yen Cu commune are predominantly based on agriculture and forestry, with both pure agroforestry households and mixed livelihood households showing very high participation rates in crop cultivation and forestry (over 96%). Livestock production is also common; however, the proportion of participation is higher among pure agriculture–forestry households (74.07%) than among mixed livelihood households (64%).

Non-farm activities account for a relatively small share of livelihood activities, with only 5.77% of households participating in industry and handicrafts, and 9.61% engaged in service-related business. Wage labor is widely practiced (51.92%), especially among mixed households, where the rate reaches 80%, indicating greater flexibility and adaptability in seeking off-farm income sources. However, heavy dependence on unskilled labor makes livelihoods more vulnerable to economic uncertainties and market fluctuations.

The proportion of households with members working as civil servants or non-specialized public employees remains low (5.77%), suggesting limited access to stable and secure employment opportunities in the public sector.

Table 2: Livelihood Activities of Surveyed Households

Livelihood Activities	Pure agroforestry Households		Mixed-Livelihood Households		Average	
	Quantity (HHs)	Proportion (%)	Quantity (HHs)	Proportion (%)	Quantity (HHs)	Proportion (%)
Total Number of Surveyed Households	27	100,00	25	100,00	52	100,00
Agriculture						
- Crop Production	26	96,30	25	100,00	51	98,08
- Livestock Production	20	74,07	16	64,00	36	69,23
Forestry	26	96,30	25	100,00	51	98,08
Aquaculture	0	0,00	0	0,00	0	0,00
Industry and Handicrafts (I&H)	0	0,00	3	12,00	3	5,77
Trading and Service Business	0	0,00	5	20,00	5	9,61
Wage Labor and Hired Workers	7	25,93	20	80,00	27	51,92
Part-time Civil Servants and Public Employees	0	0,00	3	12,00	3	5,77

Source: Household Survey Data, 2025

3.2.2. Livelihood Outcomes

The survey results reveal a clear disparity in income between the two household groups. The diversified households achieved an average annual income of VND 304.58 million per household, significantly higher than the pure agroforestry households (VND 171.37 million per household). Average income per laborer was also considerably higher among diversified households (VND 83.68 million/person/year compared to VND 57.84 million/person/year), reflecting more efficient labor utilization and the advantages of livelihood diversification.

Regarding income structure, mono-agricultural households relied mainly on forestry (55.40%) and crop cultivation (39.41%), with minimal contribution from non-agricultural sources. In contrast, diversified households demonstrated a more varied income structure, supplemented by wage labor, service trading, industry–construction, and public employment, alongside traditional agricultural and forestry income sources. This diversification enabled the diversified households to better access more stable non-agricultural income opportunities.

Income from livestock production remained low for both groups (below 6.2%), and no income was derived from aquaculture, which is consistent with the mountainous geographical conditions. Income from public employment was observed only among the diversified households, indicating differences in educational attainment and access to formal employment opportunities.

Overall, the expansion of non-agricultural livelihood activities plays a crucial role in improving household income, particularly for mono-agricultural households, which are highly dependent on agriculture–forestry and remain vulnerable to market fluctuations and the outmigration of young labor.

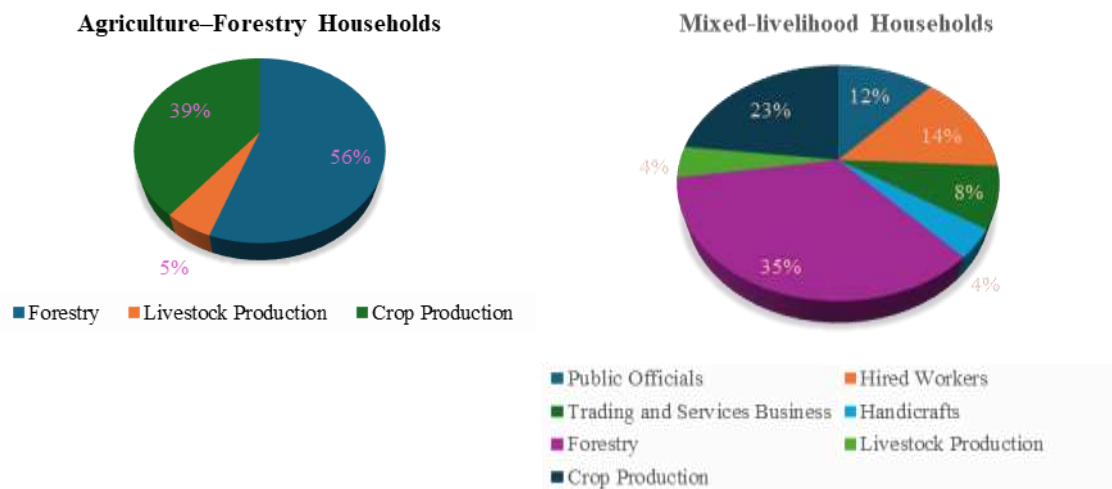


Figure 2: Income Structure of Surveyed Households

Source: Household Survey Data, 2025

The research results show a clear income gap between pure agroforestry households and mixed households, in which mixed households achieve higher income and savings due to expansion of non-agricultural activities and better access to resources. This is consistent with (Tran Phuong Thi et al., 2023), where the authors argue that ethnic minority households with higher human capital—in terms of education and skills—are more resilient to livelihoods, while households with low human capital are vulnerable to adverse economic events (increased input prices), natural disasters, and health. The superior income of mixed household also reflects the role of livelihood diversification, in line with (Demeke Leykun, 2024), the author emphasizes that off-farm and non-farm activities contribute significantly to income and are an important factor in poverty reduction in developing countries. Thus, livelihood diversification not only helps to spread risks but also opens up opportunities to access wider income sources and labor markets. At the same time, the income gap between the two groups of households shows the key role of human capital and financial capital, similar to (Nusrat Habib et al., 2023) when pointing out that education level, experience and access to formal credit motivate rural households to diversify their livelihoods and improve their income. Observations at Yen Cu also show that pure agroforestry households rely heavily on crop and forestry—a livelihood structure prone to risk—consistent with (C. B. Barrett et al., 2001), who assert that households that rely primarily on agriculture tend to have lower well-being and are more vulnerable than households with non-farm income.

3.3. Factors Affecting the Livelihoods of Dao Ethnic Farming Households in Yen Cu Commune

3.3.1. Impacts of Natural Disasters and Epidemics

Natural disasters and epidemics pose significant risks to the livelihoods of Dao households in Yen Cu, which heavily depend on agriculture and forestry. Floods have the most severe impact, affecting 100% of households with a very high impact rating (4.65/5), frequently causing landslides, crop damage, and infrastructure destruction. Droughts also have substantial effects, with 78.47% of households reporting significant losses due to insufficient irrigation, reducing productivity and threatening food security.

Human and livestock epidemics continue to be important risks: 36.54% of households were heavily affected, and 23.08% were very heavily affected, particularly by diseases such as COVID-19 or African swine fever. Crop failures occur regularly, with more than 70% of households experiencing significant impacts from pests, irregular weather, and limited cultivation techniques. These factors make livelihoods precarious and can push households back into poverty if timely support and adaptation measures are lacking.

3.3.2. Impacts of Industrialization and Modernization

Although industrialization and modernization progress slowly in mountainous areas like Yen Cu, they have positively influenced employment opportunities for local residents. A total of 55.77% of households reported that finding local employment is currently easier than in 2015, with almost no household rating it as “very difficult.” The average score of 3.81 indicates a general perception of improved access to local employment, reflecting the positive impact of economic development on local socio-economic conditions.

3.3.3. Educational Attainment

Survey results indicate that educational attainment significantly affects livelihoods, with 86.15% of households rating the impact as high or very high (with “very high” alone accounting for 46.15%). The average score of 4.31/5 reflects a clear awareness among residents of the role of education in increasing income and improving living standards. However, due to economic hardship and early labor demands, many children must leave school, resulting in low educational levels and limited access to new technologies. This reduces households’ capacity to adapt to climate variability, pests, and natural disasters, increasing livelihood vulnerability.

3.3.4. Customs and Traditions

Customs and traditions are an important factor influencing livelihoods in Yen Cu. As a commune with a high proportion of ethnic minorities, many traditional production and living practices are maintained, which both preserves cultural heritage and imposes certain limitations on adopting new livelihood models. In the context of accelerating industrialization and modernization, considering the impacts of local customs is essential for understanding the constraints on livelihood transformation and development.

To further discuss the factors affecting livelihoods, the study shows that Dao households in Yen Cu are strongly affected by environmental risks and limited human capital—common characteristics of mountain communities. Shocks such as floods, droughts, or landslides often disrupt production, reducing household resilience; this is consistent with (W. Neil Adger, 2000), who argues that communities dependent on ecological resources are particularly vulnerable to environmental shocks. At the same time, capacity constraints—particularly educational attainment—also limit access to more profitable livelihoods, this is consistent with the finding of (Kate Bird et al., 2022) that poor and ethnic minority households are more likely to have difficulty achieving better livelihood outcomes.

3.4. Solutions for Improving Livelihoods of Dao Ethnic Farming Households in Yen Cu Commune

3.4.1. Enhancing Traditional Livelihoods and Diversifying Local Livelihoods

It is necessary to review the effectiveness of traditional livelihoods, such as rice, crops, and livestock, and adjust them to the current context, while promoting the application of scientific and technical advances to improve productivity, quality, and product value. In addition, the locality should plan and develop high-potential agricultural products such as Shan Tuyet tea, midland tea, star anise, cinnamon, and apricot to establish commodity production zones, support processing, and promote trade. In livestock farming, appropriate methods should be applied depending on the type of animal (free-range goats; confined chickens, pigs, and cattle) to control disease and protect the environment. Simultaneously, cooperation with science and technology agencies is required to conserve and develop indigenous products at a scale compatible with Dao communities' production conditions.

3.4.2. Solutions to Improve Household Livelihood Capital

a. Enhancing Human Capital

Efforts should promote learning and skills development for the Dao community, particularly youth, through scholarships, socialized education programs, and career orientation. Additionally, technical training in cultivation, pest management, field and livestock practices should be strengthened; public health care improved through awareness campaigns, preventive medicine, and upgraded medical facilities; and disaster preparedness training, especially for floods, should be provided.

b. Managing and Planning Natural Resources

Rational planning of agricultural and forestry land, utilization of unused areas, and soil rehabilitation through crop arrangement, fallow periods, and appropriate fertilization are necessary. Investment in irrigation infrastructure and community clean water programs should be prioritized.

c. Managing and Utilizing Financial Resources

The locality should diversify credit channels, simplify procedures for poor and near-poor households, and establish village-level loan support groups. Monitoring of capital use should be strengthened to prevent dependency and enhance investment efficiency.

d. Strengthening Material Capital Investment

Support should be provided to help residents access appropriate machinery and equipment, with demonstrations of new technologies to encourage application. Equipment selection should match the communities' capacity and conditions to avoid over-investment.

e. Enhancing Social Capital

Residents should be encouraged to participate in village meetings and share production experiences. The roles of local authorities and agricultural extension systems should be strengthened, along with fostering linkages between households and traders to stabilize market access. Community organizations and cooperatives should be reinforced to facilitate knowledge exchange, expand social networks, and protect collective interests.

Conclusions

The study shows that the livelihoods of Dao households in Yen Cu commune remain underdeveloped, heavily dependent on agriculture and forestry, within a context of limited and dispersed resources. Human capital is constrained by low education and skills; natural capital faces pressure from limited land and water shortages; while material and financial capital remain insufficient to create

breakthroughs. Consequently, livelihoods are monotonous, with few non-agricultural activities, leading to significant income disparities and low satisfaction levels among households.

The factors influencing livelihoods indicate that Dao households face multiple external risks (natural disasters, epidemics) and internal barriers (awareness, customs, limited access to information, technology, and credit). Current livelihoods are therefore largely subsistence-based and not yet sustainable. Based on these findings, livelihood diversification, human capacity building, improved access to resources, and enhanced socio-economic linkages are critical strategies to expand income opportunities and reduce risks for Dao households in the coming period.

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