

Sustainable livelihood model for ethnic minority regions – case study in Quang Ninh province

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Abstract: When addressing the issue of livelihood, people often refer to the ways ethnic groups or communities sustain their living amidst the impacts of various environmental and socio-economic factors. These factors include: (i) loss of cultivated land due to rising sea levels, landslides, and increased droughts; (ii) reduction of arable land caused by salinity intrusion, erosion, and leaching; and (iii) increased crop failures, decreased productivity of crops and livestock resulting from rising temperatures, unusual weather patterns, extreme climate events, and epidemics. These challenges significantly affect the lives and survival of people under current conditions. Particularly for ethnic minorities in the Northeast region, they tend to be economically disadvantaged, with limited access to modern production methods, and are at higher risk of being adversely affected during the overall development process of their communities. According to current zoning conditions, the Northeast region includes provinces such as Phu Tho (which merges the three provinces of Phu Tho, Vinh Phuc, and Hoa Binh), Tuyen Quang (which merges Ha Giang with Tuyen Quang), Cao Bang, Thai Nguyen (which merges Bac Kan with Thai Nguyen), Lang Son, Bac Giang (the old Bac Giang, now merging with Bac Ninh), and Quang Ninh. As per the spirit of Resolution No. 202/2025/QH15 passed by the National Assembly on June 12, 2025, these areas are significantly affected by the aforementioned factors. A case study conducted in Quang Ninh province highlights several limitations in addressing livelihood issues: (1) livelihood conversion heavily depends on the mining industry, making occupational shifts difficult; (2) uneven quality of human resources acts as a major barrier; (3) unsustainable tourism development leads to various negative consequences; (4) income disparities between regions pose significant challenges in solving livelihood problems; and (5) policy mechanisms are not yet fully synchronized, complicating integration with poverty reduction programs and the promotion of regional advantages.

Keywords: *Livelihood resources, Livelihood, Sustainable livelihood.*

1. Theory of Sustainable Livelihood Models for Ethnic Minorities

1.1. Concept of Livelihood and Sustainable Livelihood

1.1.1. Concept of Livelihood

The first person to use the concept of "Livelihood" was Chambers [1] with the meaning: "Livelihood includes the capacity, assets, access (reserves, resources, ownership, use rights) and activities necessary for life", accordingly, livelihood approaches the exploitation of resources and necessary human activities as a means to make a living. Then it is affirmed in an easy-to-understand way in the Vietnamese Dictionary (Institute of Linguistics, 2000) emphasizing: Livelihood is the work

to earn a living. And the Department for International Development [2] introduced a rather universal concept: "The set of all resources and capabilities that people have, combined with the decisions and activities they carry out to earn a living as well as to achieve their goals and aspirations", livelihood is always associated with the ability to mobilize and use human resources to create material products to earn a living as well as to achieve their goals and aspirations.

1.1.2. Concept of sustainable livelihood

The concept of sustainable livelihood was first approached from the perspective of sustainable rural livelihoods, proposed by Chambers and Conway [3], a concept that is most widely applied at the household level, according to which "Livelihood includes the capabilities, assets and activities required for a means of living". In the sustainable livelihood analysis framework of Department for International Development [2] is stated that: "A sustainable livelihood comprises the capabilities, assets (including material and social resources) and activities required for a means of living", emphasizing all capabilities to maintain and enhance one's assets, as well as providing sustainable livelihood opportunities.

1.2. Some Theories on Sustainable Livelihood Models for Ethnic Minorities

1.2.1. Model Sustainable Livelihood of Scoones

Scoones [4] was the first to propose an analytical framework for sustainable rural livelihoods with a key situational question: In a specific external context (policy environment, politics, history, ecology and socio-economic conditions), what combination of livelihood resources (natural, financial, human, social and other resources) with institutions and policies can create the ability to carry out livelihood activities (agricultural production, fishing, aquaculture, tourism, and migration) to achieve the desired livelihood outcomes. Therefore, the model is established according to a process chain from (i) external context; (ii) livelihood resources; (iii) institutions and policies; (iv) livelihood activities; (v) and achieved livelihood outcomes, specifically:

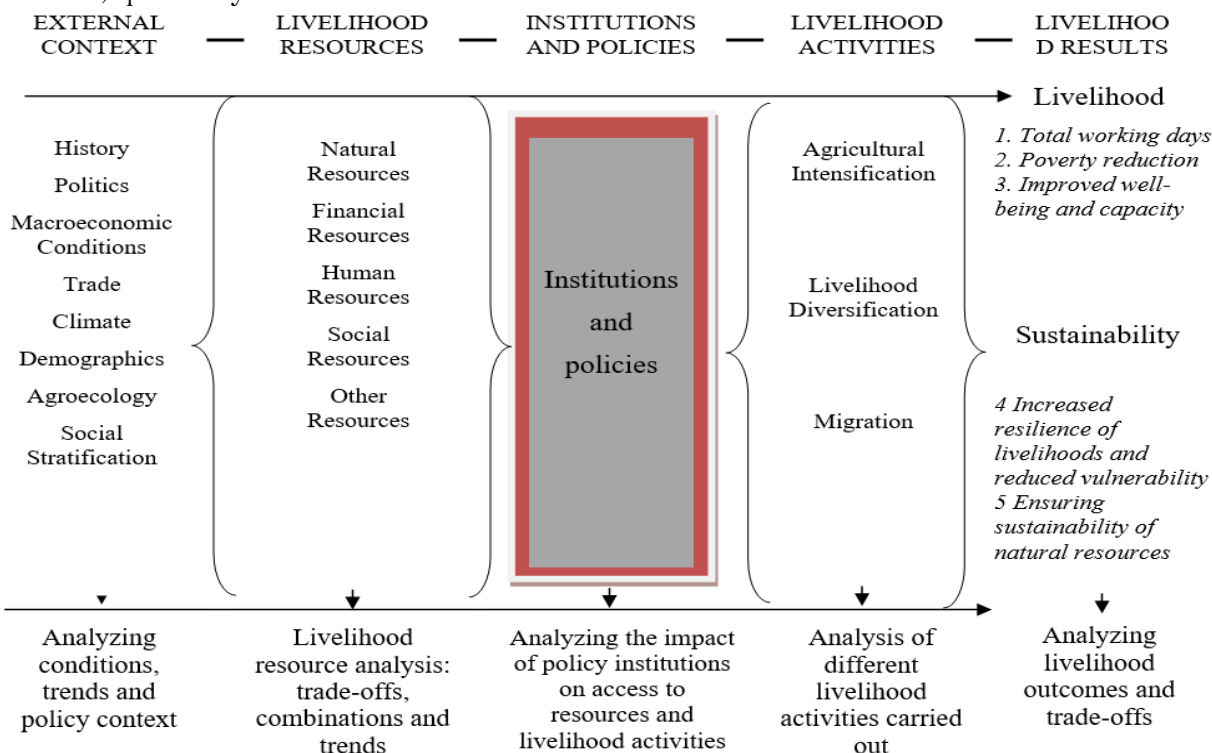


Figure 1.
Model of sustainable rural livelihoods.

Source: Scoones [4]

1.2.2. Sustainable Livelihoods Model of DFID

In 2001, the Department for International Development [2] introduced the sustainable livelihood framework, according to which households have a way of making a living (economic activities) based on available livelihood resources (5 types of resources) in a certain local policy and institutional context. DFID's approach is that the ability to access material resources can become essential livelihood assets associated with people's means of survival, but they must be placed in certain conditions to (i) anticipate risks such as shocks (floods, droughts, climate change), development trends (technology, transformation), and seasonality (seasonal agriculture, surplus labor, etc.); (ii) placed in a changing structure such as the structure of assets, the structure of resources and the conditions of exchange between assets associated with the rights and interests of the participating subjects; (iii) linked to the legal process, policies, culture and regulations of participating organizations... to develop a livelihood strategy. The final result of the livelihood framework is to improve people's welfare, reduce poverty, increase income and use natural resources sustainably. Specifically:

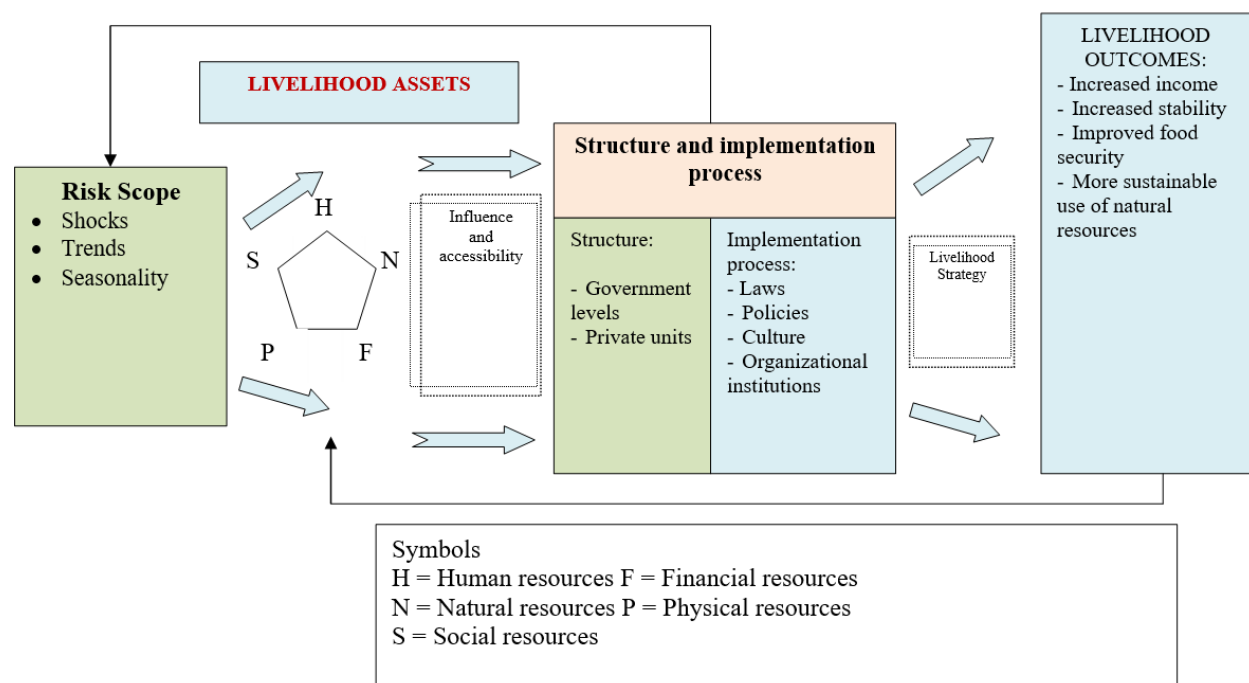


Figure 2.

DFID's Sustainable Livelihood Model (2001).

Source: Department for International Development [2].

According to Department for International Development [2] to develop livelihoods, communities and localities need resources to serve development. Resources that become “livelihood capital” are all the material and non-material capacities that people have to maintain or develop their livelihoods, divided into 5 main capitals: human capital, financial capital, physical capital, social capital and natural capital. Financial capital includes financial resources from savings, regular income or loans. Physical capital includes infrastructure and goods that producers need to develop their livelihoods. Social capital includes social relations, networks, reputation, trust,... Human capital includes a combination of health, knowledge, awareness, skills, working ability... Natural capital is all natural materials to create livelihoods, including natural resources (water, land, organisms, climate ...).

1.2.2. Adaptive Livelihood Model Based on EbA

Ecosystem-based approaches for adaptation (EbA) are an effective solution to adapt to climate change, which integrates biodiversity and ecosystem services as part of a comprehensive adaptation strategy to help people adapt to the negative impacts of climate change. Based on the reality of Vietnam, climate change has a strong impact on regions, subjects, fields and areas, notably the fields of agriculture - rural areas, natural resources - environment; coastal areas and two deltas; and farmers, the poor and their livelihoods. Notably, the impacts of climate change on agricultural livelihoods in Vietnam include: (i) Loss of arable land: Shrinking and loss of coastal arable land due to rising sea levels, loss of arable land due to increased riverbank erosion and salinity intrusion inland, and increased drought; (ii) Increased degradation of arable land: Increased area of salinized land due to rising sea levels and stronger evaporation; Increased land degradation due to increased temperature and drought; Increased soil erosion and water runoff due to increased rainfall and intensity; (iii) Increased crop losses, reduced crop and livestock yields due to direct and indirect impacts of increased average temperatures, weather abnormalities, extreme weather and climate events (storms, floods, droughts, severe cold, frost, etc.).

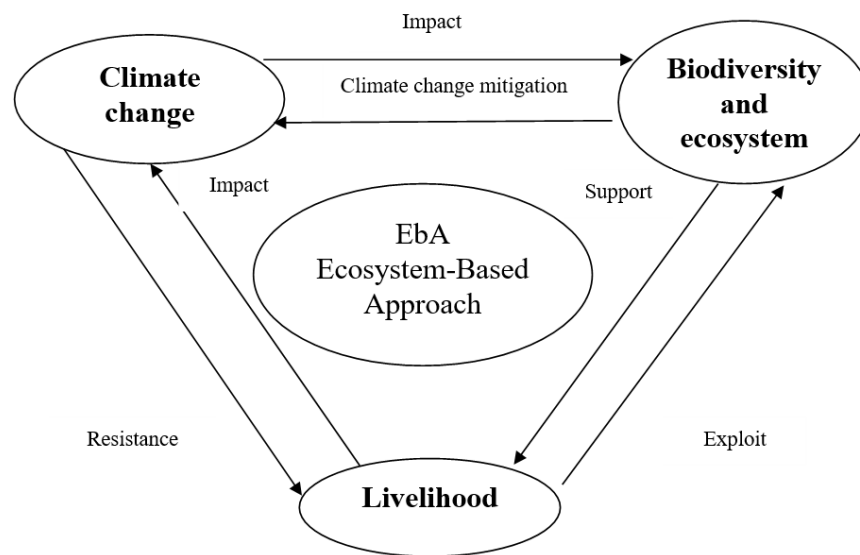


Figure 3.
EbA-based adaptive livelihood model.
Source: Truong Quang Hoc and Hoang Thi Ngoc Ha [5].

Biodiversity, climate change and community livelihoods are interrelated and are key components of sustainable development (Figure 3). Vietnam is a country with high biodiversity in the world but also has a large population and is considered vulnerable to climate change. Therefore, to achieve the goal of green growth/sustainable development, it is necessary to influence and promote the interaction between climate change response, biodiversity conservation and development - improving adaptive and sustainable livelihoods. In this process, it is necessary to apply a combination of different approaches such as “top-down”, “bottom-up/community-based”, interdisciplinary and “ecosystem-based” approaches (EbA), in which EbA needs to be given importance and research and development (R&D) should be strengthened.

1.3. Contents Of Sustainable Livelihood Model for Ethnic Minorities

(1) Develop a plan to mobilize sustainable livelihood resources for ethnic minorities: The plan to mobilize sustainable livelihood resources is based on the overall socio-economic development of each locality, mobilizing resources (capital, resources, human resources, finance, science and technology, etc.);

Mobilizing sustainable livelihood resources associated with specific, specific characteristics of ethnic minorities; Reviewing the Party's guidelines and policies, the State's policies and laws on priority, support and assistance for ethnic minorities in accessing resources; Forming organizations, mobilizing participating entities to maximize sustainable livelihood resources for ethnic minority areas.

(2) Research, thoroughly understand, apply and organize the implementation of policies to mobilize livelihood resources, specifically: Competent agencies conduct research, review, compare and contrast policies that are directly or indirectly related to resources to ensure livelihoods for ethnic minorities; On that basis, affirm which policies are still valid, which policies are still effective but require supplementation, which outdated policies must be abolished; Thereby, creating a solid basis for the implementation of resource mobilization to ensure sustainable livelihoods for ethnic minorities.

(3) Inspection and supervision work aims to encourage or guide ethnic minorities to mobilize and effectively use resources to ensure sustainable livelihoods, specifically: Develop plans, methods and roadmaps for inspection and supervision of models of exploitation and mobilization of resources to ensure sustainable livelihoods for ethnic minorities; Inspect and supervise models of resource mobilization and ensure sustainable livelihoods for ethnic minorities to detect optimal models, advanced models to replicate the models or adjust and handle violations of resource mobilization models that do not comply with the law, contrary to the customs and culture of ethnic minority areas.

2. Sustainable Livelihood Model For Ethnic Minorities – Case Study Of Quang Ninh Province

2.1. Sustainable Livelihood Model for Ethnic Minorities in Quang Ninh Province

According to the demarcation of 3 ethnic minority and mountainous areas, Quang Ninh province currently has 113 communes in the Ethnic Minority and Mountainous Area, of which 83 communes belong to Area I, 08 communes belong to Area II and 22 communes belong to Area III (particularly disadvantaged) and 11 villages are particularly disadvantaged (in addition to 22 communes in particular disadvantaged). As of December 31, 2024, the population size is about 1.429 million people with 22 ethnic groups, of which: 21 ethnic minority groups (accounting for 12.53% of the province's population) residing in a large area (more than 85% of the province's area); 05 ethnic groups live together in village communities (Dao ethnic group has 68,540 people, accounting for 47.80% of the province's ethnic minorities; Tay ethnic group has 29,849 people, accounting for 20.80% of the province's ethnic minorities; San Diu ethnic group has 20,899 people, accounting for 14.60% of the province's ethnic minorities; San Chay ethnic group has 16,107 people, accounting for 11.20% of the province's ethnic minorities); Hoa ethnic group has 5,503 people, accounting for 3.8% of the province's ethnic minorities; And the rest are Nung, Muong, Thai, H'Mong... accounting for 1.8% of the province's ethnic minorities. Ethnic minorities in Quang Ninh are distributed and reside in 14/14 (districts, towns, cities of the province), localities with high proportion of ethnic minorities are Binh Lieu (accounting for 95.8% of the district's population), Ba Che (79.85), Tien Yen (47.2%), followed by Hoanh Bo, Dam Ha, Hai Ha, Cam Pha, Van Don. With the characteristics and distribution of ethnic minorities in Quang Ninh province, the marine economy is associated with the development of marine tourism (sea tourism, resorts...), border trade economy (trade, investment...), semi-mountainous agricultural economy (both mountains and plains)..., the sustainable livelihood model is proposed for research as follows:

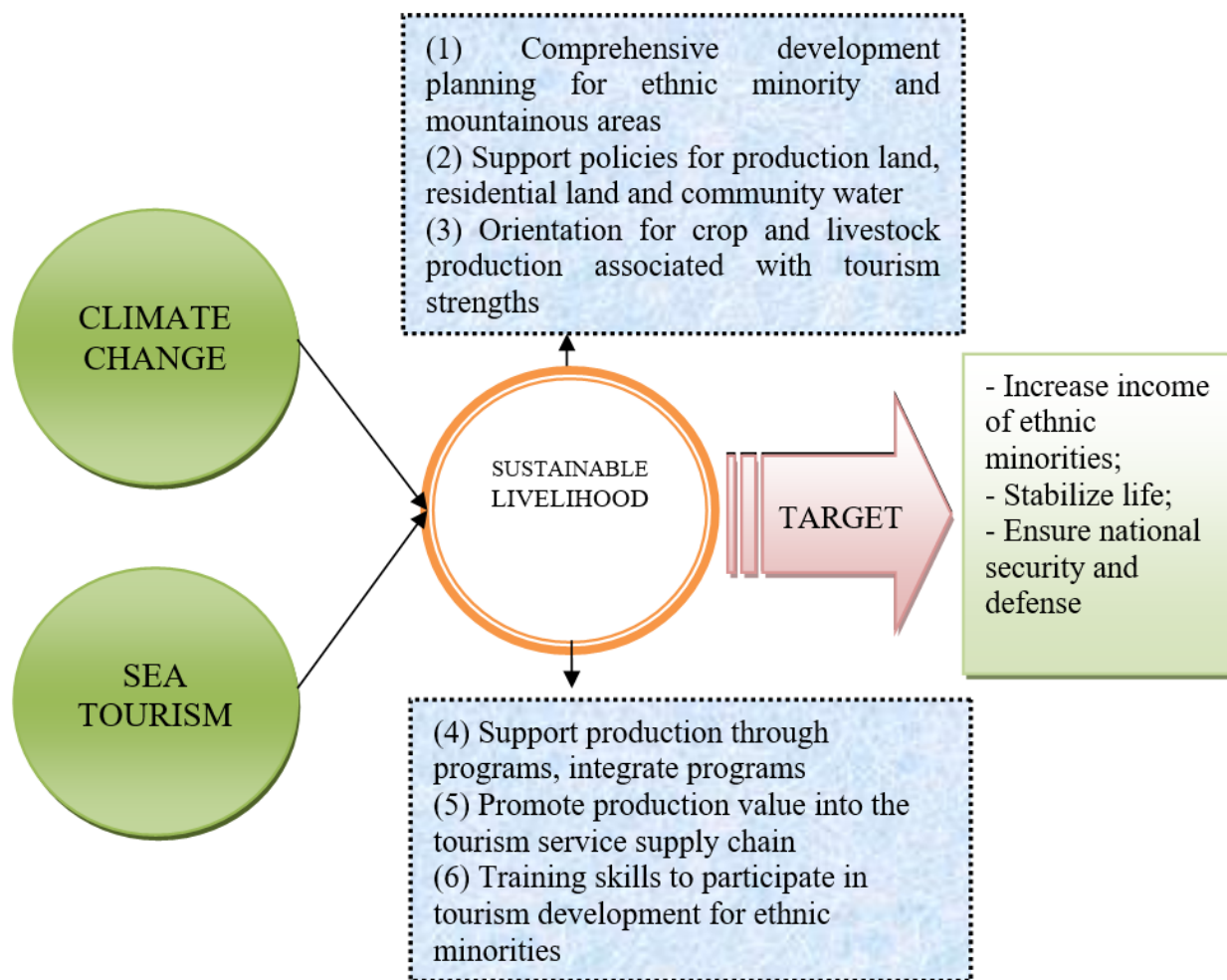


Figure 4.
Sustainable livelihood model for ethnic minorities in Quang Ninh province.

2.2. Analysis of Sustainable Livelihood Models for Ethnic Minorities – Case Study of Quang Ninh Province

(1) *Comprehensive development planning for ethnic minority and mountainous areas:* In 2012, the Quang Ninh Provincial Party Committee approved the Project to strengthen the Party's leadership on ethnic minority affairs in mountainous, border, island areas and religious affairs in the cause of rapid and sustainable socio-economic development associated with firmly protecting national defense and security of Quang Ninh province until 2020, with a vision to 2030. In 2013, the Standing Committee of the Quang Ninh Provincial Party Committee issued Resolution No. 07-NQ/TU on strengthening the Party's leadership on ethnic minority affairs in the cause of rapid and sustainable socio-economic development associated with firmly protecting national defense and security of Quang Ninh province until 2020, with a vision to 2030. In accordance with the policy on comprehensive development planning for ethnic minority and mountainous areas, the Provincial People's Committee has gradually developed specific programs and projects (Sustainable poverty reduction program according to Decision No. 161/QĐ-UBND dated January 22, 2014; Plan to implement the Ethnic Work Strategy to 2020 according to Decision No. 2537/QĐ-UBND dated August 10, 2016; continue Project 775/QĐ-UBND on new rural construction; promote the implementation of Program 135...) for comprehensive socio-economic development of ethnic minority and mountainous areas, improve the intellectual level of the people, preserve and promote cultural identity, strengthen the great national unity bloc, perfect the

political system, reduce poverty quickly and sustainably, shorten the regional gap and maintain national defense, security, social order and safety.

(2) *Policy to support production land, residential land, housing and domestic water for poor ethnic minority households with difficult lives:* The policy to support production land (or production premises) has been implemented since Program 134 phase (2005–2009) with a total capital of 27,224.25 million VND (of which: central budget is 15,371.91 million VND, provincial budget is 1,841.6 million VND, district budget is 59 million VND, mobilized capital is 9,971.84 million VND) in supporting the construction of 968 new houses, supporting 149.06 hectares of production land and 2.02 hectares of residential land for 101 households (average 2000 m²/household). In 2010, the province issued Decision No. 3869/QĐ-UBND dated December 17, 2010, implementing 10,150 billion VND (central capital: 7.0 billion, combined and mobilized capital: 3.15 billion VND) to build new and upgrade, repair 11 dams, water pipelines, water tanks for 07 districts: Hoanh Bo, Ba Che, Tien Yen, Dam Ha, Binh Lieu, Mong Cai, Hai Ha to serve the livelihoods of ethnic minorities. Quang Ninh summarizes 5 years (2015 – 2020) of implementing the project on supporting land, production land and domestic water for ethnic minorities in extremely difficult communes according to Decision No. 755/QĐ-TTg dated May 20, 2013 of the Prime Minister, specifically: supporting 5,706 ethnic minority households (reaching 92.24%) with a total implementation cost of 93 billion VND (reaching 81.87%); achieving 100% of the target of supporting agricultural land for 8 ethnic minority households with an area of 1.34 hectares for stable production; supporting residential land directly from the local land fund for 303 ethnic minority households (average 1,500 – 2,000m²/household); supporting forestry land for 150 ethnic minority households from 1 to 2 hectares (reaching 29.76%). In addition, 43 new works were built, with an investment value of over 80.5 billion VND, benefiting 2,178 households; 5 works were maintained, with a value of nearly 2.5 billion VND, benefiting 236 households; and distributed domestic water support was provided to 2,626 households, with a value of 5.7 billion VND.

(3) *Orientation of crop and livestock production associated with tourism advantages:* Shifting crops and livestock in ethnic minority areas towards promoting advantages associated with developing marine tourism, in which, priority is given to cultivating crops with economic value and crops for animal feed; developing livestock towards large-scale production; increasing aquaculture area towards tourism development, specifically: (1) Effectively implementing program 135, Dam Ha district has gradually completed infrastructure, supported livestock development (chicken and cow farms...), cultivation (banana and radish growing...) contributing to improving people's lives (annual income for households from 70 – 90 million VND), especially ethnic minorities in the whole district; (2) The total aquaculture area of the province as of December 31, 2024 is about 20,645 hectares, of which the saltwater area is 17,459 hectares and freshwater aquaculture is 3,100 hectares with a total of 9,600 cages; Estimated output is 54,245 tons, of which saltwater aquaculture is 43,738 tons and freshwater aquaculture is 10,507 tons with the main farming objects being tiger prawn, white-legged shrimp, marine fish, mollusks, crabs, traditional freshwater fish, etc.; It is estimated that each association earns an average of 500–700/year for aquaculture households (mainly participating ethnic minority households) but contains many risks of natural disasters and sea turbulence during the year.

(4) *Support through integrated programs for ethnic minorities:* The livelihoods of ethnic minorities are implemented through integrated support policies: First of all, implementing Program 135 (project 2 on the national target program for sustainable poverty reduction in the period 2016–2020), the Ethnic Minorities Committee of Quang Ninh province has advised the Provincial People's Committee to integrate resources from programs with the same goals and investment support content such as: Program 135 associated with the implementation of the New Rural Program, the Rural Clean Water and Environmental Sanitation Program associated with the implementation of Decision No. 755/QĐ-TTg dated May 20, 2013 of the Prime Minister approving the policy of supporting residential land, production land, and domestic water for poor ethnic minority households and poor households in extremely difficult communes, villages, and hamlets and Decision No. 2085/QĐ-TTg supporting socio-economic development in ethnic minority areas and mountainous areas in the period of 2017–2020. In 3

years (2016–2018): Quang Ninh province has allocated 650 billion VND (from the provincial budget) to invest in communes and villages with extremely difficult socio-economic conditions under Program 135 according to the mechanism of the New Rural Development Program and mobilized credit capital sources to deploy in communes and villages with extremely difficult socio-economic conditions with more than 476 billion VND... identified more than 9,500 ethnic minority households benefiting from integrated policies; in addition, Quang Ninh province has integrated resources supported from the construction of centralized domestic water works under Project 755 with the Rural Domestic Water Program in combination with public maintenance to carry out synchronous and complete investment to improve the efficiency and time of use of the works.

(5) *Promoting the production value of ethnic minorities participating in the tourism service supply chain:* The issue of sustainable livelihoods for ethnic minorities in Quang Ninh province residing in a fairly large area (accounting for 85% of the province's total area) with 21 ethnic minority groups (accounting for 12.53% of the province's total population), participating in the process of distributing "benefits" in the tourism service value chain is very necessary. According to research and observation of practical activities in the areas from agricultural, forestry and fishery production, it shows that mainly ethnic minorities participate and through a quick survey of some farming households, it is said that nearly 80% of farming households find it very difficult to access the service supply chain, 15% are able to participate (mainly aquaculture farming households), and 5% are workers directly participating in the tourism service supply process. Therefore, the province is connecting and encouraging participation in the service supply chain and has policies and mechanisms to create opportunities for ethnic minorities to participate.

(6) *Skills training for ethnic minorities participating in tourism development programs:* Originating from the slow production shift, the application of science and technology in production is still very difficult, the productivity of crops and livestock is not high, and production linked to the market economy is still limited. Ethnic minorities mainly develop their economy from forests but there is little forest land for production, the scale of production is small and fragmented, and agricultural and forestry products have no brand and are not of high quality. Therefore, in the production process in ethnic minority areas, there is almost no need for technical and skilled labor. Therefore, in order to have a stable life and sustainable livelihood, there must be mechanisms and policies for labor training for ethnic minorities so that they can live on their land and go further to participate in the development chain.

2.3. Limitations In Solving Livelihood Problems In Quang Ninh

Solving livelihood problems in Quang Ninh, a province with a strong economic shift from mining to tourism and services, still has many limitations. Here are some prominent issues:

(1) *Dependence on the mining industry:* Despite the shift, a large part of the workforce in Quang Ninh, especially in localities such as Ha Long, Cam Pha, and Uong Bi, still depends on the coal industry. The fluctuations in the coal market and the process of closing and shrinking coal mines pose risks of job loss, directly affecting the income and lives of tens of thousands of workers and their families.

(2) *The quality of human resources:* Although the province has promoted vocational training, the quality of human resources has not yet met the development needs of new economic sectors, especially high-quality tourism and modern services. This leads to a shortage of skilled labor, while there is a surplus of unskilled labor, making it difficult to find new jobs.

(3) *Unsustainable tourism development:* Tourism is a key industry of Quang Ninh, but rapid development and lack of planning have caused many consequences. The problem of environmental pollution, especially in Ha Long Bay, along with the exploitation of tourism in breadth without focusing on quality, has reduced the long-term attractiveness of destinations.

(4) *Income inequality:* Tourism and service development is mainly concentrated in certain areas such as Ha Long and Mong Cai, while remote areas, especially mountainous and island areas, still face many difficulties. This creates a large gap in income and development opportunities between regions, making it difficult for people in less developed areas to stabilize their livelihoods.

(5) *The policy mechanism is not consistent:* Although the province has many policies to support job conversion and vocational training, the implementation is still slow and inconsistent. Some policies have not really come into life, have not reached the right subjects in need of support, reducing the effectiveness of efforts to solve livelihood problems.

2.4. *Proposing Some Solutions to Ensure Sustainable Livelihoods for Ethnic Minorities in Quang Ninh Province*

Firstly, conduct a survey on the situation of ethnic minorities in Quang Ninh province, classify characteristics, gender, cultural level, education level, etc. to have a training direction associated with the typical occupations of the region (for example: For mountainous areas, livelihoods are associated with afforestation and exploitation of forest products; For plain areas associated with the sea, livelihoods are in the direction of aquaculture, catching seafood from the sea and exploiting the tourism advantages of ethnic minorities associated with the sea).

Second, sectoral and regional planning is associated with economic types (household economy, coastal household economy and coastal tourism economy), balancing and calculating jobs compatible with ethnic minorities who can participate in order to have a suitable vocational training strategy; at the same time, the province implements integrated poverty reduction programs, programs to develop essential infrastructure (such as electricity, roads, schools, medical stations, etc.), clean water programs, temporary housing elimination programs, etc. to create conditions for socio-economic development in mountainous ethnic minority areas (trade of goods, agricultural tourism, tourism associated with the characteristics of the marine economy, etc.).

Third, based on the investigation of ethnic minorities and the planning of local economic development, local authorities issue coordination mechanisms and support policies (training, finance, etc.) in conjunction with organizations (associations, cooperatives, enterprises, etc.) to create jobs for ethnic minorities to easily access and integrate into the workforce.

Fourth, encourage ethnic minorities to "self-create" jobs based on their inherent conditions (such as land allocation, forest allocation, sea exploitation, etc.), production characteristics, cultural identity, etc., towards exploiting the available potential of ethnic minority areas.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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