

INFLUENCE OF MOUNTAINOUS RESIDENTS LIVELIHOODS TO LIVING ENVIRONMENT (A CASE STUDY IN THANH THACH COMMUNE, TUYEN HOA DISTRICT, QUANG BINH PROVINCE)

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ABSTRACT

For nearly the past three decades, sustainable livelihoods have been worldwide seen as the most priority target in developing strategies. In Vietnam, despite a series of developing programs and projects launched by the local authorities, poverty and degrading environment has still been recurring problems. Poverty has been threatening the lives of people, especially of those living in rural and mountainous areas. Applying sustainable livelihoods framework and inter-disciplinary research methods, this writing would hope to figure out livelihoods and their influences on environment and living conditions in Thanh Thach commune, Tuyen Hoa district, Quang Binh province. The results have revealed that local people have still been living in poverty because of unsustainable livelihoods. To make a living, they have to take full advantages of available natural resources. That livelihood did not only make natural resources declined and exhausted, pushing their lives, in turn, into serious situations to permanently face with risks and challenges caused by natural disasters, but also make them failed to solve food security problems.

Keywords: *livelihoods, living environment, mountainous residents*

1. INTRODUCTION

Sustainable livelihoods are a very important problem to poor people in rural and mountainous areas. So, we have seen an increasing number of programs, developing projects that have been launched, and, theoretical studies and researches recently conducted and published by developing executors and some scholars [1-3]. In which, tests of the participatory research methods and implementary techniques to quick assess poverty in development of community livelihoods are widely acknowledged [2-7]. This article, using sustainable livelihoods framework to analyse accesses to capital for livelihoods, livelihoods in reality and their impacts on living environment. Sustainable livelihoods framework is a comprehensive approach to developing problems by insisting on discussions of people's livelihoods. This framework was once used by scholars and developing agencies [1, 2, 7, 8]. Hidden in this framework is the five-side shaped sustainable livelihoods which claim that people use five kinds of capitals as following: natural capital, human capital, social capital, financial capital and physical capital to reduce poverty and ensure their livelihoods' security [3].

In this article, supposed that the process of nearly 300 years living in a land with complex terrains and much transportation difficulties probably be such the great influences on local people to get access to capitals to constitute sustainable livelihoods. To overcome these obstacles, 90% households did live on exploitation available natural resources to ensure their own food supplies. Though, the present standards of living is clearly higher than that in the past, all of them find their livelihoods unsustainable as the way they have earned a living is just an appropriating economy or something like that. Meanwhile, forests are increasingly destroyed, living conditions become more and more degraded, and local people's daily lives, of course, are regularly facing with risks and challenges caused by natural disasters.

2. LIVELIHOODS' CAPITALS OF RESIDENTS IN THANH THACH COMMUNE

– *Natural capital:* As a western commune of Tuyen Hoa district, Quang Binh province, Thanh Thach was an area with complex terrain structures where ran majestic mountains of Truong Son range. There were totally 3,200.71 ha land area but just 124.06 ha area under cultivation, under 495m² /individual on the average. Area for cultivation was not enough, the climate was harsh with two distinctive seasons, network of river was quite dense but highly steep that made it difficult to develop irrigation system for production. Besides, forest land areas were 3,076.65 ha, 1.23 ha/individual on the average, but a majority of that was high and steep cliffs. However, if there was a reasonable exploitation strategy, there would be potentials to develop agriculture and forestry in a sustainable way.

– *Social capital:* Although living in insolation between valleys, social relationships Social capital: Although isolated between the valleys, but social relationships, social networks within and outside the community has always been strongly promoted. In the community, the spirit of mutual affection and solidarity to help each other is highly appreciated. Social associations and organizations are important channels that help local people get access to capitals, and acquainted with up-to-date sciences and technologies. However, living in concentration and insolation together with tendency to regional knowledge and with strong reliabilities system that are obstacles in joint-venture businesses, creating difficulties in accessing capitals needed for sustainable livelihoods.

– *Human capital*

Age	Number	%
0-17	903	36.09
18-60	1454	58.12
Over 60	145	5.79
Total	2502	100

Table 1. Population ratio of Thanh Thach commune

Thus, the figure shows that Thanh Thach population are so young, abundant labours (with a great number of people living off them (41.88%).

Whereas, living qualities are still low, children's fundamental rights and human ones are not met, yet, there remains malnourished children, depressed adults, widespread

common illnesses. In addition, skills and qualifications are of decisive factors for sustainable development. In 2015-2016 academic year, there are 767 schoolboys and schoolgirls (30.06% population), only 11 students. In accordance with that, also, only 1 out of 4 people attends to school. However, in Thanh Thach commune, there have been so far 11 university graduates and 7 students with college diplomas, which, on the other hand, obviously states out so low education levels that will soon be backward, unable to catch up with the momentum of the nation's phase of modernization and industrialization.

– *Financial capital*: Capital inflows come from many sources: salaries (pension: 5 individuals; civil servants: 42 individuals; labour exports: 20 individuals; unskilled workers: 100 individuals), farming and animals husbandry, “forest destroyers”... Along with those are sources of revenues and expenditures or financial outflows to cover expenses of meals, daily activities, education, sickness, investment and production, housing... This are seen as great burdens on over more than 500 local households, while legal credit markets just agree to release small funds for production. Therefore, families with pending-to-be-exported labours would have their real estate mortgaged with a hope of “life changing”.

– *Physical capital*: In order to help people out of developing economy, the government and other social organizations today have invested in infrastructures meeting 100% demands for electricity, roads, schools and medical stations. Besides these aids, and thanks to long-term accumulations, many farmers could afford motorcycles, bicycles, televisions, tractors... these facilities, though, are deficient, but indispensable means serving daily life's activities and production aims, and of initially important ones to help people make their lives stable.

Thus, livelihoods are a combination of capital sources, people's abilities and activities. But, poor people, at present, are facing with much difficulties because of the lack of knowledge, unreasonable exploitation of capital sources. These five capital sources expected to positively influence rural and mountainous development in Thanh Thach commune are so insufficient that, in turn, they leave great impacts on livelihood's real situation.

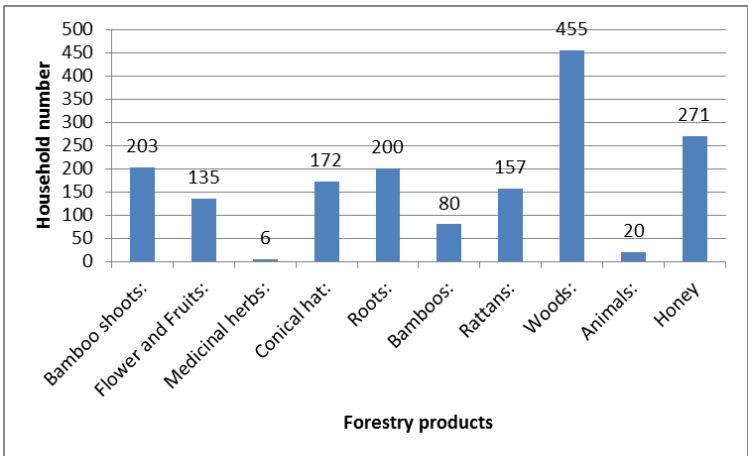
3. LIVELIHOODS IN REALITY

3.1. Livelihood of exploitation and other natural products

– *Hunting and gathering*: These activities frequently happen, attracting both main labours, simple labours and parasitic people. They collect all kinds of production such as: bamboo shoots, coryphe sari bus, tiger grass (*thysanolaena maxima*), roots, fruits, tubers... in way of eradication. Therefore, it can be seen, by year 2015, that all kinds of these products have been exhausted which resulted in greatly bad impacts on biodiversity and development of sustainable livelihoods.

Having livelihoods been at a standstill, many households remain hunting and gathering as the very choice. They completely catch all kinds of fish in streams and rivers, poaching and hunting for other forestry products in Phong Nha - Ke Bang National Parks and in others. In hunting activities, honey is at central focus for its high values at use and exchange.

Figure 1. *Number of households exploiting forestry products*



– *Logging and other forestry products:* The western forestry and mountainous areas of district of Tuyen Hoa and Minh Hoa, Quang Binh province preserve a rich and diverse flora with a variety of precious woods such as Indian laburnum, eaglewood, ironwood, bullet wood, apitong wood, redwood, technical sitar wood, menghundor wood, ebony wood, sweet chestnut wood...and other non-wood products. The results of surveys with participants showed that forests supplied wood for housing, domestic appliances, firewood for cooking and particularly commodities that support Thanh Thach residents¹.

Although logging activities have been strictly prohibited, it was because of limited land areas for cultivation and miserable life that Thanh Thach residents did break the laws. This kind of business was done with the two main purposes: personal use and trade. Logging and obtaining other non-wood products used for housing, sheds for livestock's, household appliances...are at great demands. It was estimated that around 20-25m³ woods, which were of precious ones such as: ironwood, apitong wood, redwood, menghundor wood..., were needed to build a house. Along with personal uses purpose, illegal logging for trade took place at different rates and levels. Objects to do the logging were “illegal loggers” (80% householders) – scornful nicknames dubbed those who failed to find an honest way to earn a living.

Exploited logs were mainly of precious woods from old forests with shapes and dimensions varied as demanded by wood tycoons. Wood exploitation at intense rate gradually depleted nearby timbers, “loggers” had to go deep into forests near Vietnam-Laos border, into the Highlands, through Laos and Cambodia, cutting down trees and shipping logs and timbers for hire at the same time. Besides wood, products made from and of rattan, cork, bamboo to serve trading purposes also attracted 90% households to participate.

Their process of deforestation and making forests exhausted earned them, for many months, not a single penny, and certainly did not guaranteed their families' food security as their “black achievements in deforestation” detected by authorities. Yet, if they were “lucky enough” or forests were “not in action”, a logging trip could earn them 10 millions VND/3 months – 5 times higher than total income of a-year-crop production.

1. Besides Thanh Thach residents, local forestry and mountainous areas also supported about 70% population of the five communes of Tuyen Hoa district as following: Lam Hoa, Thanh Hoa, Kim Hoa, Huong Hoa, and other remote communes of Minh Hoa district.

3.2. Production livelihood

– *Cultivation*: Permanent settlements between the valleys, with the total production area of 124.06 ha, but there were really 44 ha (for 2,502 individuals) out of that under cultivation (1 corn crop/year, and 1 green bean crop/year), less than 175 m²/person on the average, the rest was hilly land and sand which were unable to yield.

Compared to crop production, gardening economy would bring them higher profits. On consideration of current situations and trends, economic form of planting trees in the gardens and hilly gardens was abundant and diversified, in which Phuc Trach grapefruit was said to bring rather high income to about 30 families (15 millions VND/family/year). However, for strongly focusing of multi-cultivation and low levels of producing techniques, economic efficiencies, on the whole, were limited, cultivation land was left in untouched.

Another kind of livelihood to draw the residents' serious attention was afforestation. The process of greening bare hills saw the contribution of about 50 households and has brought back some respectable results, creating huge financial income of about 60 millions VND/household/5 years. This profit has driven 300 other families that are hopeful to have bank loans to invest in "baring hills and mountains" projects. Whereby, vast ever green forest are scrambled for cutting and burning down for afforestation with hopes for better future. This situation has raised up urgent demands for policy makers to bring forth appropriate planning, clearly dividing lands and forests, which would limited indiscriminate burning and deforestation and increase forest covering rates.

– *Animal husbandry*: As a mountainous area, cattle-breeding development was preferentially focused. However, the process of afforestation swept away grasses so the number of cattle bred in each of families, as a result, had to retain from 1 to 8. Breeding's purpose was mainly to serve production, so nearly 90% of all the households took part in. In addition, pigs and chickens were commonly domestic animals. However, only five households in Thanh Thach commune expanded animal husbandry up to large scale (20-50 pigs, more than 100 chickens), the rest did it a little. In spite of a large number of idle labours, easy disease-preventing tasks, abundant natural resources of materials for carpentry, knitting, favourable to promote strengths of breeding and handicraft, it was the inertia of "culture of poverty", laziness, low quality of human capital, lack of funds that obstructed connections to the markets, thus, breeding and handicraft, as a matter of course, could not develop.

3.3. Trade and services

As residents' territories were accessible with far more difficulties, previous concepts of markets were taken as exchanges, bearing views in the high spirit of the whole community. At first, exchanges took place mainly based on practical needs "what we have and what we need", then that gradually switched to exchange "what we have and what the others need", which consequently retarded the development of trade and services.

4. LIVELIHOODS' INFLUENCES ON LIVING ENVIRONMENT

Thanh Thach residents' livelihoods are unsustainable. Not only were poverty, standstill life and lack of appropriate livelihoods generally believed to have been reasons leading them to illegal loggings but also loose management of authorities in about a decade (1998-

2008) had a part in turning Tuyen Hoa mountainous area into logging centre and wood entrepot. This kind of livelihood has degraded natural resources and badly influenced environment.

4.1. As for natural environment

1). The air was less fresh as forests were cut down causing heat radiation to raise.

2). The climate became harsh with two distinctive seasons: In the dry season, trees were just a few, solar radiation increased the earth's temperature, with low humidity, too dry wind blowing from Laos; in rainy and cold season, prolonged rainfall, high humidity, cold winds, temperatures lowered in winter without forests' shieldings, the climate thus was much harsher. In addition to that, habits of grazing and indiscriminate defecation easily spreaded out diseases.

3). Water environment: A series of streams became "dead" in dry season causing water shortage for daily activities and production. In rainy season, torrents and floods occurred so often for lack of forest coverage, causing loose of lives and crop failures. Evident consequences of this livelihood were specified by the two successive floods in October 2010 killing 20 people and ruining hundreds of billions VND of Tuyen Hoa district.

4). Land resources: originally small land under cultivation became narrower and narrower, arid in dry season, eroded, sliding and deposited in rainy season. Short-sighted livelihoods made arable land less fertile, too narrow area for cultivation made it impossible for peasants to live on agricultural production and wanted not to do the farming any longer.

5). One-way exploitation together with "green hills and mountains denudation" for afforestation serving purposes of production and defense resulted in millions of trees being cut down, "splited off", many of jungles became hollow, protective forests were burned down to ash. Local flora declined, so did the fauna. These factors greatly influenced the atmosphere, climate, causing underground water's levels decreased and environmental degradation.

4.2. Social environment

1). Life still remained insufficient, the whole community often suffered major shocks caused by natural disasters. The extreme of life made a large number of children with unfinished secondary school's courses leave school for going into forests with their brothers and fathers. Time to live in the forests of illegal loggers were greater than that of at home, with the Shade of Death lying in wait, low quality of life, loss of health, acquiring illness. Their real lives were in fact influenced by "jungle laws" so they led their lives in standstill livelihoods and in the lack of culture and civilization. Thence, drug addiction was invited, so came after social evils such as fights, killings, stealings that destroyed the village's orders and securities.

2). Unclear decentralization of forests for households would see severe disputes. Habits of grazing the cattles and poultry caused unsanitary, low productivity and crop destruction in the community, which, more ever, raised controversies among neighbours, ill influenced the spirit of solidarity in the village.

3). Productive land was little, labour assignment was not reasonable, other exploiting activities were duties of man, leaving women idle all year round. This accounted for rapid growth of population (60-year-old women had 8 children, while those at age from 30-40 had 5 children on the average). This, also, simultaneously caused the gender inequality in

family, the husbands had obvious rights to make decisions. Living a life relying on husbands' incomes was potentially the seeds of family violence, women were always the last persons to take disadvantages.

5. CONCLUSION

Residents in Thanh Thach commune, Tuyen Hoa district, Quang Binh province have lived in extremely difficult situations. Limited capital approaching took away opportunities for sustainable livelihoods to develop. And this was also the reason that pushed the residents to another livelihoods. The existing livelihoods left huge impacts on living environment not only of Thanh Thach dwellers but also of other communities living on the two banks of Gianh river. Natural resources depletion and insecure social environment placed the whole community in the state of facing risks, vulnerable contexts.

Information from this case study, plus many other sources of information would probably point out that this issue should be studied and discussed. After that, bring out appropriate solutions and policies launching sustainable livelihoods strategies to increase income, improve life without doing the environment harm.

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