Article

Understanding Vietnamese Farmers' Perception toward Forest Importance and Perceived Willingness-to-Participate in REDD+ Program: A Case Study in Nghe An Province

Quy Van Khuc [1,*], Linh Pham [2], Mai Tran [3], Thuy Nguyen [4], Bao Quang Tran [5], Tri Hoang [6], Thang Ngo [6] and Trung-Duc Tran [7,8,*]

1   Faculty of Economics and Business, Phenikaa University, Hanoi 12116, Vietnam
2   Department of Economics, University of Central Oklahoma, Edmond, OK 73034, USA; lpham17@uco.edu
3   Department of International Business, Foreign Trade University, Hanoi 100000, Vietnam; tranphuongmai01vn@gmail.com
4   Faculty of Economics and International Business, Foreign Trade University, Hanoi 100000, Vietnam; diepnn1519@gmail.com
5   Faculty of Environment and Forest Resource Management, Vietnam National University of Forestry, Hanoi 100000, Vietnam; baofuv@yahoo.com
6   Faculty of Economics, National Economic University, Hanoi 100000, Vietnam; tricua1801@gmail.com (T.H.); conmeobeo9981@gmail.com (T.N.)
7   School of Civil and Environmental Engineering, University of Ulsan, Ulsan 44610, Korea
8   Vietkaplab, Hanoi 100000, Vietnam
*   Correspondence: quy.khucvan@phenikaa-uni.edu.vn (Q.V.K.); tranductrung.csu@gmail.com (T.-D.T.)

Abstract: Climate change continues to pose a constant threat to nature and human beings, and thus demands adaptability and flexibility in forestry and domestic land use management. In this context, the Reducing Emission from Deforestation and Forest Degradation (REDD+) project was introduced to harness forests to curb greenhouse gas emissions in an effort to combat climate change. As of 2020, REDD+ was implemented in 65 countries across the world, including Vietnam. While the missions of afforestation and forest protection cannot be accomplished without the aid of local residents, low participation from stakeholders, particularly poor farmers, is an obstacle in climate mitigation projects. To contribute to improving REDD+ with a useful Vietnam reference, this study uses a random sample approach coupled with a face-to-face interview method to survey 215 households in Chau Thai, one of 206 poor communes in Nghe An province, to learn about (1) residents' perception towards the importance of forests, (2) how forests contribute as a source of livelihood, (3) potential for household engagement in REDD+. The research findings show that the important role of forests is well acknowledged, the majority of forestland was allocated to plantation forests, and the seeds are carefully selected to satisfy market demand. In addition, forests are recorded to make major contributions to residents' income and roughly four-fifths of households revealed their willingness to get involved in the REDD+ project with a monthly subsidy of 500–2000 kVND (22.3–89.2 USD). The study provides valuable information about forest-based rural livelihood and policy options to facilitate REDD+ participation among farmers. This, in turn, helps devise more appropriate policies for climate change mitigation and sustainable rural mountainous development nationwide and beyond.

Keywords: climate change mitigation; plantation forests; rural livelihood; households; forest dependence; Vietnam

1. Introduction

Forests play a crucial role in sustainably providing and maintaining a healthy life for humans and society. According to the Food and Agriculture Organization (FAO) (2015) [1], forest products are a major source of livelihoods for around 1.3 billion people, 18% of

the world population. Poor people, especially destitute ones, utilize forest resources in various ways, ranging from agricultural inputs, subsistence, and fuelwood, to income [2–6]. More importantly, forests can facilitate poverty alleviation and inequality mitigation in many parts of the world [7]. In Vietnam, for example, the total forest area amounts to 48.06% in 2016, according to the World Bank development indicators. Particularly, UNDP (2017) [8] underscores the role of forest in remote and highland Vietnamese areas where underprivileged communities or ethnic minorities live within or adjacent to natural forests.

Deforestation and forest degradation have been mainly responsible for the severity of environmental problems for decades globally. For example, the dwindling number of forests in nine tropical countries (Indonesia, Brazil, Malaysia, Democratic Republic of Congo, Bolivia, Colombia, Peru, Mexico, and Cambodia) was claimed to result in around 77% of forest-related emission. Nambiar (2019) [9] emphasized that the reversion and restoration of forests to their original state will reduce emission by 12.7–16.5 billion Mg year^{-1}, around one-fourth of the total greenhouse gas emission. To this end, REDD+ projects, which aim to reduce emission from deforestation and forest degradation were introduced. The projects target developing countries and provide incentives to preserve existing forests and increase national forest cover. Due to its innate deficiencies, it remains to be seen whether REDD+ brings future benefits and encourages innovation to accomplish its conservation goals [10]. However, REDD+ is still a promising environmental conservation strategy.

The progress in REDD+ is strictly driven by policies in developing countries. In Indonesia, for example, the effectiveness of REDD+ in emission reduction has been hampered by counteractive regulations [11]. Therefore, governments should take into consideration complementary policies to REDD+, thereby potentially enabling deforestation and forest degradation. Specifically, better policies related to disincentivizing deforestation, higher budget, and domestic and international efforts are prerequisites to rapidly improve REDD+'s performance. Sandewall (2010) [12] indicates that, over the past five decades, many governmental policies have been implemented, but surprisingly they have failed to be a key contributor to poverty elimination and households' willingness to join environment protection projects.

Vietnam is one of the first countries in the world to actively participate in REDD+ projects. The country has high chances of forestry development for its richness in unfulfilled forest resources. Between 2008 and 2017, the total forest area in Vietnam gradually increased from 13,118 thousand hectares to 14,415 thousand hectares, 71% of which was natural forests, and the remainder was plantation forests [13]. Moreover, nowadays, advancements in technology and increasingly high market demand pave the way for plantation forests to develop [14]. Preponderantly, Vietnam, a developing country on the way to industrialization and modernization, has endeavored to optimize and gear its resources towards sustainable development. These factors all can be conducive to REDD+'s potential for sustainable development and resounding success.

Although the Vietnamese government has signed international agreements related to climate change and trade, many policy challenges still exist. A persistent impediment to effective forest protection lies in the instability of government policies [15]. The closure of natural forests in 2016 proved to be ineffective in alleviating the spread of illegal logging and deforestation in 2016 and 2017, according to Nguoi Lao Dong newspapers and Decision No. 886/QD-TTg, which gave the greenlight to the 2016–2020 sustainable forest development program. REDD+ has attempted to yield effective, efficient and equitable outcomes, though its efforts have yet to come to fruition. A low household engagement rate hinders its development [15]. A small number of households is unlikely to bring about a shift from considerable deforestation to reforestation and/maintain effective forest management. One finding shows large variations in how respondents perceived local willingness to engage in forest conservation activities [16]. Transformation and reform cannot be achieved overnight, but instead, they demand a long process and a big budget to cover all costs incurred. REDD+ is unable to compensate participants for their opportunity costs, for opting to join REDD+ represents a trade-off between forest conservation and

highly profitable products, which are drives of deforestation [17]. It is noted that residents in remote rural areas are still ill-informed, so extensive care, concrete instructions and crash training courses should be prioritized to achieve ultimate goals. Our research is expected to provide policymakers with an overall view of household awareness of forests to make proper changes to offset these above-mentioned deficiencies.

Since 2011, many forestry policies in Vietnam, such as the Vietnam Green Growth Strategy, the Vietnam Forestry Development Strategy for 2006–2020, and the National Target Program on Forest Protection and Development have been framed along with REDD+ [13]. However, results from a recent study in Bac Kan, Vietnam [18] suggest that compensation from current reforestation schemes, including REDD+, might be inadequate to encourage voluntary participation. Opinions are divided over the impact of financial incentives on local participation. While Shrestha and Shrestha (2017) [19] found that economic incentives alone are unlikely to enhance participation in forest management programs in Tanzania, the majority of respondents (92%) were willing to join if economic stimuli were provided [20]. A multitude of elements exerts an influence on willingness to adopt REDD+, including the age and gender of the household head, household size, years of residing, education, biophysical conditions, and awareness of the project's goals [19–22]. In particular, of all factors investigated, it appears that only findings on gender reach a clear consensus, with higher support from female respondents. Furthermore, the findings of Pandit (2018) attested the enormous support for REDD+ to become a regular program. Komba and Muchapondwa (2017) [20] identified the amount of compensation demanded to participate in the Tanzania study, which is in proportion to the level of forest income dependence. However, few studies have examined the effects of economic status and knowledge of deforestation on participation in REDD+.

To improve sustainable development in rural mountainous areas and climate change mitigation efforts, this study aims to advance the understanding of rural livelihood associated with forests and the farmers' economic demand for climate change mitigation activities. While the poor are a high priority target for many past and current rural development policies, the poor seem to be less likely to participate in REDD+ activities, according to Pham et al (2019) [15]. Hence, the study aims to learn about poor and non-poor households and then compare the differences in: (1) their perception of forest roles, (2) the importance of forests to their life, and (3) their willingness to join REDD+ at varying financial incentive levels.

The study proceeds as follows. Section 2 provides the methodology, which includes a conceptual framework and methods for surveying households and collecting and analyzing data. Next, Section 3 depicts the brief results of perception towards forests, livelihood associated with land and income, and payment condition-based commitment when taking part in forest protection activities. Finally, the conclusions and policy suggestions are included in Section 4.

2. Conceptual Framework

We propose a conceptual framework of forest participation, a subset of sustainable livelihood framework [23] and forest ecological-social systems [24], to learn about the different dimensions of human–forest interaction and relationships, particularly people's intention toward forests. The framework is divided into four blocks: awareness (Block A), practices (Block B), utility (Block C), and participation (Block D) (Figure 1).

The core goal of the study is to broadly explore the interplay between people and forests in the following areas: forest perception, forest practices, forest utility, and forest practice participation. Block A (perceptions) refers to farmers' perception, or awareness of forests. This is deemed the lowest level of the forest activity participating ladder. Forest perception is any thoughts about forest-related features such as forest scarcity [24,25]. Forest scarcity does, in fact, become more common in areas where deforestation and forest degradation are occurring at a high rate. It is noted that the scarcity of forests is highly associated with water scarcity and limited access to clean water [26]. Another aspect of

forest perception is forest importance, which refers to how much local people perceive, feel, and appreciate the forest's importance to their well-being [24,25]. There are some perspectives on the level of importance. In the first insight, the importance of forests may indicate the degree to which people live near forests and understand forests and how their' livelihood depends on forests [27]. In the second one, the importance of forests could manifest farmers' incentive to more actively protect and or invest their capital in forests to some degree.
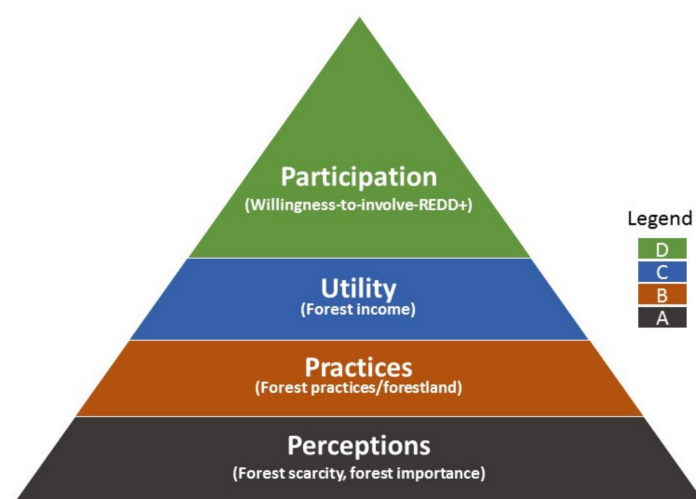

Figure 1. Conceptual framework of forest participation.

A higher level of interaction among people and forests is presented in Block B (practices). Forest practices are any activity involving the growing, harvesting, or processing of timber that takes place on or is directly related to forestland. The intensity of forestry practices is measured and assessed by farmers' amount of land, time, and labor devoted to forestry practices [28]. For example, the size of the forest not only reflects the quantity of workload but also measures the livelihoods among households. It is a fact that the rich and the poor often have a considerable disparity in the forestland/forests [3,29,30]. In addition, the quantity of forested areas manifests the livelihood strategy of each household. Households who own larger forestland are likely to invest more in activities with a higher return.

Under normal norms and conditions, farmers want to maximize their output given their limited resources and capital [28]. Block C (utility) regards the extent to which farmers earn income from forests. Thus, forest utilization reflects, to some degree, the importance of forests to farmers' livelihoods, which is inherently measured by the proportion of forest income in the total household income. In many uplands, the contribution of forests to livelihoods often accounts for a high share of total household income [3,4,29,30]. Forest utility is a measure of satisfaction that could encourage or hinder farmers from engaging in forest practices, depending on the degree to which their outcome exceeds expectations. For example, if farmers earn more income from plantation forests than expected, they are more likely to continue their forest practices.

Block D (participation) expands the utility concept by referring to people's participation dimension. Since they choose whether to participate in a new project, this is considered the highest level of forest activity participation. It is possible that landowners' mindset and decision-making toward forest practice participation change and depend upon their carefully considering and weighing various factors such as opportunity costs and trade-offs [30,31]. However, the stated willingness to engage in a future forest project reveals a certain degree of demand for forest income and forest services from participants. More importantly, this element represents the degree to which people commit to a new

and or next forest activity, which would offer practical implications for climate change mitigation projects.

In summary, these elements interact with one another, shedding light on the importance of forests and the reliance on forests for livelihood. Forest perception shapes forest practices, which influence forest utility and, in turn, encourage or hinder involvement in future forest projects. Utility/satisfaction, on the other hand, can cause people to slow down or increase their forest activities, which ultimately forms people's perception toward forests and their willingness to engage in possible forest activities. The above framework of forest participations is used to shape and present the contents of the study in the following sections.

3. Method and Materials

3.1. Study Area

Nghe An was selected as a research area, because this province's rich natural resources such as land, biodiversity, can enable plantation forests and greenhouse gas emissions reduction. Additionally, the province is one of Vietnam's leading areas where deforestation and forest degradation are happening [32]. Therefore, the province is highly suitable for climate change mitigation programs such as REDD+. To select the study communes, we relied on three conditions. First, the selected commune must be a poor commune according to national regulations. Second, households there must heavily depend on agriculture and forestry as a primary source of income. Third, the commune has a huge unfulfilled potential for economic development from afforestation, thereby serving as the driving force for the increase in agricultural products' value and the alleviation of environmental issues and climate change. As a result, Chau Thai was chosen as the study commune. Next, in the 2018 survey in Chau Thai commune, we randomly interviewed 215 households residing in four villages, including Dong Minh, Ban Hat, Thai Quang, and Dong Hin. Our framework is designed to obtain data on sustainable livelihood earned from forestry and households' characteristics and income structure.

3.2. Data Collection

We employ a probability sampling approach [33] to survey 215 households in 2018 to collect data on households' perceptions of forests and their willingness to join climate change mitigation projects, namely REDD+ [34–37]. Once the questionnaire was finalized after a comprehensive review, face-to-face interviews are applicable to the process of empirical research. A pilot survey, a questionnaire, and a focus group were carefully planned to rule out potential undesirable risks and produce optimal outcomes. During the survey process, there were regular interactions and information exchange, and a meeting among field interviewers is held each working day to keep track of progress and adjust promptly to ensure that everything is going according to schedule.

We followed three steps in our research process [35]. Firstly, a focus group was formed, which allows field interviewers to fully master data collection procedures and check the quality of the questionnaire. The second stage involved a pilot survey conducted to make proper adjustments if necessary to optimize the questionnaire. The finalized version was composed of 71 questions in total to acquire four categories of data. The first part (14 questions) was related to criteria for residents' seed selections and the perceived importance of forests. The next 15 questions in part 2 aim to figure out how households earn their livelihood from afforestation. Part 3 (4 questions) was concerned with the potential for households' involvement in the REDD+ project. Part 4 (12 questions) asks about participants' personal information and socioeconomic backgrounds. Lastly, after careful preparations, surveys were carried out using stratified random sampling and face-to-face interviews. The data collected is available at [36].

From a scientific point of view, an acknowledgment of limitations is generally believed to be requisite. It allows readers to identify weaknesses, assess research credibility and validity, and preponderantly and provide a blueprint for future topic-related research. Our

research is no exception, but efforts have been made to overcome existing limitations [37]. First, there are 206 poor communes in Nghe An Province, but only Chau Thai commune was selected for in-depth examination, thereby undermining research generalization. However, we consulted both local residents, households and authority about a commune suited for our research design, so even though randomly chosen, Chau Thai Commune is considered as a representative of impoverished and underprivileged communes in Nghe An province. A research design can be deemed appropriate if data analysis is treated with extensive care to detect substantial sample idiosyncrasy. In addition, MacCallum et al. (1999) [38] emphasized that, with well-determined factors, samples ranging from 100 to 200 are acceptable. Vanvoorhis and Morgan [39] and Comrey and Lee (1992) provided a sample size assessment of 6 categories: 50—very poor, 100—poor, 200—fair, 300—good, 500—very good and 1000—excellent. Based on these criteria, our sample is acceptable and sufficiently appropriate. Rough mountain roads and poor-quality traffic infrastructure presented field interviewers with a number of challenges on their way to reach respondents. However, every member of the survey team still maintained a high spirit and remained enthusiastic about their assigned tasks. Additionally, to ensure optimal research outcomes, local officials accompanied field investigators throughout the survey process to fully support households of substandard literacy in completing the questionnaire properly. Both local officials and residents were very cooperative and willing to help our field investigators throughout the survey process beyond our expectations.

3.3. Data Processing

To process raw data collected from the survey, descriptive statistics are used to summarize the data and provide quantitative descriptions systematically. This enables further understanding of the features of already exploited forests and residents' perceived importance of forests. We computed the mean, standard deviation, standard error, minimum and maximum values, and range as measures of central tendency and variability (Supplementary Table S1 and S2).

In addition, to test whether the mean of an unknown population is equal to a specific value, we employed a one-sample T-test to find the confidence interval for the variables' mean (95%). Independent sample T-tests, which include the Levene's test for equality of variances and T-tests for equality of means, were also utilized to compare whether the variables' means are different across groups at the 5% significance level. Poor and non-poor households were classified on the grounds of Vietnam's poverty line in rural areas in the 2016–2020 period (US$1.02 per person/day) [18,40]. Low income households are the main focus of New Rural Development programs. This categorization helps accentuate the main characteristics of each group, as well as their differences (Supplementary Table S3).

4. Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

4.1. Forest Importance Perception, Forest Choice Reasons, and Household Forestland Distribution

In general, poor households put greater emphasis on the role of forests in their life, albeit a small mean difference of just 0.09 (Figure 2). In addition, 98% of the residents selected forest seeds based on their simplicity of cultivation. At the same time, around two-thirds took into consideration pests, growth rate, and high-quality outputs during the selection process.

First, it is noteworthy that people in Chau Thai highly appreciated forests, with 96% regarding forests as "important" or "very important". This could be attributed to forests' vital role in income generation and the large forestland area in the household land structure (Supplementary Table S1). Note that we find little difference between poor and non-poor households' perception about forest importance. The majority of each group regarded

forests as "Very important' (78% non-poor; 70% poor. See Figure 2). Only 4% and 3% of poor and non-poor households remained neutral in the significance of forests, and none of the households regarded forests as "Not important' and "Very not important'.
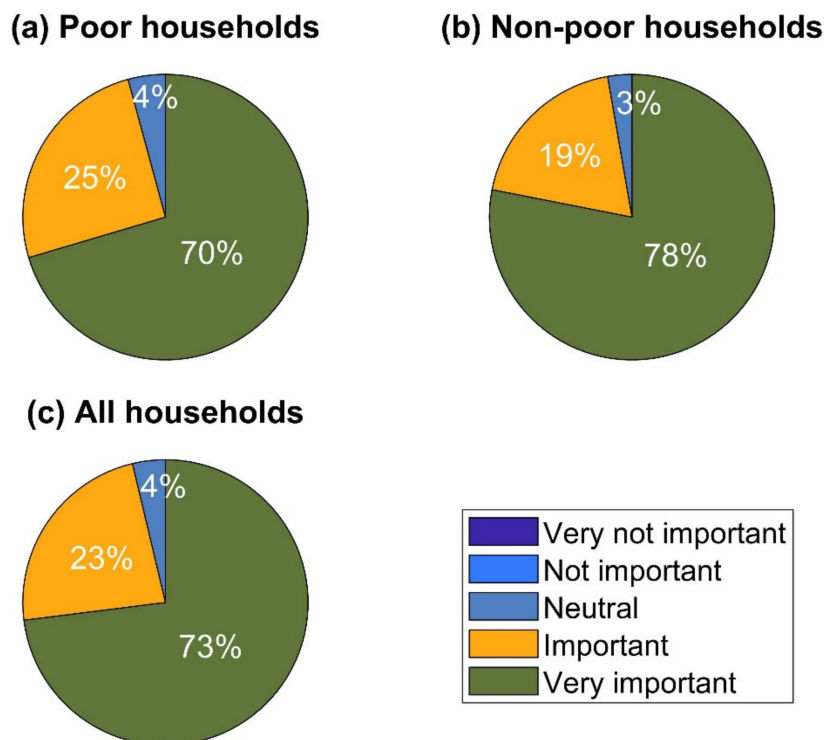
(a) Poor households

(b) Non-poor households

(c) All households

Figure 2. Forest importance perceived. Source [36].

Next, we investigate the determinants of households' forestry practice choices, specifically their reasons for adopting *Acacia*. To this end, we employ a series of binary choice questions to identify the main determinants of household adoption decisions (Supplementary Table S1). The most important factor is the ease of cultivation. Our survey shows that 98% of households planted *Acacia* species because it is easy to cultivate. The next determining factor was learning from neighbors, where 77% of households considered this factor when making decisions. Besides these reasons, *Acacia* was preferred because of their fast growth and pest resilience (68% and 67% of households selected these reasons respectively). In contrast, only 13% of respondents planted *Acacia* because of the short harvesting time. Finally, only 20% of households consider interventions of the authorities, specifically suggestions of forest extension officers, in their decisions.

Finally, we explore whether there is any difference in the determinants of adoption decisions between poor and non-poor households (Supplementary Table S2). We did not find any statistically significant difference between the two groups regarding the role of the two most common determinants: "Easy to cultivate" and "Learning from neighbors". A statistically significantly higher proportion of poor households selected "Seedling and technical availability" as a contributing factor in their decisions. Poor households are also more likely to consider "Easy to sell" and "Weather resistance" than non-poor households. However, non-poor households are more likely to consider "Short harvesting time" as a contributing factor in their decisions. Finally, we do not observe any statistically significant difference between poor and non-poor households' preference for other factors (Supplementary Table S2).

In Chau Thai, forestland amounted to over 90% of households' land area as of 2018. This proportion was also applicable to the two income groups. However, the non-poor

group on average owned 1.51 hectares more forestland than the poor one. Other types of lands accounted for little area of the region as in Figure 3.
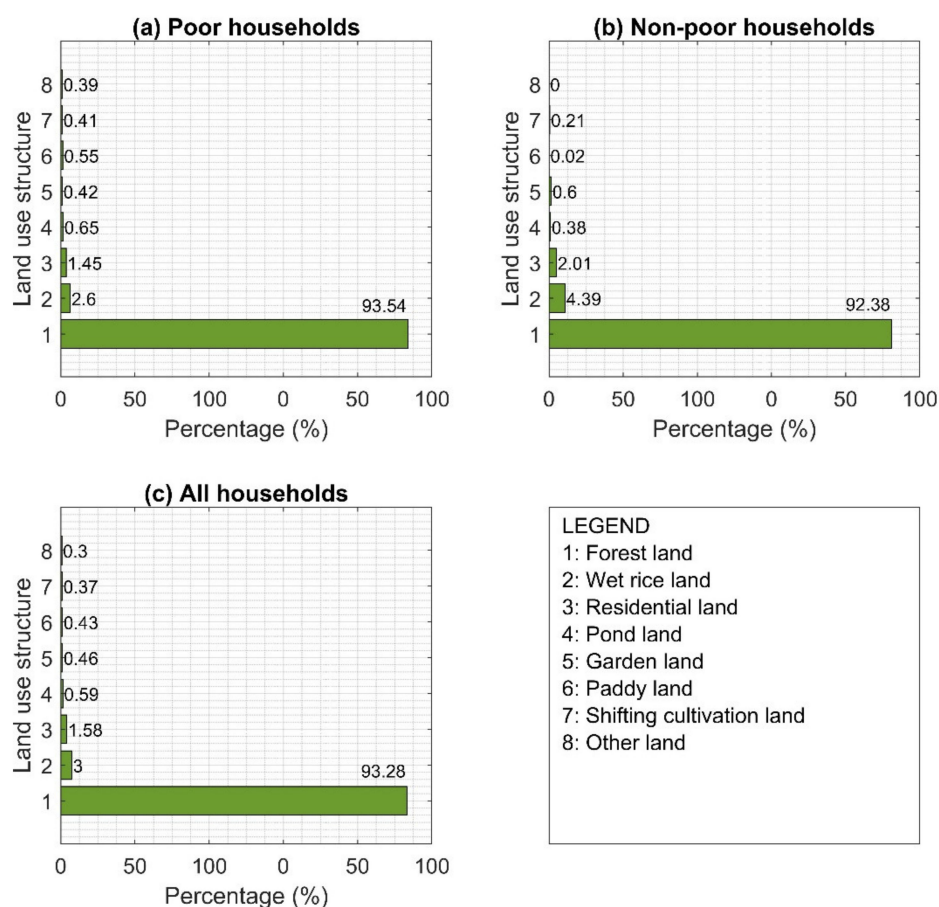

Figure 3. Forestland distribution by land types. Source [30,36,41].

4.2. Forest-Based Household Utility

Figure 4a illustrates the average households' income structure with fourteen components. Revenue from planted forests made a significant contribution to the livelihood of people in Chau Thai. This is consistent with the large share of forestland among households in the commune. More specifically, planted forests and non-timber forest products (NTFPs) generated 23% of households' total income on an annual basis. This makes forest income the third most important income source for households in Chau Thai, after wage (39%) and livestock (25%) Interestingly, the essential crops of Vietnamese daily meals, such as potatoes, corn, soybeans, fruits, and rice, accounted for only under 10% of household income altogether.

Figure 4b,c present data on the household income structure of the poor and the non-poor, respectively. Wage, livestock, and planted forest made up roughly four-fifths of the total income in both poor and non-poor households. Non-poor households derive a larger share of their income from wages (42%). In contrast, wages only accounted for 25% of income among poor households. Poor households relied more heavily on forests (26%) and livestock (31%) as earning sources. Note that rice accounts for a small household income share, despite its importance in the Vietnamese diet.

4.3. Willingness Condition-To-Involve REDD+

Most importantly, the agreement rate of local people to get involved in the REDD+ project seemed to be directly proportional to the amount of money received. Supplementary Table S1 suggests that poor households valued forests more highly, so they were expected

to show more interest in this climate change mitigation project than their non-poor counterparts. As shown in Figure 5 below, more poor families are aware of the REDD+ project than non-poor families.
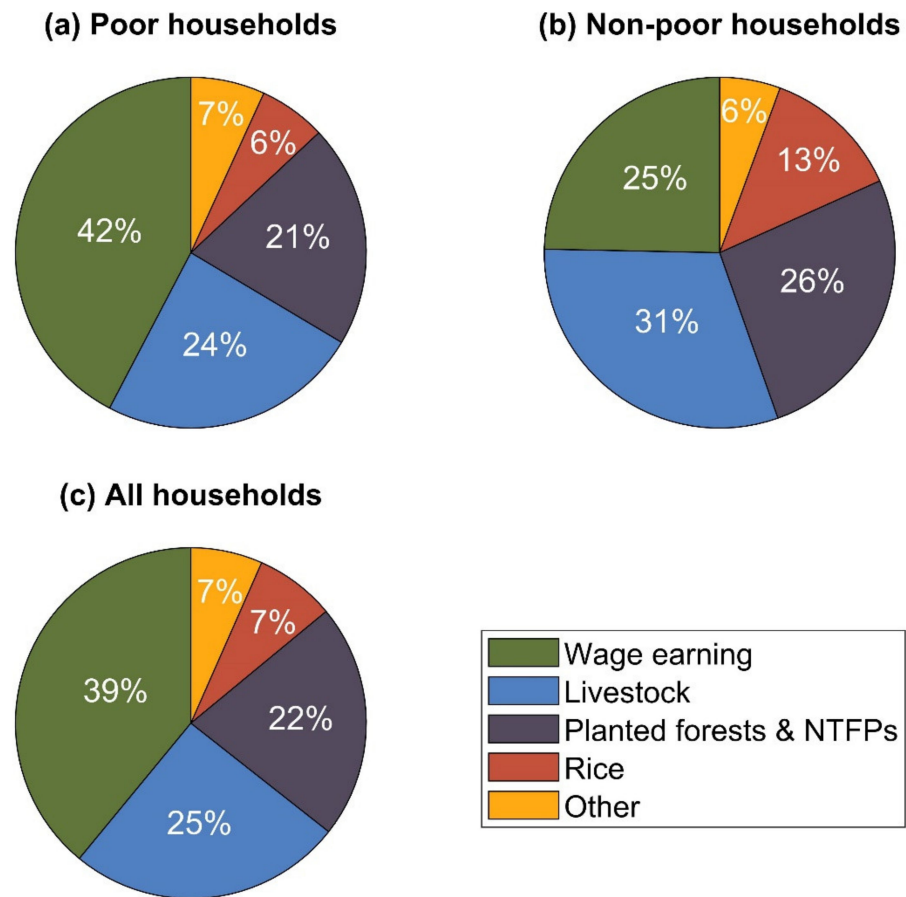
(a) Poor households

(b) Non-poor households

(c) All households

Legend:
- Wage earning
- Livestock
- Planted forests & NTFPs
- Rice
- Other

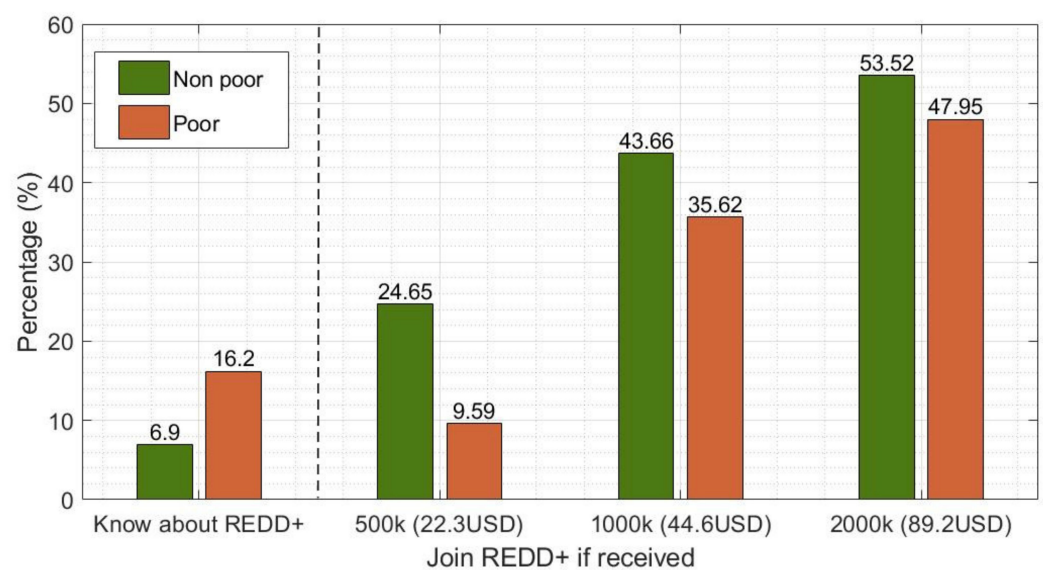**Figure 4.** The household income structure. Source [30,36,41].

Figure 5. Participation in the REDD+ project of poor households and non-poor households with subsidies. Source: [36] (Note: "k" stands for "thousand"; subsidies are measured in VND per hectare per year).

The bar chart in Figure 5 compares the proportion of residents' willingness to be part of the REDD+ project under three different levels of subsidy. As can be seen from the graph, there was a direct relationship between the enthusiasm for the project and subsidy levels. A significantly larger proportion of households is willing to participate in the REDD+ program when the subsidy levels are in the top two highest categories, compared to the willingness to participate at the lowest subsidy level. Note that non-poor households are more likely to participate in the project across all subsidy levels, even though poor households are more aware of the importance of forests and the REDD+ project. To be more specific, when offered 500,000 VND (22.3USD), 24.65% and 9.59% of non-poor and poor households respectively felt intrigued to join the REDD+ project. Thus, there is a 14% difference in participation rates between poor and non-poor households when offered the lowest subsidy level. However, the difference in the participation rates between poor and non-poor households become smaller as the subsidy increases. At the highest subsidy level (2000 thousand VND or 89.2 USD), the participation rate among poor households is 47.95%, which is about 5% lower than the participation rate among non-poor households. In conclusion, it is true for both income groups that a rise in financial support led to an increase in households' willingness to participate in REDD+. People living in poverty were more subject to the impacts of financial incentivization, so more money should be allocated more to encourage poor households' participation in the REDD+ projects to increase chances of success and avert the ozone layer depletion.

5. Discussions

Forests are the main source of household income in many rural settings. In Vietnam, after more than 30 years of socioeconomic transition and or transformation [42], more opportunities for farmers' livelihoods have been created and facilitated. The study confirms that, during the land transition or forest transition time [32,43,44], the crucial role of forests continues to be recognized by local farmers (Figure 2). This result is highly consistent with many recent works [2,25,27,30,45,46]. The study results indicate that the poor depend more heavily on forests than the non-poor, but the non-poor have considerably more land and forests than their counterparts (Figure 3). Disparities in livelihood capital (i.e., forestland) may be the key root of the rich-poor gap in the uplands [47]. This finding is strongly in line with the most recent studies [48,49]. This result could improve ongoing rural policies (e.g., new rural program) [50]. For example, more attention needs to be paid to the distribution of living capital (i.e., land allocation and land access equity) in the updated policies to facilitate the forestry economy and rural development.

Being consistent with the literature [15], the households, particularly the poor are less likely to join the assumed climate change mitigation project (Figure 5). Notably, an almost quadruple increase in farmers' engagement in REDD+ was recorded when increasing support levels from 500 k to 1000 k, which presents several insights. First, people expect higher income from forest activities. The current level of support for forest protection activity in the current national or provincial legal documents [51,52] is still around or below 500 k VND (22.3 USD), which appears to be much lower than their expectations. Second, it has been found that the responses are not the same among household groups surveyed. Poor households are more sensitive to the support levels than non-poor households. When the support is increased by 100% (from 500 k to 1000 k VND), for example, the participation rate of poor and non-poor households increases by 3.71 (35.62/9.59) and 1.77 (43.66/24.65) times, respectively. Third, economic motivation is important in households' choices to get involved in forest programs [53]. Although forests have an important role in household livelihoods (Figure 4), the commitment to participate in a new project is solely based on the potential profitability from the project. In other words, even with a high level of awareness and perception and a high dependency on forests, it is not confirmed whether forest landholders will participate in new forest practices. This can be explained by the fact that when farmers have more choices, they would prefer higher-income activity regardless of the past activities. The results suggest

that continuously improving forestry policies is paramount to broadly support REDD+ and other climate change projects. More importantly, the study provides the support threshold amount (i.e., about 1–2000 k VND/ha or 89.2 USD/ha) that would be valuable to increase people's attention and active engagement [54] in new forest practices in the future. It is even more important to focus on key drivers for further improvement in the forest economy, as their expectations are now much higher than their current level of support.

This research makes several theoretical and practical contributions. In addition to reaffirming the crucial role of forestry in household livelihood strategies in rural upland settings, it contributes to advancing the determining factors (i.e., economic drivers) in increasing people's participation in future forestry projects. Additionally, our study highly suggests paying more attention to poor and non-poor groups when devising the forestry and climate change mitigation policies. In particular, the study is deemed one of the first attempts to introduce the forest participation framework, a powerful approach toward a better understanding of the determining factors influencing the smallholders' smallholders' decision to join climate change mitigation projects and other similar activities.

6. Conclusions

This research seeks to contribute to the success of forest-based climate change mitigation projects like REDD+. Employing a survey method, we conducted a face-to-face interview on 215 randomly chosen households in Chau Thai commune, Nghe An province, a mountainous poor rural area with great potential for plantation forests and combating climate change. The findings reveal that local residents are well aware of the forest's importance, given the large share of forestland in the total owned land area (over 90%) and its significant contribution to income generation. On this type of land, *Acacia* was chosen mainly because of its ease of cultivation and the ability to learn from neighbors. Regarding REDD+ participation, our findings indicate that the higher the financial incentives, the higher the willingness to join. In particular, the participation rate was merely 20% with a compensation of VND500k ha^{-1} year^{-1} (USD22.3 ha^{-1} year^{-1}), yet it doubled and almost tripled when that amount was VND1000k ha^{-1} year^{-1} (USD44.6 ha^{-1} year^{-1}) and VND2000 k ha^{-1} year^{-1} (USD89.2 ha^{-1} year^{-1}) respectively. Upon comparing poor and non-poor households in terms of the aforementioned aspects, there were marked differences. The poor appeared to appreciate forest more than their counterparts. Income from forests made up a higher share of the income structure of poor households than non-poor ones, 26.3% as opposed to 20.5%. Motives for planting *Acacia* also varied, with seedling and technical availability making the most significant difference. Notwithstanding a less significant assessment of the importance of forests, non-poor households in Chau Thai were more likely to participate in the REDD+ project at all the financial support levels. In addition, as the subsidy increased, the disparity in the participation rate between the two groups narrowed steadily. Our study suggests that, to devise effective forest management programs, environmentalists and policymakers are advised to identify appropriate and suitable amounts of subsidy for encouraging farmers' participation in climate change mitigation projects like REDD+ in the future.

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