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ARTICLE

Reimagining Life Quality of Farmers in South Sumatra Peatlands, Indonesia

M. Edi Armanto [1] , ***Elisa Wildayana*** [1] , ***Bella Syakina*** [2*]

[1] *Faculty of Agriculture, Sriwijaya University, Palembang 30820, Indonesia*
[2] *Centre for Global Sustainability Studies, Universiti Sains Malaysia, Penang 11800, Malaysia*

ABSTRACT

This research aims to better understand the changes in farmers' perceptions of life quality in the peatlands of South Sumatra, Indonesia. In particular, the study will examine the variety of opinions regarding these modifications and the connection between these shifts in perception and capital assets. Research data were collected through the Focus Group Discussion (FGD) method to capture all aspirations and opinions of respondents related to life quality. The research results concluded that there are ten dominant parameters to express the life quality of farmers, namely: food, money, children, house, land, health, vehicle/working equipment, employment, fishery/livestock, and others (not specifically identified). These parameters can be classified into the capitals of human, financial, physical, natural, social, and others (public facilities accessible). Farmers face pressures and surprises affecting all aspects of life and influencing their six capital assets. Coping with the changes is divided into reactive adaptations and proactive adaptations. Currently, the reactive adaptations applied by farmers are still insufficient to maintain their asset base because the dependency of farmers on natural resources is very high, and the inability of farmers to prepare for unexpected events (shocks, disasters, natural risks, etc.) is still significant. Proactive adaptations (such as improvements in road infrastructure, bridges, and education) are urgently needed by farmers, but only a small portion of this strategy can be implemented by the authorities due to the unstable economic and political situation of the country. Thus, the prospects of farmers facing rapid changes due to unexpected events are

*CORRESPONDING AUTHOR:
Bella Syakina, Centre for Global Sustainability Studies, Universiti Sains Malaysia, Penang 11800, Malaysia;
Email: bellasyakina@student.usm.my

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still gloomy.

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1. Introduction

Life quality is defined as the evaluation of a person's ability to achieve success in his life. The life quality of farmers is always changing; in other words, it can change in a cycle up and down [1]. To measure life quality, it can be expressed in many parameters and can be sorted according to the level of importance [2]. The elements that impact the standard of living of farmers can be classified into six capital assets: monetary (money and work), human (food and health, education), social (children), physical (house/car/work equipment), natural (land and fishery/livestock), and public facilities accessible [3].

The life quality of farmers has decreased as a result of the quality degradation of natural resources, agricultural liberalization, labor migration of individuals of productive age in the agricultural sector, and other factors [4]. Farmers are just being resigned. In addition, the government's responsibilities are relatively minimal in fulfilling the food rights of farmers, and the dependence of farmers on production inputs is also stronger, such as seeds, fertilizers, and pesticides [5]. The government should respect farming and protect it, and if farmers are unable to cultivate their land, then the government has to fulfill the food needs of farmers [6]. The government should protect farmers while providing adequate access to land, capitalization, information, and production facilities, and increase revenues by raising the selling price [7].

Farmers' access to five capital assets such as natural, financial, physical, human, and social is typically seen as the basis of their livelihoods [8]. To implement livelihood strategies, such as making an initial financial investment, making use of the infrastructure that already exists, or purchasing agricultural gear and equipment, both financial and physical capital are needed. Human and social capital, which represent individual skills, social networks, and relationships, contribute to the formulation of some of the methods that will be used [9]. Ultimately, all livelihood strategies depend on natural capital, which is comprised of resources and environmental services [10]. Sustaining or raising the availability of this capital is essential to upholding or raising farmer quality and realizing the idea of sustainable agriculture [11]. Decisions about a rural farmer's livelihood are influenced by social, human, and cultural variables in addition to financial considerations. In particular, cultural practices are crucial for building and preserving these capitals, as well as for empowering farmers in their day-to-day work and supporting sustainable livelihoods [12].

Generally speaking, changes are characterized as pressure or shock, contingent on their degree, severity, and timing; lower intensity at first but lasting longer, and increased intensity over a shorter duration are examples of changes [13]. However, rather than the characteristics of the change, the governance of their asset base will decide how a particular change would affect farmers generally after the event [14].

The case studies of this research are peatlands utilized by farmers for food production (i.e., corn, pineapples, vegetables, and others) and plantation crops (e.g., oil palm, rubber, and others). Various changes affecting peatland resources include the following: firstly, environmental changes such as global climate change, illegal logging, peatland degradation, decreasing fish stocks, and pollution of water resources, secondly, increased poverty, food insecurity, socio-economic and political changes, population development, and price instability and so on [15].

The research location has met each of these requirements. As a result, this study aims to comprehend how farmers view and respond to change and the need to create policies that lessen their susceptibility. Many studies on peatlands today focus on how farmers are affected by climate change, but a thorough examination of how they perceive these changes in general and how these affect their asset base is still necessary [16].

This study aims to close the knowledge gap and provide comprehensive data so that "changes" can be as-

sessed from their perspective. The overarching goal of the research is to create a thorough picture of changes and how farmers perceive and comprehend them. The goal of the research is to better understand how they perceive the changes, how they relate to capital assets, and how different people's attitudes are about these changes. Developing measures for preserving or enhancing rural livelihoods is imperative, as stakes in their development and conservation are considerable.

2. Materials and Methods

This research was conducted from January to June 2024 in two sub-districts of Pedamaran and East Pedamaran, Ogan Komering Ilir (OKI) District, South Sumatra, Indonesia. Most respondents have livelihoods in traditional agriculture, plantation, fishing, use of peatland resources, purun handicrafts (purun is a natural plant used for making mats and woven products), and others. Criteria for respondents were farmers and/or craftsmen, or fishermen aged 18–71 years. Respondents were selected to achieve a balanced gender representation between men and women. Data for 2020 were derived from secondary data, research reports, governmental and NGO (Non-Governmental Organization) reports, village records, and others. However, data for 2024 were collected directly from the fields during FGDs and interviews with respondents.

2.1. Focus Group Discussions (FGD)

Six groups of FGD respondents were conducted in Pedamaran and East Pedamaran with both male and female participants. The discussion first explores participants' understanding of what changes they perceive to influence them and secondly to produce a statement that shapes the strategy for setting up its mitigation strategy. Discussions follow a structured guide, which includes the definition of change, dimension (temporality, spatial, impact level), and behaviour when specific changes occur. Each group is facilitated by a research assistant or resident (**Figure 1**).

2.2. Data Analyses

The qualitative analysis of this research was conducted using NVivo, a software tool that facilitates the organization and analysis of unstructured data. The first step in the analysis involved importing all collected data into NVivo, including transcripts from Focus Group Discussions (FGDs) and interview notes from respondents in the Pedamaran and East Pedamaran sub-districts. The data were then organized into distinct nodes, representing key themes and topics identified during the FGDs and interviews. For instance, nodes were created for "livelihood challenges", "environmental changes", and "life quality indicators", allowing for systematic exploration of recurring patterns and themes within the data.

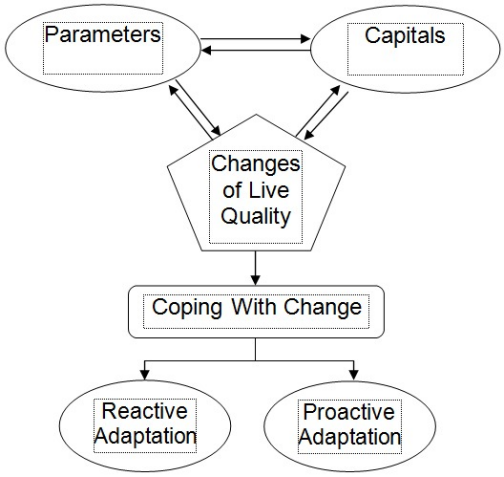


Figure 1. Directing data collection and facts in the FGD.

Once the data were organized into nodes, coding was conducted to categorize the text according to thematic relevance. Using NVivo's text search and query features, keywords and phrases identified during the FGDs and interviews were used to highlight patterns and insights. Respondents' keywords associated with "life quality" were analyzed, and the software's capabilities to visualize word frequency and create word clouds helped in identifying the most emphasized factors affecting life quality.

Then the analysis focused on understanding the respondents' perceptions of changes impacting their livelihoods and their adaptive strategies. NVivo's query tools were used to conduct in-depth analysis and cross-tabulation of themes against demographic variables, such as age, gender, and occupation, to uncover nuanced insights into how different groups experience and respond to change. This analytical process helped identify specific needs and priorities within the community, in-

forming the development of targeted mitigation strategies.

3. Results

The research results focused on the following aspects, namely characteristics of selected respondents; most frequently mentioned parameters of perception; perception in capital; and changes in perception to express the life quality. The discussion will focus on coping with the changes.

3.1. Characteristics of Selected Respondents

The education level of respondents was relatively low, and most respondents (56%) had an education level of primary school (6 years of education). Approximately 18% of respondents did not even complete their education at the primary school level. The age of respondents generally ranged from 18 to 71 years, and about 68% of respondents belonged to the productive age (25–65 years). This productive age is very beneficial because respondents at this age are physically strong enough to conduct their farming activities. In general, the range of their farming experiences was from 15–35 years traditionally, with less use of production inputs, such as fertilizers, pesticides, superior seeds, skilled labor, simple farm equipment, and limited capital. Not all respondents have permanent livelihoods, so their livelihoods were dynamic, depending on the availability of job opportunities. Land ownership ranged from 0.35–3.50 ha and was planted with food crops (pineapple, banana, corn, vegetables, etc.) or industrial crops such as oil palm, rubber, and others. The household income of respondents ranged from 897–4,102 US$ in a year, and about 31% of respondents were still living below the poverty line. With such conditions, it is relatively difficult for respondents to go further to achieve better prosperity. Therefore, it is necessary to understand and find further action on how farmers can get out of this unfavorable condition.

3.2. Most Frequently Mentioned Parameter of Perception

When asked what first came to mind when they thought of the quality of their life, the top ten keywords that were mentioned are presented in **Figure 2**. There has been a change in their perceptions of the life quality parameters. By 2024, the food/drink parameters occupied the top priority with a value of 12.34%, while the fishery/livestock parameters were placed in the last order (4.59%). In 2020, food occupied the third priority and fishery/livestock was at the first level, with values around 12.58% and 9.76%, respectively. This change occurred because, in 2020, farmers were very concerned about the availability of peatland resources (fishery/livestock), whereas for food/drink, they did not think so much. After all, they could consume food available and provided by nature by catching directly or planting. However, by 2024, farmers began to think about the type of food consumed; the better the quality of food consumed, the better their life quality is experienced.

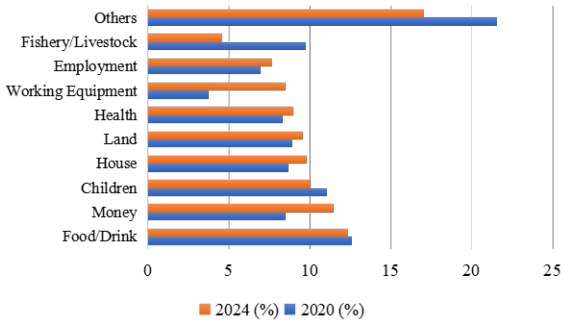


Figure 2. The most frequently stated parameter to perform the farmer's life quality.

Source: Results of FGD analyses (2024).

In 2024, the parameters of money (11.46%) came in second place as a benchmark of their life quality, while in 2020 money was at the sixth priority (8.52%). This is because now money is very widespread and all activities require money, so money has become a measuring tool to express their life quality. The more money is owned, the better the life quality achieved. When money is available, farmers can meet the needs of their families. Not a few farmers wander into the city between the planting season and harvest season to look for odd jobs, such as porters, construction workers, bus driver assistants, drivers, carpenters, Becca (bicycle with three wheels), and other jobs they can do without having soft skills. In 2020, the use of money was not too widespread because economic activity was still limited, and farmers still used the barter system rather than using money. In contrast, current economic activities have used a lot of money as

a medium of exchange.

In 2024 and 2020, the parameters of children (10.01% and 11.02%) were ranked third and second as benchmarks of their life quality. This means that from the beginning until now, farmers have thought about their children's future and tried to equip them with the ability and skills to be independent and have extensive knowledge, for example, by sending their children to school. Farmers view children as the successors of their families. If the children are healthy and have good soft skills and abilities, then their life quality is considered to be improving. Farmers think about the future where children should have the requisite capital to continue life, such as marriage and the necessities of life. This thinking is still held by farmers to this day.

In 2024, the fourth and fifth parameters as benchmarks of life quality were house and land ownership, with values of 9.81% and 9.57%, respectively. The parameter of the house was more important than land because the house is a residence and is one of the symbols of life quality. According to farmers, a better house indicates better life quality because the condition of the house also reflects the cost incurred in its construction. This is because the house is a visible building compared to land ownership.

In 2020, these parameters changed: land ownership was the fourth priority (8.88%), and the house was the fifth priority (8.68%). This was because in 2020, farmers believed that owning more land indicated better life quality. At that time, the term landowners was still very popular to denote someone with a large amount of land, which was assumed to signify very good (prosperous) life quality. These two parameters did not undergo significant changes, meaning that farmers' perceptions of land and house ownership as life quality parameters had not changed. House and land ownership indirectly show farmers' life quality. The more decent the house and the more land owned, the better the farmers' life quality. If a house owned by a farmer is still semipermanent (using wood boards) and the land owned is small or rented, then the farmer's life quality is considered to be low.

By 2024, the health parameter became the sixth parameter (8.99%) as a standard of life quality, compared to seventh (8.34%) in 2020. At this time, farmers have considered health important because if they are less healthy, they cannot work or earn money, which affects their life quality. In 2020, the health parameter (8.34%) was below the money parameter (8.52%). Farmers did not prioritize health because if they had money, they could treat illnesses. Sometimes, when farmers felt less healthy, they preferred to use traditional medicine, which was cheaper than hospital treatment. However, with the rising cost of medication and the price of medicines, farmers now prioritize maintaining their health to avoid incurring these costs.

By 2024, the work equipment and occupational parameters were in the seventh (8.52%) and eighth (7.65%) positions as standards of life quality, while in 2020, the work equipment parameter was in the ninth position (3.76%) and work in the eighth (6.92%). This indicates that in both 2024 and 2020, these parameters were not a high priority for farmers in defining life quality. Farmers still use traditional work equipment, which they can make themselves, such as carts, and rely on animal labor. The relationship between employment and life quality, based on farmers' perceptions, is that the type of work reflects social status; the better the job or higher the rank, the higher the income generated, which can improve life quality.

The other parameters (unspecified or unclear) in 2024 and 2020 were 17.06% and 21.54%, respectively. In 2020, other parameters were not yet clearly defined due to a lack of knowledge, but by 2024, this category decreased as people gained more knowledge to describe more specific perceptions.

The field results show the change in parameter sequence as standards of life quality according to farmers from 2020 to 2024. This change was due to various aspects, such as developments in time and science. The older and more knowledgeable farmers become, the better their life quality is perceived to be. Therefore, these parameters can be used as benchmarks for life quality and its changes according to the conditions of farmers.

3.3. Perception of Capital

Capital can be classified based on its respective impacts on the asset base of farmers. Understanding life

quality depends on all kinds of capital owned by farmers, the reasons they have and the conditions they live in. Ten important parameters are becoming the life quality standard of farmers which can be grouped into five capital assets, namely financial (money and employment), human (food and health), social (children), physical (house; vehicle/working equipment), and natural (land and fishery/livestock), and is summarized in **Figure 3**. Discussing life quality based on five capital assets owned by farmers is a common practice in agricultural socio-economic research [17].

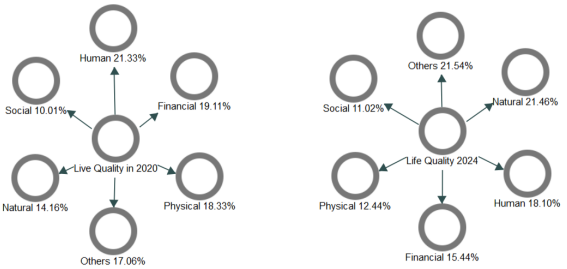


Figure 3. Most frequently mentioned capital expresses their life quality (**a**) in the year of 2024 and (**b**) in the year of 2020, respectively.

Source: Results of FGD analyses (2024).

Perception changes of farmers regarding the sequence of capital groups to declare life quality of farmers are explained as follows: In 2024, farmers considered that human capital (21.33%) was placed in the first rank to assess their life quality, followed by financial; physical; natural; social; and others, with values of 19.11%, 18.33%, 14.16%, 10.01%, and 17.06% respectively.

Farmers assumed that food and health (human capital) were basic requirements that had to be fulfilled because the process of getting food was not as easy as in 2024. Currently, agricultural lands are dwindling due to land fragmentation, land conversion to oil palm plantations, pest attacks, degradation of land resources, global climate change, environmental pollution, and so on, causing a decrease in land productivity. The health aspect was also a major capital in meeting the needs of farmers today because of higher medical costs, difficult access to treatment, and the impact of disturbed natural balance. Farmers face difficulties when they get sick, including when their crops are affected, leading to no income, so all their life needs cannot be met.

In 2020, perceptions of farmers regarding their life quality were dominated by nature, human, financial, physical, social, and others, with values of 21.46%, 18.10%, 15.44%, 12.44%, 11.02%, and 21.54% respectively. The available peatland resources were still very potentially developed; the land available for agricultural cultivation was still wide. Stock fishery resources were still good with minimal water pollution, so fishing could be easily done. Livestock was also easy to implement because the source of animal feed was available from nature, allowing operational costs of farms to be minimized, and the animals were rarely affected by disease outbreaks, making fishery and livestock significant sources of income for farmers. In 2020, farmers did not use pesticides and fertilizers, so the food was consumed naturally.

Financial capital (money and employment) was ranked as the third priority to determine the life quality of farmers because some farmers still made purchase transactions using a barter system. Work is a way to earn money, so farmers can meet their monetary needs.

Physical capital was ranked fourth (house and vehicle). The house is one of the primary components of human life; farmers consider it a priority after human capital (food and health). Most farmers want a house. They set aside profits from farming to build houses and buy vehicles, namely motorcycles. These motorcycles are used for transporting crops or for personal use. Farmers with larger land or more crops will consider buying better vehicles, such as pickup trucks, for family transportation or as transporters to the market.

Social capital (children) was ranked as the fifth priority in determining life quality and tended to be consistent both in 2024 and 2020. Children are one of the assets owned by farmers. Most farmers want their children to receive a good education and secure a better job. Farmers do not want their children to become farmers, as they believe it would make their children's lives difficult and underdeveloped. Constraints faced by farmers in sending their children to school range from cost issues to the distance of the school from their homes. Many farming children drop out due to limited financial resources. Generally, they only attend elementary school and then move to the city to find odd jobs, such as shop-

keepers, cake sellers, tissue sellers, and so forth. Children who succeed in schooling often become midwives, teachers, law enforcement officers, and customary stakeholders. Many of them return to their hometowns to contribute to their communities after completing their studies.

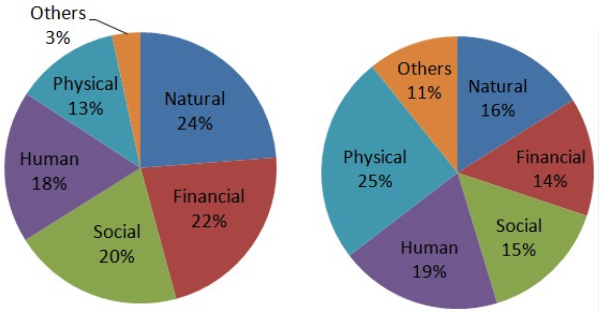
By 2024, the percentage of the other capital parameter was 17.06%, smaller than in 2020 when it was 21.54%. These other parameters were non-specific or unclear. The decrease in the percentage of these parameters in 2024 compared to 2020 is due to limited human intervention and lack of knowledge in 2020. However, by 2024, the decrease occurred because people had acquired more extensive knowledge to describe more specific perceptions.

3.4. Changes in Perception to Express the Life Quality

There has been a change in the order of parameters as a benchmark for determining the life quality of farmers. This change is due to various aspects, including global economic development (development of the times), pressure, shocks, and science. As the era progresses and farmers' knowledge broadens, the benchmarks of life quality are increasingly shifting.

During the FGD process, 36 different types of alterations were found (**Table 1** and **Figure 4**). The detected change types can be categorized according to capital groups, with each change being assigned to a capital based on the participants' perceived impact from the change. For instance, a shift in "decreasing land quality", which is categorized as natural capital, will affect the fall in agricultural productivity. Furthermore, "decreasing road quality" is linked to transportation challenges for agriculture; hence, it is included in physical capital. Many capitals can be impacted by certain circumstances, such as "increasing conflicts between relatives". In this scenario, the capital group with the strongest association among its members receives the change.

The perceptions of farmers regarding various capital changes in South Sumatra's peatlands evolved significantly between 2020 and 2024. In 2024, natural and financial changes were prioritized as the most pressing concerns, with natural changes occupying the first place due to extensive environmental degradation caused by activities like illegal logging and forest fires. These natural disturbances have led to significant ecological consequences such as land degradation and a decline in fish stocks, which directly impact farmers' livelihoods. In contrast, in 2020, natural changes were not viewed as a major issue because the environment was still relatively balanced and less exploited.



(**a**) In the year of 2024. (**b**) In the year of 2020.

Figure 4. Changes mentioned by farmers in FGD and their impact on changes (**a**) in the year of 2024 and (**b**) in the year of 2020, respectively.

Financial changes became the second most critical concern in 2024, driven by the rising costs of living and increased poverty, as local communities prioritized wealth acquisition over sustainability. The shift in focus from basic needs to financial stability marked a stark difference from 2020, where financial issues were less of a priority, as farmers were more focused on fulfilling immediate necessities without concern for long-term financial planning. This transition reflects a growing awareness and anxiety over economic stability in the face of increasing living costs and limited employment opportunities.

Social changes also gained prominence by 2024, ranking third, as farmers observed a deterioration in community cohesion and a rise in social issues like corruption, crime, and moral decay. The shift from a more secure and socially connected society in 2020 to a more fragmented and individualistic one in 2024 highlights the increasing social complexities and pressures faced by the community. The rise in social problems is seen as a consequence of a changing societal structure, with more people contributing to the escalation of these issues.

Table 1. Changes mentioned by farmers in FGD and their impacts of changes.

Capital	Changes Frequently Mentioned by Farmers
Natural	Increasing wildfires; increasing illegal logging/deforestation; decreasing agricultural yields; decreasing climate quality; increasing floods; decreasing land quality; decreasing fish stocks; environmental degradation; decreasing fish variety; increasing diseases of livestock and fish
Financial	Increasing difficulty life from agriculture; increasing poverty; increasing living costs; insufficient income of households; decreasing employment opportunities; increasing school fees
Social	Increasing corruption; increasing discord; increasing blood tension among family; increasing bad behaviour of teenagers; deteriorating customs; decreasing faith; increasing crime; decreasing free leisure time; increasing conflicts between relatives
Human	A rise in illnesses; a decline in life expectancy; a rise in hospital admissions; a rise in drug costs; a rise in school dropout rates; issues with teen education; a growing number of kids not attending school declining standard of academic performance
Physical	Decreasing road quality; increasing environmental hazards; increasing transport fees
Others	Unspecified; unrecognized and unpredictable

Source: Results of FGD analyses (2024).

Human and physical changes, which were of greater concern in 2020, saw a relative decline in importance by 2024. Human capital issues, such as health and education, were significant in 2020 due to poor infrastructure and limited services, but by 2024, they had become less pressing as other concerns took precedence. Similarly, physical changes, once a major focus due to poor infrastructure, were perceived as less critical in 2024 as developments in infrastructure began to alleviate some of the earlier challenges. The others category, encompassing non-specific changes, also saw a reduction in importance, indicating that advancements in technology and knowledge have allowed for more targeted and specific changes to be addressed.

4. Discussion

Following the presentation of the research findings, several interpretations and consequences are explored here to help you understand how to deal with the changes. Farmers' assets are impacted by pressure and shock coming from all directions. Farmers face uncertainty in their primary source of income due to several changes that impact their natural capital. Diverse survival rates and livelihood choices result from the different attitudes toward these changes. Similar occurrences were also documented by other workers[18], who discussed the viewpoints of Sierra Leonean farmers on social, agricultural, and environmental issues[19].

Farmers will either adapt and permanently shift their livelihood tactics in response to change or adopt coping mechanisms that enable them to survive during unstable times. Numerous changes that impact social capital, such as family conflict and criminality, were noted; this suggests that although these changes are not significant when discussed, participants recognize the detrimental effects of their decline on their well-being. The majority of the topics mentioned were ingrained in the local culture, even though some aspects of culture were expressly discussed by the participants[20]. This was clarified by other researchers[21], who also discovered pertinent results with this study.

There are two approaches to adjusting to the changes: macro (also known as "proactive adaptation", which involves reviewing the suitability of current and planned practices, policies, and infrastructure) and micro (also known as "reactive adaptation", where the action occurs after or when effect changes occur). This kind of adaptation happens on a larger scale, with steps taken before the effects of the shift are seen. These steps are frequently planned and carried out by public institutions. Other researchers also reported this[22].

4.1. Reactive Adaptations

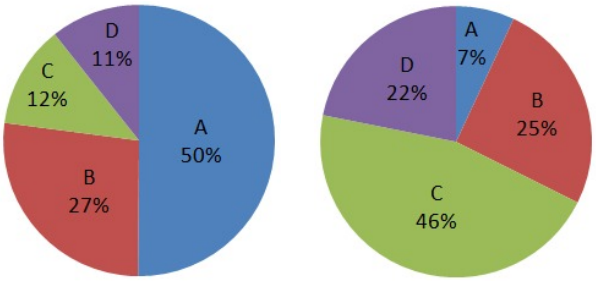
The majority of the changes that have been observed fall into the category of life stresses, and participants can either proactively employ reactive adaptation methods in reaction to the change or attempt to cope with it as best they can. Plans for contingencies that par-

ticipants found in shock scenarios, emphasizing the reliance on natural resources, are categorized as dominating. Farmers, therefore, assert that these occurrences will negatively impact their families. Many farmers understand that they must deal as best they can with the consequences when the time comes because they are unable to provide resources as safety nets.

Reactive adaptation refers to how farmers typically deal with or adjust to changes by putting reactive actions into one of three categories: migration (relocation and job search); intensification and/or extensification (increased output per unit area or increased labor input); and diversified sources of income. The majority of farmers frequently combine all three approaches; thus, using one does not prevent using the others. Similar phenomena for such conditions were found by other workers [23]. However, we realize that peatlands generally contain poor nutrients, resulting in lower soil productivity. Under such conditions, reactive adaptation with agricultural intensification is relatively limited by farmers, especially for food crops. Peatlands are mostly grown by farmers with plantation crops, such as oil palm and rubber. In both commodities, intensification and/or extensification are often performed. Migration is an action favored by farmers for reactive adaptation [24].

When discussing contingency plans in unpredictable cases, in 2024, about 51% of FGD participants stated they had their savings (in the form of money and/or savings) to handle unpredictable cases, and around 27% indicated they did not have a financial reserve plan. About 12% mentioned having livestock and fishery, and the remaining 10% had reserves in the form of brick making, leasing property, crop diversification, and/ or livelihood. Whereas in 2020, farmers were heavily dependent on nature (in the form of fishery and cattle ownership of 45.77%) and least indicated by their savings (6.96%) to tackle unpredictable cases (**Figure 5**).

To lessen reliance on peatland resources, diversification of economic activities, or secondary and tertiary enterprises, has been implemented as a means of diversifying sources of revenue. Similar findings from other researchers were also published [25]. However, this strategy was not enough to protect them from the negative impact of change; it is evident that the diversification of income was only worth 10.67% and lies on the fourth in 2024 and third in 2020 at 21.85%. Women have proven to be more vulnerable to shocks, and often have less chance of earning a living to re-engage and be more involved in household activities. It was also reported by other workers [26]. The variation of strategy to deal with change is relatively homogeneous. Some prioritize livelihood measures as a means of mitigating agricultural hazards and protecting their natural and financial capital, whereas others place greater emphasis on social and human capital.



(**a**) In the year of 2024. (**b**) In the year of 2020.

Figure 5. The most frequently mentioned capital for coping with change (**a**) in the year of 2024 and (**b**) in the year of 2020, respectovely.
Note: A (Own savings); B (No own savings); C (Savings in forms of fishery and livestock);
D (Diversification of crops and/or livelihoods, property rent).
Source: Results of FGD analyses (2024).

4.2. Proactive Adaptations

Proactive adaptation (administered by the government and requiring initial investment before earning a profit) is somewhat limited in the field. The impact of the increase in the cost of living is greatly felt by farmers, especially on foodstuffs or other goods that cannot be produced by farmers themselves, such as clothing, food, agricultural equipment, transportation, and others. Similar results were analyzed and found in other studies [27]. Therefore, some farmers feel disappointed with the government, especially when discussing the needs for food, clothing, school fees, and poor road infrastructure and bridges.

In macro terms, the weak implementation of proactive adaptation is due to political instability (e.g., ministers and high-level officials are often in their positions for too short a time), so the stability and opportunity to apply a long-term vision are limited. It was also pro-

posed that some agricultural problems should be solved at the high governmental level [28]. In addition, the finance and logistics of regional governments are dependent on the central government, so implementing new policies established at the provincial and district levels is constrained. An example is the granting of concessions for oil palm and HTI (industrial plantation forest) extensively to private companies (regulated by the central government), but the granting of these licenses is poorly followed by on-site evaluation and monitoring activities, so frequent peatland clearance violates the rules created and causes global peatland resource degradation.

The problem of inequalities in the face of resource degradation is of particular concern to families, as the authorities and farmers have attempted to establish the limitations of the peatland territories, as discussed by researchers [29] in land suitability assessments. Although some lands are suitable for agricultural purposes, the peatlands are already designated for oil palm and HTI plantations, but plantation and HTI concessions have exceeded the carrying capacity of the area. The low-income ladder bears the burden of environmental policy [30].

Peatland degradation has caused a decrease in fish stocks in public waters and reduced purun plants as raw materials for handicraft mats, thereby eliminating the source of income for farmers and matting artisans. These issues have already been intensively discussed by other researchers [31]. Local governments recognize the need for action to protect livelihood resources, for example, by training so that they can find other jobs or by promoting innovations and agricultural technology, as suggested by other researchers [32]. Due to budgetary limitations, these policies have not yet been put into place, which has led many farmers to relocate or take on additional work in the city [33]. Due to the uncertainty and shortage of farmer-owned assets, farmers are forced to rely solely on their adaptable capability in the absence of aggressive adaptation measures from the state. This has an impact on other employees' jobs [34].

Farmers' experiences impact the five capitals that comprise their basis, and a decline in the inventory of these capitals harms their quality of life, options for their livelihood, and ultimately, how they respond to these vulnerabilities and changes. Before taking into account the human or social capital needed to expand their livelihood base, farmers give priority to the material and financial capital needed to implement livelihood strategies. It is believed that having physical capital, such as cars or work equipment, financial capital, such as income, and natural capital, such as cattle that can be turned into financial capital, are the cornerstones of a high quality of life. A certain amount of autonomy and stability in the face of change is made possible by this capital [35].

Government investment and involvement can take the shape of improved communication and access routes, which facilitate commerce and give farmers the chance to exchange knowledge and obtain information. To be able to appropriately prepare themselves, farmers must be aware of the potential pressures or shocks. This suggests that in rural areas, where people are more vulnerable and reliant on resources, there is a rise in information exchange and knowledge. In order to raise their productivity and decrease their vulnerability, farmers need to have greater access to contemporary agricultural techniques and technologies. One way to help them prepare for change is to improve financial products like microcredit and tailor them to rural contexts. Other researchers have looked into it and found the same phenomenon [36].

5. Conclusions

The dominant parameters to express the life quality of farmers include food, money, children, house, soil, health, vehicle/work equipment, employment, fisheries/livestock, and others (not specifically identified). All parameters can be grouped into the capitals of human, financial, physical, natural, social, and others (public facilities accessible). Farmers are exposed to pressures and surprises affecting all aspects of their lives and capital assets. Coping with the changes are reactive adaptation and proactive adaptation. Reactive adaptations applied by farmers are still not sufficient to maintain their capital assets due to the strong dependence of farmers on natural resources, and the inability of farmers to prepare for unexpected events (shock, disasters, natural risks, etc.) is still high. Proactive adaptations

(improvements in road infrastructure, bridges, and education) are urgently needed by farmers, but only a small portion of this strategy can be implemented by the authorities due to the unstable economic and political situation of the country; thus, the prospects of farmers facing the rapid changes due to occurring unexpected events are still gloomy.

Author Contributions

There are three authors here who have equal and fair duties in developing this research. M.E.A. made conceptualization, developing the primary concept and framework for the manuscript, conducted the comprehensive review and literature review, writing original draft preparation, and oversaw the collection and analysis of data from field studies. E.W. contributed to methodology, data analysis, writing in terms of review and editing. B.S. did the field research coordination, qualitative data collection, writing in sections on field research and findings, and ethical considerations in ensuring that all field research activities adhered to ethical standards.

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Data Availability Statement

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Conflicts of Interest

The authors disclosed no conflict of interest.

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