

Accounting For Climate: The Role of Village Funds on Farmers' Income Using A Social and Cultural Approach

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Abstract

This study aims to analyze the extent to which the allocation of Village Funds is utilized to support farming communities in addressing the impacts of climate change—a significant factor affecting farmers' income. The Village Fund is an annual budget allocated through the State Budget (APBN) and distributed to each village as one of its primary sources of revenue (Ministry of Finance, 2017). This research was conducted in Kayu Jati Village, located in Ongka Malino District, Parigi Moutong Regency. The village was selected due to the fact that the majority of its residents work as farmers. The study focuses on the farming community as well as village institutions, particularly financial officers responsible for managing village income and expenditure. The sampling method employed in this research is qualitative descriptive. The sample consists of local farmers, who serve as the primary informants, and village officials from Kayu Jati. This study adopts the Legitimacy Theory and utilizes both primary and secondary data. Primary data were collected through field observation, interviews, and documentation, while secondary data consist of regulations related to village funds and climate change.

1. Introduction

Climate change was initially perceived as a part of the Earth's natural dynamics. However, in recent decades—particularly since the onset of the industrial era—climate change has accelerated significantly. This acceleration aligns with the increase in human activities such as fossil fuel combustion and industrial expansion, which have led to the accumulation of greenhouse gases in the atmosphere.

A report by the Intergovernmental Panel on Climate Change (IPCC) indicates that the acceleration of climate change has had widespread and tangible impacts on various aspects of life, including ecosystems, human settlements, and socio-economic stability. Indicators of climate change, such as rising global temperatures, extreme weather events, and disruptions in rainfall patterns, have raised significant concerns among both the scientific community and the general public (UU No. 16, 2016). Consequently, climate change is no longer merely an environmental discourse but has evolved into a multidimensional issue that demands serious attention from all stakeholders at local, national, and global levels.

According to Suberjo (2009), there is a strong correlation between climate change and

agriculture. One of the most significant implications of climate change is its impact on the agricultural sector, particularly on the productivity of food crops. As a result, climate change is projected to reduce agricultural yields by approximately 5 to 20 percent (Ummah, 2019). The Ministry of Environment (2004) stated that climate change is a condition characterized by shifts in global climate patterns, resulting in increasingly unstable weather phenomena. Climate change is a consequence of long-term alterations in climatic variables, such as atmospheric temperature and rainfall patterns, occurring continuously over an extended period of approximately 50 to 100 years (Hidayati & Suryanto, 2015). Ratnaningayu (2023) states that the instability of weather conditions is one of the contributing factors to climate change. This is evidenced by irregular rainfall patterns, extreme increases in air temperature, and the growing frequency of strong winds and storms. The uncertainty of these climatic elements leads to atmospheric dynamics that have implications for global climate change (Uyun & Dkk, 2022).

The study conducted by Hidayati & Suryanto (2015) indicates that the majority of farmers in Jatirunggo Village have experienced

direct impacts from increasingly erratic weather conditions. They reported that shifts in weather patterns have led to limited water resources and a decline in crop quality. Approximately 36% of respondents stated that they had experienced crop failure, directly attributed to unfavorable or extreme weather conditions. Meanwhile, 38% of the farmers reported changes in crop yields, particularly in terms of reduced quantity compared to previous growing seasons.

In the 2020–2024 National Medium-Term Development Plan (RPJMN), climate change has been identified as one of the national development priorities, specifically under National Priority (PN) No. 6, which focuses on environmental sustainability, disaster resilience, and climate change. One of the key targets outlined in PN No. 6 is to reduce economic losses caused by disasters and climate-related threats to the Gross Domestic Product (GDP), with a concrete goal of limiting the impact to no more than 0.35% of GDP by 2024. Climate change response has also been prioritized within the broader development agenda, as reflected in the designation of Sustainable Development Goal (SDG) No. 13: Climate Action (National Development planning Agency (BAPPENAS), 2020). The 2014 National Action Plan for Climate Change Adaptation (RAN-API) serves as a strategic national framework designed to enhance the resilience of development against the impacts of climate change. Currently, the document is undergoing a revision as part of efforts to strengthen the integration of adaptation actions into national development planning. This revision emphasizes the importance of explicitly assessing adaptation contributions so that adaptation actions can be distinguished from conventional development activities (business as usual). Therefore, a clear consensus on adaptation targets is essential as a foundation for formulating climate-resilient development plans (National Development Planning Agency (BAPPENAS), 2014).

Climate change is projected to have a significant impact on the national economy. According to existing projections, Indonesia

could face economic losses ranging from 0.66% to 3.45% of its Gross Domestic Product (GDP) by 2030 if adequate mitigation and adaptation measures are not implemented (*Determined Contribution Roadmap Nationall*, 2020) . In addition to its impact on the agricultural sector, climate change also poses various other risks, including: (1) a clean water crisis resulting from increased frequency of floods and prolonged droughts; (2) degradation of terrestrial ecosystems due to forest fires and flood inundation; and (3) the potential for a food crisis affecting all living beings as a consequence of disrupted plant and animal production. The government's commitment to climate change mitigation and control is reflected in the 2020–2024 National Medium-Term Development Plan (RPJMN), where National Priority No. 6 encompasses efforts related to Environmental Development, Strengthening Disaster Resilience, and Climate Change Management. Programs supporting this priority include improving environmental quality, enhancing capacities to respond to disasters and climate change impacts, and advancing low-carbon development.

IFRS S2 applies to annual reporting periods beginning on or after January 1, 2024, with early adoption permitted, provided that the requirements of IFRS S1—General Requirements for Disclosure of Sustainability-related Financial Information—are also applied. The objective of IFRS S2 is to require entities to disclose information regarding climate-related risks and opportunities, aiming to provide relevant data to general-purpose financial statement users for decision-making related to the allocation of resources to an entity. IFRS (International Financial Reporting Standards) are internationally recognized accounting standards used as a basis for the preparation of financial statements, developed and issued by the International Accounting Standards Board (IASB).

Climate accounting is a relatively new concept aimed at measuring, reporting, and managing the economic impacts of climate change. In rural contexts, climate accounting can serve as a vital tool to guide the allocation of

Village Funds (Village Funds) toward programs that support climate change adaptation and mitigation. As a financial instrument managed by village governments, Village Funds play a strategic role in financing local initiatives to strengthen farmers' resilience to climate change. In Indonesia, regulations are increasingly oriented toward climate adaptation and mitigation. One of the key focuses is the allocation of a portion of Village Funds for climate-related actions, such as tree planting, the construction of small reservoirs (embung), and the development of more efficient irrigation systems to help farmers cope with the impacts of climate change. Village Funds may also be used to build farm roads and procure agricultural production facilities. In addition, farmer empowerment programs, training, and technological support are included in Village Fund allocations to improve the welfare and income of farmers.

In general, climate change financing is derived from two main categories: the public sector and the non-public sector. Public funding includes domestic sources such as the State Budget (APBN), Regional Budget (APBD), Public Service Agencies (BLU), the Environmental Fund Management Agency (BPD LH), as well as financial instruments such as green sukuk, both global and retail. Additionally, State-Owned Enterprises (SOEs), such as PT Sarana Multi Infrastruktur (PT SMI), also play a role in providing climate-related financing. On the international front, funding sources include mechanisms such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund, as well as support from regional and bilateral agencies, and multilateral development banks.

Meanwhile, non-public sector financing encompasses funds from sustainable financial services regulated by the Financial Services Authority (OJK), domestic private sector investments, foreign direct investment (FDI), green bond issuances by private entities, philanthropic contributions, and Corporate Social Responsibility (CSR) programs. All these funding sources—whether from private companies or SOEs—are directed toward

supporting various mitigation and adaptation efforts, as an integral part of achieving environmentally sustainable development.

According to the World Bank report (2022), the proportion of the Indonesian State Budget (APBN) allocated for climate change mitigation and adaptation remains relatively low compared to the substantial financial requirements needed to achieve the country's Nationally Determined Contribution (NDC) targets. It is estimated that Indonesia requires approximately IDR 266.3 trillion annually until 2030. However, the average climate budget allocation in the APBN during the 2020–2022 period amounted to only IDR 37.9 trillion per year (based on Climate Budget Tagging data from DJA Business Intelligence – Thematic Krisna), indicating a significant financing gap. In addition to budget limitations, another critical issue is the imbalance in the distribution of funds across the three pillars of climate programs. Based on the 2021 APBN data, the largest budget portion (77.63%) was allocated to disaster resilience and climate impact mitigation programs, while only 6.15% was directed toward environmental quality improvement, and 16.22% toward low-carbon development. This disparity highlights the need for a comprehensive evaluation and realignment of climate budgeting strategies to ensure a more balanced and effective allocation across all program pillars.

Based on the explanation above regarding the issues of climate change and the budget allocation for its mitigation, this study aims to identify programs implemented through Village Funds in the context of climate change and their impact on farmers' income. Furthermore, the study seeks to evaluate the extent to which Village Funds are allocated to the agricultural sector, assess community satisfaction with the implementation of these programs, and identify the positive impacts of Village Fund utilization in supporting agricultural development in Kayujati Village, Ongka Malino Subdistrict, Parigi Moutong Regency. Based on this analysis, the author has chosen a research title that reflects the focus and objectives of the study Accounting For

Climate: The Role Of Village Funds On Farmers' Income Using A Social And Cultural Approach.

2. Literature Review

2.1 Accounting Theory

Throughout its historical development, the understanding of accounting has undergone significant changes and evolution. The definition of accounting may vary from one individual to another, as well as across various academic and professional sources. These differences are generally influenced by the diverse approaches used to interpret the concept of accounting. Some view accounting as an art, while others consider it a language of business. There are also those who define accounting as a means of recording historical financial events (Godfrey et al., 1994). Additionally, some scholars regard accounting as a branch of knowledge, a source of information intended to support decision-making processes, or even as an economic entity with intrinsic value. Moreover, numerous other perspectives continue to emerge in the ongoing discourse on the nature of accounting (Godfrey et al., 1994 (ARIF BUDIARTO, SE., 1999)).

Accounting, as defined by the American Accounting Association (AAA), is a process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information (AAA, 1996, p.1 (Anggraeni, 2022)). According to Harold Langenderfer (1973), accounting is understood as a system designed to measure and communicate both economic and social information of a particular organization or entity. Its primary objective is to provide relevant data to stakeholders, enabling them to make informed judgments and rational decisions aimed at efficiently allocating economic resources and achieving organizational goals (Amaliah, 2006).

2.2 Village

The village represents the most fundamental unit of a legal community, having existed and evolved alongside the historical development of Indonesian society. Its

existence is inseparable from the broader structure of national life. Villages are also the primary areas where the majority of the population resides and engages in various economic activities. As such, villages serve as population centers and play a critical role in the implementation of economic practices at the local level (Dilahur, 1994). According to Daldjoeni (1998), a village is a residential area located outside urban zones, where the majority of the population relies on agriculture as their primary source of livelihood (Runa, 2017). Article 1 of the Village Law states that a village is essentially a form of community unit residing within a defined territorial boundary, possessing the authority to govern its own affairs in order to meet the needs of its residents, and whose existence is formally recognized by the Government of Indonesia.

2.3 Village Fund

The Village Fund is an annual budget allocation sourced from the State Revenue and Expenditure Budget (APBN), which is directly distributed to village governments as one of the main components of the village revenue structure (Kementerian Keuangan RI, 2017). This policy aims to integrate various funding schemes to support the improvement of rural community welfare. According to Sukesu (2017), the Village Fund has proven effective in financing village government programs and stimulating rural economic growth. This aligns with Law Number 6 of 2014, which grants villages the authority to manage development based on local potential. Mahfudz (2009) emphasized that the Village Fund makes a significant contribution to the physical development of villages. However, the responsibility for its management lies entirely in the hands of the village government (Nurohman dkk., 2019). Based on Law Number 3 of 2024 concerning Villages, the objectives of the Village Fund allocation include several key aspects: improving the quality of public services at the village level, alleviating poverty, reducing development disparities between villages, promoting rural economic growth, and

strengthening the role of village communities as the primary actors in the development process.

The disbursement of Village Funds is part of the State Budget (APBN) allocation directed to village governments through district or municipal administrations. Although Village Funds are the entitlement of village governments, their disbursement requires the involvement of regional governments to ensure transparency, accountability, and effective budget utilization. For Village Funds to be disbursed, village governments must comply with the established technical and administrative requirements. The mechanism for this disbursement is regulated under the Minister of Finance Regulation (PMK) No. 50/PMK.07/2017 on the Management of Transfers to Regions and Village Funds, which was later refined through PMK No. 112/PMK.07/2017. These regulations serve as guidelines for all stakeholders involved in the management of Village Funds to achieve transparent and accountable development objectives.

2.4 Definition of a Farmer

The United States government, particularly the Department of Agriculture, uses the term “farmer” to encompass all scales of agricultural enterprises, ranging from small to medium and large operations, with clearly defined criteria for each category. Small-scale farmers in the United States refer to individuals or entities engaged in agricultural activities with limited capacity. In the context of agribusiness, small-scale farmers are typically individuals or families who hold a majority ownership of the farm they manage (Hoppe & MacDonald, 2013). The classification of farm scale is also determined by annual income levels. A farmer is categorized as small-scale if their annual gross farm income is up to USD 350,000. Farmers with annual incomes between USD 350,000 and USD 999,999 are classified as medium-scale, while those earning over USD 1,000,000 annually are considered large-scale farmers (Moch Najib Imanullah, 2016).

2.5 Village Funds in Supporting Farmers

The role of Village Funds in efforts to enhance farmers’ income is driven by the urgent need to reduce economic disparities between regions, particularly the gap between rural and urban areas. This reflects a policy focus aimed at achieving equitable welfare distribution through economic empowerment at the village level. Farmers often face challenges such as limited access to technology, capital, and markets. Through appropriate allocation of Village Funds, villages can implement programs that support innovation and sustainability in the agricultural sector, thereby enabling farmers to improve their productivity and competitiveness (SARI, 2023). The benefits for improving agricultural productivity can generally be observed through the dominant development of infrastructure such as rural roads/farm roads, bridges, water reservoirs (embung), and irrigation systems, which have had a positive impact on the productivity of rural communities. These outcomes are further supported by community empowerment initiatives related to agricultural activities, whether directed toward individual farmers, farmer groups, Village-Owned Enterprises (BUMDes), or cooperatives—particularly through the provision of seeds, agricultural inputs, fertilizers, and similar resources.

Fikriman dkk., (2019) This research was conducted in Kapuk Village, Tabir Ulu Subdistrict, Merangin Regency, and focuses on the role of Village Funds in supporting the development of the agricultural sector. According to 2018 data, Kapuk Village received a Village Fund allocation of IDR 988,363,117, all of which was fully realized (100%). Of this total allocation, IDR 186,938,000—or approximately 19.24%—was allocated to the agricultural sector. The funds were directed toward two primary activities: the construction of the Lubuk Punai farm road (IDR 89,300,000) and the construction of the Ganduk farm road (IDR 97,638,000). The utilization of Village Funds for agricultural infrastructure development is expected to enhance access to farmland and improve both the productivity and welfare of farmers in Kapuk Village.

3. Research Methods

This study employs a qualitative research method aimed at gaining an in-depth and comprehensive understanding of the role of Village Funds in addressing climate change and its impact on farmers' income in Kayujati Village, Ongka Malino Subdistrict, Parigi Moutong Regency. The qualitative method was chosen for its ability to capture social phenomena and field behaviors holistically, including the role of Village Funds in efforts to improve farmers' income. This approach enables the researcher to explore in detail the processes, challenges, and factors influencing the success of Village Fund programs targeted at supporting farmers in coping with the income-related impacts of climate change. The type of research applied in this study is qualitative descriptive. A descriptive approach aims to present a structured and in-depth understanding of a phenomenon or event, based on empirical data and facts obtained directly from the field.

According to Maleong, as cited in Muttaqin (2010, p. 41), qualitative descriptive research aims to portray phenomena by systematically describing a number of variables related to the research problem without employing statistical figures. Regarding the definition of qualitative research, Taylor and Bogdan describe it as (Lomboh, 2014). According to Taylor and Bogdan, qualitative research is an approach that produces descriptive data in the form of spoken or written narratives, as well as observable behavior from the subjects under study. The main emphasis of this approach lies in presenting data as detailed descriptions of the speech and actions of research participants. Accordingly, the primary focus of this study is to gain a deep understanding of accounting practices within the context of climate, particularly concerning the role of Village Funds (Dana Desa) in influencing farmers' income. The population in this study consists of local farmers, who serve as the main informants, as well as the village officials of Kayu Jati. As stated by Sugiyono (2016), a population is defined as the entire area of generalization comprising

objects or subjects that possess specific characteristics determined by the researcher (Nurasana Nurasana & Muhammad Rivandi, 2023). The sampling technique employed in this study is purposive sampling, which involves the selection of respondents based on specific criteria relevant to the objectives of the research. Primary data were collected directly from the field through interactions with the research subjects.

The data collection techniques employed in this study include interviews, observation, and document analysis. According to Riduwan (2010), the documentation method is a technique used to obtain information from pre-existing documents (Assayakurrohim & Dkk, 2023). In this study, the documents used include the Village Budget Report (APBDes) for the years 2023–2024. A non-quantitative analysis method is employed, in which data processing is not based on numerical or statistical calculations, but rather through narrative descriptions to interpret the findings. This research adopts the legitimacy theory as its theoretical framework.

4. Results and Discussion

Based on the findings obtained directly from field research, it can be concluded that the role of the Village Fund in Kayu Jati Village, Ongka Malino Sub-district, Parigi Moutong Regency has been relatively optimal in supporting the agricultural sector, particularly in improving the income of farmers affected by climate-related issues. The following diagram illustrates the results and discussion of the research:

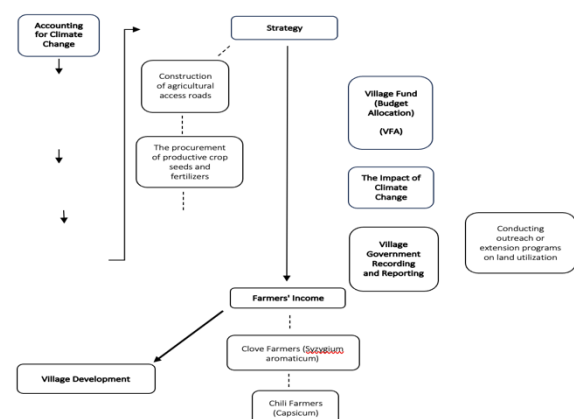


Figure 1: Results and Discussion.

Based on an interview with the Secretary of Kayu Jati Village, there is a significant difference in the Village Fund budget allocation for the agricultural sector between 2023 and 2024. In 2023, the allocated budget for agriculture was IDR 50,355,000, whereas in 2024, it increased to IDR 116,200,000. This funding aims to mitigate the impacts of climate change experienced by the farming community. Climate change has affected agricultural activities in Kayu Jati Village, particularly the income of farmers. Therefore, the village government has implemented strategic measures to ensure that farmers' incomes remain optimal despite unpredictable climate conditions. Observing the climate-related challenges faced by farmers—especially their effects on harvest yields and income—the village began to prioritize agricultural development starting in 2023. Several programs and strategies have been introduced to address these issues, including the construction of agricultural access roads in 2023, the provision of high-yield seeds and fertilizers in 2024, ongoing maintenance of farming roads, and educational outreach on land utilization. It is important to note that the total area of agricultural land in Kayu Jati Village is approximately 1,233.000 hectares, with forest areas covering around 61,972.240 hectares. Additionally, the village has established a farmers' association known as Gapoktan (Association of Farmers Groups) to further support agricultural productivity and coordination.

The *Gapoktan* (Association of Farmers Groups) functions as a vital forum through which agricultural communities can articulate the challenges they face within the farming sector. These challenges commonly include inadequate infrastructure such as poorly developed farm access roads, crop failures resulting from pest infestations during the dry season, and insufficient knowledge among farmers concerning the optimal management of underutilized plantation land. The *Gapoktan* leader is tasked with systematically documenting these issues and reporting them directly to village authorities responsible for

administering the Village Budget. The data collected by the *Gapoktan* serves as an essential reference for the village government in formulating targeted programs and strategic interventions to mitigate agricultural problems. Based on this input, the village government prepares a formal report outlining the proposed strategies, which is then submitted to the central government. In response, the central government allocates funding to support the implementation of these strategies at the village level, thereby facilitating assistance for farmers experiencing sector-specific difficulties. This financial support is sourced from the State Budget, the State Revenue and Expenditure Budget (APBN). Furthermore, the village government is required to submit an annual financial report detailing the use of the allocated funds to both the agricultural community and the central government, thereby ensuring transparency and accountability among all stakeholders involved—namely the farming community, the village administration, and the central government.

The improvement of agricultural access roads has facilitated clove farmers in transporting their harvests directly to the market without relying heavily on hired labor. As a result, farmers have experienced a reduction in harvest-related expenses, particularly in labor costs. In addition to this, land prices in the agricultural sector have also been positively impacted. Previously, buyers often offered low prices for farmland in Kayu Jati Village, citing poor road access as a major reason. However, with the current road infrastructure allowing motor vehicles to access the plantations, farmers are now confident in demanding higher prices for their land. In 2023, farmers experienced a widespread crop failure, particularly in chili plantations, due to pest infestations during the dry season, leading to substantial losses for many chili farmers. In response to this situation, the village government introduced a program to provide high-quality seeds and fertilizers, aiming to reduce the vulnerability of farmers to seasonal pest outbreaks. This program was funded with a budget of IDR 60,000,000 in 2024. As the

program began to show positive results, farmers started to experience improvements in their yields. One notable example is the chili farmers, who benefited from the productive seeds and fertilizer assistance provided by the village. These resources enabled them to better manage their crops and protect them from pests, resulting in higher-quality harvests with increased market value.

Despite its benefits, the program has also faced criticism from some members of the farming community. Several farmers reported not receiving the seeds and fertilizers provided under the program, indicating that the distribution was not conducted equitably. According to these farmers, the village government has yet to implement the procurement and distribution of agricultural support optimally and as intended.

Based on the strategies implemented by the Kayu Jati Village government, this initiative represents the initial step in developing the agricultural sector. This development is expected to serve as a means to improve the welfare of the local community, particularly the farmers in Kayu Jati Village. Agricultural development will continue in a sustainable manner, given that climate-related issues are long-term phenomena, occurring over a span of 50 to 100 years. The growing concerns among farmers regarding the impacts of climate change have been formally reported by the village government to the central government, with the aim of securing Village Fund (ADD) allocations. These funds are intended to support agricultural infrastructure and resilience in Kayu Jati Village. Therefore, this serves as a critical point of consideration for both the village and central governments to continue striving for sustainable development funding strategies, in order to support the livelihoods of communities affected by climate change.

5. Closing

5.1 Conclusion

Referring to the findings and analysis discussed in this study, it can be concluded that one of the factors influencing farmers' income is not solely climate-related, but also includes the

role of development. The development initiatives implemented by the Kayu Jati Village government—specifically those focused on the agricultural sector through the Village Fund allocation—have proven to be relatively effective in supporting agriculture and have had a positive impact on the village's farming activities. In 2023, the Village Fund allocated IDR 50,355,000 to the agricultural sector, which was used for the construction of farm roads that serve as essential transportation access for the local farming community. In 2024, the allocated amount increased to IDR 116,200,000, with IDR 56,200,000 designated for the maintenance of farm roads and IDR 60,000,000 allocated for the procurement of productive seeds and fertilizers. These development programs indicate that the Village Fund plays a crucial role in supporting and significantly contributing to the welfare of the Kayu Jati farming community. However, the implementation of the seed and fertilizer assistance program has not yet been fully optimized, as some farmers reported not receiving the intended support. Therefore, it is expected that future programs will be implemented more evenly to ensure that agricultural development in Kayu Jati Village can progress more effectively and inclusively.

This study has several limitations. First, the data used in this research primarily consists of primary data obtained through direct observations and interviews with key informants. As a result, the data is limited to the scope of questions asked by the researcher. Second, the study did not employ questionnaires, as most of the farmer respondents were elderly individuals, making it difficult for them to understand or complete written surveys.

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