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BOTTOM-UP CLIMATE VILLAGE PROGRAM FOR COMMUNITY PARTICIPATION IN CLIMATE ACTION: A CASE STUDY OF SAMBAK VILLAGE, MAGELANG

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ABSTRACT

This study examines the role of community participation in the implementation of the Climate Village Program (ProKlim) in Sambak Village, Kajoran Sub-District, Magelang Regency, Indonesia. Using Cohen and Uphoff's (1980) framework, it evaluates participation in decision-making, implementation, benefit-sharing, and evaluation. The study adopts a descriptive qualitative research design, incorporating primary data from observations, interviews, and documentation, and secondary data from relevant literature and reports. Data collection employs purposive sampling, targeting informants such as village leaders, ProKlim coordinators, and community members. Data analysis follows Miles and Huberman's interactive model, including reduction, presentation, and conclusion drawing, validated through triangulation methods. The findings reveal varying levels of community engagement across these areas. While waste management activities see high participation, food security and conservation initiatives face challenges due to limited awareness, work commitments, and perceived benefits. Internal evaluations feature active feedback, but external evaluations lack broader community involvement due to ineffective communication. The study highlights the importance of enhancing community engagement to ensure the program's sustainability and alignment with Sustainable Development Goal (SDG) 13 on Climate Action. Recommendations are provided to address barriers and optimize participatory strategies, contributing to the broader effectiveness of grassroots climate initiatives.

***Keywords**: Bottom-Up Approach, Climate Village Program, Community Participation, Climate Change Mitigation, Adaptation Strategies.*

ABSTRAKSI

Penelitian ini mengkaji peran partisipasi masyarakat dalam pelaksanaan Program Kampung Iklim (ProKlim) di Desa Sambak, Kecamatan Kajoran, Kabupaten Magelang, Indonesia. Dengan menggunakan kerangka Cohen dan Uphoff (1980), penelitian ini mengevaluasi partisipasi dalam pengambilan keputusan, pelaksanaan, pembagian manfaat, dan evaluasi. Pendekatan yang digunakan adalah penelitian kualitatif deskriptif, dengan pengumpulan data primer melalui observasi, wawancara, dan dokumentasi, serta data sekunder dari literatur dan laporan terkait. Teknik pengambilan sampel dilakukan secara purposive, dengan informan utama seperti perangkat desa, koordinator ProKlim, dan anggota masyarakat. Analisis data mengikuti model interaktif Miles dan Huberman, yang mencakup reduksi data, penyajian data, dan penarikan kesimpulan, dengan validasi melalui metode triangulasi. Hasil penelitian menunjukkan variasi tingkat keterlibatan masyarakat dalam berbagai aspek ProKlim. Partisipasi tinggi terlihat dalam kegiatan pengelolaan sampah, sementara inisiatif ketahanan pangan dan konservasi menghadapi tantangan akibat keterbatasan kesadaran, komitmen kerja, dan manfaat yang dirasakan. Evaluasi internal menunjukkan adanya umpan balik aktif, tetapi evaluasi eksternal kurang melibatkan masyarakat luas akibat komunikasi yang kurang efektif.

Penelitian ini menekankan pentingnya peningkatan keterlibatan masyarakat untuk memastikan keberlanjutan program dan keselarasan dengan Tujuan Pembangunan Berkelanjutan (SDG) 13 tentang Aksi Iklim. Rekomendasi diberikan untuk mengatasi hambatan dan mengoptimalkan strategi partisipatif guna meningkatkan efektivitas inisiatif iklim berbasis komunitas.

Kata kunci: Pendekatan Bottom-Up, Program Kampung Iklim, Partisipasi Masyarakat, Mitigasi Perubahan Iklim, Strategi Adaptasi

INTRODUCTION

In achieving sustainable development, the United Nations (UN) has outlined 17 priority goals, accompanied by measurable and time-bound targets. The Sustainable Development Goals (SDGs) serve as a roadmap for policymaking, guiding nations to address deficiencies and challenges faced by humanity and the planet by 2030. SDG 13, Climate Action, calls for urgent measures to combat climate change and its impacts (UN, 2023).

As an archipelagic nation situated along the equator, Indonesia is particularly vulnerable to climate change. Over recent decades, the country has experienced a significant rise in average annual temperatures, increasing approximately 0.3°C per decade. Climate change has far-reaching impacts, affecting various aspects of life. According to Ofremu et al. (2024), these impacts can be categorized as direct effects (e.g., exposure to extreme heat, storms, floods, and air pollution) and indirect effects (e.g., displacement, food insecurity, and water variability). Rising global temperatures exacerbate health risks, including dehydration and respiratory illnesses, as well as vector-borne diseases such as malaria and dengue fever. In response to these challenges, Indonesia's Ministry of Environment and Forestry (KLHK) launched the Climate Village Program (Program Kampung Iklim, ProKlim), a national initiative regulated under KLHK Regulation No. P.84/MENLHK-SETJEN/KUM.1/11/2016. ProKlim aims to stimulate community-driven solutions at the grassroots level to address the impacts of climate change. This program, implemented at the neighborhood and village levels, seeks to strengthen local climate resilience while aligning with broader development priorities.

Sambak Village, located in Kajoran Sub-District, Magelang Regency, exemplifies successful ProKlim implementation. The village received the ProKlim Utama award in 2017 and the ProKlim Lestari award in 2021, recognizing its contributions to enhancing climate resilience and achieving the environmental priorities outlined in Magelang Regency's Dasa Cita Development Program. Sambak leverages its diverse local resources—including agriculture, plantations, livestock, and tourism—through designated ProKlim working groups. These groups, established under Village Head Decree No. 188.4/9/KEP./2015/2020, focus on climate adaptation, mitigation, and innovation. Sub-groups address specific areas such as agriculture and food security, sanitation and environmental health, water security, disaster management, reforestation and agroforestry, waste management, and renewable energy.

Despite its achievements, challenges persist. Pre-research interviews with the Sambak ProKlim coordinator highlighted three key issues : First, Limited Public Awareness: Many residents lack a clear understanding of climate change and ProKlim due to insufficient formal socialization by the Environmental Agency (DLH). Information dissemination relies heavily on informal networks, such as village associations, which results in uneven awareness among community members. Second, Inadequate Funding: Transforming Sambak into an eco-tourism village remains constrained by limited financial resources. Current funding relies on community contributions, organic village funds, and waste bank reserves, supplemented by external support from the DLH in the form of material resources (e.g., seedlings and fish stocks). Third, Ineffective Waste Management: Although circular economy principles are promoted, waste management remains suboptimal, exacerbated by the overburdened regional landfill in Magelang Regency. These gaps underscore the critical role of community participation in ProKlim's success. Prior studies (e.g., Arifin et al., 2021; Nugroho et al., 2023) have demonstrated the importance of local engagement in fostering sustainable and inclusive climate initiatives. However, existing research often emphasizes technical and policy dimensions, overlooking the participatory dynamics essential for grassroots program effectiveness.

This study addresses this research gap by examining community participation in ProKlim implementation in Sambak Village. The findings aim to inform strategies for enhancing broader community involvement, c contributing to the program's sustainability and the realization of SDG 13 at the local level.

The Climate Village Program has garnered significant attention in recent years, becoming a focal point for research on community-based

climate initiatives. Various studies have explored the effectiveness, challenges, and impacts of ProKlim in different regions of Indonesia. For instance, research by Arifin et al. (2021) highlights the critical role of local leadership and community engagement in the successful implementation of ProKlim. Similarly, Nugroho et al. (2023) emphasize the importance of integrating traditional knowledge with modern climate adaptation strategies to enhance program outcomes.

However, despite these insights, existing research often prioritizes technical and policy aspects of climate initiatives, leaving a gap in understanding the dynamics of community participation and its direct influence on program success. Many studies overlook the nuanced ways in which community engagement shapes the effectiveness and sustainability of climate programs at the grassroots level.

This study aims to address this research gap by focusing specifically on the role of community participation in the implementation of ProKlim in Sambak Village, Kajoran Sub-District, Magelang Regency. By examining the participatory processes and identifying barriers to effective engagement, this research seeks to provide actionable strategies to enhance community involvement. The findings will contribute to a more comprehensive understanding of how participatory approaches can be optimized to achieve sustainable climate resilience and align with the broader objectives of the Sustainable Development Goals, particularly SDG 13 on Climate Action.

RESEARCH METHODS

This study adopts a descriptive research design with a qualitative approach. Descriptive research is employed to provide a comprehensive overview and analyze the data (Sugiyono, 2020), while the qualitative approach is used to explore complex and natural social phenomena and uncover underlying meanings (Creswell, 2013). The descriptive qualitative method is applied to examine community participation in the Climate Village Program (ProKlim) in Sambak Village, Kajoran District, Magelang Regency, enabling the researcher to engage intensively with informants and obtain accurate and factual data. The study relies on two data sources: primary data, obtained directly from observations, interviews, and documentation at the research location, and secondary data, collected from documents, such as scientific articles and research reports, which serve as supporting materials.

Data collection involves four techniques: observation, where the researcher carefully records and analyzes notable phenomena; interviews with purposively selected informants, conducted in person or digitally to gather detailed and accountable information; documentation, where relevant materials such as reports, photos, and archives are obtained from the research site (Riduwan, 2006); and literature review, which examines journals, theses, books, and online resources as references. Informants are selected using purposive sampling, a method that identifies individuals considered most knowledgeable about the subject (Sugiyono, 2020). These informants include the Head of Sambak Village, the ProKlim Chairperson, the Creative Team of Smart ProKlim, the Production Manager of the Waste Bank, and local residents. The collected data are analyzed interactively based on Miles and Huberman's model (as cited in Sugiyono, 2020), which includes three stages: data reduction, simplifying complex data by identifying relevant information and organizing it for better understanding; data presentation, transforming the data into informative and engaging formats like narratives, diagrams, or matrices; and conclusion drawing and verification, interpreting the data to identify patterns and relationships while comparing them with relevant theories. To ensure data validity, the study employs source triangulation by cross-verifying data from interviews, archives, and documentation across various informants. This approach enhances the credibility and reliability of the findings while providing a thorough understanding of the research phenomena.

RESULTS AND DISCUSSION

To mitigate and avoid the worsening impacts of climate change, the Climate Village Program (ProKlim) has become increasingly vital for implementation within local communities. However, recent studies reveal that the achievements of ProKlim have not yet produced optimal impacts, primarily due to insufficient support for community participation (Safrina, Roesa, & Rosemary, 2022; Nielwaty, Meriansari, & Hermanto, 2023). Understanding the role of community participation is a fundamental step toward the successful implementation of ProKlim. Hence, this study aims to analyze the role of community participation in ProKlim implementation. Guided by Cohen & Uphoff's (1980) theory, this study evaluates community participation through their involvement in decision-making processes, implementation, benefit-sharing,

and evaluation. Each of these aspects will be discussed below to illustrate their role in ProKlim implementation.

Participation in Decision-Making

In the context of decision-making, Cohen & Uphoff (1980) emphasize the importance of generating ideas, formulating and assessing options, making choices, and devising plans for implementation. For this, an inclusive and participatory deliberation forum is necessary, enabling discussions on program execution, ranging from identifying local needs to resource allocation. Article 5, paragraph (2a) of the Ministry of Environment and Forestry Regulation No. P.84/MENLHK-SETJEN/KUM.1/11/2016 on ProKlim outlines preparatory stages, including identifying climate vulnerability, risk, and greenhouse gas emission sources, followed by institutional and activity planning for climate adaptation and mitigation.

a. Availability of Deliberation Forums in ProKlim Implementation

The establishment of deliberation forums is a crucial initial step, ensuring open communication and equal opportunities for participation. This fosters a participatory decision-making process that accommodates the community's aspirations in program planning. However, findings reveal the absence of a dedicated forum for ProKlim in Sambak Village. To economize, discussions on ProKlim are integrated into routine meetings addressing general issues, conducted at the neighborhood (RT) and community (RW) levels. This hierarchical structure, starting at RT forums and escalating to RW-level forums, provides opportunities for broader participation. The findings indicate that this iterative and continuous decision-making process ensures proper coordination and enables effective and efficient decisions. The multi-level forums, involving all residents at the RT level and representatives at the RW level, demonstrate equal opportunities for community members to influence ProKlim decision-making.

b. Community Participation in Providing Ideas, Suggestions, and Feedback

The research reveals that preparatory stages such as identifying climate risks and emission sources are not yet conducted in Sambak Village. Institutional planning for ProKlim has been limited to restructuring an existing Organic Village initiative, with activity planning continuing pre-existing organic farming efforts. This misalignment with ProKlim regulations highlights the need for closer attention from relevant agencies. Additionally, not all community members actively provide ideas or feedback during ProKlim discussions. Limited awareness of climate change and its impacts constrains their ability to contribute meaningfully. Nonetheless, the willingness of some participants to engage actively reflects their support for environmental initiatives, despite varying perspectives and challenges in reaching consensus. As Cohen & Uphoff (1980) posit, active participation in exchanging ideas is crucial for effective decision-making. Therefore, enhancing community involvement in ProKlim decision-making is vital for fostering mutual understanding and ensuring sustainable program implementation.

Participation in Implementation

Implementation is a core aspect of ProKlim, with community participation serving as a key success factor. According to Cohen & Uphoff (1980), participation in implementation is evaluated through community involvement in activities and their readiness to provide resources such as labor, cash, and materials.

a. Community Involvement and Activeness in ProKlim Implementation

ProKlim implementation in Sambak Village encompasses food security, waste management, and conservation activities: **Food Security Activities,** These include organic farming, coffee plantations, and fish farming. Community involvement remains limited due to time constraints, lack of environmental awareness, and the absence of tangible benefits. Community participation in ProKlim implementation in Sambak Village is organized through several established groups under the coordination of the *Smart ProKlim Creative Team* and the *Waste Bank Management Team*. These groups were officially formed through Village Head Decree No. 188.4/9/KEP./2015/2020 and are responsible for carrying out ProKlim activities related to climate adaptation and mitigation.

Routine activities include weekly waste sorting and deposit at the *Sambak Waste Bank*, monthly organic farming practices managed by the *Organic Farmer Group*, and quarterly reforestation campaigns facilitated by the *Conservation Working Group*. In addition, the *Smart ProKlim Creative Team* routinely organizes environmental awareness events and distributes free seedlings for household gardening. These group-based participatory mechanisms help to institutionalize climate action at the grassroots level and encourage more consistent community involvement.

To address this, ProKlim facilitators undertake creative and innovative actions to inspire participation, such as distributing free plant seeds for home gardening.**Waste Management Activities**, A well-established waste bank facilitates recycling and incentivizes participation. Over the years, community involvement has significantly increased, with more residents sorting and contributing waste to the bank.**Conservation Activities**, A one-hectare conservation area supports reforestation efforts with external assistance from the Environmental Agency (DLH). While initial participation in planting is promising, sustained community engagement in maintenance remains lacking.

b. Community Willingness to Provide Resources

Community contributions to ProKlim in Sambak Village predominantly involve labor, tools, and voluntary donations rather than financial resources. This aligns with ProKlim regulations (Article 6, paragraph (4c) of Ministry Regulation No. P.84), emphasizing self-reliance and participation. In the implementation of ProKlim in Sambak Village, community contributions are primarily manifested through voluntary labor, provision of tools, and in-kind donations. Residents actively engage in environmental initiatives such as tree planting, organic farming, and waste segregation, offering their time and physical effort without monetary compensation. Tools commonly used include hoes, machetes, water containers, and composting drums mostly sourced from personal households. Donations are typically in the form of seedlings, organic waste for compost, or recycled materials, which are collectively managed through community-organized activities.

These contributions are largely driven by community awareness and initiative, particularly within sub-groups formed under the ProKlim working teams. However, certain forms of support such as fish fry, tree seedlings, and compost materials are facilitated through coordination with the Environmental Agency (DLH) of Magelang Regency, indicating a blend of bottom-up and top-down involvement. While community-driven efforts remain central to ProKlim, collaboration with local government agencies enhances resource availability and program effectiveness. This dynamic reflects the participatory spirit emphasized by Cohen and Uphoff (1980), where genuine community initiation plays a key role in sustaining grassroots climate actions.

c. Participation in Benefit-Sharing

Cohen & Uphoff (1980) outline material, social, and personal benefits as key indicators of program success. ProKlim implementation in Sambak Village yields the following benefits: **Material Benefits**, Material benefits include economic gains from waste bank savings and reduced household expenses through homegrown vegetables. However, limited participation in food security activities hinders the full realization of these benefits. **Social Benefits,** Social benefits encompass strengthened community bonds through collaborative activities and external networks with ProKlim villages and DLH. These connections facilitate resource sharing and program facilitation. Expanding collaborations with universities, NGOs, and the private sector could further enhance these benefits. The findings align partially with Cohen & Uphoff's framework, indicating areas requiring improvement to optimize community participation and ProKlim's overall effectiveness. **Personal Benefit Realization,** According to Cohen & Uphoff's (1980) theory, personal benefit realization refers to the advantages experienced by individuals at a personal level. This study found that in Sambak Village, personal benefit realization was reflected in healthier lifestyle changes and a sense of happiness experienced by individuals. Beyond achieving a cleaner and healthier environment, the program also served as a means for residents to relax, pursue hobbies, and

enhance skills, a sense of accomplishment, and self-confidence in carrying out climate change adaptation and mitigation actions.

As per Cohen & Uphoff's (1980) theory, the findings of this study align well with the concept, as the reality in Sambak Village illustrates the existence of tangible personal benefits. If these benefits are harnessed on a broader scale, they could foster stronger community participation and cohesion in sustaining the Climate Village Program (ProKlim). Hence, it is crucial to intensify the campaign for this program within the community to maximize its outreach and impact.

Participation in Evaluation

Cohen & Uphoff (1980) define participation in evaluation as the active involvement of the community in providing feedback on programs. This feedback serves as practical and solution-oriented input to address shortcomings, enhance program effectiveness, and reduce the recurrence of previous challenges. Community Participation in ProKlim Evaluation, In the context of sustainable development, such as the implementation of ProKlim, community participation in evaluation—particularly through problem-solving discussions—is essential to ensure the program's longevity and continuous improvement. The study found that Sambak Village's ProKlim included both internal and external evaluation activities. Internal evaluation was conducted flexibly, either during monthly routine meetings combined with general forums or immediately after the completion of activities. This internal evaluation demonstrated active community participation in providing feedback on the program. Meanwhile, external evaluation was conducted through monitoring and evaluation activities by the Environmental Agency (DLH) of Magelang Regency. The DLH predetermined different evaluation schedules for each ProKlim village and communicated them through WhatsApp groups.

However, external evaluation revealed a lack of active community participation in providing feedback. Typically, only ProKlim administrators participated in these evaluations, as information about the scheduled evaluations was not effectively disseminated to the community. Based on Cohen & Uphoff's (1980) theory, these findings reveal both alignment and gaps. While the theory emphasizes active community involvement in providing program feedback, internal evaluation findings align with this concept by demonstrating active feedback participation. In contrast, external evaluation findings highlight a gap, as active feedback participation from the community is lacking due to poor information dissemination.

Given these findings, it is evident that community participation in ProKlim evaluation is often overlooked, despite its significant implications for program effectiveness. Therefore, enhancing community participation in ProKlim evaluations is essential. In this context, community involvement should go beyond mere formalities and focus on meaningful integration of feedback from various stakeholders. For instance, organic farming practitioners as direct beneficiaries of ProKlim policies must be involved in the evaluation process to comprehensively understand their challenges and obstacles. This approach would lead to integrated solutions from multiple perspectives, ultimately strengthening knowledge to support the effective and sustainable implementation of ProKlim in addressing climate change challenges. Thus, introducing a systematic evaluation framework to all stakeholders involved in the program is of utmost importance.

Conclusion

Based on the overall stages of the research conducted, this study reveals that community participation in the Climate Village Program (ProKlim) in Sambak Village is highly varied, with different outcomes observed across various program aspects. In terms of decision-making participation, not all community members who attended were able to engage interactively in the decision-making process through forums. This was primarily due to a lack of knowledge regarding climate change issues and how to address them through ProKlim. Regarding implementation participation, there was high engagement in waste management activities, but participation in food security and conservation initiatives remained relatively low. This lack of involvement was influenced by factors such as work commitments, community awareness, and interest in ProKlim. Additionally, the limited perceived benefits of ProKlim contributed to low enthusiasm for participation. In terms of benefit realization, the community has experienced some economic, social, and personal benefits; however, these have not been

fully maximized, as not all community members have engaged in the full range of ProKlim activities. Lastly, evaluation participation showed that internal evaluations featured active community involvement in providing feedback. However, external evaluations revealed low participation due to the lack of effective communication about the evaluations reaching the broader community.

Overall, the findings indicate that the successful implementation of ProKlim in Sambak Village requires greater efforts from various stakeholders to foster more active and sustained community participation. This aligns with Cohen & Uphoff's (1980) theory, which advocates for community-based development practices that focus on increasing development outcomes through broader and more effective participation.

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