



Department of Digital Business

Journal of Artificial Intelligence and Digital Business (RIGGS)

Homepage: <https://journal.ilmudata.co.id/index.php/RIGGS>

Vol. 4 No. 3 (2025) pp: 2948-2956

P-ISSN: 2963-9298, e-ISSN: 2963-914X

From Self-Reliance to State Recognition: Local Leadership and Social Capital in Transforming an Agrowisata Village into a Climate Village in 2023

Wahyudi Rambe*¹, Kenepri², Aprida Indah³, Amir Syamsuadi⁴, Prima Wahyudi⁵

^{1,2,3,4,5}Universitas Abdurrab

[*1wahyudi.rambe@univrab.ac.id](mailto:wahyudi.rambe@univrab.ac.id), [2kenepri@univrab.ac.id](mailto:kenepri@univrab.ac.id), [3aprida.indah21@student.univrab.ac.id](mailto:aprida.indah21@student.univrab.ac.id),

[4amir.syamsuadi@univrab.ac.id](mailto:amir.syamsuadi@univrab.ac.id), [5prima.wahyudi@univrab.ac.id](mailto:prima.wahyudi@univrab.ac.id)

Abstract

This study examines the role of local leadership and social capital in the transformation of RW 05, Agrowisata Village, Pekanbaru City, to formal recognition through the 2023 Main Climate Village Program (ProKlim). Using a qualitative approach with a case study design, data were collected through in-depth interviews, participant observation, and document studies, then analyzed thematically. The results show that local leadership acts as a catalyst for self-reliance through role models, direct mentoring, and the integration of environmental issues into informal social spaces. Social capital, reflected in the practice of mutual cooperation without incentives, crop exchange, and cross-group trust networks, serves as the foundation for voluntary community participation. Organically formed community institutions, such as the Women's Farmers Group and the reservoir management team, are able to organize activities, document achievements, and provide environmental education. Community-based adaptation practices include the utilization of local resources, simple technological innovations, independent waste management, and intergenerational environmental education. State recognition through ProKlim is bottom-up, born from community initiatives that are then institutionalized, strengthening community legitimacy at the local level. The novelty of this research lies in the integration of five dimensions—local leadership, social capital, institutions, adaptation practices, and state legitimacy—as an analytical framework for understanding the interaction between citizen initiatives and environmental policies. These findings contribute to the development of adaptive, inclusive, and sustainable community-based development models.

Keywords: Local Leadership, Social Capital, Climate Village, Climate Adaptation, Community Empowerment Costs

1. Introduction

Climate change is an ecological and social challenge that requires community-based responses, not merely technocratic policies at the national level. The Indonesian government, through the Ministry of Environment and Forestry (KLHK), initiated the Climate Village Program (ProKlim) in 2012 as a systematic effort to strengthen the role of communities in climate change adaptation and mitigation (Partnership on Transparency in the Paris Agreement, 2020). ProKlim encourages concrete actions in water management, food security, waste management, and reforestation at the grassroots level, with an assessment and appreciation process linked to the Ministry of Environment's (KLHK) National Registry System (SRN). In 2023, the Ministry of Environment and Forestry recorded 2,490 registered ProKlim locations across 36 provinces and 347 regencies/cities, a 128% increase compared to the 1,092 locations in 2021. Awards were also given to 26 Lestari locations, 55 Utama trophy recipients, and 442 recipients of Utama ProKlim Certificates (Ministry of Environment and Forestry, 2023).

Despite ProKlim's expanding reach, several open studies have highlighted implementation barriers at the grassroots level, such as limited facilities, suboptimal institutional support, and administrative tendencies that can undermine substantive participation (Hasbullah & Assyahri, 2025). Other field findings indicate performance variations, such as strong community participation but facing hydrometeorological risks on riverbanks (Indriyani, 2024), the need to strengthen capacity and climate literacy in urban contexts (Nielwatye et al., 2023), and the challenge of consistent implementation despite the existing ProKlim framework (Furqan et al., 2020). In other areas, case studies demonstrate the importance of community participation in adaptation and mitigation (Safrina, 2022), as well as the integration of zero-waste approaches and yard utilization within the

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ProKlim framework (Pudjiwati, 2024). Recent publications even strengthen the evidence of ProKlim implementation at the village level by emphasizing integrated adaptation and mitigation (Saputri Aulia, 2025). Amidst these dynamics, the Agrowisata Village in Pekanbaru City demonstrates distinctive practices through consistent self-help-based transformation since 2007. Initiatives in RW 05 include the formation of a Women's Farmers Group (KWT), independent utilization of food plots, construction of infiltration reservoirs, processing waste into compost and alternative fuels, and intergenerational environmental education. In 2023, RW 05 received the ProKlim Utama award based on a verification process, mentoring, and documentation preparation that adhered to KLHK standards (Ministry of Environment and Forestry, 2023).

This research combines five analytical dimensions: local leadership, social capital (bonding, bridging, linking), adaptive community institutions, citizen-based adaptation practices, and state recognition to explain how self-help initiatives gain formal legitimacy. Using a qualitative approach (interviews, observations, and document analysis), the RW 05 case study aims to identify the social mechanisms that enable community transformation in response to climate change, while simultaneously mapping how the state responds to and institutionalizes citizen initiatives.

Studying community transformation toward environmental sustainability requires a comprehensive understanding of the interconnectedness of various core concepts, including local leadership, social capital, community institutions, citizen-based adaptation, and state recognition. These five dimensions are not standalone entities but interact to form a cycle of community capacity building. Local leadership refers to the ability of individuals or groups within a community to direct and mobilize collective resources to achieve shared goals. Unlike formal leadership based on structural positions, local leadership often gains legitimacy through social trust and a track record of participation. Research by Edelenboset et al. (2021) and Polkoet al. (2025) shows that effective local leadership relies on the ability to bridge relationships with external actors, strengthen networks, and catalyze cross-sector collaboration. Local leaders also act as enablers in the co-production process, namely the joint creation of solutions between residents and external partners, allowing community-based initiatives to thrive with technical and institutional support without losing their independence.

Strong leadership plays a crucial role in the formation and maintenance of social capital. Social capital, as explained by Woolcock (2001) and Claridge (2018), is a resource that emerges from a network of relationships, norms, and trust that facilitates coordination and cooperation. Social capital is divided into three forms: bonding, which strengthens internal cohesion; bridging, which connects disparate groups; and linking, which connects communities to powerful institutions. Uphoff and Wijayaratra (2000) emphasize that social capital not only facilitates interaction but also serves as a social control mechanism that ensures sustainable participation. Local leadership capable of cultivating cross-dimensional social capital will strengthen collective capacity to face environmental challenges.

Robust social capital forms the foundation for community institutions. According to Ostrom (1990), institutions are a set of mutually agreed-upon rules, norms, and procedures for governing the use of common-pool resources. Principles of effective institutional design include jointly developed rules, internal monitoring, proportional sanctions, and recognition of self-regulation (Cox et al., 2010). The adaptive governance framework (Chaffinet et al., 2014) adds that adaptive institutions must be flexible, responsive to change, and capable of engaging various stakeholders. In this context, social capital supports institutional legitimacy, while local leadership guides and ensures that these institutions function according to shared goals.

Well-functioning institutions then become platforms for citizen-driven adaptation practices. The community-based adaptation (CBA) approach, as outlined by Archere et al. (2014), positions communities as the primary designers and implementers of climate change adaptation strategies. CBA prioritizes the utilization of local knowledge, inclusive participation, and the integration of adaptation with long-term development goals. Local resource-based innovation, or frugalinnovation (Bhattie et al., 2018), is a hallmark of CBA, enabling communities to create cost-effective yet contextually relevant solutions. Adaptive institutions facilitate this process by providing rules and coordination mechanisms, while social capital ensures active citizen participation. This process can reach a broader scale when the state grants formal recognition. Fraser (2000), in his concept of recognition justice, emphasized that recognition is part of distributive justice that affirms group identity and contributions. In the context of environmental justice, Schlosberg (2004) added that formal recognition by the state serves as institutional legitimacy that opens access to resources, expands partnership networks, and enhances community bargaining power. State recognition can be seen as a form of institutionalization of local initiatives, integrating self-help efforts into public policy frameworks without diminishing community

autonomy. Thus, these five dimensions form a chain of interconnectedness: local leadership builds social capital, social capital strengthens institutions, institutions facilitate citizen-based adaptation, and successful adaptation gains state recognition. This cycle not only strengthens community capacity but also creates a sustainable model of environmental governance that can be replicated across local contexts.

2. Research Methods

This research uses a qualitative approach with a case study design, as the focus is on understanding social phenomena in depth and contextually in real life. This approach was chosen because the transformation process of RW 05 into a Climate Village involves social dynamics, leadership, and social capital that cannot be reduced to mere numbers, thus requiring rich narrative exploration (Sugiyono, 2019). The case study is RW 05, Agrowisata Village, Pekanbaru City, which received the 2023 ProKlim Utama award from the Ministry of Environment and Forestry. This location was selected purposively, considering the following criteria: (1) the existence of a citizen-based environmental initiative that was already underway before external intervention, (2) formal recognition from the central government, and (3) the presence of key actors leading the collective movement. Informants were determined using purposive sampling, taking into account direct involvement in the transformation process. Informants consisted of the Head of RW 05, the Women's Farmers Group (KWT) administrators, the waste bank and reservoir managers, environmental cadres, and representatives of LDII.

Semi-structured in-depth interviews were conducted to explore the experiences, perceptions, and strategies of key actors. Participatory observation of activities such as reservoir management, urban farming, organic fertilizer production, and community meetings was conducted to verify information from the interviews. Document studies were conducted on activity reports, photos, institutional decrees, and official DLHK documents on ProKlim. Data analysis was carried out following the stages according to Bungin (2019), namely data reduction, data presentation, and drawing conclusions/verification. This analysis process was carried out interactively and continuously until the data was saturated. The principles of research ethics were implemented by requesting informant consent, maintaining confidentiality of identity, and explaining the research objectives openly (Neuman, 2016).

3. Results and Discussions

This study found that the transformation of Agrotourism Villages into Climate Villages did not occur through formal instructions or dominant policy interventions from above, but rather grew out of community initiatives guided by local leadership and strengthened by social capital. This process occurred gradually and was influenced by various social, institutional, and practical adaptation factors on the ground. Five main dimensions emerged from the thematic analysis process: (1) local leadership as a catalyst for self-reliance, (2) social capital as collective strength, (3) strengthening community institutions, (4) citizen-based adaptation practices, and (5) the process of state recognition.

To clarify the dimensions of these findings, Table 1 summarizes the key indicators from this study. This table is intended to provide readers with a comprehensive overview before proceeding to the in-depth descriptions in the following sections.

Table 1. Summary of Dimensions of Research Findings

Dimensions	Key Indicator	Field Evidence	Implications
Local Leadership	Exemplary behavior, direct communication, starting with local problems	The neighborhood unit (RW) head initiates by clearing clogged ditches, revitalizing idle land into community gardens, and conducting door-to-door outreach to encourage participation.	Local leaders become catalysts for change by starting with concrete issues with easily visible results.
	Informal and Participatory Organization	Appointing an informal coordinator in each neighborhood unit (RT) and incorporating environmental agendas into community social gatherings (arisan) so that all	Leadership based on social trust is more effective in building engagement than bureaucratic mechanisms.

		groups are involved.	
Social Capital	Mutual cooperation norms and harvest barter	Regular mutual cooperation without incentives; residents exchange harvested produce such as vegetables and fruit	Social capital serves as a “social currency” that maintains the sustainability of activities without relying on external funding.
	Across-age education and shared ownership	Children and adolescents are involved in tree planting, waste sorting, and gardening activities.	Intergenerational learning strengthens the transfer of knowledge and sustainability values.
Institutional Strengthening	Functional work teams without formal decrees	Reservoir teams, waste teams, and vegetable teams are formed by residents; Having a regular work schedule and simple evaluation mechanisms.	Informal institutions enable rapid response to local needs.
	The role of KWT and KTNA as structural liaisons	KWT serves as a center for agricultural education; KTNA connects residents with the government and external parties.	Horizontal and vertical networks expand resource access and community legitimacy
Citizen-Driven Adaptation Practices	Simple technological innovations based on local resources	Creating vertical gardens from used gallons and bottles; simple drip irrigation systems; crop diversification in neighborhood units	Low-cost adaptation and leveraging local potential increase food self-sufficiency
	Independent waste management and ecological education	Households process organic waste into compost; compost deposits are managed by residents at community-managed environmental processing centers	This household waste management model is worthy of replication in other regions.
State Recognition	Government validation through technical guidance	Pekanbaru City Environment and Forestry (DLHK) assists residents in preparing documents according to ProKlim standards	State recognition arises from established local capacity, not from top-down programs.
	Self-help documentation-based verification.	Residents compile activity books, harvest data, and development progress; invited to KLHK awards ceremony.	Formal legitimacy strengthens residents' position as key actors in climate change adaptation.

The descriptions of each dimension and indicator in Table 1 are detailed in the following subsections. Each dimension is supported by field data, interview excerpts, and relevant theoretical references to strengthen the interpretation and depth of the analysis. Therefore, the structure of the presentation of these results is not merely descriptive, but also analytical and reflective of the social context under study.

1. Local Leadership as a Catalyst for Self-Reliance

The local leadership in RW 05, Awaldi Hasibuan, serves not only as a guide but also as a catalyst for collective change. The RW head actively identifies environmental potential and problems, initiates community forums, and forms a shared narrative about the importance of environmental self-reliance. This leadership does not operate top-down, but rather through a participatory approach and concrete role models. Interview data reveals that residents have begun to develop trust in the leader due to his consistent support, not only during planning but also during implementation, such as the construction of reservoirs or waste management. The leader serves as a “role model” in action, not just in rhetoric. This leadership style exhibits transformational-participatory characteristics, emphasizing collective vision and direct involvement. Informal activities such as women's social gatherings (arisan) are also utilized to incorporate environmental agendas and strengthen program outreach. This

demonstrates the ability of local leaders to integrate environmental issues into established social spaces. Consistent with Edelenbos et al. (2021), local leadership is key to community-based social change in urban areas. Furthermore, in line with Polko et al. (2025), the legitimacy of leadership in RW 05 does not rest on formal structures, but rather on a network of trust (bridging social capital) built consistently in the daily life of the community. One important dynamic that confirms Awaldi Hasibuan's leadership character is his initial initiative to designate RW 05 as a Climate Village, long before any external intervention. This idea arose from his concern for environmental conditions and his hope to make his village an example of ecological independence. However, for several years, this idea could not be realized due to limited resources, technical capacity, and limited access to information regarding ProKlim administrative procedures.

Significant changes began to be seen when the religious organization LDII and students from various universities became present through community service and environmental partnership programs. LDII played a role in strengthening social structures based on religious values and an ethos of togetherness, while students became strategic partners in technical and administrative aspects, such as compiling ProKlim documentation, assisting with urban farming activities, and assisting with reporting to the Environment and Forestry Agency (DLHK). Awaldi, who previously relied solely on the internal strength of the residents, began to orchestrate this collaboration inclusively. He not only opened up space Participation, but also distributes roles fairly and appreciates the contributions of each party, making them central figures in the co-production of village transformation. This collaboration is not a form of dependency, but rather a manifestation of the enabling role provided by external actors to local initiatives. LDII and students function as enablers, providing technical support, information, and institutional support previously lacking in the community. They bridge the gap between residents' self-reliance and the administrative demands of state programs. This role emphasizes the importance of external actors as enablers in community development, providing the knowledge, networks, and legitimacy that enable the community to realize long-planned initiatives (Wahyudi Rambe et al., 2022). Thus, the success of RW 05 in becoming a Climate Village is determined not only by Awaldi Hasibuan's visionary leadership but also by the presence of supporting actors who serve as collective capacity enhancers. The synergy between local leaders and external enablers is a key foundation for creating a sustainable transformation recognized by the state.

2. Social Capital as Collective Strength

Social capital in RW 05 is formed through the accumulation of long-term and consistent social interactions, creating a network of relationships, norms, and values that supports the collective work of residents. The practice of mutual cooperation, the habit of neighborhood meetings, and a value system that prioritizes shared interests are the main pillars of this social capital formation. As explained by Claridge (2018), cognitive social capital built on shared norms, trust, and understanding serves as a driver of collective participation without having to rely on material incentives. This phenomenon is clearly reflected in everyday life. In addition to internal networks, RW 05 also possesses bridging social capital, namely connectedness with groups outside the core community. The close relationship of RW 05 Head, Awaldi Hasibuan, with the religious organization Lembaga Da'wah Islam Indonesia (LDII) is an important asset for building credibility and trust across groups. LDII has a reputation as an organization that instills the values of mutual cooperation, collective discipline, and environmental awareness. Through the LDII network, social solidarity is formed that is not only based on shared beliefs, but also on shared ecological goals. Religious and social activities initiated by LDII provide a strategic space for integrating environmental values into residents' routines. Furthermore, the presence of students from various universities through community service programs strengthens linking social capital, namely the vertical relationship between the local community with higher education institutions and local government. The role of students is not only as volunteers, but also as technical facilitators who assist with documentation, reporting, and compliance with administrative procedures for the Climate Village Program (ProKlim) to the Environment and Forestry Service (DLHK). Woolcock (2001) emphasized that the combination of bonding, bridging, and linking social capital forms multidimensional social capital that can expand a community's adaptive capacity.

Awaldi's role as a connecting node between residents, religious organizations, and academic networks is a clear illustration of the complex, mutually reinforcing nature of social capital. Such social capital not only acts as a lubricant for social relations but also functions as a social control mechanism that ensures the sustainability of community participation. As explained by Uphoff and Wijayarathna (2000), social capital is an asset that can be invested in to facilitate collective action and maintain long-term community engagement. In the context of RW 05, this robust social capital provides a strong foundation for voluntary community participation in every stage of the ProKlim process, including during field verification by the DLHK team. The active, uncoerced

participation of residents reflects a high level of trust and collective commitment, capital that not only supports the achievement of Climate Village status but also ensures its future sustainability.

3. Strengthening Community Institutions

Environmental transformation in RW 05 is not only driven by visionary individuals, but is also supported by organically formed community institutions. These institutions are born from repeated collective habits, crystallizing into unwritten rules adhered to by residents. The Women's Farmers Group (KWT), for example, serves a dual function: as an agricultural production unit and a learning center for organic fertilizer processing and kitchen waste management. The KWT serves as a space for social interaction that facilitates knowledge exchange, strengthens solidarity, and encourages household-based environmental adaptation. Other institutions, such as farmer groups and reservoir management teams, handle broader functions: dividing tasks, conducting field evaluations, developing work schedules, and archiving production results. The reservoir management schedule, harvest rotation, and meeting documentation are consistently implemented. This demonstrates that the institutions in RW 05 are not merely ceremonial, but rather serve a concrete organizational function.

This finding aligns with the principles of institutional design proposed by Ostrom (1990) and updated by Cox et al. (2010). Several of these principles are evident in RW 05, including:

1. Collective-choice arrangements, evident in the division of labor formulated through community deliberations.
2. Internal monitoring, reflected in regular evaluations conducted by group members.
3. Proportional social sanctions (graduated sanctions), although rarely necessary, still regulate adherence to schedules and responsibilities.
4. Recognition of rights to organize, where institutions grow from citizen initiatives without direct government intervention.

RW 05's experience also aligns with the concept of adaptive governance (Chaffinet et al., 2014), which emphasizes the importance of flexibility, collective learning, and multi-stakeholder involvement in addressing environmental change. RW 05's institutions are adaptive because they are able to adjust the division of roles, update rules, and involve new actors—such as the LDII religious organization and students—in supporting ecological goals. This context bears similarities to the study by Wahyudi Rambe et al. (2022) in Buluh Duri, where a youth group formed an independently managed white water rafting tourism business unit. Although they are in different fields, both cases demonstrate that institutions that grow from collective experience and local norms can become sustainable economic and social drivers. Therefore, institutional strengthening in Neighborhood Association (RW) 05 serves not only as a means of technical coordination but also as a collective learning mechanism that enhances the community's adaptive capacity. Independence in formulating rules, assigning roles, and maintaining the sustainability of activities demonstrates that local institutions can be a key pillar in the transformation towards an environmentally resilient village.

4. Community-Driven Adaptation Practices

Environmental adaptation practices in RW 05, Agrowisata Village, are the result of community initiatives that optimize local resources and prioritize sustainability principles. Based on interviews with the Head of RW 05, Awaldi Hasibuan, and field observations, residents utilize vacant land around the settlement for urban farming-based food gardens, using both conventional and hydroponic methods. These gardens serve not only as a daily source of vegetables but also as a collective learning space for members of the Women's Farmers Group (KWT) and local youth. One prominent adaptation infrastructure is the infiltration reservoir, built independently to collect rainwater and irrigate gardens during the dry season. According to the official Climate Village Program document (Pekanbaru City Environmental Agency, 2023), this reservoir is an indicator of RW 05's success in enhancing community-based environmental resilience. In terms of waste management, residents process household organic waste into fertilizer using the drum compost and takakura methods. This activity is coordinated by the KWT (Residential Waste Management Group) and the waste bank, which not only accepts organic waste but also provides training in the production of liquid organic fertilizer for residents. This processing process is documented in the ProKlim activity report (Pekanbaru City Environmental Agency, 2023) and confirmed through direct on-site observations. Local innovation is also evident in the use of used materials for household farming. Based on field observations, residents utilize used plastic bottles, gallon jugs, buckets, and nets as vertical gardening media and a simple drip irrigation system. This practice is not widely documented in official documents but is verified through photographic documentation of the activities and direct accounts from the residents who initiated the system. In addition to technical aspects, adaptation practices in RW 05 have

educational and regenerative dimensions. Elementary and middle school children are involved in planting activities, waste sorting, and field trips to community gardens. These activities are reported in the DLHK ProKlim profile (2023) as a form of intergenerational environmental education, ensuring the transfer of adaptation knowledge from adults to younger generations. This approach aligns with the principles of community-based adaptation (CBA) as formulated by Archeret al (2014), namely the utilization of local knowledge, participatory planning, and the integration of adaptation with long-term development goals. RW 05 demonstrates that climate adaptation does not have to rely on high technology or large investments, but can be built through simple innovations, the utilization of local resources, and the active involvement of all levels of society.

5. State Recognition Process as a Self-Reliant Institutionalization

The Main Climate Village Program (ProKlim) award given by the Ministry of Environment and Forestry (KLHK) to RW 05, Agrowisata Village, in 2023, represents formal state recognition of the community's capacity for community-based environmental adaptation. Based on in-depth interviews and a review of official ProKlim documents (Pekanbaru City Environmental and Sanitation Agency, 2023), the process involved a lengthy verification process, including the preparation of activity documentation, participation in training conducted by the Pekanbaru City Environment and Sanitation Agency (DLHK), field visits by the verification team, and verification of adaptation practices that met ProKlim criteria. All documentation, including recording harvest yields, developing activity schedules, and monitoring the progress of the reservoir construction, was carried out independently by residents without external technical assistance. A community leader from RW 05 revealed that they initially did not envision the initiative receiving national recognition, until a DLHK visit indicated that the adaptation system they had developed was worthy of replication. This statement suggests that state recognition emerged after local capacity was established, not as a direct result of government intervention programs.

These findings reinforce the argument that the success of climate villages does not always originate from external support but can grow from self-help initiatives that are then institutionalized through formal recognition.

From the perspective of environmental justice theory, this type of recognition aligns with the concept of recognition-justice proposed by Fraser (2000) and expanded by Schlosberg (2004), where recognition is not merely a form of symbolic validation but also an instrument for distributing justice in the form of legal legitimacy, access to resources, and the expansion of cross-actor collaborative networks. The formal recognition of RW 05 marks a shift in the community's position from a local actor to a strategic partner in environmental governance. This has implications for opening up opportunities for partnerships with government agencies, non-governmental organizations, and the private sector. Furthermore, this recognition provides the community with political and administrative power to maintain and develop its adaptation initiatives. Thus, RW 05's transformation from self-reliance to state recognition reflects the success of an effective and sustainable community-based development model. The five dimensions identified in this study—local leadership, social capital, community institutions, citizen-based adaptation practices, and state legitimacy—can be used as an analytical framework for further studies on the interaction between citizen initiatives and state policies, particularly in the context of climate change and environmental governance at the local level.

4. Conclusion

This study yields several conclusions reflecting the main findings, strengths, and limitations of the study, and provides recommendations for future development, as explained in the following points: 1. Local leadership acts as a catalyst for community transformation through role models, direct mentoring, and the integration of environmental issues into residents' social spaces, effectively mobilizing collective self-reliance, 2. Social capital serves as the foundation for participation and program sustainability, reflected in incentive-free mutual cooperation, crop exchange, and leadership rotation that minimizes conflict, as well as facilitating community involvement in ProKlim verification, 3. Community institutions that grow organically are capable of carrying out organizational, documentation, and educational functions, with the active role of the KWT (Women's Group) and the reservoir management team as the primary drivers of community-based adaptation, 4. Adaptation practices are contextual, utilizing local resources and simple innovations such as home-based farming and the utilization of used goods, demonstrating that climate adaptation can be implemented with low-cost and participatory strategies, 5. State recognition through ProKlim becomes a form of institutionalization of community self-reliance, establishing a model of state-community relations that stems from the recognition of local capacity, 6. The strengths of this research lie in the depth of field observations and focus on the socio-political dimensions of environmental programs, providing theoretical contributions to the study of community leadership, social capital, and community-based adaptation. A limitation is the case coverage of only one

neighborhood unit (RW), so generalization of the results requires caution, 7. Further research is recommended to examine the power relations between communities and state institutions more explicitly, using a comparative interregional approach or actor network analysis. Furthermore, it is necessary to develop indicators for the success of climate villages that encompass social and institutional aspects, not just technical and administrative ones.

Acknowledgment

The authors would like to thank the Institute for Research and Community Service (LPPM) of Abdurrah University for financial support through the 2025 Internal Grant, as well as the residents of Agrowisata Village, RW 05, who actively participated in this research process. Appreciation is also given to all parties who have provided contributions, suggestions and support during the implementation of the research.

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