

STRATEGIES FOR STRENGTHENING SOCIAL BONDING IN A FOREST FARMER GROUP: AN FFA AND AHP APPROACH

Andi Ridha Yayank Wijayanti^{1*}, Sri Arfiani Rahim Sila², Nur Zamzam³, Saharuddin⁴, Supratman⁵, Andi Arafat⁶

^{1,2,3,6}Universitas Sulawesi Barat

⁴Dinas Kehutanan Provinsi Sulawesi Barat

⁵Universitas Hasanuddin

*E-mail: andi.yayank@unsulbar.ac.id

Received, 11th August 2025; Revised, 19th September 2025;

Accepted, 22th September 2025

ABSTRACT

Strengthening social bonding within forest farmer group institutions is essential for the sustainability of community-based forest management. This study aims to formulate strategies for strengthening social bonding by identifying its driving and restraining factors. Data were collected through observation, in-depth interviews, and expert assessments. The analysis integrated Force Field Analysis (FFA) to map drivers and barriers, and the Analytic Hierarchy Process (AHP), based on expert assessments, to prioritize these factors. The results show that leadership legitimacy, a culture of mutual cooperation, conservation awareness, active participation, and strong social networks are the main driving factors. Prominent constraints include leadership centralization, unequal member contributions, undocumented norms, technical capacity gaps, and limited external networks. Strengthening strategies include leadership distribution, reinforcement of collective activities, documentation of norms and values, enhancement of technical capacity, and expansion of external networks. These findings provide an evidence-based framework for strengthening social capital and supporting the institutional sustainability of forest farmer groups.

Keywords: AHP; FFA; Forest_Farmer; Social_Bonding; Social_Capital.

INTRODUCTION

The Community Forest (*Hutan Kemasyarakatan*, HKm) scheme is one of the primary instruments of Indonesia's social forestry policy, designed to improve the welfare of forest-adjacent communities while ensuring ecosystem sustainability (Erbaugh, 2019; Maryudi et al., 2022). Its implementation is facilitated through the establishment of Community Forest Farmer Groups (Kelompok Tani Hutan, KTH), which are granted participatory and sustainable forest management rights. As of August 2025, West Sulawesi Province had recorded 228 KTHs, comprising 5 classified as "main," 4 as "intermediate," and 219 as "beginner." The fact that only 2.19% fall into the "main" category underscores persistent challenges in institutional effectiveness and sustainable forest management in the region.

Previous studies have shown that the success of KTHs is determined not only by technical and economic factors but also by social factors that foster group cohesion,

enhance collective capacity, and promote sustainable management (Baynes et al., 2015; Newman & Dale, 2007). Among the dimensions of social capital, social bonding defined as the social ties among members built on trust, solidarity, shared norms, active participation, and strong internal networks is particularly influential. Strong social bonding has been shown to improve coordination, broaden participation, and sustain institutional resilience (Crona et al., 2017; Lee et al., 2017). However, empirical research on social bonding in the context of KTHs remains limited, especially in Indonesia's social forestry landscape and in the Sulawesi region (Rakatama & Pandit, 2020). Weak social ties can undermine collective decision-making, diminish a sense of ownership over programs, and ultimately threaten the sustainability of forest management (Djamhuri, 2008; Roslinda et al., 2017).

Conceptually, social bonding is one type of social capital popularized by Putnam et al., (1994) and distinguished from bridging and linking social capital. Bonding refers to close relationships within homogeneous groups that foster a sense of belonging and mutual support but may also lead to exclusivity (Bourdieu, 1986; Coleman, 1988). In natural resource management, balancing internal strength (bonding) with external connectivity (bridging and linking) is essential to address challenges in adaptation, innovation, and resource access (Woolcock & Narayan, 2000). While social bonding has been widely discussed in the international literature, studies that integrate this dimension into HKm management in Indonesia particularly with a systematic identification of its driving and restraining forces are rare (Rakatama & Pandit, 2020).

This study addresses these gaps by examining the dynamics of social bonding within a KTH that has demonstrated sustained institutional performance under the HKm scheme. By integrating Force Field Analysis (FFA) and Analytic Hierarchy Process (AHP), it identifies the key drivers and barriers of social bonding and formulates evidence-based strategies for its enhancement. The findings aim to contribute theoretically to social capital studies and practically to strengthening community forest institutions in Indonesia, while enriching the global discourse on the role of social capital in community-based natural resource governance.

THEORETICAL CONSIDERATIONS

Social capital has become a central concept across multiple disciplines, including sociology, political science, economics, and development studies. Bourdieu (1986) defines it as “the actual or potential resources linked to possession of a durable network of more or less institutionalized relationships.” In this framework, social capital is viewed as an asset that individuals or groups can mobilize to gain economic, social, or symbolic benefits. Coleman (1988) expanded this idea by emphasizing social capital's function as a mechanism facilitating coordination and cooperation through norms, reciprocal obligations, and trust.

Putnam (1994) distinguishes social capital into three main forms: bonding, bridging, and linking. Bonding social capital refers to strong ties within homogeneous groups, which strengthen solidarity and internal support but may limit access to external resources. Bridging social capital refers to relationships across groups with different backgrounds, which expand networks and opportunities for innovation. Linking social capital reflects vertical connections with powerful actors or institutions, opening access to resources, information, and policy support (Szreter & Woolcock, 2004; Woolcock, 2001).

In the context of community-based natural resource management, bonding social capital often serves as the foundation for institutional sustainability (Pretty & Ward, 2001). Ties of trust, shared norms, and internal solidarity can enhance active participation, strengthen monitoring mechanisms, and maintain compliance with collective rules (Ostrom, 1990; Ostrom & Ahn, 2003). However, the same strength can become a weakness when internal ties are overly exclusive, hindering integration

with external networks and reducing adaptability to changes in the social or ecological environment (Newman & Dale, 2007; Portes, 2017).

In Indonesia’s Community Forest (HKm) program, bonding social capital plays a crucial role in management success, as most KTHs operate in rural areas with strong traditions of mutual assistance (*gotong royong*) and robust social structures (Lee et al., 2017). Strong internal connectivity can facilitate role distribution, local knowledge transfer, and collective decision-making. However, without openness to bridging and linking social capital, groups risk stagnation in innovation and market access (Rakatama & Pandit, 2020).

Therefore, in this study, bonding social capital is positioned not only as a social asset supporting institutional sustainability but also as a dynamic variable with the potential for both strength and vulnerability. Identifying its driving and restraining factors is a critical step toward formulating strategies to strengthen KTH institutions that are inclusive, adaptive, and sustainable.

RESEARCH METHODOLOGY

This study was conducted from June to August 2025 at the Buttu Puang Forest Farmers Group (KTH), Miring Village, Binuang Subdistrict, Polewali Mandar Regency, West Sulawesi Province, which holds a Community Forest (*Hutan Kemasyarakatan* or HKm) management permit covering approximately 1,127 hectares (Decree No. SK.7035/MENLHK-PSKL/PKPS/PSL.0/12/2017). The location was purposively selected based on: (1) institutional sustainability since obtaining the HKm permit in 2017, (2) achievement as an “Utama” (Top-Class) KTH in 2024, and (3) its representativeness of HKm institutional characteristics in West Sulawesi.

The Buttu Puang HKm area is characterized by hilly topography with variable slopes and a humid tropical climate. Vegetation comprises a mixture of forestry tree species and non-timber plants managed under agroforestry systems, including aren, cacao, and honey, which play a crucial role in sustaining the livelihoods of KTH members.

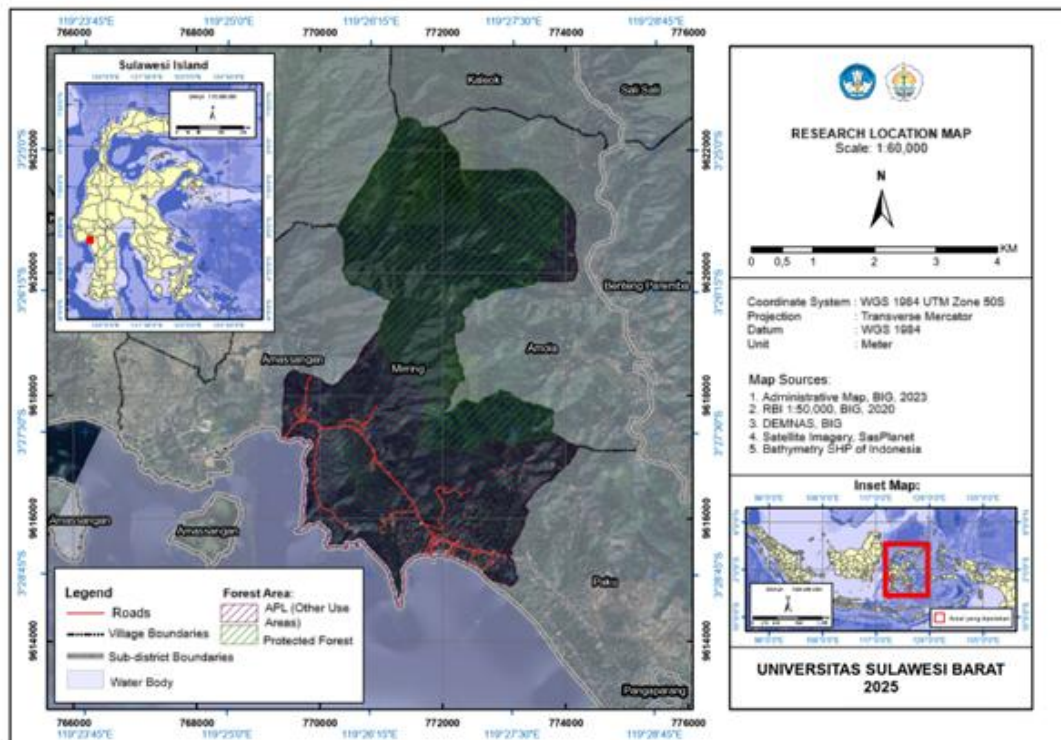


Figure 1. Study Area

The study employed a *mixed methods* case study design (Creswell, 2014). Informants were selected using purposive and snowball sampling techniques to ensure representation of roles and perspectives. Selection criteria included: (1) membership status in KTH (administrator, active member, passive member), (2) involvement in productive business units, (3) a minimum of one year's experience in group activities, and (4) engagement of relevant external stakeholders. A total of 15 informants participated, consisting of five core administrators, six active members, two passive members, and two external stakeholders. The interview guide, adapted from the approach of Maryudi & Fisher, (2020), was structured around five dimensions of social bonding: (1) trust, (2) solidarity, (3) shared norms and values, (4) participation, and (5) social networks. Secondary data were obtained from official reports, institutional documents, and academic publications.

Data analysis comprised two stages. First, Force Field Analysis (FFA) (Lewin, 1951) was used to identify the driving forces and restraining forces across the five social bonding dimensions through: (1) identifying factors from observation, interviews, and documentation, (2) categorizing factors, (3) assigning relative strength scores, and (4) mapping the balance between driving and restraining forces. Second, the Analytical Hierarchy Process (AHP) (Saaty, 1993) prioritized factors through: (1) constructing pairwise comparison matrices based on expert judgments, (2) normalizing data, (3) calculating eigenvectors as priority weights, and (4) testing consistency using the Consistency Index (CI) and Consistency Ratio (CR) with reference to the Random Index (RI). Consistency criteria: $CR < 0 \rightarrow$ error; $CR = 0 \rightarrow$ perfectly consistent; $0 < CR \leq 1 \rightarrow$ consistent; $CR > 1 \rightarrow$ inconsistent.

Expert judgments in the AHP were obtained from three purposively selected experts, consisting of one social forestry extension officer and two academics with expertise in community-based forest management, social capital, and community empowerment research. To simplify the assessment process and reduce potential inconsistency, a 1–5 scale was applied for pairwise comparisons as a modification of Saaty's original 1–9 scale, while still maintaining the principle of relative comparison among criteria

Expert assessments were consolidated into a combined expert matrix and calibrated with the researcher's field-based justification using a 1–5 scale. The final AHP results served as the basis for developing strategies and action plans to strengthen KTH sustainability.

RESULT AND DISCUSSION

Comprehensive Overview of Social Bonding in KTH Buttut Puang

KTH Buttut Puang is a forest farmer group located in Polewali Mandar Regency, West Sulawesi, which was granted a Community Forest (HKm) utilization permit for protected forest areas under Decree No. SK.7035/MENLHK-PSKL/PKPS/PSL.0/12/2017. Since obtaining the permit in 2017, the group has maintained strong institutional performance, culminating in being awarded KTH Kelas Utama status in 2024, with Certificate No. 002.00.01/1541/XII/2024. This achievement reflects the group's success not only in fulfilling the administrative requirements of the HKm scheme but also in developing and maintaining strong social bonding among its members.

The findings indicate that social bonding in KTH Buttut Puang is strongly built through the dimensions of trust, solidarity, shared norms and values, participation, and social networks. Trust serves as the primary foundation of member relations, reinforced by the leader's exemplary conduct in consistently prioritizing collective interests. This aligns with Crona et al., (2017), who noted that trust facilitates coordination and collaboration in community-based groups. However, unlike studies

reporting more distributed leadership (Maak, 2007), leadership in KTH Buttut Puang remains centralized in a single figure, which may slow down leadership regeneration.

Solidarity is reflected in frequent *gotong royong* (mutual cooperation) and mutual assistance beyond formal group activities. This is consistent with Lee et al. (2017), who found that repeated social interactions build strong emotional bonds. Nevertheless, differences in members' contributions sometimes create tensions, especially when some are less active due to outside commitments. This suggests that although bonding social capital is strong, its sustainability requires formal mechanisms to ensure equitable participation.

Shared norms and values in KTH are mostly unwritten but are collectively respected, such as prohibitions against indiscriminate tree cutting and the obligation to protect forest areas. This finding is consistent with Christoforou & Davis, (2014), who argued that unwritten norms can be effective when deeply embedded in local culture. However, the risk of losing these norms during generational transitions remains, as cautioned by Lazić & Pešić, (2024).

The implication is that KTH Buttut Puang possesses strong internal social capital, but its long-term sustainability will depend heavily on the ability to distribute leadership, balance contributions, and formally document norms so they can be passed across generations.

Strengths and Challenges: An Analysis of Driving and Restraining Forces

The analysis of driving and restraining forces for social bonding in KTH Buttut Puang was conducted by integrating the Force Field Analysis (FFA) and the Analytic Hierarchy Process (AHP). FFA was used to identify the factors that strengthen (driving forces) and hinder (restraining forces) social bonding, while AHP was employed to determine the priority of these factors through expert assessments combined with the researcher's field-based justification. The results (Table.1 and 2) reveal that across the five dimensions of social bonding — trust, solidarity and togetherness, shared norms and values, participation, and social networks — there are dominant factors that require immediate reinforcement or mitigation.

Table 1. Identification and Assessment of Driving Forces

Dimension	Driving Factor	Weight	Value	Score
Trust	Leadership legitimacy reinforced by the leader's exemplary conduct in prioritizing members' interests	0.433	5	2.165
	Group social control through an observer team formed by the leader creates collective transparency	0.139	4	0.556
	Open and egalitarian informal communication fosters mutual trust	0.187	4	0.748
	Fair distribution and utilization of aid creates a shared sense of justice	0.128	3	0.384
	Interpersonal trust grows from shared experiences and close personal relationships	0.112	3	0.336
Solidarity & Togetherness	A culture of mutual cooperation rooted in long-standing closeness and interaction	0.310	5	1.550
	Solidarity extends from group activities to daily social practices	0.262	4	1.048
	A family-oriented approach in applying social sanctions encourages voluntary compliance	0.193	3	0.579

Dimension	Driving Factor	Weight	Value	Score
Shared Norms & Values	Less active members are still given space as a form of inclusive system	0.075	2	0.150
	The group's moral economy prioritizes togetherness over personal gain	0.161	4	0.644
	Ecological norms are collectively practiced without written rules	0.300	4	1.200
	Normative compliance arises from awareness, not authoritative coercion	0.146	5	0.730
	Conservation awareness stems from experiences of ecological crises and is strengthened by external support	0.315	4	1.260
	Family values strengthen cohesion and prevent potential fragmentation	0.103	3	0.309
	Social justice values are reflected in inclusive benefit-sharing	0.136	3	0.408
Participation	Availability of meetings as a forum for member engagement	0.105	3	0.315
	Each member joins one KUPS, clarifying roles and responsibilities	0.172	4	0.688
	Deduction of production results for the group's fund represents sustainable economic participation	0.154	3	0.462
	Member involvement is evident in area monitoring, production management, and commodity distribution	0.275	5	1.375
	Fair and transparent profit-sharing encourages sustainable participation	0.295	4	1.180
Social Networks & Interpersonal Relations	Relationships among members are based on family principles and culturally rooted trust	0.337	4	1.348
	Informal interactions serve as an effective bridge to build cohesive relationships	0.197	3	0.591
	Distribution of orders based on members' capacity reflects interpersonal trust and strengthens collective networks	0.140	4	0.560
	External relations with partners such as village-owned enterprises (BUMDes) and buyers from outside the area are built on collective reputation	0.219	5	1.095
	Allocation of area patrol routes strengthens functionally oriented ecological networks	0.107	3	0.321

In the trust dimension, leadership legitimacy reinforced by the leader's exemplary conduct emerged as the highest driving force (score 2.165), supporting Crona et al. (2017)'s finding that trust rooted in consistent behavior fosters group cohesion. However, leadership centralization appeared as the main restraint (score 2.115), consistent with Wulandari & Inoue (2018), who warned that concentrated power in a single figure can hinder regeneration and innovation. The local context of KTH Buttut Puang shows that while centralization may ease short-term coordination, it risks weakening the distribution of knowledge and trust across members.

In solidarity and togetherness, a historically rooted culture of mutual cooperation stands as the top driving force (score 1.550), echoing Lee et al. (2017) on the role of repeated interactions in building emotional solidarity. The main restraint is unequal member contributions (score 1.149), which can generate perceptions of unfairness if not balanced by clear task allocation mechanisms.

Table 2. Identification and Assessment of Restraining Forces

Dimension	Restraining Factor	Weight	Value	Score
Trust	Centralization of leadership hinders regeneration and distribution of trust within the group	0.423	5	2.115
	Closed social control potentially weakens trust and triggers inequality	0.206	3	0.618
	Absence of a formal conflict management system may cause bias in resolution	0.117	4	0.468
	Justice without accountability may lead to perceptions of social inequality	0.168	3	0.504
	Personal trust is difficult to transfer across generations	0.086	4	0.344
Solidarity & Togetherness	Differences in member contributions potentially weaken social harmony	0.383	3	1.149
	Solidarity relies solely on personal awareness, making its continuity uncertain	0.128	5	0.640
	Lack of control over contributions opens opportunities for exploitation of solidarity values	0.165	4	0.660
	Solidarity is at risk of weakening under external pressure without internal reinforcement systems	0.164	3	0.492
	Absence of an internal evaluation system makes solidarity difficult to measure and develop	0.160	4	0.640
Shared Norms & Values	Unwritten norms risk being lost during group regeneration	0.275	5	1.375
	Unwritten norms are vulnerable to multiple interpretations in conflicts of interest	0.237	4	0.948
	Norms of togetherness are not supported by evaluation of member participation	0.097	3	0.291
	Values are only passed down orally without institutional reinforcement	0.247	4	0.988
	Tolerance of unequal participation can weaken collective values	0.144	3	0.432
Participation	Personal busyness causes unequal member participation	0.098	4	0.392
	Participation is driven more by the leader's figure than by an independent system	0.222	5	1.110
	Differences in capacity limit technical participation	0.303	4	1.212
	No participation evaluation to encourage improvement	0.185	3	0.555
	Lack of post-meeting feedback creates the impression that the process ends once the meeting is over	0.192	3	0.576
	Not all members are actively involved in informal interactions	0.120	3	0.360

Dimension	Restraining Factor	Weight	Value	Score
Social Networks & Interpersonal Relations	Not all members have equal access to external relations, creating potential information dominance	0.197	4	0.788
	Limited member involvement in external relations causes dependency on the leader and weakens network sustainability	0.244	5	1.220
	Social connectedness in forums is uneven, so networks are not fully integrated	0.211	4	0.844
	Dependence on internal cohesion makes the group vulnerable to personal conflicts affecting performance	0.229	3	0.687

Notes:

Weight : Derived from the combined analysis of all expert evaluations

Value : Derived from the researcher's justification based on field observations

The shared norms and values dimension shows that conservation awareness grounded in experiences of ecological crises is a significant strength (score 1.260), in line with Christoforou & Davis (2014), who highlighted that collective experiences shape sustainability commitments. The key restraint is the absence of documented norms (score 1.375), which threatens the continuity of values during generational transitions (Lazić & Pešić, 2024).

For participation, member involvement in activities ranging from area monitoring to production management is a strong driver (score 1.375), supporting Bühlmann & Freitag (2004)'s argument that active participation strengthens social capital. The restraint is a gap in technical capacity (score 1.212), which can create an elitist form of social capital (Singh & Moody, 2022).

In social networks, family-based relationships rooted in cultural trust are the top driver (score 1.348), consistent with Ari et al., (2024) on the role of strong networks in collective action. The restraint is limited member involvement in external networks (score 1.220), leading to high dependency on the leader and constraining access to information.

The implication is that strengthening social bonding in KTH Buttut Puang should focus on: (1) decentralizing leadership, (2) equalizing work contributions, (3) documenting norms, (4) enhancing technical capacity, and (5) expanding external networks. These steps will ensure that the group's internal strengths are not only maintained but also remain adaptive to changes in the social and institutional environment.

From Data to Action: Strategies for Strengthening Social Bonding

Based on the priority factors identified through FFA and AHP analysis, strategies for strengthening social bonding in KTH Buttut Puang focus on five main actions:

1. Strengthening leadership legitimacy through leadership rotation and succession planning to reduce dependency on a single figure and ensure continuous leadership regeneration.
2. Maintaining the culture of mutual cooperation through regular collective activities involving all members in production, social, and environmental initiatives.
3. Enhancing conservation awareness through technical training and environmental campaigns emphasizing the importance of forest ecosystem sustainability.
4. Expanding member participation in monitoring, production management, and decision-making to ensure equitable role distribution.

5. Building external networks through strategic partnerships with government agencies, NGOs, the private sector, and other forest farmer groups to broaden access to resources, knowledge, and market opportunities.

Table 3. Strategies for Strengthening Social Bonding in KTH Buttut Puang

Priority Factor	Constraint Addressed	Strategy	Expected Impact
Leadership legitimacy	Leadership centralization	Implement a leadership rotation system and develop a succession plan involving members from different generations.	Trust is more evenly distributed; leadership regeneration is ensured.
Culture of mutual cooperation	Unequal member contributions	Organize regular collective activities in production, social, and environmental fields, with clear and equitable task allocation.	Strengthened social cohesion and an increased sense of fairness among members.
Conservation awareness	Undocumented norms	Document group norms and values in written form and conduct regular environmental training and campaigns.	Sustainable environmental awareness and intergenerational transmission of ecological values.
Member participation	Technical capacity gaps	Provide targeted technical training and form internal learning groups for continuous skill improvement.	More equitable technical participation and improved member capacity.
External networks	Dependency on leader for external relations	Establish strategic partnerships with government agencies, NGOs, the private sector, and other KTHs, with members taking turns to engage in external networking.	Expanded access to resources, knowledge, and markets; sustained partnerships.

These strategies are designed to address the group's main constraints: reducing leadership centralization, balancing member contributions, documenting group norms, improving technical capacity, and expanding networks. This approach aligns with Woolcock's (2001) recommendation that institutional sustainability requires balancing the strengthening of bonding social capital with opening access to bridging and linking social capital.

CONCLUSION

This study demonstrates that the success of KTH Buttut Puang in sustaining Community Forest (HKm) management is strongly influenced by the strength of social bonding among its members. Trust and solidarity emerged as the main pillars supporting internal cohesion, while conservation awareness, active participation, and social networks enhanced collective capacity. FFA and AHP analyses revealed that leadership legitimacy, a culture of mutual cooperation, and conservation awareness are the key driving forces, whereas leadership centralization, unequal contributions, and the lack of documented norms are significant constraints.

The formulated strategies leadership rotation, reinforcement of collective culture, enhancement of technical capacity, documentation of norms, and development of external networks are concrete steps to address these constraints. To increase their practical value, these strategies can be further distilled into a generic checklist or framework for facilitators and policymakers working with other KTHs. Such a tool would provide actionable guidance for strengthening internal cohesion while simultaneously expanding external linkages, thereby enhancing institutional resilience. These findings reinforce Woolcock's (2001) view that institutional sustainability requires balancing the strengthening of bonding social capital with expanding access to bridging and linking social capital.

Research implications cover two main aspects. Practically, the results can serve as a policy reference for strengthening community forest institutions in other regions, particularly by integrating internal cohesion building with external network expansion to enhance institutional resilience. Theoretically, the findings enrich the literature on social capital in community-based resource governance and provide empirical evidence that the combined use of FFA and AHP is effective for prioritizing factors and designing strategies for strengthening social capital.

Nevertheless, the study is limited by its case study scope, which focuses on a single KTH, thereby requiring further research in locations with different social and ecological characteristics for broader generalization. Furthermore, a longitudinal approach is recommended to monitor the long-term effectiveness of the implemented strategies.

ACKNOWLEDGEMENTS

We would like to express our deepest gratitude to Kementerian Pendidikan Tinggi, Sains, dan Teknologi for the 2025 Research Program Grant, and to LPPM & PM of the Universitas Sulawesi Barat.

REFERENCES

- Ari, I. R. D., Prayitno, G., Fikriyah, F., Dinanti, D., Usman, F., Prasetyo, N. E., Nugraha, A. T., & Onishi, M. (2024). Reciprocity and Social Capital for Sustainable Rural Development. *Societies*, 14(2). <https://doi.org/10.3390/soc14020014>
- Baynes, J., Herbohn, J., Smith, C., Fisher, R., & Bray, D. (2015). Key factors which influence the success of community forestry in developing countries. *Global Environmental Change*, 35, 226–238. <https://doi.org/10.1016/j.gloenvcha.2015.09.011>
- Bourdieu, P. (1986). The forms of capital. (1986). *Cultural Theory: An Anthology*, 1(81–93), 949.
- Bühlmann, M., & Freitag, M. (2004). Individual and contextual factors explaining the share of social capital. A multi-level analysis of the conditions for membership in social organizations. *Kolner Zeitschrift für Soziologie und Sozialpsychologie*, 56(2), 326–349+406. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-3042839757&partnerID=40&md5=7f72bb0c41a52fdad55af128bc6af560>
- Christoforou, A., & Davis, J. B. (2014). Social capital and economics: Social values, power, and social identity. In *Social Capital and Economics: Social Values, Power, and Social Identity*. Taylor and Francis. <https://doi.org/10.4324/9780203505014>
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95–S120. <https://doi.org/https://doi.org/10.1086/228943>
- Creswell, J. W. (2014). *Research Design Qualitative, Quantitative and Mixed Methods*

- Approaches. In V. Knight (Ed.), *SAGE Publication, Inc.* (4th ed.). Sage Publications, Inc. <https://doi.org/10.4324/9781032624860-9>
- Crona, B., Gelcich, S., & Bodin, Ö. (2017). The Importance of Interplay Between Leadership and Social Capital in Shaping Outcomes of Rights-Based Fisheries Governance. *World Development*, 91, 70–83. <https://doi.org/https://doi.org/10.1016/j.worlddev.2016.10.006>
- Djamhuri, T. L. (2008). Community participation in a social forestry program in Central Java, Indonesia: the effect of incentive structure and social capital. *Agroforestry Systems*, 74(1), 83–96.
- Erbaugh, J. T. (2019). Responsibilization and social forestry in Indonesia. *Forest Policy and Economics*, 109, 102019. <https://doi.org/https://doi.org/10.1016/j.forpol.2019.102019>
- Lazić, M., & Pešić, J. (2024). VALUES, NORMS AND SOCIAL DYNAMICS. *Filozofija i Društvo*, 35(3), 703–724. <https://doi.org/10.2298/FID2403703L>
- Lee, Y., Rianti, I. P., & Park, M. S. (2017). Measuring social capital in Indonesian community forest management. *Forest Science and Technology*, 13(3), 133–141. <https://doi.org/https://doi.org/10.1080/21580103.2017.1355335>
- Lewin, K. (1951). Field theory in social science. Selected Theoretical Papers, edited by D. Cartwright. New York, NY: Harper's Publication.
- Maak, T. (2007). Responsible leadership, stakeholder engagement, and the emergence of social capital. *Journal of Business Ethics*, 74(4), 329–343.
- Maryudi, A., & Fisher, M. (2020). The power in the interview: A practical guide for identifying the critical role of actor interests in environment research. *Forest and Society*, 4(1), 142–150. <https://doi.org/10.24259/fs.v4i1.9132>
- Maryudi, A., Sahide, M. A. K., Daulay, M. H., Yuniati, D., Syafitri, W., Sadiyo, S., & Fisher, M. R. (2022). Holding social forestry hostage in Indonesia: Contested bureaucracy mandates and potential escape pathways. *Environmental Science and Policy*, 128, 142–153. <https://doi.org/10.1016/j.envsci.2021.11.013>
- Newman, L., & Dale, A. (2007). Homophily and agency: Creating effective sustainable development networks. *Environment, Development and Sustainability*, 9(1), 79–90. <https://doi.org/10.1007/s10668-005-9004-5>
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.
- Ostrom, E., & Ahn, T.-K. (2003). *Foundations of social capital*. Edward Elgar Publishing. <https://doi.org/https://doi.org/10.1146/annurev.soc.24.1.1>
- Portes, A. (2017). Social capital: Its origins and applications in modern sociology. In *New critical writings in political sociology* (pp. 53–76). Taylor and Francis. <https://doi.org/https://doi.org/10.4324/9781003572923-6>
- Pretty, J., & Ward, H. (2001). Social capital and the environment. *World Development*, 29(2), 209–227. [https://doi.org/https://doi.org/10.1016/S0305-750X\(00\)00098-X](https://doi.org/https://doi.org/10.1016/S0305-750X(00)00098-X)
- Putnam, R. D., Nanetti, R. Y., & Leonardi, R. (1994). *Making democracy work: Civic traditions in modern Italy*.
- Rakatama, A., & Pandit, R. (2020). Reviewing social forestry schemes in Indonesia: Opportunities and challenges. *Forest Policy and Economics*, 111, 102052. <https://doi.org/https://doi.org/10.1016/j.forpol.2019.102052>
- Roslinda, E., Ekyastuti, W., & Kartikawati, S. M. (2017). Social capital of community forest management on Nusapati Village, Mempawah District, West Kalimantan, Indonesia. *Biodiversitas*, 18(2), 548–554. <https://doi.org/10.13057/biodiv/d180215>
- Saaty, T. L. 1993. *Decision making with the analytic hierarchy process*. International Journal of Services Sciences. Int. J. Services Sciences. Vol. 1 (1).
- Singh, M. K., & Moody, J. (2022). Do social capital and networks facilitate community participation? *International Journal of Sociology and Social Policy*, 42(5–6), 385–

398. <https://doi.org/10.1108/IJSSP-01-2021-0022>
- Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology*, 33(4), 650–667. <https://doi.org/https://doi.org/10.1093/ije/dyh013>
- Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(1), 11–17.
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Research Observer*, 15(2), 225–249. <https://doi.org/10.1093/wbro/15.2.225>
- Wulandari, C., & Inoue, M. (2018). The Importance of Social Learning for the Development of Community Based Forest Management in Indonesia: The Case of Community Forestry in Lampung Province. *Small-Scale Forestry*, 17(3), 361–376. <https://doi.org/10.1007/s11842-018-9392-7>