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Governance Challenges Facing Water User Associations in Water Resource Management in Mbarali District, Tanzania

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ABSTRACT

Water User Associations (WUAs) are important local institutions for translating water-resource governance principles into practical arrangements for water allocation, conflict management, rule enforcement and collective participation. In Tanzania, their institutional responsibilities are formally recognized within the national water-resource management framework. Nevertheless, the effectiveness of WUAs depends substantially on the quality of governance within the associations, particularly the transparency of decision-making, accountability of leaders, access to information, participation of members, conflict-resolution mechanisms and enforcement of agreed rules. This study examined governance challenges facing Water User Associations in water resource management in Mbarali District, Tanzania. The study was based on a mixed-methods approach and a cross-sectional design. Data were collected from 118 WUA members through questionnaires, supplemented by 14 key informant interviews, three focus group discussions, documentary review and field observation. Quantitative data were analysed using descriptive statistics, while qualitative evidence was analysed thematically and used to explain the observed patterns. The findings showed that governance weaknesses were evident in several interconnected areas. Decision-making was not consistently transparent or inclusive; accountability to members was weak; financial and operational information was not adequately communicated; conflict-resolution mechanisms were inconsistently applied; and enforcement of WUA by-laws was uneven. These weaknesses affected member trust, participation and compliance with collective decisions and constrained the implementation of water-management activities. The study concludes that governance is not a peripheral administrative issue but a central institutional condition for effective local water-resource management. Strengthening WUAs therefore requires accountable leadership, regular disclosure of financial and operational information, inclusive decision-making, functioning conflict-resolution procedures, reliable record keeping and consistent enforcement of approved by-laws.

Keywords: Water user associations, water governance, accountability, transparency, participation, conflict resolution, Mbarali District, Tanzania

1. Introduction

Water governance has become an increasingly important dimension of sustainable water-resource management because competition among domestic, agricultural, industrial and environmental users requires institutions capable of coordinating access, enforcing rules and resolving disputes. The challenge is particularly pronounced in irrigation-dependent communities where water availability varies seasonally and decisions concerning allocation directly affect agricultural production and household livelihoods. Effective water governance therefore extends beyond the physical availability of water to include the institutional arrangements through which users participate in decisions, exercise rights and responsibilities and hold management institutions accountable.

At the local level, Water User Associations provide an institutional mechanism for organizing water users around shared water resources. Their significance lies in their proximity to resource users and their capacity to connect formal water-resource institutions with community-level management. Tanzania's Water Resources Management Act establishes WUAs within the country's decentralized water-resource governance framework and assigns them responsibilities that include water management, distribution and conservation, conflict resolution and representation of users. The current revised legislation also provides for WUA constitutions and elected management committees, demonstrating that governance and representation are integral to the institutional design of WUAs.

The existence of a formal institutional framework, however, does not automatically ensure effective local governance. Governance arrangements must operate through routine practices such as meetings, information disclosure, financial reporting, inclusive decision-making, record keeping, enforcement of rules and mechanisms for handling disagreements. Where these practices are weak, formally established institutions may have limited legitimacy among members and reduced capacity to implement collective decisions.

Evidence from Tanzania illustrates this concern. Richards (2019), examining WUAs in the Great Ruaha River Catchment, found that the formalization of water allocation could produce exclusionary effects for some water users despite the participatory objectives associated with integrated water-resource management. Research on water governance along the Pangani River Basin has similarly identified ineffective and poorly coordinated institutional

arrangements and weaknesses in financial management, while emphasizing transparency and accountability as important conditions for effective water governance. These findings indicate that the formal establishment of participatory institutions must be accompanied by governance practices that provide meaningful opportunities for participation and accountability.

Comparable evidence from other African settings also demonstrates that community-based water institutions can encounter elite capture, dependence on external support, limited meaningful participation and difficulties in translating local arrangements into effective resource governance. A recent review of participatory water governance in East and Central Africa further identifies WUAs as important local structures for community-based water management, while emphasizing the importance of institutional structure and meaningful participation.

Mbarali District presents a particularly relevant setting for examining these governance issues. The district is characterized by substantial dependence on irrigation agriculture and is connected to the Great Ruaha system. Water users operate within an environment in which seasonal water availability, competing demands and the maintenance of irrigation infrastructure require collective rules and effective local institutions. The dissertation on which this article is based examined ten selected WUAs located in Lugelele, Ubaruku and Imalilo Songwe wards. Its findings identified governance weaknesses in transparency, accountability, information sharing, conflict resolution and enforcement of WUA by-laws.

The significance of these findings extends beyond the internal administration of WUAs. Governance determines how information reaches members, how decisions are accepted, how disputes are handled and how collectively agreed rules are implemented. Weaknesses in these areas can undermine trust and participation and can subsequently affect the practical management of water resources. The source study specifically found that governance weaknesses influenced member trust and the implementation of decisions concerning water use and management.

Water User Associations (WUAs) provide a decentralized mechanism for managing shared water resources through participation, accountability, information sharing and conflict resolution. Although Tanzania has established a formal framework for WUAs, governance weaknesses remain evident. Studies in Tanzanian catchments have reported challenges in institutional coordination, transparency, accountability and participation (Richards, 2019). In Mbarali District, the study found non-transparent decision-making, weak accountability, inadequate information sharing, inconsistent conflict resolution and uneven enforcement of WUA by-laws, which affected member trust, participation and compliance with collective decisions. Despite existing research on water governance in Tanzania, limited evidence explains these governance challenges at WUA level in Mbarali District. This study therefore examined the governance challenges facing WUAs in water resource management in the district.

2. Literature Review

2.1 Governance and Water Resource Management

Water governance concerns the institutional arrangements through which decisions about water resources are made and implemented. It includes the relationships among government institutions, resource users, local organizations and other stakeholders. In decentralized water management, governance is particularly important because responsibilities are transferred closer to resource users, requiring mechanisms that enable local institutions to make legitimate decisions and remain accountable to their members.

The Tanzanian legal framework gives WUAs a defined position within water-resource management. The Water Resources Management Act provides that WUAs may manage, distribute and conserve water, resolve conflicts among members, collect water-user fees and represent water users. Members elect a management committee to serve as the executive organ of the association. Consequently, governance quality directly affects the ability of WUAs to discharge their statutory and institutional responsibilities.

2.2 Transparency

Transparency refers to the availability and accessibility of information concerning decisions, activities, resources and institutional processes. In WUAs, transparency is relevant to decisions about water allocation, financial resources, meetings, maintenance activities, user obligations and conflict-resolution processes.

The source study found that information concerning financial and operational matters was not always adequately shared with members. This finding is important because members cannot effectively participate in collective management when information concerning institutional decisions is unavailable or communicated inconsistently.

Research from the Pangani River Basin likewise emphasizes transparency and accountability as necessary elements of effective water governance. Transparency therefore represents more than an administrative requirement; it is a mechanism through which members can understand and scrutinize decisions affecting shared water resources.

2.3 Accountability

Accountability concerns the obligation of leaders and institutional structures to explain decisions, account for resources and accept scrutiny from those to whom they are responsible. Within WUAs, accountability can be reflected in regular meetings, financial reporting, record keeping, reporting of decisions and responsiveness to members' concerns.

The source study identified weak accountability as one of the principal governance problems facing the selected WUAs. Weak accountability can create uncertainty regarding how decisions are made and whether leaders are fulfilling responsibilities assigned to them.

The institutional framework of WUAs itself recognizes the importance of accountability. The revised Water Resources Management Act provides for management committees and requires financial records and annual audited accounts to be presented to the association's annual general meeting. This statutory arrangement demonstrates that accountability is embedded within the formal governance architecture of WUAs.

2.4 Member Participation and Decision-Making

Participation is central to community-based natural-resource management because local users possess direct knowledge of resource conditions and are also subject to the rules established for resource use. Meaningful participation requires more than attendance at meetings. It involves opportunities to contribute to decisions, access relevant information, express concerns and influence collective outcomes.

Evidence from Tanzania shows that the participatory character of WUAs can be complicated by formalization processes and unequal access to water-resource governance. Richards (2019) found that formal water-allocation arrangements in the Great Ruaha River Catchment could contribute to the exclusion of particular water users.

The Mbarali study similarly found restrictions in member participation and non-inclusive decision-making. These findings suggest that the existence of a WUA does not by itself guarantee inclusive governance. Attention must be given to who participates, what information participants receive and whether their contributions influence decisions.

2.5 Conflict Resolution

Competition over water creates conditions in which disagreements can arise among users. WUAs are expected to provide local mechanisms for managing such conflicts. The Water Resources Management Act explicitly identifies conflict resolution among the purposes for which WUAs may be formed.

The effectiveness of this function depends on whether procedures are known, accessible, impartial and consistently applied. The Mbarali findings indicate that conflict-resolution mechanisms were not consistently effective and that unresolved disputes contributed to difficulties in local water-resource management.

Conflict resolution should therefore be viewed as an integral component of governance rather than as an activity undertaken only after disputes become serious. Clear procedures, documented decisions, accessible leadership and consistent enforcement can provide institutional channels for addressing disagreements before they undermine cooperation.

2.6 Enforcement of WUA By-Laws

Rules governing water use are meaningful only when members understand them and when institutions have the capacity and legitimacy to enforce them consistently. By-laws establish expectations concerning water use, contributions, participation and compliance. However, inconsistent enforcement can weaken the credibility of the rules.

The Mbarali study found weaknesses in enforcement of WUA by-laws and linked these weaknesses to broader governance problems. This finding is consistent with the institutional logic of community-based resource management: rules require both collective acceptance and credible enforcement mechanisms.

2.7 Theoretical Perspective

This article is anchored primarily in **Community-Based Natural Resource Management (CBNRM) theory**. The theory is appropriate because WUAs are community-level institutions established to enable users to participate in the management of shared natural resources.

The central relevance of CBNRM to this study lies in the relationship between local participation, institutional legitimacy and collective management. Effective community resource management requires institutional arrangements through which users can participate in decisions, develop rules, monitor compliance and resolve conflicts. Where participation is restricted, information is withheld or leaders are not accountable, collective management may become difficult.

The theory therefore provides a basis for examining governance not simply as organizational administration but as a mechanism through which communities organize collective action around a shared and potentially contested resource.

3. Methodology

The study employed a mixed-methods approach using a cross-sectional design to examine governance challenges facing Water User Associations (WUAs) in water resource management in Mbarali District, Tanzania. Quantitative data were collected from 118 WUA members through structured questionnaires to obtain measurable evidence on governance conditions, while qualitative data were obtained through 14 key informant interviews and three focus group

discussions to provide detailed explanations concerning leadership, participation, information sharing, accountability, conflict resolution and enforcement of WUA by-laws. The study was conducted in Mbarali District, Mbeya Region, covering ten selected WUAs located in Lugelele, Ubaruku and Imalilo Songwe wards, where irrigation agriculture and locally managed water resources are important to community livelihoods. The key informants comprised WUA leaders, relevant local-government officials, water-resource officers and experienced farmers who were selected based on their knowledge and direct involvement in WUA operations. For the purpose of this article, governance challenges were examined through six dimensions identified in the original study: transparency in decision-making, accountability of WUA leadership, member participation and inclusiveness, information sharing, conflict-resolution mechanisms and enforcement of WUA by-laws. Documentary review and field observation were also undertaken to provide additional contextual evidence and strengthen interpretation of the questionnaire and interview findings. Quantitative data were analysed using descriptive statistics, while qualitative data from interviews and focus group discussions were analysed thematically. The cross-sectional design enabled the study to assess governance conditions during the study period; therefore, the findings describe observed governance conditions and their reported implications without establishing temporal or causal relationships. The integration of quantitative and qualitative evidence enabled the study to move beyond numerical descriptions and provide a contextual account of how governance practices were experienced by WUA members and institutional actors.

4. Results

4.1 Transparency and Decision-Making

The findings indicate that decision-making within the selected WUAs was not consistently transparent or inclusive. Members did not always receive adequate information concerning financial and operational matters. The problem was therefore not simply whether decisions were made, but whether members had sufficient access to information to understand and participate in those decisions.

The qualitative evidence reinforced this finding by indicating that weak communication and irregular meetings limited members' understanding of WUA activities.

4.2 Accountability of WUA Leadership

Accountability emerged as a significant governance concern. The study found weaknesses in the manner in which leaders accounted to members for decisions and institutional activities. Weak accountability was associated with concerns regarding record keeping, reporting and communication between leadership and ordinary members.

This finding is particularly important because WUA management committees operate on behalf of the membership. The legal framework provides for elected management committees and formal reporting arrangements, including presentation of audited accounts at annual general meetings. Weak implementation of these governance practices can therefore create a gap between formal institutional requirements and actual organizational practice.

4.3 Information Sharing

Information sharing was another area of weakness. Financial and operational information was not always communicated adequately to members. The source study indicates that inadequate information sharing affected trust and participation and constrained the implementation of collective decisions.

Information is particularly important in irrigation-based water management because members need to understand decisions concerning water distribution, maintenance activities, meetings, contributions and rules. Limited information can create misunderstanding and reduce willingness to comply with decisions.

4.4 Conflict Resolution

The study found that conflict-resolution mechanisms were inconsistently applied. This weakened the ability of WUAs to deal effectively with disagreements arising from water use and management.

The finding is directly relevant to the statutory purpose of WUAs. Under Tanzania's Water Resources Management Act, resolving conflicts among members is one of the recognized purposes of WUAs. Consequently, weaknesses in conflict-resolution mechanisms represent a governance problem that directly concerns one of the core functions of the associations.

4.5 Participation and Inclusiveness

The findings further revealed restrictions in member participation and weaknesses in inclusive decision-making. Participation was therefore not consistently translated into meaningful involvement in WUA decisions.

This finding corresponds with evidence from the Great Ruaha River Catchment, where Richards (2019) showed that formalized water-governance arrangements could exclude particular users. The Mbarali findings reinforce the importance of examining not merely whether WUAs exist but also how participation is structured within them.

4.6 Enforcement of WUA By-Laws

Enforcement of WUA by-laws was also inconsistent. The source study identified weak enforcement alongside accountability, transparency, information sharing and conflict resolution as major governance weaknesses.

Where rules are inconsistently enforced, members may perceive institutional decisions as uncertain or unequal. This can weaken compliance and reduce the authority of the association to coordinate water use.

5. Discussion

The findings demonstrate that governance challenges within the selected Water User Associations (WUAs) were interconnected rather than isolated administrative problems, with weak transparency limiting members' access to information, inadequate information sharing constraining meaningful participation, weak accountability reducing confidence in leadership and inconsistent conflict-resolution mechanisms and enforcement of WUA by-laws weakening the capacity of associations to implement collective decisions. These findings are consistent with Richards (2019), who demonstrated that the formalization of local water governance in Tanzania does not necessarily guarantee inclusive outcomes; the present study adds localized evidence from Mbarali District by showing how governance weaknesses were manifested through specific organizational practices involving information sharing, accountability, participation and conflict resolution. The findings also correspond with evidence from the Pangani River Basin, where weaknesses in institutional coordination and financial management have been identified as challenges to water governance, particularly highlighting the importance of transparency and accountability in the management of shared water resources. Similarly, evidence from the Mara Basin in Kenya identifies limited meaningful participation and institutional dependency as challenges within community-based water governance; although the Mbarali study did not examine elite capture as a separate variable, its finding of non-inclusive decision-making demonstrates the importance of examining who participates in local water governance, how information is communicated and how members influence collective decisions. Conflict resolution emerged as an especially important governance concern because it is among the recognized functions of WUAs under Tanzania's water-resource governance framework; therefore, weaknesses in conflict-resolution mechanisms indicate a gap between the responsibilities assigned to WUAs and their practical implementation. The findings further demonstrate that formal membership does not necessarily constitute meaningful participation, since effective participation requires access to relevant information, opportunities to express views and confidence that decisions are made through legitimate and accountable institutional processes. Overall, the evidence indicates that improving WUA governance in Mbarali District requires an integrated approach in which transparency, accountability, information sharing, participation, conflict resolution and enforcement of by-laws are strengthened together rather than addressed as separate administrative functions.

6. Conclusion

The study examined governance challenges facing Water User Associations (WUAs) in water resource management in Mbarali District, Tanzania. The findings identified weaknesses in transparency, accountability, information sharing, member participation, conflict resolution and enforcement of WUA by-laws as the principal governance challenges affecting the selected associations. Although Tanzania has established a formal legal and institutional framework for WUAs and assigned them defined responsibilities in water-resource management, the findings indicate a gap between formal governance arrangements and their practical implementation at the local level. In particular, inadequate accountability, limited access to institutional information, restricted participation and inconsistent application of conflict-resolution procedures and by-laws weakened member trust and compliance with collective decisions. These governance weaknesses also constrained the effective implementation of water-management activities. The study therefore concludes that effective WUA governance depends not only on the existence of formal institutional structures but also on their consistent application through accountable leadership, transparent decision-making, accessible information, meaningful member participation, effective conflict-resolution mechanisms and predictable enforcement of agreed rules.

7. Recommendations

The study recommends that Water User Associations (WUAs) strengthen governance systems by improving accountability, transparency, member participation, conflict resolution and enforcement of institutional by-laws. WUA management committees should maintain complete and accessible records of meetings, decisions, revenues, expenditures and operational activities and present financial and operational reports regularly to members through scheduled meetings and annual general meetings. Transparency should also be strengthened through clear procedures for communicating decisions concerning water allocation, maintenance activities, financial matters, meetings and by-laws, ensuring that relevant information reaches ordinary members through accessible communication channels. In addition, WUA leaders should promote meaningful participation by providing members with opportunities to contribute to decisions concerning water allocation, institutional rules, maintenance priorities and organizational plans, with particular attention to members who may have limited representation in decision-making. Each WUA should establish clear and accessible procedures for receiving, documenting and resolving water-related disputes, with decisions properly recorded, communicated to the parties concerned and implemented consistently. Approved WUA by-laws should be clearly communicated to members and enforced consistently through established procedures rather than discretionary decisions by individual leaders. Finally, the Mbarali District Council and relevant basin-level water authorities should periodically assess WUA governance practices, including meeting procedures, financial reporting, record keeping, member participation, by-law

enforcement and conflict-resolution mechanisms, while providing institutional strengthening and compliance support without undermining community-level decision-making.

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