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Research Article

Institutional Framework for Agricultural Extension Services in Babati District, Manyara Region, Tanzania

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Dahaye, Samwel Tluway
Corresponding author
Department of Agricultural Extension and Community Development, Sokoine University of Agriculture (SUA), Morogoro, Tanzania.
Email: tluwaysamwel74@gmail.com
Phone no: +255 783 824 200
https://orcid.org/0009-0006-5743-0943

Nyamba, Siwel Yohakim
Department of Agricultural Extension and Community Development, Sokoine University of Agriculture (SUA), Morogoro, Tanzania.
Email: nyambasiwel@yahoo.com
Phone no: +255 655 196 870
https://orcid.org/0000-0002-1030-7183

Mwaseba, Dismas Lyegendili
Department of Agricultural Extension and Community Development, Sokoine University of Agriculture (SUA), Morogoro, Tanzania.
Email: dismasmwaseba@gmail.com
Phone no: +255 755 074 746
https://orcid.org/0000-0002-9551-2775

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Abstract

This study assessed the institutional framework for agricultural extension services in Babati district, Tanzania, examining actor roles, governance arrangements and resource dynamics. A qualitative embedded case study design was employed, with Babati District as the bounded case and multi-level actors (from the Ministry of Agriculture to the ward level, alongside private-sector actors) as embedded units. Data were collected through key informant interviews (KIIs), focus group discussions (FGDs), and a review of the National Agricultural Policy and other strategic documents, and analysed thematically. Findings showed that local government authorities (LGAs) retain formal responsibility for the delivery of extension services, but implementation is dominated by non-state actors and private agricultural input suppliers, creating a mismatch between institutional design and practice. This mismatch is driven by staffing shortages: only 15 of the district's 102 villages have

Village Agricultural Extension Officers (VAEOs), leaving one Ward Agricultural Extension Officer to serve approximately 4,400 farmers compared with the national average of 1:1,172. Limited logistical support and weak coordination further increase dependence on external actors. Effectiveness requires the Ministry of Agriculture, Prime Minister's Office, regional administration and local government (PMO-RALG), and Babati District Council to prioritise recruitment, coordination and investment in extension operations.

Introduction

Agricultural extension services are central to improving agricultural productivity, enhancing farmers' capacities and facilitating the adoption of agricultural innovations (Mohammed & Abdulai, 2022). Their effectiveness, however, is strongly shaped by institutional frameworks, including governance structures, coordination mechanisms and resource allocation among actors (Tafida et al., 2024; Anugwa et al., 2024). These institutional arrangements determine how extension activities are planned, implemented, and monitored, thereby influencing service reach, accountability, and responsiveness to farmers' needs.

Globally, extension systems have shifted from centralised, state-led models to pluralistic arrangements involving public institutions, NGOs, research bodies and private sector actors (Mungai et al., 2024), whose effectiveness depends on clearly defined roles, strong coordination and accountability structures (Tafida et al., 2024; Agwu et al., 2023). In decentralised systems, the involvement of multiple actors frequently leads to coordination challenges, overlapping mandates and accountability gaps, and institutional linkages within agricultural knowledge systems are critical determinants of extension system performance (Kibrom et al., 2025; Nzao et al., 2025; Luqman et al., 2026). However, although recent studies have primarily addressed challenges in extension service delivery and associated performance outcomes (Anugwa et al., 2024; Aromolaran et al., 2024; Mohammed & Abdulai, 2022; Tafida et al., 2024), there is a relative scarcity of research on how institutional arrangements and actor linkages influence the coordination of extension services at the local level (Killagane et al., 2025).

These challenges are reflected in Tanzania, where the National Agricultural Policy (URT, 2013) guides agricultural extension under the Ministry of Agriculture and related implementation programmes, which devolve responsibility to Local Government Authorities (LGAs) while permitting non-state actor involvement. Despite this framework, implementation remains constrained by staffing shortages, inadequate logistical support and weak coordination (Nzao et al., 2025; Mungai et al., 2024). Limited empirical evidence exists on how these arrangements function at the local level, making Babati District - a predominantly smallholder agrarian area - an important yet understudied case.

Examining how institutional structures, governance arrangements, coordination mechanisms and resource allocation function in practice - particularly where multiple actors with differing mandates operate simultaneously - can reveal what facilitates or constrains effective extension service delivery at the grassroots level (Tafida et al., 2024; Agwu et al., 2023; Luqman et al., 2026).

Based on this background, this study assessed the institutional framework for agricultural extension service delivery in Babati District, Manyara Region, Tanzania. Specifically, it sought to: (i) examine the institutional structure and role of different actors; (ii) analyse the governance and coordination mechanisms shaping

interactions; and (iii) assess how resource dynamics influence the implementation and effectiveness of extension services.

Methodology

The study was conducted in Babati district, one of the seven councils in Manyara Region, Tanzania. The district lies between latitudes 3°-5° South and longitudes 35°-37° East. It was selected due to its strong agricultural base and the presence of multiple actors involved in agricultural extension service delivery, making it suitable for examining institutional arrangements within a pluralistic system. The study population comprised institutional actors involved in agricultural extension and service delivery and smallholder farmers as beneficiaries of extension services.

A multistage sampling procedure was used in the selection of the actors. In stage one, within Babati District, two wards (Mamire and Endakiso) were purposively selected because they represent areas with diverse agricultural extension actors, including public extension services, non-governmental organizations (NGOs), private input suppliers and farming communities comprising both small and medium-scale farmers.

In stage two, four villages (Mamire, Endagile and Mwikantsi in Mamire ward and Kwaraa in Endakiso ward) were purposively selected from the two wards for the study. The purposive selection of the villages was based on their active agricultural production involvement and exposure to agricultural extension interventions implemented by different service providers.

A total of ten FGDs, each comprising six to eight participants, were conducted across the four selected villages. All FGDs and KIIs were audio-recorded with the prior consent of participants. In Mamire, Endagile and Mwikantsi villages, three FGDs (youth only, women only and mixed groups) were conducted to minimize sociocultural power dynamics that can suppress the voices of women and younger participants in mixed settings (Hennink et al., 2020). In Kwaraa village, one mixed FGD was conducted because thematic saturation had already been achieved during the preceding discussions. Table 1 presents the distribution of FGD participants across villages.

The sample size for the FDG was guided by the depth of engagement and analytical completeness rather than statistical representativeness, consistent with qualitative case study research. This approach aligns with the position of Braun and Clarke (2021) that saturation is not a coherent or useful criterion for determining sample size in reflexive thematic analysis.

Table 1: Distribution of FGD participants across the study villages

Village	**Focus group discussions (FGD)**			
	Youth	**Women**	**Mixed**	**Total**
Mamire	6	7	7	20
Endagile	6	6	7	19
Mwikantsi	6	8	8	22
Kwaraa	–	–	8	8
Total	**18**	**21**	**30**	**69**

Similarly, the second category of respondents (Institutional actors) was selected from the ministry responsible for agriculture, the Manyara Regional Secretariat, Babati District Council, Ward Agricultural Extension Offices in the selected wards, NGOs and a private agricultural input supplier mainly working in the study area were selected through purposive sampling to capture the diversity of organisations in Tanzania's pluralistic extension system (Table 2).

Following institutional approval, the head of each organisation identified one officer directly responsible for agricultural extension policy, planning, coordination or implementation; these information-rich key informants were interviewed individually giving a total of nine key informants representing national, regional, district, ward and non-state extension actors. National- and regional-level informants were included because agricultural extension policies, guidelines and implementation frameworks originate above the district level.

Table 2: Key Informants in selected institutions

Institutional level	Institution/organization	Selection criterion	Number interviewed
National	Ministry of Agriculture	Policy and Planning Officer	1
Regional	Manyara Regional Secretariat	Extension Coordinator	1
District	Babati District Council	District Extension Officer	1
Ward	Mamire and Endakiso Wards	Ward Agricultural Extension Officer	2
NGOs	COSITA, BRiTEN and Farm Africa	Field Extension officers	3
Private sector	Private agricultural input supplier	Technical officer	1
Total			**9**

Data for these variables were generated through KIIs, FGDs and document review (Table 3), drawing on the following documents. The *National Agricultural Policy* (hereafter NAP; URT, 2013), which serves as the current national policy framework for the agricultural sector under the Ministry of Agriculture; the *Agenda 10/30 Investment Roadmap for Accelerating Agricultural Growth in Tanzania* (hereafter Agenda 10/30; URT, 2024) and the ten-year Agricultural Sector Development Programme phase two (hereafter ASDP II; URT, 2017), covering 2018–2028 were policy documents used for this study. The three documents were purposively selected for their complementary perspectives on Tanzania's agricultural extension system: the National Agricultural Policy sets out the institutional and decentralised governance framework for extension; the Agenda 10/30 Investment Roadmap

outlines current government priorities for strengthening extension services, including increasing the number of extension officers and improving the farmer-to-extension officer ratio; and the Agricultural Sector Development Programme II provides operational detail on how national extension policy is translated into practice at sub-national level, including the formal division of roles among the Ministry of Agriculture, PMO-RALG, Regional Secretariats and LGAs, and the financing mechanisms supporting extension delivery. Together, the three documents provided policy and programmatic context for interpreting and triangulating evidence from the key informant interviews and focus group discussions.

Table 3: Operationalisation of key analytical variables

Variable	Indicator	Data Source
Institutional structure and roles of actors	Organisational mandates, responsibilities, staffing arrangements, actor relationships	KIIs, document review
Governance and coordination mechanisms	Planning, coordination arrangements, collaboration mechanisms and accountability	KIIs, FGDs, document review
Resource dynamics	Staffing, funding, logistics, training and operational support	KIIs, FGDs

Data from KIIs, FGDs and document review were analysed using Braun and Clarke's (2021) reflexive thematic analysis approach. Audio recordings from KIIs and FGDs were transcribed verbatim and checked against field notes for accuracy. Information from the NAP (URT, 2013), Agenda 10/30 (URT, 2024) and ASDP II (URT, 2017) was organised and integrated with interview and focus group discussion data for analysis. Documentary evidence was used to triangulate primary data and situate local findings within Tanzania's broader agricultural extension policy and reform framework. The analysis followed six iterative phases: familiarisation with the data, generation of initial codes, development of themes, review of themes, definition and naming of themes and writing up the findings (Braun & Clarke, 2021). Themes were developed from participants' accounts and from institutional issues identified in the document review, enabling triangulation across data sources.

Ethical clearance for the study was obtained from Sokoine University of Agriculture (Approval No. SUA/ADM/R.1/8/1498), and research permits were secured from relevant local authorities prior to data collection. Informed consent was obtained and signed by relevant Institutions from where respondents were recruited. Confidentiality was upheld throughout data collection, analysis and reporting, and participants' right to withdraw from the study was respected at all stages. To further ensure the trustworthiness, reflexivity was maintained through the use of reflexive journaling, peer debriefing and supervisory review.

Results and Discussion

Institutional structure and role of different actors

Documents reviewed show that Tanzania's agricultural extension system operates within a decentralised governance structure. The NAP (URT, 2013) and ASDP II (URT, 2017) assign the Ministry of Agriculture (MoA) the roles of policy oversight and technical backstopping, the Prime Minister's Office – regional administration and local government (PMO-RALG) the role of coordination, and local government authorities (LGAs) the central role of implementing service delivery at ward and village levels. The Agenda 10/30 Investment Roadmap (URT, 2024) indicates the national extension officer-to-farmer ratio of about 1:1,172, against a target of 1:500 through increased recruitment.

However, KIIs with district and ward-level officers revealed notable gaps between this formal structure and its implementation in Babati District. According to the District Agricultural Officer, although all wards had Ward Agricultural Extension Officers (WAEOs), only 15 of the district's 102 villages had Village Agricultural Extension Officers (VAEOs), concentrating service delivery at the ward level and increasing WAEO workloads, with consequences for the regularity of farmer training and follow-up.

A district-level respondent explained:

> *"Although we are officially tasked with responsibility for delivering extension services at the grassroots level, in practice, we rely mainly on ward agricultural extension officers, because most villages do not have extension Officers". (KII, District Agricultural Officer, 18/11/2025)*

Similarly, a ward agricultural extension officer stated:

> *"I implement only what is feasible as I am the only officer serving three villages and lack fuel support." (WAEO, Mamire Ward, 21/11/2025)*

This pattern is illustrated starkly in Mamire Ward, where a single WAEO serves approximately 4,400 farmers across three villages - a ratio (1:4,400) far exceeding both the World Bank-recommended standard (1:200–500) and the national average of 1:1,172 (URT, 2024) reflecting the wider district pattern of VAEO scarcity and how the absence of village-level staffing pushes the full burden of frontline service onto already-stretched ward officers. These findings suggest that decentralisation alone does not guarantee effective delivery: although policy assigns responsibilities across ward and village levels, staffing shortages have concentrated provision at the ward level, consistent with evidence that decentralised systems require adequate staffing and coordination to translate formal structures into effective outcomes, and that staffing constraints reduce advisory effectiveness and weaken farmer engagement and innovation diffusion (Tafida et al., 2024; Anugwa et al., 2024; Agwu et al., 2023; Kibrom et al., 2025).

Governance Mechanisms and Coordination Dynamics among Extension Actors

KIIs and FGDs revealed that extension delivery in Babati District is pluralistic, involving public agencies and non-state actors such as Community Support Initiative Tanzania (COSITA), Participatory Ecological Land Use Management (PELUM) Tanzania, Building Rural Income Through Entrepreneurship (BRiTEN), Farm Africa and private input suppliers. The District Agricultural Officer explained that such actors require district approval before operating and are then linked to ward and village governments, an account corroborated by Ward Extension Officers in Mamire

and Endakiso, who described regular interactions with NGOs, research institutions and input suppliers to disseminate information and technologies.

FGDs across study villages confirmed that the limited number of public officers, mostly stationed at ward level, often leads farmers to seek advice from agro-input dealers and NGO personnel where available, though NGO-supported activities are typically confined to selected groups based on project funding. A COSITA representative explained:

> *"We join the government effort to conduct participatory training to farmers, mostly through organised groups. However, our projects are sometimes bound by specific time frames, and we have regular reporting obligations to our donors as well as to the government whenever such information is requested". (KII, COSITA Representative, December 2025).*

Despite this diversity of actors, coordination was reported to be weak and largely informal. While entry into the district is regulated through formal approval procedures, respondents consistently reported the absence of structured mechanisms for information sharing, joint planning and reporting. The District Agricultural Officer noted:

> *"We do not have a formal system to guide stakeholders to provide comprehensive information; rather, we only request it when needed, and even then, it is selective". (KII, District Agricultural Officer, 18/11/2025)*

The Regional Agricultural Officer similarly indicated that non-state actor reporting is conducted on an ad hoc basis, leaving public authorities with only partial information on the scope and outcomes of NGO and private-sector activities. District governance therefore appears stronger at regulating actors' entry than at coordinating their activities once operating - notable given that ASDP II itself envisaged formal local coordination structures, such as District Facilitation Teams, and explicitly promoted a pluralistic delivery model bringing together public, private and NGO providers (URT, 2017). The largely informal coordination observed in Babati District reflects a gap between policy design and practice.

These findings resonate with evidence that pluralistic systems require strong governance and structured coordination, that weak coordination erodes the consistency of advisory services, and that strengthening stakeholder coordination is essential to experiential learning (Tafida et al., 2024; Mungai et al., 2024; Agwu et al., 2023; Luqman et al., 2026).

Resource Constraints and implications for Extension Effectiveness at the Grassroots Level

KIIs with the District Agricultural Officer and WAEOs, supported by district council reports (Babati District Council, 2023, 2024, 2025), revealed that inadequate financial and logistical resources remain a major constraint on public extension delivery. Respondents reported shortages of funding for demonstration plots, training, inputs and field operations, forcing the public system to depend heavily on NGOs and private input companies. The district agricultural officer explained:

> *"No demonstration plots have been established using District Council funds; instead, we largely rely on private actors, who collaborate with our Agricultural Extension Officers". (KII, District Agricultural Officer, 18/11/2025).*

The respondent attributed this in part to budget allocation priorities: although agriculture contributes significantly to district revenue through crop cess (a levy on agricultural produce sales), council resources are frequently allocated to education, water and health, leaving extension activities with insufficient funding for fieldwork.

WAEOs echoed this dependence on external support:

> *"Collaboration with private NGOs and input companies helps simplify our work and partially enables us to meet our targets." (KII, Ward Agricultural Extension Officer, Mamire Ward, 28/11/2025).*
>
> *"Since funds for seeds and inputs are not provided, we rely on private input companies, allowing us to fulfil targets while promoting new technologies." (KII, Ward Agricultural Extension Officer, Endakiso Ward, 28/11/2025).*

These findings show that NGOs and private actors extend beyond a complementary role, providing resources critical to demonstration activities, training and technology dissemination amid persistent public resource constraints - making grassroots service delivery partly dependent on external partners' availability, priorities and coverage, and reflecting constrained public capacity to plan and implement programmes independently. This is consistent with evidence that reliance on external actors can reduce public-sector autonomy and that pluralistic systems shift toward non-state dependency when public institutional capacity is insufficient - a pattern clearly reflected in Babati District (Aromolaran et al., 2024; Anugwa et al., 2024; Mungai et al., 2024).

Conclusion and Recommendations

This study concludes that the decentralised extension framework in Babati District, while structurally sound, is functionally constrained by human resource and coordination deficits. The scarcity of village agricultural extension officers undermines frontline service provision and places additional burdens on ward-level officers. The reliance on pluralistic actors – NGOs and private input suppliers reveals that public extension alone cannot meet demand, underscoring the need for formalised, rather than ad hoc, collaboration if decentralisation is to achieve its intended and responsiveness.

To address these challenges, it is recommended that the Ministry of Agriculture and PMO-RALG prioritise the recruitment and deployment of village agricultural extension officers, while Babati District Council strengthens multi-stakeholder coordination by establishing a formal district-level platform for joint planning, regular information - sharing, and monitoring among public, NGO, research and private extension actors, alongside increased investment in extension operations to promote sustainability and effectiveness.

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