

Influence of Informal Central-Local Government Interface on Implementation of Good Agriculture Practices in Tanzania

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ABSTRACT

This study investigates the influence of the informal interface between central and local government actors on the implementation of Good Agricultural Practices (GAPs) in Tanzania. Guided by institutional theory, the study explores how informal norms, values, and interactions shape institutional behaviour in the context of agricultural policy implementation. Specifically, it examines this interface from four key perspectives: implementers' attitudes towards GAPs, social interactions between government tiers regarding GAP implementation, the role of trust and mutual respect among actors, and the effects of informal knowledge sharing on the implementation of GAPs. A cross-sectional research design was employed to explore the relationships among these variables. A quantitative approach was utilized, with data collected through structured survey questionnaires from key agricultural regions—Morogoro, Mbeya, and Shinyanga. The study targeted employees from central and local government institutions, with a final sample size of 228 respondents. A stratified sampling technique was applied to categorize the target population into regional strata. Descriptive and inferential statistical analyses were conducted to examine the data, including mean, standard deviation, and multiple linear regression analysis. The findings revealed that implementers' attitudes, social interaction, trust and mutual respect, and informal knowledge sharing are positively and statistically influencing the implementation of GAPs in Tanzania. The Analysis of Variance (ANOVA) results established that the implementer's attitude had a standardized Beta Coefficient (β) of 0.357 with a corresponding p -value of 0.000. Moreover, informal knowledge sharing was found with a standardized beta coefficient ($\beta = 0.076$) with a statistically significant p -value of 0.011, indicating that informal knowledge sharing has a positive statistically significant influence on the implementation of GAPs in Tanzania and plays a supplementary role rather than a primary one. The paper concludes that enhancing the implementation of GAPs requires deliberate efforts to foster positive attitudes among implementers. It recommends targeted training, awareness campaigns, and motivational strategies for all stakeholders involved in GAP implementation to ensure sustained commitment and improved agricultural outcomes.

Keywords: Central Government, Good Agriculture Practices (GAPs), Informal Interface, Local Government

I. INTRODUCTION

Good Agricultural Practices (GAPs) have been developed to address worldwide concerns for food quality, safety, and standards. The increasing need for agricultural products that meet national and international standards in terms of quality to ensure the consumer's well-being and environmental sustainability also pressured the need for GAPs worldwide (Singh, 2022). As per the Food and Agriculture Organisation (FAO) (2013), GAPs for producing crops with acceptable quality and standards mean the following codes of practice. These include the use of quality seeds, use of fertilizer and pesticides, the use of chemicals, water use and protection, proper harvesting and handling of produce, and record-keeping for traceability (Mulugeta *et al.*, 2024). The significance of GAPs worldwide continues to gain popularity as nations seek to boost production levels and trade competitiveness while resolving the question of food security (Kharel *et al.*, 2022).

GAPs implementation depends on a governance system that involves multiple stakeholders, including central and local governments, extension personnel, non-governmental organizations (NGOs), growers, and international organizations (Ataei *et al.*, 2019). The interface between central and local government institutions remains critical to GAPs's effectiveness despite structured policies and regulatory frameworks at national and local levels. The formal systems of government can sometimes often overshadow the importance of informal interactions, including the

attitudes of implementers and shareholders, interpersonal communication, trust, and knowledge sharing, all of which have effects on policy implementation (Pranoto *et al.*, 2024; Astari *et al.*, 2019). Small considerations on these informal dimensions likely to affect the smooth implementation of GAPs, particularly in developing countries where governments are constrained by limited resources and institutional challenges (Premarathne, 2012).

Worldwide, the implementation of GAPs exhibits a certain degree of differences across regions. The European nations Germany, France, and the Netherlands have well-organized GAP frameworks backed by established institutional setups, policies and the environment and the food security program known as the Common Agricultural Policy (CAP) operated by the European Union (Vijayakumar *et al.*, 2021). In these countries, large retail supply chains play a leading role in enforcing GAPs compliance through accreditation systems, ensuring that agricultural goods produced meet national and international market standards (Deslatte & Stokan, 2017). Similarly, in North America, particularly in the United States, GAPs are integrated into legal frameworks, with the established guidelines offered by the United States Department of Agriculture (USDA), which support market-driven GAP compliance (FAO, 2018; Kharel *et al.*, 2022). Although Latin American countries, including Mexico and Brazil, have succeeded in the exportation of coffee and fruits, they are struggling when it comes to the implementation of GAPs. Pranoto *et al.*, 2024, noted that smallholder farmers struggle to comply with GAPs in Mexico and Brazil due to financial challenges, shortage of resources and inadequate government support. Japanese and South Korean governments, together with the private sectors, play an active role in GAPs implementation, while in China, the implementation of GAPs is incorporated in the national agricultural reforms aimed at enhancing food safety (Malkanthi & Thenuwara, 2021; Tumwebaze *et al.*, 2024). Despite this, the longevity of GAPs is still endangered by the informal government systems, which sometimes undermine GAPs implementation, especially when economic interests suppress environmental and social interests (Arlotti *et al.*, 2021; Thomas *et al.*, 2020).

As per Huang *et al.*, (2023), economic, sociopolitical and governance systems factors influence the progress of GAPs implementation in African countries. For example, Ghana and Nigeria have integrated GAPs principles and guidelines into their agricultural development strategies. However, in the course of implementation, they are still facing financial constraints, inadequate resources and poor harmonization of roles between government agencies, private investors and farmers (Tengapoe *et al.*, 2024). Government entities in South Africa continually collaborate with private parties to implement GAPs, particularly in horticulture and wine production (Vijayakumar *et al.*, 2021; Busthanul *et al.*, 2018). Yet, its sustainability remains difficult since most projects lack continuous initiatives after donor-funded projects conclude.

In Tanzania, as a country's effort to strive for quality and standards to meet national and international markets for agricultural goods produced, GAPs were incorporated into the agricultural sector (United Republic of Tanzania [URT], 2013, 2021). However, financial constraints, weak institutional support, and inconsistent policy enforcement across levels of government hinder its full-scale implementation. Despite existing regulatory frameworks, such as policies like the Agricultural Policy (2013) and country strategy known as the Agricultural Sector Development Strategy II (ASDP II) 2017/2018 – 2027/2028, GAPs implementation in Tanzania is still hindered by institutional and coordination gaps (URT, 2021). The interface between central and local government plays an important role in the successful implementation of GAPs. While formal interface mechanisms provide a governing framework, the informal interface, comprising implementers' attitudes, social interactions, trust and mutual respect, and knowledge-sharing among levels of government, influences GAPs implementation at the grassroots level (Ataei *et al.*, 2019). Studies suggest that informal governance elements can support or hinder formal procedures (Huang *et al.*, 2023; Premarathne, 2012), yet their role in GAPs implementation in Tanzania remains underexplored. The lack of adequate research on the interplay between formal and informal governance structures creates a knowledge gap that needs to be addressed.

Literature and research on GAPs in underdeveloped countries mostly concentrate on technical aspects of GAPs, including compliance with safety standards and food safety. They are also more focused on the farmers' side (Tirivayi *et al.*, 2017; Pierrette *et al.*, 2021). Little attention has been paid to the government side, especially on the contribution of informal governance structures, specifically how implementers' attitudes, social interactions, trust, and knowledge sharing influence GAPs implementation. This study, therefore, aims to examine the role of informal central and local government interfaces in the implementation of GAPs. This paper's informal central and local government interface is understood as systems of social relationships that arise through interactions between central and local government employees during the implementation of GAPs. The paper aims to contribute to the government's effort to refine the coordination of government functions, knowledge exchange, and trust between central and local government actors in Tanzania. These findings will be instrumental in enhancing the effectiveness of GAPs implementation, ensuring the production of agricultural goods that meet national and international standards. The study's outcomes align with Tanzania's National Agricultural Marketing Policy (URT, 2008), Sustainable Development Goal 2 (Zero Hunger), and broader national development strategies to improve agricultural productivity and food security.

1.1 Research Questions

The research addresses four main questions:

- i. How does the attitude of implementers within the central-local government interface influence the implementation of GAPs in Tanzania?
- ii. How do social interactions between central and local government actors influence the implementation of GAPs?
- iii. How do trust and mutual respect among central and local government officers affect the implementation of GAPs?
- iv. What is the role of informal knowledge sharing between central and local government actors in facilitating GAPs adoption and compliance?

II. LITERATURE REVIEW

2.1 Theoretical Review

This paper is informed by an institutional theory developed in the late 1970s and early 1980s by Meyer, Rowan, DiMaggio, and Powell. The theory regards institutions, which, for this paper, are the central and local governments that operate within the collections of rules, established practices and structures that interact with the environment meaningfully to increase the attainment of organizational goals. The theory provides a valuable framework for understanding how informal institutional contexts shape organizations' attainment of goals (Berthod, 2016). It encompasses social norms, rules, policies, and cultural factors influencing the implementation of organizational objectives (Dacin *et al.*, 2002). The theory hypothesizes that organizations operate within a structured environment governed by formal rules and informal agreements to attain legitimacy, manage risks, implement policies and ensure their activities are understandable to stakeholders (David *et al.*, 2019). A fundamental feature of institutional theory is its assertion that institutions shape human behaviour by establishing constraints that regulate interactions, smoothen expectations, and influence outcomes (Barbalet, 2023). This relates to situations in governance settings where informal interactions often bypass cumbersome formal procedures, affecting policy implementation, such as in the case of GAPs. While formal institutions define legal and regulatory frameworks, informal institutions—shaped by norms, trust, mutual respect, and reciprocity—act as a catalyst in the interaction between different tiers of government during policy implementation (Dau *et al.*, 2022). These informal mechanisms influence the quality of interactions and the effectiveness of policy implementation in governance systems.

Informal institutions, on political, economic, and social interactions, shape decision-making processes beyond written laws and procedures. Trust, commitment, respect, and loyalty dictate the degree of collaboration among stakeholders, influencing interactive communication, informal knowledge sharing, and mutual respect, which are variables in this study. The existence or lack of these elements directly affects policy implementation, particularly in a decentralized governance system where authority is transferred across government levels. These norms influence the degree of interaction occurring among and between government actors.

Furthermore, Sager and Gofen (2022) point out that an informal structure which includes unwritten rules, attitudes, interactions, trust, and respect tends to shape policy outcomes within the institution. Also, it emphasizes that these elements of informal structure can either support or hinder formal policy implementation, depending on how well they align with formal structures, particularly in the interaction between central and local government authorities. For these facts, the theory aligns well with the paper's objectives, providing a lens through which to analyze the informal central-local interface as an institution.

In the context of this paper, institutional theory is applied to capture the dynamic interplay between actors and structures within the central-local government interface. By showing the importance of informal relationships alongside formal regulatory structures, the theory offers a complete practical grasp of understanding social and psychological governance mechanisms in decentralized policy implementation by recognizing the importance of informal relationships to formal regulatory frameworks. From this point of view, the paper examines how implementers' attitudes, trust and mutual respect among actors, social interaction and informal knowledge-sharing influence GAPs implementation outcomes.

2.2 Empirical Review

Understanding the role of implementers' attitudes is crucial, as these attitudes can significantly influence the success or failure of GAP implementation. A study by Malkanthi and Thenuwara (2021) evaluates the attitude of vegetable farmers toward the GAP program in Galle District, Sri Lanka. Through descriptive statistics and the Chi-square test, the study found that farmers had a positive attitude towards GAP despite all the limitations they faced during implementation. Their attitude contributed to their perseverance. Similarly, Pawar and Channaveer (2021) examined the attitude of farmers towards Sustainable Agricultural Practices (SAP). The study indicated that 26% of farmers had a low attitude, while 74% displayed a medium attitude towards sustainable agriculture practices. A Pearson chi-square test found a significant link between attitudes towards sustainable agriculture practices at a

correlation level of 0.5%. The reviewed literature shows that implementers' positive attitude is substantial in the successful implementation of GAP.

Similarly, the study of Rahman *et al.*, (2021) observed that forming a small group assignment in an online education increases student social interaction, enhancing their engagement in studies and improving performance. Also, positive social interaction among health care providers was found to be crucial for adopting a multi-component intervention aimed at improving health outcomes for adolescents and young adults living with HIV in Mozambique (Mogoba *et al.* 2023). Even the study of Kalolo *et al.*, (2021), came up with the same findings through mixed methods study on redesigned community health fund in Tanzania that a positive social interactive collaboration and trust between the community members and health care providers are essential in the successful implementation of community health fund. Common to these studies is their contribution to showing how social interaction can influence the implementation of GAP, but each study has provided a different view of social interaction.

Tengapoe *et al.*, (2024) investigated the impact of access to social capital on smallholder agricultural practices in North-west Ghana. A cross-sectional research design revealed that social interaction is critical in sustainable rural development by giving farmers access to additional vital assets. This result is similar to the one obtained by Pierrette *et al.*, (2021), who found that interactions through social networks are important in boosting the rates at which sustainable practices are adopted. On the other hand, social interaction was found to have a lack of influence on implementation. In the study of Rahman *et al.*, (2021), social interaction was not a significant factor in increasing cognitive interventions. Also, Woodard *et al.* (2021), using the linear-effect regression model, found that organization factors overshadowed the influence of social interaction, as the results did not show any changes during pre-training and post-training. Similarly, Hill *et al.*, (2023) found that successful implementation does not come from social interaction among actors. Still, factors like clarity of roles, resource availability, and organizational support influence implementation the most.

Rust *et al.*, (2022) investigated how farmers in Hungary and the UK learn about sustainable soil innovations and examined online and traditional expert sources. The study revealed that online sources, such as social media influencers, are popular, but farmers trust other farmers the most when adopting new practices. The results of this study show that peer trust is critical to practicing sustainably, as Rizzo *et al.*, (2024) found, where the reciprocal feeling of respect is said to influence farmers' adoption of innovation positively. The study of Haryuningtyas *et al.*, (2024) supports previous findings, demonstrating that trust significantly influences productivity in Probolinggo City, Indonesia. The results indicate a p-value of 0.005 and a t-test value of 2.184, suggesting that farmer groups with higher levels of mutual trust are more likely to share resources and knowledge, both of which are crucial for improving productivity.

In their study, Eshetie and Chanie (2024) found that poor communication through a top-down approach, which reflected a lack of mutual respect between farmers and extension officers, was the reason for farmers' limited use of agricultural information. These findings reveal that mutual respect among implementers at both levels of the government is essential for developing trust, which will create an inclusive environment where both parties will feel valued, hence the proper implementation of GAP. However, they contradict the study of Hariyati (2024) and Robin & Smith (2013), where interpersonal trust among government actors does not significantly influence the political economy of tourism. The results show that power relations among actors sometimes have insignificant trust and mutual respect. These results provide valuable insights for the current study as, in one way, they support the idea that trust and mutual respect positively influence innovation and other agriculture-related areas. On the other hand, it shows that power relations can overshadow the influence of trust and mutual respect, which is also relevant in this study involving the power relationship between central and local governments in implementing GAP.

Tumwebaze *et al.*, (2024), in a systematic review of 44 articles, noted that knowledge management research is still scant in agriculture outlets. Therefore, the knowledge management-agriculture relationship is relatively underdeveloped. The study pointed to informality, stakeholder heterogeneity, and indigenous knowledge as defining knowledge forms and processes, which calls for more research into knowledge management initiatives in agriculture. In contrast, the study of Baxter *et al.*, (2024), who conducted a systematic literature review by reviewing knowledge-sharing papers from the years 2008- 2022, found that even though informal knowledge-sharing brings changes, there is no slight evidence of the effectiveness of techniques and approaches used in influencing changes in research. Even though the study focuses on medical research, it still provides insights for this study. The study speaks of the environment where employees share experiences and insights spontaneously, which is the same as the environment of this study where central and local government employees share their expertise and knowledge in implementing GAP. Thalmann *et al.*, (2024) findings support this and comment that an organization benefits from focused knowledge sharing, which emits unwanted knowledge spillover, thereby balancing the need for collaboration with protecting sensitive information. These empirical studies suggest that agriculture has degrees of informal knowledge-sharing mechanisms. However, informal knowledge sharing does not seem to bring the intended output in the organizational setting, and other studies discourage it. Therefore, further facilitating and supporting informal networks and resources is needed for greater knowledge sharing and implementation.

2.3 Conceptual Framework

The conceptual framework (Figure 1) offers a structured approach to analyzing the institutional factors that affect GAPs implementation in Tanzania. By highlighting the informal governance mechanisms, the study seeks to provide a holistic understanding of the dynamics functioning of the government within the central-local government interface. The proposed framework shows the relationship between tiers of the government and the social interaction strategies with policy implementation. This suggests that strengthening informal mechanisms such as trust-building, respect for one another, and knowledge-sharing enhances GAPs implementation. Furthermore, recognizing the role of implementers' attitudes and social interactions can inform intervention strategies to improve coordination between government tiers, leading to the successful implementation of GAPs. Thus, the conceptual framework serves as a theoretical guide for the paper by offering insights on how governance structures can be streamlined to enhance GAPs implementation.

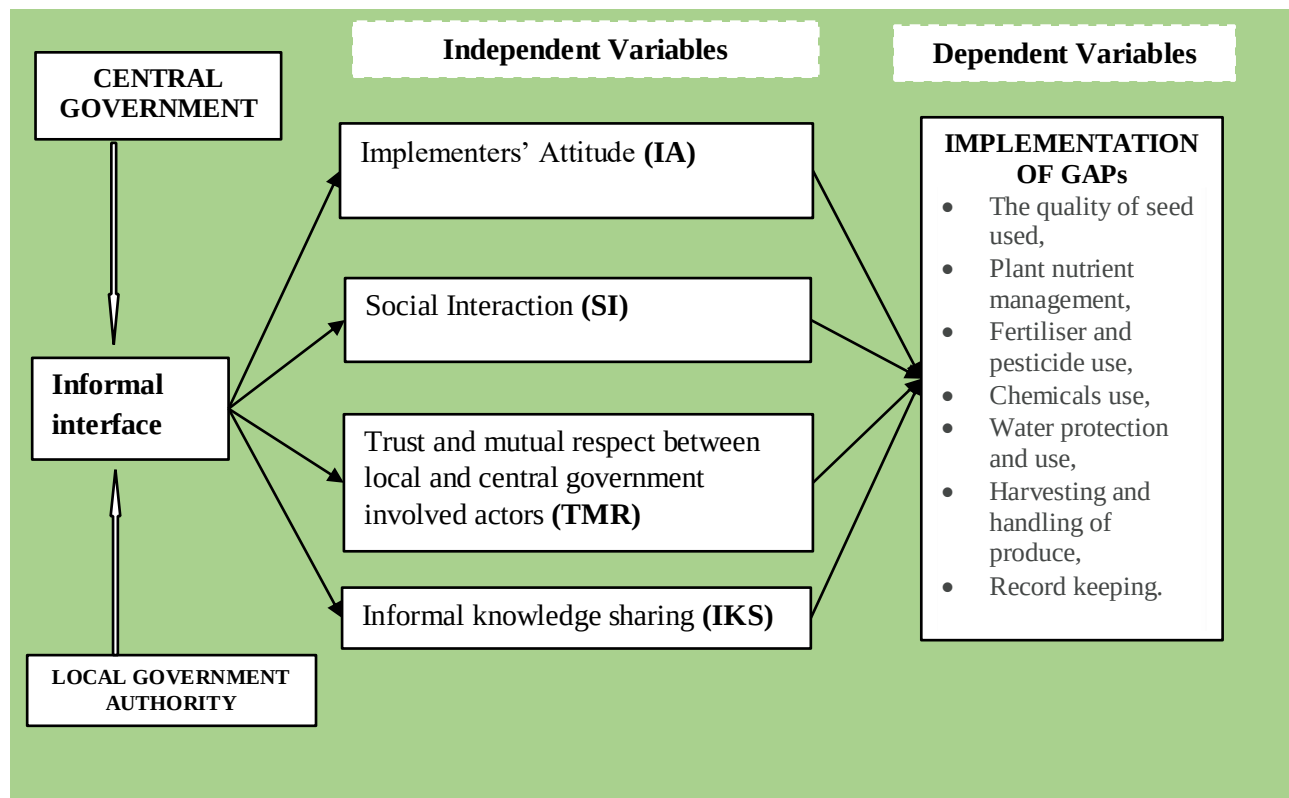


Figure 1
Conceptual Framework of the Study

III. METHODOLOGY

A deductive research approach was employed in the study to narrow the focus from a general theoretical analysis to a specific look at the association of the different variables Lyon et al. (2015). It systematically explores the theoretical constructs concerning the informal central-local government interface and its impact on the implementation of GAPs. With this method, conclusions on the influence of the informal central-local government interface on the implementation of GAP are drawn using theoretical justifications based on research questions (Vinod & Anand, 2017). The study used cross-sectional design to explore the casual relationship between dependent and independent variables due to its timely manner of data capture in large volumes within a specific time frame. In addition, a quantitative research approach was chosen to allow statistical analysis of potential influencing factors in the implementation of GAPs, such as implementer attitudes (IA); social interactions (SI); trust and mutual respect (TMR) between actors; and informal knowledge sharing (IKS).

This study was conducted in purposively selected Local Government Authorities (LGAs) in Tanzania, specifically Morogoro, Mbeya, and Shinyanga regions. the study area is chosen based on the food crop that contributes significantly to exports. As a result, the top-producing regions for the specified crops are chosen. Because of the abovementioned factors, paddy has been selected as the top food crop, with exports increasing by 110% from \$143.7 million to \$301.9 million in 2021 (Kalumbia, 2022). Paddy is also a priority crop for the government, which

intends to become the region's leading rice exporter (URT, 2018). The crop has received significant government attention and is highly produced compared to other crops (Bamwenda, 2021; IRR-Tanzania, 2021; URT, 2018).

The target population was 531 agricultural extension officers; these were affairs officers who implement GAPs. Participants were recruited using a proportionate stratified sampling method for fair representation across 11 LGAs (Final Sample = 228 respondents) Structured questionnaires required to respondents' perceptions and experiences concerning GAPs implementation were used and measured with a five-point Likert scale. Statistical analysis was performed using SPSS 27.0, using descriptive and inferential statistics. Approach: The data were analyzed using Multiple Linear Regression (MLR) to determine the impact of independent variables on the implementation of GAPs.

Internal consistency Cronbach's Alpha was used to ensure the reliability and validity of data. As can be seen in Table 1, the overall model showed a Cronbach's Alpha of 0.789, above the generally acceptable threshold of 0.70. While IKS produced a weaker reliability score of 0.686, this does not undermine the consistency of the measurement device. Study results are given in Table 1.

Table 1
Reliability Statistics

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Overall model	0.789	0.816	5
IA	0.841	0.844	6
SI	0.716	0.706	7
TMR	0.777	0.783	6
IKS	0.686	0.689	6
GAPs	0.886	0.887	7

Also, to ensure the data used for analysis provided what is expected to provide and minimize errors, thorough cleaning of data was done to remove all the missing data and determine the patterns of missing values. The box plots for detecting outliers and Z-score testing results prove there were no anomalies, as the standard threshold lies between -3 and +3. Therefore, the dataset proves reliable beyond internal consistency and free from errors and biases.

The Kaiser-Meyer-Olkin (KMO) was used to determine the suitability of the dataset for factor analysis to determine construct validity. As per Estremera and Mendoza-Sarmiento (2024), a KMO value near 1.0 is acceptable for factor analysis. The KMO value for this paper was found to be 0.830, exceeding the benchmark of 0.7, as shown in Table 2, confirming that the dataset is suitable for factor analysis. On the other hand, Bartlett's Test of sphericity yielded a p-value of 0.000, demonstrating the strong intercorrelations of variables.

Table 2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.830
Bartlett's Test of Sphericity	Approx. Chi-Square	754.428
	df	10
	Sig.	0.000

The statistical test for validity and reliability proves the goodness of the data, confirming that the sample size employed was adequate for factor analysis and the existence of strong relationships between variables. The methodological soundness contributes to the reliability and validity of the findings in generating empirical evidence for generalization.

3.2 Model Testing Results for Multiple Linear Regression Assumptions

The paper tested for normality, linearity, homoscedasticity and multicollinearity as assumptions for multiple linear regression, which helps to ensure the appropriateness of the model for inferential analysis.

a. Diagnostic Test for Normality

The normality assumption was measured using a histogram to examine the distribution of residuals (standardized). As per George and Mallery (2019), for the data to be normally distributed, the residuals must form a symmetrical bell-shaped curve. In this paper, Figure 2 indicates that the residuals formed a bell-shaped curve corresponding to the rule of thumb for normal distribution. Also, measures for skewness and kurtosis fall within the permissible interval of -3 to +3 and close to zero which proves that the normality assumption was met.

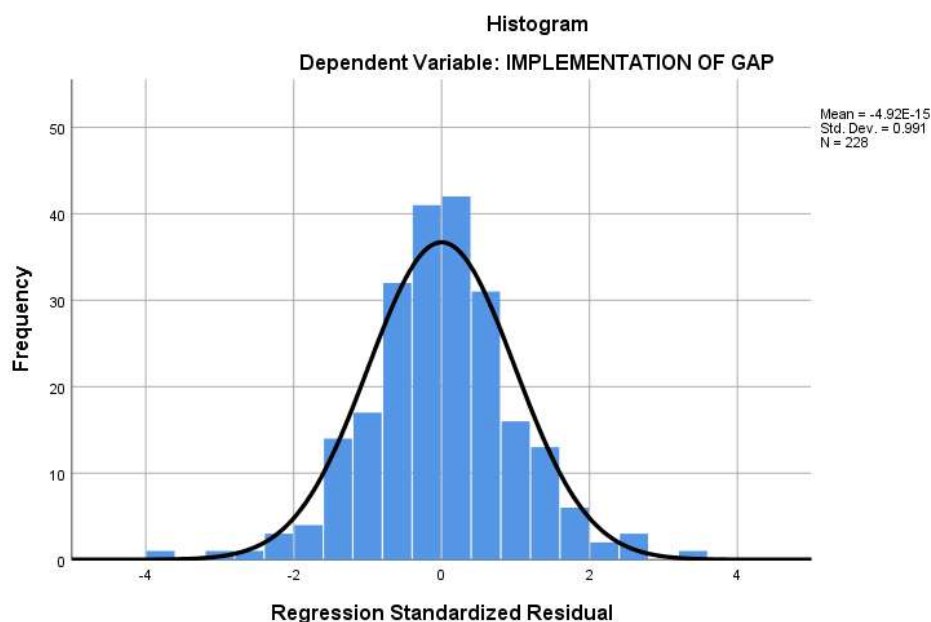


Figure 2
Diagnostic Test for Normality

b. Diagnostic Test for Linearity Assumption

The assumption of linearity was evaluated using a scatter plot to assess whether the relationship between the independent and dependent variables followed a linear pattern. Hair *et al.* (2022) suggest that the linearity assumption is satisfied when residuals align closely with the diagonal regression line. Figure 3 confirms that the scatter plot residuals adhere to linearity, indicating no significant deviations or violations. Ensuring linearity is essential as it guarantees that the estimated relationships between the variables remain valid and interpretable.

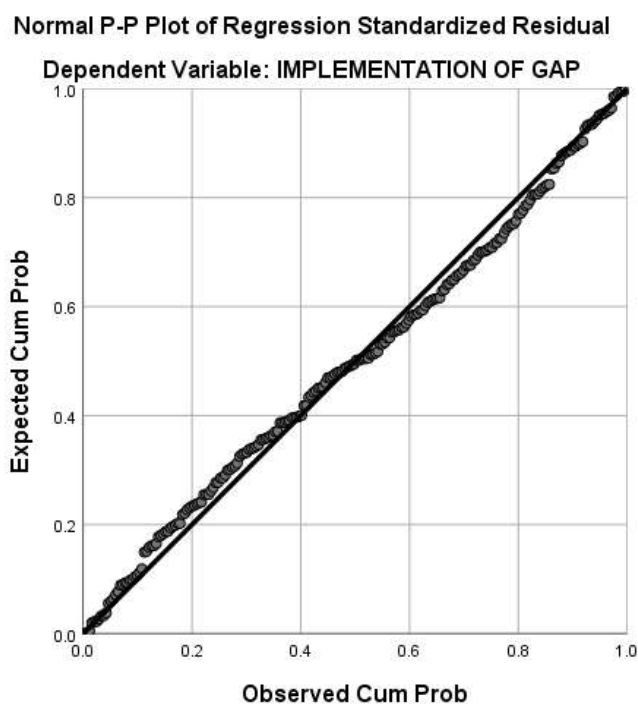


Figure 3
Diagnostic Test for Linearity Assumption

c. Diagnostic Test for Homoscedasticity/ Heteroskedasticity

Homoscedasticity refers to the assumption that the variance of error terms remains constant across all levels of the independent variables. In this study, the assumption was assessed using a P-P plot, which was in line with the guidelines provided by Bun and Harrison (2019). A homoscedastic distribution is characterized by randomly scattered points without forming a discernible pattern. The diagnostic test results for implementers' attitude (IA), social interaction (SI), trust and mutual respect (TMR), and informal knowledge sharing (IKS), as presented in Figures 4, 5, 6, and 7, reveal that the data points are dispersed randomly within a rectangular area. The absence of a systematic structure indicates that homoscedasticity is maintained, confirming that the assumption has not been violated for the implementation of GAPs. Meeting this assumption is vital as it ensures that the estimated coefficients remain efficient and unbiased.

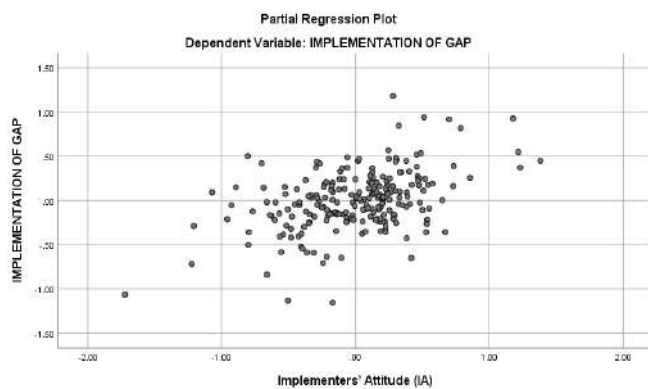


Figure 4
Diagnostic Test for Homoscedasticity (IA)

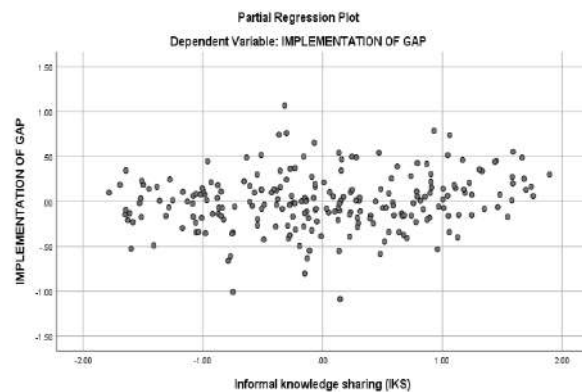


Figure 5
Diagnostic Test for Homoscedasticity (IKS)

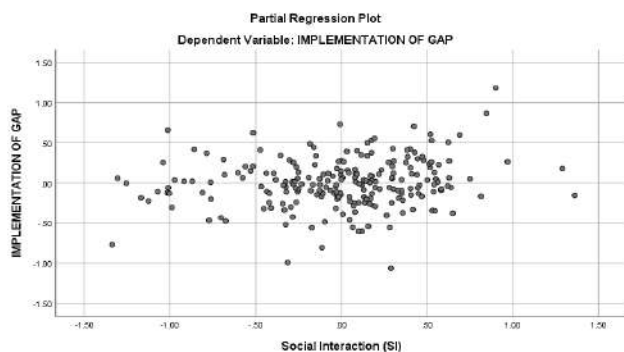


Figure 6
Diagnostic Test for Homoscedasticity (SI)

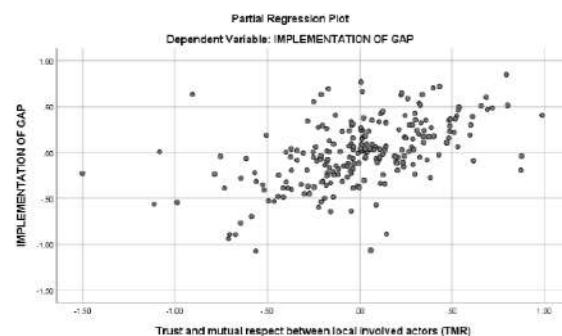


Figure 7
Diagnostic Test for Homoscedasticity (TMR)

d. Diagnostic Test for Multicollinearity

Multicollinearity was examined using variance inflation factors (VIF) and tolerance values to determine the degree of correlation among the independent variables. According to Kim (2019) and Thompson *et al.* (2017), a VIF value close to 1 or below five and tolerance values greater than 0.2 indicate the absence of multicollinearity. Table 8 presents the diagnostic results, demonstrating that all four independent variables (IA, IKS, SI, and TMR) have VIF values below five and tolerance values exceeding 0.2. These findings confirm that multicollinearity is not a concern in this regression model, ensuring the stability and interpretability of the estimated coefficients. The absence of multicollinearity is crucial as it enhances the precision of parameter estimates and prevents inflated standard errors, which could otherwise undermine statistical inference. Table 3 presents the study results.

Table 3*Diagnostic Test for Multicollinearity Assumption*

Independent Variables	Tolerance	VIF
Implementers' attitude (IA)	0.376	2.661
Informal knowledge sharing (IKS)	0.987	1.013
Social Interaction (SI)	0.457	2.186
Trust and mutual respect between local involved actors (TMR)	0.304	3.286

Overall, the diagnostic tests affirm that the assumptions of multiple linear regression are met, thereby validating the use of this statistical technique for analyzing the relationships between the independent and dependent variables in the study. The results provide confidence in the robustness of the model and its suitability for generating reliable empirical insights.

IV. FINDINGS & DISCUSSION

4.1 Socio-Economic Characteristics of the Respondents

Table 4 presents the results relating to the demographic characteristics of the respondents, offering an overview of the individuals involved in the data collection process. The study considered several factors, including the respondents' education levels and work experience. Understanding these demographic attributes is essential, providing a critical context for interpreting the findings. Education level and work experience, in particular, may influence respondents' awareness, attitudes, and engagement with the implementation of Good Agricultural Practices (GAPs). These characteristics also help assess the extent to which respondents are equipped to understand and apply GAP-related policies and procedures. Furthermore, demographic insights can assist in identifying capacity gaps and tailoring future training, communication strategies, and policy interventions to different categories of stakeholders within central and local government institutions.

Table 4*Demographic Variables*

Variables	Categories	Frequency	Per cent
Education	Technician Certificate	7	3.1
	Diploma	160	70.2
	Bachelor degree	56	24.6
	Master's degree	5	2.2
Work experience	1-5yrs	45	19.7
	6-10yrs	67	29.4
	11-15yrs	74	32.5
	16-20yrs	23	10.1
	above 20yrs	19	8.3

The findings in Table 4 reveal that the majority of respondents (70.2%) held a diploma (160 respondents), followed by those with a Bachelor's degree (24.6%). A smaller proportion held a Technician Certificate (3.1%) and a Master's degree (2.2%). This suggests that the respondents were adequately educated, which facilitated their comprehension of the study's concepts and enabled them to provide relevant responses. Concerning the working experience, out of the 228 respondents, the majority (32.5%) had 11–15 years of experience. Additionally, 39.4% had 6–10 years of experience, followed by 19.7% with 1–5 years. These findings indicate that many respondents had engaged in Good Agricultural Practices (GAPs) or agricultural activities for an extended period, enriching the study with informed perspectives. Notably, more than 80% of respondents had over six years of working experience, equipping them with substantial knowledge, skills, and expertise to understand regulatory bodies' challenges, opportunities, and significance within the agricultural sector.

4.2 Descriptive Analysis Results

Descriptive analysis was conducted by computing mean values and interpreting them. The study applied the following scale to classify the level of influence: Low influence, mean values between 1.00 and 2.99; Moderate influence, mean values between 3.00 and 3.99; High influence, mean value Between 4.00 and 5.00.

4.2.1 Influence of Implementer's Attitudes on the Implementation of GAPs in Tanzania

The descriptive statistics results for implementers' attitudes on the implementation of GAPs are presented in Table 5 by showing their mean value and standard deviations. From the table, the construct "farmers meaning" ($M = 4.1886$, $SD = 0.9454$) was highly perceived by respondents to influence GAPs implementation, followed by "societal meaning" ($M = 4.1447$, $SD = 0.93917$). The results suggest that implementers' positive attitude toward the implementation of GAPs is influenced by their beliefs on the contribution GAPs have to farmers and society at large. On the other hand, Discretion ($M = 3.8678$, $SD = 1.1171$) was perceived by respondents to have minimal influence on implementers' attitudes towards GAPs implementation. This indicates that the level of decision-making authority shared between central and local government triggers implementers' at a minimal level during GAPs implementation.

Table 5

Descriptive Statistics for Implementer's Attitude on Implementation of GAPs

IA	Mean	Std. Dev.
Societal meaning	4.1447	0.93917
Farmers meaning	4.1886	0.94540
Personal meaning	4.0789	0.88696
Discretion	3.8678	1.11711
Organizational context	4.0175	0.87533
Relevance	4.0395	0.93074

4.2.2 Impact of Social Interaction on the Implementation of GAPs in Tanzania

Table 6 illustrates the social interaction factors influencing GAPs implementation. In this paper, social interaction explains how implementers (extension officers) engage with other key actors in ways that influence the understanding and implementation of Gaps. Social interaction was measured by their interactions, including communication and collaboration with fellow extension officers, farmers, politicians, local government (LG) officers, the Ministry of Agriculture, PO-RALG, and the broader LG culture. The highest mean score was observed for the interaction between extension officers and the Ministry of Agriculture ($M = 3.9956$, $SD = 1.0599$), indicating that this relationship is critical for policy adherence and regulatory compliance in GAPs implementation. On top of that, respondents perceived interactions between extension officers and local government culture ($M = 3.9518$, $SD = 1.1807$) also influence the implementation of GAPs. The results suggest the contribution of organizational norms, values, beliefs and practices in generating GAPS outcomes. On the other hand, the interactions among extension officers themselves and interaction between extension officers and PO-RALG ($M = 3.6053$, $SD = 1.0504$) scored lower, indicating the existence of weak collaboration in influencing GAPs implementation but also suggesting an improvement in internal collaboration and engagement.

Table 6

Descriptive Statistics for Social Interaction on Implementation of GAPs

SI	Mean	Std. Dev.
Interaction between individual extension officer and another	3.6696	1.23055
Interaction between individual extension officers and farmers	3.7149	1.26364
Interaction between individual extension officers and politicians	3.7851	1.15432
Interaction between individual extension officers and other LG officers	3.7982	1.08802
Interaction between extension officers and the Ministry of Agriculture	3.9956	1.05987
Interaction between extension officers' and PO-RALG	3.6053	1.05043
Interaction between extension officers' and LG culture	3.9518	1.18074

4.2.3 Role of Trust and Mutual Respect among Actors in GAPs Implementation

In this paper, Trust and mutual respect were treated as a unified concept used to assess the degree to which actors engage in open, reliable and respectful interactions that foster implementation of GAPs. As indicated in Table 7, "Non-Opportunism" recorded the highest mean score ($M = 4.1974$, $SD = 0.8078$), suggesting that the sincerity and transparency of actors play a vital role in GAPs implementation. "Consistency in Action" ($M = 4.1360$, $SD = 1.0170$) and "Reliability" ($M = 4.0789$, $SD = 0.8669$) were also significant factors, demonstrating the importance of predictable and dependable interactions in fostering trust. However, "Friendship" had the lowest mean score ($M = 3.8728$, $SD = 1.0852$), indicating that while personal relationships are relevant, professional trust and collaboration are more critical in the successful implementation of GAPs.

Table 7*Descriptive Statistics Trust and Mutual Respect on GAPs Implementation*

TMR	Mean	Std. Dev.
Friendship	3.8728	1.08517
Close-ties	3.9079	1.04326
Affection	3.9079	1.01761
Non- opportunism	4.1974	.80778
Reliability	4.0789	.86686
Consistency in action	4.1360	1.01700

4.2.4 Effect of Informal Knowledge Sharing on GAPs Implementation

In this study, informal knowledge sharing was conceptualized through six components: personal experience, accessibility, actor preferences, encounters, social gatherings, and observed trends in agricultural practices. These elements illustrate how everyday interactions support the implementation of GAPs. The descriptive results presented in Table 8 indicate that social gatherings ($M = 3.0570$, $SD = 1.5427$) and social encounters ($M = 3.0000$, $SD = 1.4662$) received moderate means scores, suggesting that respondents perceive informal meetings within social settings influence the sharing of GAP-related knowledge and dissemination of GAPs information among actors. On the other hand, their moderate mean values were because of the frequency obtained as responses of respondents on their influence on GAPs implementation. Trends in agricultural practices ($M = 2.8904$, $SD = 1.4635$) actors' preference for knowledge sharing ($M = 2.8509$, $SD = 1.4765$) had a low mean but close to moderate. While accessibility ($M = 2.5263$, $SD = 1.2375$) and personal experience ($M = 2.3202$, $SD = 1.2375$) scored lower compared to other constructs, meaning that respondents perceive them to have a smaller influence on the implementation of GAPs. These results align with the findings of Thalmann *et al.* (2024), who found that an organization benefits more from structured knowledge sharing than the unstructured one because it removes unwanted knowledge spillover and protects the sharing of sensitive information. The overall descriptive results indicate that respondents generally perceived informal knowledge sharing, particularly through social interactions and meetings, as crucial in GAPs implementation. However, the findings also present the possibilities for improving knowledge dissemination by addressing accessibility barriers and utilizing personal experiences more effectively to enhance GAPs implementation.

Table 8*Descriptive Statistics for Informal Knowledge Sharing on GAPs Implementation*

IKS	Mean	Std. Dev.
Personal experience	2.3202	1.23750
Accessibility (easy to reach)	2.5263	1.38087
Actor preferences	2.8509	1.47659
Encounters	3.0000	1.46621
Social gathering	3.0570	1.54272
Trends	2.8904	1.46359

4.3 Multiple Linear Regression Model Results

Table 9 presents the results of the multiple linear regression. The regression model had an R-value of 0.897, demonstrating the presence of a strong positive correlation between the informal interface of central and local government and the implementation of GAPs. On the other hand, the adjusted R-square value of 0.801 demonstrates that the total variances of GAPs implementation can be explained by 80.1% through model predictors. The dataset was found to meet all the model assumptions and absence of autocorrelation as the Durbin-Watson statistics found to be 2.176, which is within the acceptable range of (1.5-2.5). The results confirm that the regression model is fit for analysis and captures the relationships among variables under investigation. From an Analysis of Variance (ANOVA), the F-statistic was found to be 229.074, with a p-value of 0.000 ($p < 0.05$), confirming that the regression model's predictors significantly influence the implementation of GAPs.

Table 9
Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.159	0.142		1.118	0.265
Implementers' attitude (IA)	0.342	0.046	0.357	7.382	0.000
Informal knowledge sharing (IKS)	0.058	0.023	0.076	2.565	0.011
Social Interaction (SI)	0.107	0.043	0.109	2.490	0.014
Trust and mutual respect (TMR)	0.500	0.054	0.500	9.301	0.000
F statistics	229.074	Mean square 21.232	Sig. 0.000		
R	0.897	R-Square 0.804	Durbin-Watson 2.176		

4.3.1 Influence of Implementers' Attitudes on GAPs Implementation in Tanzania

The multiple linear regression for implementers' attitudes on the implementation of GAPs found that implementers' attitude ($\beta = 0.357$, $p = 0.000$) has a significant influence on GAPs implementation, as shown in Table 9. A one-unit increase in implementers' attitude, while other factors remain constant, increases GAP implementation by 0.357 units. The results correspond to the institutional theory and the paper's conceptual model, which hypothesizes that implementer attitude directly influences GAP implementation. Also, the results confirm the descriptive statistics results whereby, in totality, implementers' attitudes were highly perceived to influence the implementation of GAPs, in which farmers' meaning and societal meaning received a high mean rate of 4.1886 and 4.1447, respectively. This implies that the perceived benefits of GAPs to farmers and society at large shape the attitude of implementers in the implementation of GAPs. These findings align with the previous results of Bührmann et al. (2022), Bariu and Chun (2022), and Malkanthi and Thenuwara (2021), where it was found that a positive correlation exists between implementers' attitudes and implementation outcomes. However, these results contrast with the study by Gina et al. (2019), which suggests that the level of discretion influences implementers' attitudes, thereby affecting policy implementation. In the current study, despite the relatively low mean discretion score of 3.8678, discretion appears to have a minimal effect on the overall implementation of GAP.

4.3.2 Impact of Social Interaction on GAPs Implementation in Tanzania

The multiple linear regression results presented in Table 9 show that social interaction ($\beta = 0.109$, $p = 0.014$) significantly influences the implementation of GAPs. When other factors remain constant, a one-unit increase in social interaction increases GAPs implementation by 0.109 units. However, despite its statistical significance, the relatively low beta coefficient suggests that social interaction does not have a substantial influence on the implementation of GAPs. The descriptive statistics confirm the results whereby respondents perceived social interaction to moderately influence GAPs implementation. From the descriptive results, the interactions between extension officers and the Ministry of Agriculture received a mean score of (3.9956), interaction with local government officers (mean=3.7982) and interaction with politicians received a mean score of (3.7851), suggesting that although the interaction is important, it is not regarded as the primary determinant for successful GAPs implementation. The paper's findings align with the studies of Ataei et al. (2019), Kalolo et al. (2021), and Mogoba et al. (2023), which found that social interaction facilitated the adoption of conservation agriculture principles and enhancement of healthcare service delivery.

4.3.3 Role of Trust and Mutual Respect among Actors in GAPs Implementation

The multiple linear regression analysis results reveal that trust and mutual respect (TMR) ($\beta = 0.500$, $p = 0.001$) positively influence GAPs implementation. This underscores the importance of interpersonal trust and mutual respect in ensuring effective collaboration among stakeholders. Descriptive analysis supports these findings, with high mean scores for close ties (3.9079), affection (3.9079), and friendship (3.8728), indicating that strong interpersonal relationships positively contribute to GAPs implementation. Additionally, high scores for reliability and consistency suggest that actors (extension officers) favour predictable, stable relationships, which Institutional Theory views as essential for institutional legitimacy and continuity during policy implementation. These results align with studies by Rizzo et al. (2024) and Rust et al. (2022), highlighting the significance of peer trust and reciprocal respect in fostering successful organizational change. However, they contrast with Hariyati (2024), who found that trust and respect had negligible influence in shaping power dynamics within the political economy of tourism.

4.3.4 Influence of Informal Knowledge Sharing on GAPs Implementation in Tanzania

The multiple linear regression analysis indicates that informal knowledge sharing (IKS) ($\beta = 0.076$, $p = 0.011$) has a small but statistically significant effect on GAPs implementation. These results imply that informal knowledge sharing enhances learning and innovation among extension officers and supports growth and individual

development during GAPs implementation. The low beta coefficient of IKS suggests its supplementary role in the implementation of GAPs despite its significant influence on GAPs implementation. Furthermore, the descriptive results confirm this by its relative mean scores perceived by respondents whereby personal experience (Mean = 2.3202), accessibility (Mean = 2.5263) and social gatherings (Mean = 3.0570), implying that informal knowledge transfer complements rather than drives GAPs implementation. These results align with Baxter *et al.* (2024) and Jegede (2020), who report limited evidence supporting the role of informal knowledge-sharing environments in driving implementation outcomes. Also, Ramberg (2020) notes that inadequate resources and poor organizational structures in rural areas hinder effective knowledge sharing. The findings predict the existence of institutional barriers that prevent central and local government officials from embracing transformation changes as long as the institutional theory claims that successful change requires alignment between formal structures and informal practices. Therefore, the results predict that central and local governments may continue to face difficulties in implementing GAPs because their informal knowledge-sharing practices prove ineffective. Therefore, it is necessary to formalized and structure knowledge transfer approaches to enhance informal practices and ensure sustained improvements in GAPs implementation.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The paper examined the influence of the informal interface between central and local government by looking into the implementers' attitudes, social interactions, trust and mutual respect and the role of informal knowledge sharing in the implementation of GAPs in Tanzania. The findings indicate that the informal interface of central and local government significantly influences the implementation of GAPs, whereby implementers' attitudes, together with trust and mutual respect, were found to play a primary role. In contrast, social interactions and informal knowledge sharing play a complementary or supporting role. The results support the institutional theory, which posits that organizational outcomes are shaped by social structures, norms, and relationships existed. The findings show that fostering positive attitudes among implementers through targeted interventions, such as training programmes, awareness campaigns, and motivational strategies, is essential for the successful implementation of GAPs. Social interactions, particularly when coupled with trust-based relationships, prove to support and boost the working of formal structure. Although informal knowledge-sharing mechanisms contribute to the implementation of GAPs, their effectiveness can be further improved by mixing more structured knowledge-sharing approaches, thereby extending the applicability of institutional theory in improving policy implementation.

5.2 Recommendations

The paper demonstrated how the informal interface between central and local government influences GAPs implementation by enhancing positive attitudes among implementers, improving the interaction climate and increasing trust and mutual respect between government tiers. Also, necessary steps need to be taken to strengthen the weak link of collaboration between the Ministry of Agriculture, PO-RALG and LGAs to reduce the existing bureaucratic and communication flow barriers. Theoretically, the paper contributes to the institutional theory by showing how the social and psychological organizational environment shapes agriculture governance performance by playing a primary and complementary role in policy implementation. Additionally, the paper bridges the literature gaps on GAPs implementation in Tanzania, particularly with the informal interface between government tiers and highlights the need for further study on a deep understanding of the primary and complementary roles informal interface of central-local government found to have on the implementation of GAPs.

Specifically, the study recommends to the government of Tanzania that the Ministry of Agriculture and PO-RALG need to work together to ensure a dedicated agriculture unit/ division is established at the PO-RALG for smooth collaboration and information flow between them and LGAs. More training, seminars, workshops, working tools, and any needed support on GAPs should be provided to implementers in order to foster positive attitudes within them. Secondly, the Government of Tanzania should promote ethical governance by ensuring leaders adhere to standards, address issues through internal meetings, introduce joint decision-making platforms and, recognize the need for each other in making GAPs work and encourage participatory extension models which will uplift the trust and respects actors need to have for each other. Third, the Ministry of Agriculture, together with PO-RALG, must develop strategies to enhance the working environment. For instance, legalizing the allocation of 20% of the produce cess collected by Local Government Authorities (LGAs) to their agricultural divisions, and strengthening social ties between central and local government actors, could enhance agricultural service delivery.

Finally, the government has to integrate an electronic system (E-system) by 2027 to facilitate knowledge sharing and develop a user-friendly mobile app accessible to all extension officers within the country.

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