Technical jargon simplification strategies in agricultural communication: A qualitative case study of Misungwi District, Mwanza, Tanzania

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ABSTRACT

This study investigates strategies for simplifying technical jargon in agricultural communication materials produced by the Tanzania Agricultural Research Institute (TARI) in Misungwi District, Mwanza Region, Tanzania. Employing a qualitative approach, including semi-structured interviews with 43 participants (peasants, extension officers, and officials) and text analysis of eight TARI leaflets, the study analysed communication strategies that enable the simplification of jargon. Guided by Text Comprehension Theory and Grice's Cooperative Principle, the findings reveal six key strategies: simplified language with analogies, translanguage, definitions, synonyms, visual aids, and the involvement of peasants in content creation. These methods reduce cognitive load, enhance clarity, and promote the dissemination of inclusive knowledge. The Ministry of Agriculture and other stakeholders should train extension officers in participatory design and multimodal communication. The results will significantly improve agricultural extension effectiveness in resource-limited and multilingual contexts. The inclusion of peasants in communication crafting and translanguaging should be exploited to enhance proper understanding of the information. The study contributes to bridging expert-peasant gaps for sustainable development by encouraging a participatory communication model that enhances peasants' understanding of the information.

Keywords: Agricultural Extension, Communication, Simplification Strategies, Technical Jargon, Translanguaging, Tanzania

I. INTRODUCTION

Technical jargon in written communication creates significant constraints to understanding across multiple sectors, including healthcare, education, and technology. For instance, complex medical terms in patient information leaflets often prevent low-literacy individuals from following treatment instructions, while educational materials filled with academic jargon hinder student learning in diverse classrooms (Mayer, 2009). Similarly, Azari and Halimi (2018) and Jeklin (2018) investigated the impact of ambiguous language in healthcare communication, with a specific focus on antibiotic information leaflets. Their findings demonstrated that intricate sentence structures and scientific terminology significantly impeded patients' comprehension of the provided information.

Multilingualism, low literacy rates, and cultural-linguistic diversity in Africa are considered factors that lead to difficulties in understanding technical jargon. Studies in South African classrooms reveal that scientific and technical concepts taught solely in English exclude non-native speakers, but translanguaging and simplified language dramatically improve comprehension (Charamba, 2023; Makalela, 2022). Across the continent, health campaigns struggling with jargon have adopted visual aids and local language integration to enhance understanding. Equally, participatory approaches in community development projects ensure materials reflect users' prior knowledge and context (Park & Duncan, 2007; Besha et al., 2025).

Technical jargon in agricultural extension materials remains globally a significant barrier to the effective transfer and adoption of improved technologies among smallholder farmers, particularly in low-literacy and multilingual contexts. Studies across Asia, Latin America, and sub-Saharan Africa consistently show that when extension documents contain complex technical terms, farmers either ignore them or apply technologies incorrectly, increasing risks of crop loss and environmental harm (Gibson et al., 2023). Consequently, international organisations and researchers increasingly emphasise the need to deliberately simplify technical terms to bridge comprehension gaps and accelerate sustainable agricultural development worldwide (Park & Duncan, 2007). Although experts easily understand technical jargon, it frequently causes confusion for non-specialist readers (Mafu, 2001). In Zambia, for example, farmers from various linguistic backgrounds reported that technical jargon in agricultural input literature, such as terms related to

crossbreeding and fertiliser composition, led to misunderstandings and crop failures, highlighting the need for multilingual strategies (Jimaima, 2025). Correspondingly, in Ghana's Sudan savannah zone, farmers confront challenges in understanding technical language in climate information, aggravated by illiteracy, which restricts their capability to build resilient agricultural schemes (Antwi-Agyei et al., 2021). In South Africa, this matter extends to deaf farmers, where sign language lacks equivalents for agricultural technical jargon, hampering training and job opportunities in the sector (Magome, n.d.). Moreover, the dominance of Afrikaans in commercial agriculture creates exclusionary barriers for non-speakers, underscoring broader language inequities in the industry (Erasmus, 2021).

The technical jargon challenge is particularly evident in Tanzania's agriculture industry, where the Tanzania Agricultural Research Institute (TARI) disseminates scientific knowledge through leaflets to peasants (TARI 2019). Misungwi District is predominantly inhabited by Sukuma peasants with limited formal education and Kiswahili as a second language. TARI uses technical jargon in communicating agricultural information, which significantly impedes peasants from internalising the intended message (Mwogela & Sane, 2025). Mafu's (2001) study highlights the language difficulties confronted by agriculture students in disseminating agricultural technical information to farmers. Mafu stresses that students often struggle to use Kiswahili when explaining technical agricultural concepts to peasants, highlighting that technical jargon remains a challenge even for agricultural professionals. This matter prompted the current study, which investigates communication strategies for simplifying technical jargon in TARI leaflets, particularly given that most peasants have limited formal education. Mwogela et al. (2024) also notes that some translated terms related to farm implements fail to convey meaningful information to farmers.

These results are directly relevant to the evaluation of agricultural leaflets, which face significant obstacles due to technical terminology and complex language. In contrast to earlier research, this study presents a thorough exploration of communication strategies used in leaflets to simplify technical jargon that impedes peasants' understanding of agricultural content. It particularly examines the technical jargon simplification strategies used in TARI's leaflets to simplify the understanding of technical jargon in Misungwi District. The study combines textual and perceptual analysis in a Sukuma-dominant context to examine various jargon-simplification strategies. It also presents other communication strategies that are vital in simplifying communication. Understanding the simplification of technical jargon is essential for policymakers, researchers, and extension agents in enhancing peasants' understanding of agricultural information.

1.1 Research Objective(s)

This study explored various strategies for simplifying technical jargon in agricultural drawings from TARI leaflets. The study specifically identified strategies employed in TARI's leaflets to simplify technical jargon when communicating with peasants in Misungwi District of Tanzania.

II. THEORETICAL REVIEW

The study employed a dual data collection approach, analysing agricultural leaflets alongside semi-structured interviews with peasants, Ward Executive Officers (WEOs), and agricultural specialists, while interpreting the findings through the lenses of Text Comprehension Theory and Grice's Cooperative Principle. Text Comprehension Theory conceptualises reading as a staged cognitive process in which readers first recognise words and derive meaning from them. Further, meaning is retained in the reader's memory and subsequently applied in practice. The theory identifies three interconnected levels of mental representation: (i) verbatim representation (exact recall of wording, figures, and images), (ii) semantic representation (the core propositional meaning), and (iii) situational representation (linking the text to real-world contexts and prior knowledge) (Farina, 2014). These levels interact to enable complete comprehension: the verbatim level acts as an initial template, the semantic level preserves propositional content, and the situational level supports practical application. For rural farmers to successfully decode technical terminology, they must progress smoothly through all three levels to internalise and operationalise new agricultural knowledge.

Previous research has extensively validated the theory, demonstrating that prior knowledge, reading ability, and textual cohesion significantly enhance comprehension of scientific material (Oakhill, 2023), while text structure and background knowledge affect children's understanding (Kendeou & van den Broek, 2007; Oakhill, 2023). Complementing this framework, Grice's (1975) Cooperative Principle was applied, focusing on the maxims of quantity (providing neither too much nor too little information), manner (ensuring clarity, brevity, and avoidance of obscurity and ambiguity), and relation (maintaining relevance). These maxims served as critical criteria for assessing whether TARI uses various strategies in leaflets to simplify technical jargon adequately meet peasants' communicative needs. Numerous scholars have utilised Grice's framework to examine linguistic and literary phenomena (Abdi et al., 2010; Ephratt, 2012; Hossain, 2021; Mwogela & Sane, 2025; Yusro et al., 2020; Zor, 2006), consistently underscoring that violations of these maxims undermine effective communication, as evidenced in analyses of English and Turkish compositions.

III. METHODOLOGY

3.1 Participants

This study was conducted in the natural settings of the peasants in Misungwi District from January to December 2023. Data were collected from four wards of the district: Bulemeji, Mamaye, Idetemya, and Kijima. The participants included 28 peasants, 4 WEOs, 4 Misungwi District agricultural officials, 3 extension officers, and 4 officials from the Tanzania Agricultural Research Institute (TARI). Eight agricultural instructional leaflets were used to gather data. Convenience sampling was used to select peasants who were easily accessible to the researchers. Those found in their domiciles were provided with leaflets to read. According to Cohen et al. (2007:113), convenience sampling involves selecting the nearest available individuals as respondents.

This approach, however, has several weaknesses, which include selection bias, lack of randomisation, and limited generalisability. Similarly, sampling homogeneity, vulnerability to volunteer bias, and difficulty in assessing sampling error pose a challenge (Golzar et al., 2022). To address these weaknesses, the study included different key subgroups within the population. Peasants from different wards were included in the study to ensure a representative sample with all age groups. The selection of participants from different accessible wards and subgroups reduced sample homogeneity. Further, the study employed other sampling approaches to complement convenience sampling and provide context, thereby confirming the results.

Other respondents, such as WEOs, TARI officials, extension officials, and agricultural department officials, were purposively selected for their relevant expertise and potential contributions to the study. A total of 43 participants were included in the sample, which was deemed sufficient based on similar studies (e.g., Agunga and Manda, 2014; Alehegn, Ogola, and Spielman, 2010; Churi et al., 2012; Lonyangapuo, 2015; Meera et al., 2004; and Raouf and Bello, 2018).

3.2 Nature of the Data

Data were collected through semi-structured interviews and text analysis. The interview questions were derived from agricultural leaflets, which served as one of the data sources. A total of 20 questions were posed to different groups of respondents to gather insights on the strategies used to simplify technical jargon in agriculture. Some of the questions included: Do you access agricultural information through TARI leaflets? Do you face any challenges when accessing the information through leaflets? Do you think the use of technical jargon hindered your understanding? What is the specific jargon from the leaflets that is problematic to you? How do you manage to understand them? What ways do you think may enhance your understanding of jargon? Have you ever participated in the preparation of agricultural communications by TARI or the Misungwi agricultural department? These questions were designed to explore the strategies used in TARI's leaflets to simplify technical jargon when disseminating agricultural information. Additionally, text analysis was conducted on the leaflets to identify the technical jargon used to communicate agricultural information to peasants.

3.3 Data Collection Procedures

Communication strategies used to simplify technical jargon in agriculture were evaluated using data from interviews and textual analysis. As Walliman (2011) pointed out, "to gather data for text analysis, both written and non-written materials must be reviewed." Therefore, peasants were requested to identify any technical jargon they encountered when reading the leaflets. A tape recorder was used to capture their responses regarding the technical jargon and other communication-related challenges they faced when accessing agricultural information.

To ensure ethical standards were met, researchers sought permissions from relevant authorities, including the President's Office, Regional Administration and Local Government (Mwanza Region) (Ref No. AB.307/323/01/192; DA.137/372/01), and Misungwi District (AB.65/209/03/51. Further, peasants were provided with a consent form that outlined the study's objectives and expected outcomes. The researchers also informed the participants about the tools and devices that were used during data collection, and consent was obtained before recording any interviews. Throughout the research, the researchers ensured that participants' rights, interests, and preferences were respected, particularly regarding the reporting of data.

3.3.1 Leaflet Procurement and Distribution

The researcher anticipated finding peasants who already had agricultural leaflets home. However, this expectation proved futile as none of the peasants possessed the leaflets. TARI reported that most peasants either discard the leaflets or use them for packaging food and other items. TARI also highlighted that budget constraints hinder the production of enough leaflets for distribution. As a result, through TARI's assistance, the researcher decided to produce the leaflets and asked TARI officials to distribute them to peasants. The production was carried out by TARI officials,

and all standards were met to maintain the quality of the leaflets. Picture clarity, words, and colours used in the leaflets were handled with care during their production.

3.4 Data Analysis Procedures

Qualitative methods, such as interviews, text analysis, and non-participant observation, were employed to collect data in the study area. The study adopted a six-phase framework for thematic analysis to identify and analyse patterns and themes within the qualitative data collected, thereby providing valuable insights into the communication strategies used to simplify technical jargon in agriculture in Misungwi district. This six-phase framework includes familiarisation with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing the report (Braun & Clarke, 2006). Further, Excel was used to code data into sub-themes and main themes. Thematic data analysis was employed to analyse information gathered through text analysis and interviews on communication strategies used to simplify technical jargon. These data were collected from leaflets and other sections of the respondents. Similarly, data were transcribed from Kiswahili and translated into English, while Excel was used for data organisation and coding. Gibbs (2012) defines coding as a way of indexing or categorising text to establish a framework of thematic ideas. Coding is a process that identifies a passage in the text or other data items (image), searches for and identifies concepts, and establishes relations between them. This process permitted the identification of themes and subthemes, which were vital in interpreting the research questions. Subsequently, content analysis was used to characterise the communication strategies used to simplify technical jargon in agriculture when disseminating agricultural information to peasants.

IV. FINDINGS & DISCUSSION

4.1 Findings

Data from interviews and text analysis revealed six key communication strategies to simplify technical jargon for peasants in Misungwi District. The following are the strategies: definitions, synonyms, simplified language and analogies, translanguaging, use of visual aids, and the inclusion of peasants in communication crafting. The results reveal that visual aids were the most commonly used technical jargon simplification strategy in the leaflets (7 of 8), followed by definitions (5 of 8), translanguaging (3 of 8), and synonyms (2 of 8). The table below summarises the findings.

Table 1

Summary of Findings on the Strategies Used to Simplify Jargon

Communication Strategy	**Summary of Findings**
Use of simplified language and analogies	Break down concepts using short sentences, basic vocabulary, and relatable comparisons (e.g., likening soil pH to sourness in food).
Translanguaging	Blend Kiswahili and local languages (e.g., Sukuma) fluidly to bridge gaps between technical and indigenous knowledge.
Definitions	Provide clear, straightforward explanations of technical terms in simple words to ensure understanding.
Use of Synonyms	Replace complex jargon with familiar, everyday words or local equivalents that peasants already know.
Use of visual aids	Employ diagrams, physical demonstrations, pictures, or local objects to illustrate abstract ideas concretely.
Peasants' inclusion in communication crafting	Involve peasants directly in creating messages, using their input, stories, and feedback to make content relevant and trustworthy.

Table 2 presents various technical jargon extracted from TARI leaflets that are deemed to create communication barriers between peasants and agricultural information disseminators. These technical jargons were generated through text analysis and semi-structured interviews with the respondents.

Table 2

Technical Jargon in Agricultural Leaflets that Is Difficult for Peasants to Understand

Jargon/vocabulary	Glosses	Jargon/vocabulary	Glosses
pH	A quantitative measure of the acidity or basicity	Utupa	Tephrosia vogelii
Viua magugu	Herbicides	Kitumba	Cotton fruit
Bioanuai	Biodiversity	Vimelea kuvu	Fungal parasites
Ukinzani	Resistance	Alikali	Alkaline
Udhibiti sango	Traditional pest control method	Mnyauko fuzari	Fusarium wilt
Nondo	Moth	Katena	Cartena

4.1.1 Use of Simplified Language and Analogies

Use of simplified language and analogies: The study found that 43 respondents recommended using simplified language and analogies to communicate agricultural information. They affirmed that the use of simplified language enhances peasants' understanding of information. These viewpoints, which all peasants expressed, are presented below in extracts 1-4.

> *"Mimi naona wajaribu kutumia lugha rahisi itakayotuwezesha sisi wakulima kuelewa vizuri. Kwa mfano nimeona maneno mengine ni magumu sana."* 'I think they should try to use simple language that will enable us peasants to understand well. For example, I have seen some extremely difficult words.' (Interview with a male peasant at Kijima Ward on 8th September 2024)
>
> "*Hawa wakulima wetu lugha kwao ni tatizo ndiyo maana matumizi ya lugha rahisi yanahitajika ili kuwasaidia waweze kuelewa."* 'For our peasants, language is a problem. That is why the use of simple language is needed to help them understand.' (Interview with an extension officer at Kijima Ward on 8th September 2024)
>
> "*Kwa kweli lugha kwa wakulima ni tatizo kubwa. Kuna wakati hata mikutano tunalazimika kutumia wakalimani ili waweze kuelewa. Nashauri wataalam wa kilimo kutumia lugha rahisi ili waweze kuelewa vyema."* 'Honestly, language is a very big problem for farmers. Sometimes, even in meetings, we are forced to use interpreters so that they can understand. I advise agricultural experts to use simple language so that peasants can understand properly.' (Interview with a Ward Executive Officer (WEO) at Mamaye Ward on 10th September 2024***)***
>
> "*Sisi kama TARI kwa kweli matumizi ya maneno ya kitaalam yanaleta shida sana kwa wakulima wetu. Tunajitahidi kadri ya uwezo wetu kuyafanya maneno yawe rahisi ila ugumu bado upo. Ni muhimu kutumia misamiati rahisi kuweza kuwasaidia wakulima waelewe vizuri."* 'We, TARI, know very well that the use of technical terms creates a lot of difficulty for our farmers. We try as much as we can to make the words simple, but the difficulty still exists. It is important to use simple terminology so that we can help the farmers understand well.' (Interview with a TARI official on 20th September 2024)

The responses presented above highlight the need for the agricultural experts and TARI in particular to use technical terms that enhance peasants' understanding of the communicated information. These terms would reduce communication and comprehension huddles peasants may experience when accessing agricultural information.

4.1.2 The Use of Translanguaging

Translanguaging: Blending languages available in the study area was among the strategies TARI used to simplify technical jargon used in leaflets to communicate agricultural information. Terms from ethnic languages, in this case, are employed to explain various agricultural information to enhance the clarity of the terms used, which ultimately improves understanding. Given that Misungwi is predominantly inhabited by the Sukuma people, whose Kiswahili is not their first and best language. This technique is vital in simplifying technical jargon to the peasants. The use of Kisukuma terminology such as "*kikungu*, *mbuga*, *itogolo*, *luseni*, *somi*, and *mabingobingo*" to explain soil types and other agricultural practices, aligns with the language of the peasants. Therefore, the technical jargon used can be easily simplified and understood by peasants as intended. The images depicted in Figure 1 are extracted from TARI's leaflets, which used translanguaging to simplify technical agricultural terms. The first image on the left uses ethnically known terms such as *kapulipuli*, *izumangiji*, and *mwarobaini* as remedies to control pests in maize. The image on the right employs a translanguaging strategy between Kiswahili and Kisukuma to inform peasants about soil types. For example, TARI used the terms "Itogolo" and "udongo wa kichanga chenye tabaka gumu katika kina" to mean "sandy soil with a hard layer at depth."

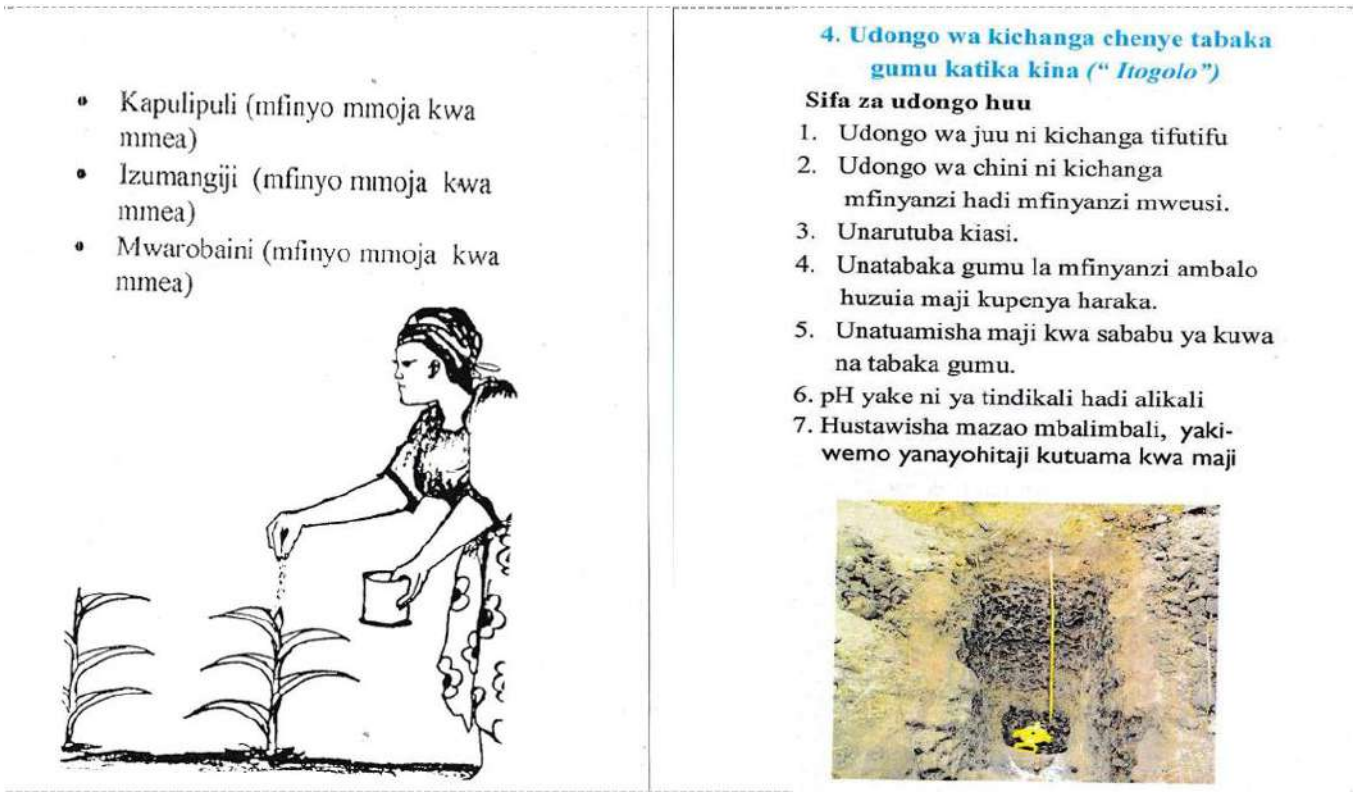

Figure 1
Showing Images with Translanguaged Technical Terms

4.1.3 Appropriate Use of Definitions

Definitions proved instrumental in simplifying the technical jargon TARI used to communicate agricultural information to peasants. Five of the eight leaflets employed definitions to explain different agricultural concepts. The analysis revealed that definitions are used to avoid misinformation that may arise from the use of technical jargon. In the leaflets consulted, concepts like "*kilimo mseto*" 'mixed farming', "*magugu*" 'weeds', and "*bungua wa mabua*" 'stalk beetles' are adequately defined to simplify the technical jargon for the readers to grasp the communication intent. The terms employed in most definitions are simple to make the jargon easier for peasants to understand.

Figure 2
Showing the definition of Fusarium to Enlighten Peasants

The following is the definition of the extract above:

> "*Mnyauko fuzari: Ni ugonjwa unaosababishwa na vimelea vya kuvu*" 'Fusarium wilt: It is a disease caused by fungal pathogens.'

The following are some of the extracts 1-3 taken from other TARI leaflets to illustrate the definition as a technical jargon simplification technique:

> *"Bungua wa mabua ni wadudu waharibifu wa mahindi katika mikoa yote ya Kanda ya Ziwa. '*Stalk beetles are maize pests around all Lake zone regions.'

> *"Kilimo mseto ni aina ya kilimo kinachoweza kuhusisha upandwaji wa miti, mimea ya mazao na wanyama huku lengo likiwa ni utunzaji wa mazingira pamoja na kumuingizia mwananchi kipato au mkulima kipato."* 'Mixed farming is a type of agriculture that involves the planting of trees, crops, and keeping animals while the goal is to protect the environment as well as generate income for a citizen or farmer.'

> *"Magugu ni nini? Magugu ni mimea inayoota sehemu isiyo hitajika." '*What are weeds? Weeds are plants that grow where they are not wanted.'

Similarly, other respondents noted diverse viewpoints on the use of definitions to simplify technical jargon used by TARI to communicate various agricultural information. One peasant from Bulemeji ward remarked the following:

> "*Nikisoma haya maelezo kuhusu walichoandika hapa angalau napata mwanga. Kwa hiyo ninaomba wataalamu wa kilimo wawe wanaambatanisha maana za haya maneno magumu."* 'When I read these explanations about what they have written here, at least I get some understanding. I, therefore, request agricultural experts always to include the meanings of these technical words.' (Interview with a female peasant from Bulemeji Ward on 20th September 2024)

Another respondent (TARI official) had the following viewpoints:

> *"Kutoa maana za maneno ya kitaalamu tunayoyatumia kwenye vipeperushi ni muhimu sana kuwawezesha wakulima kuelewa maana ya ujumbe wetu kwao."* 'Providing the meanings of the technical terms we use in leaflets is very important so that farmers can understand the actual message we are conveying to them' (Interview with a TARI official on 9th September 2024)

The extension officer on the same matter remarked the following:

> "*Mimi kama afisa kilimo naona ni muhimu kwa watoa jumbe za kilimo kutumia definitions ili kurahisiha uelewa wa maneno ya kitaalam wanayoyatumia kwenye mawasiliano."* 'As an agricultural officer, I feel it is important for those who deliver agricultural messages to use definitions in order to make it easier to understand the technical terms they use in communication' (Interview with an extension officer from Bulemeji Ward on 20th September 2024)

Similarly, the Ward Executive Officer contributed the following:

> "*Mimi nafikiri ni muhimu kuwa na tafsiri za maneno magumu yanayotumika kwenye hivi vipeperushi kwa maana wakulima wetu wengi elimu zao ni za chini."* 'I think it is important to have explanations of the difficult words used in these leaflets because most of our farmers have low levels of education' (Interview with the Ward Executive Officer (WEO) from Idetemya Ward on 30th September 2024)

4.1.4 Simplification Through the Use of Synonyms

The study revealed that the use of synonyms facilitated the simplification of technical jargon in leaflets. This strategy was employed to simplify the use of jargon and enhance understanding of the information. The synonyms used were extracted from two TARI leaflets for more clarification.

> *"Rutuba (naitrojeni) huongezeka kwenye udongo hivyo hupunguza gharama za mbolea."* 'Soil fertility (nitrogen) increases in the soil, thereby reducing fertiliser costs.'

> *"Baada ya wiki 3 mpaka sita kata desmodium ili isibanane (isiingiliane) na mimea ya mahindi*." 'After 3 to 6 weeks, cut back the desmodium so that it does not interfere with the maize plants.'

> *"Tumia mbinu ya sukuma-vuta ili upate mavuno mengi ya mahindi kwa kuzuia mabuu (funza) wa mabuu pamoja na kiduha"* 'Use the push-pull method to get a higher maize yield by controlling stem borers and striga'

I observed that TARI employed synonyms to simplify the technical jargon used in communicating agricultural information to peasants. For example, synonyms such as *"naitrojeni"* 'nitrogen' and *"rutuba"* 'fertility', *"funza"* 'worms' and *"mabuu"* 'larvae', *"changanya"* 'mix' and "vuruga" 'stir' are used to enhance peasants' understanding of the technical jargon.

4.1.5 The Use of Visual Aids

The study found that TARI used visual aids, such as pictures and physical demonstrations (demo-plots), which facilitated simplifying technical jargon for peasants. Respondents affirmed that the use of visual aids greatly simplified the jargon used in the leaflets to communicate agricultural information. Seven out of eight leaflets used pictures to convey information to peasants. The images in Figure 3, for example, show the affected maize grains and how manure can be applied in the field. These images are vital for supplementing the written communication in the leaflets and enhancing peasants' understanding of the conveyed information, even when they face technical language constraints in comprehending it.

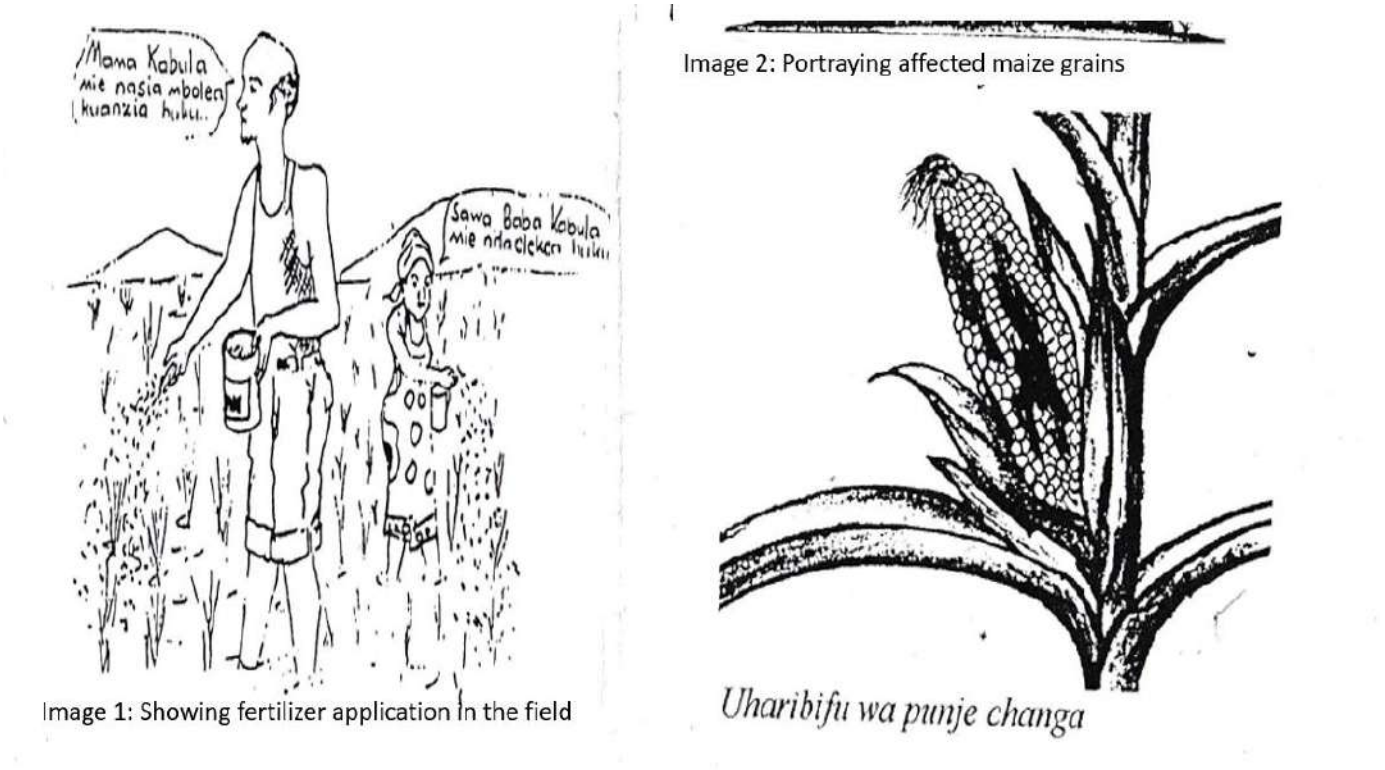

Figure 3
The Images Showing the Application of Manure and the Affected Maize Grains

The remarks below, from respondents, demonstrate how visual aids are significant in simplifying the technical jargon used to communicate scientific information.

> "*Picha hizi ni nzuri kutupa uhalisia hata kama neno ni gumu basi tunaangalia picha na kuelewa."* 'These pictures are good because they show us the real situation. Even if the word is difficult, we just look at the picture and understand.' (Interview with a male peasant from Bulemeji Ward on 20th September 2024)

> "*Nikiona picha napata uelewa kwa kweli hata kama maneno siyajui ila uelewa naupata vizuri."* 'When I see the picture, I really understand. Even if I don't know the words, I still get a good understanding.' (Interview with a peasant from Idetemya Ward on 26th September 2024)

> "*Picha hizi tunazitumia kwenye vipeperushi ili kuwezesha hawa wakulima wapate uelewa mzuri. Lakini picha inaweza ikasaidia mkulima kupata ujumbe wa neno Fulani na hivyo kuelewa ujumbe."* 'We use these

pictures in the leaflets to help peasants gain a good understanding. A picture can help a peasant grasp the meaning of a certain word and thus understand the whole message.' (Interview with an extension officer from Kijima Ward on 20th September 2024)

"*Sisi kama TARI picha ni muhimu sana kusaidia kuelezea maneno ya kitaalam kwenye mawasiliano yetu. Hivyo tunazitumia kwa umakini ili ziweze kumrahisishia mkulima kuelewa maana ya maneno tunayoyatumia*." 'For us at TARI, pictures are significant in helping to explain technical terms in our communication. That's why we use them carefully so that they make it easier for the farmer to understand the meaning of the words we use.' (Interview with a TARI official on 30th September 2024)

4.1.6 Peasants' Inclusion in Communication Crafting

Peasants' inclusion in communication crafting: The study revealed that peasants were involved in the process of creating communication content. This was reported by TARI officials as a way to simplify technical jargon for peasants. However, this strategy was inadequately employed due to financial constraints, although it was hailed as vital in enhancing peasants' understanding of scientific jargon. Similarly, peasants who were interrogated reported not having been involved in all stages of crafting the communication contents. The following are the remarks from the respondents who were asked about:

One agricultural official from the Misungwi agricultural department remarked the following:

"*Kwa kweli huwa tukitengeneza vipeperushi tunaviweka kwenye ubao wa matangazo ili wakulima wavione na waweze kutoa mapendekezo yao."* 'Indeed, when we create flyers, we place them on the notice board so that farmers can see them and provide their suggestions.' (Interview with Misungwi department agricultural official on 16th September 2024)

A female peasant from Mamaye had the following viewpoints:

"*Kwa kweli ushirikishwaji ni mdogo sana pengine ungesaidia zaidi kujua haya mawasiliano."* 'Indeed, the involvement is very minimal; perhaps it would help more to know about these communications.' (Interview with a female peasant at Mamaye Ward on 25th September 2024)

Similarly, a TARI official remarked the following:

"*Hawa wakulima tunawashirikisha japo kwa kiwango kidogo sana. Kwa maana mara nyingi hizi tafiti ni za kisayansi sana na hufanyiwa kwenye magrupu*." 'We involve these farmers, albeit to a very small extent. Because most of the time, these studies are very scientific and are conducted in groups.' (Interview with a TARI official on 30th September 2024)

4.2 Discussion

This part discusses the findings on simplifying technical jargon through different communication strategies. The study revealed six factors instrumental in simplifying technical jargon when used to communicate agricultural information. These simplification strategies include the use of definitions, synonyms, simplified language and analogies, translanguaging, visual/hands-on aids, and the inclusion of peasants in communication crafting.

The use of simplified language and analogies aligns with text comprehension theory by reducing cognitive load at the surface level, enabling peasants to build accurate textbases and situation models (Kintsch, 1998). For instance, describing pesticides as "insect' killer' and soil pH as "soil sourness" offer acquainted analogies to integrate new information with everyday knowledge, facilitating deeper understanding. Based on respondents' viewpoints, when leaflets employ simplified language and analogies that are suitably practical and highly contextualised, they enable users to understand technical jargon effortlessly. Respondents, including peasants, Ward Executive officers (WEOs), TARI officials, and extension officers, highlighted how complex terms create comprehension difficulties, echoing findings that jargon impedes propositional integration among rural peasants and audiences (Mwogela & Sane, 2025). From Grice's viewpoint, this strategy supports the maxim of manner by avoiding obscurity and promoting clarity, as technical experts, like TARI officials, highlighted the need to use simple vocabulary to accommodate peasants' literacy levels. The literature emphasises that simplifying language enhances knowledge transfer, particularly in low-literacy contexts, thereby reducing misapprehensions that undermine the quality maxim (Gibson et al., 2023).

Translanguaging, blending Kiswahili with Kisukuma terms like "*Itogolo"* 'sandy soil with a hard layer at depth' for soil types, supports text comprehension by drawing on peasants' multilingual repertoires to construct situation models rooted in cultural context (García & Wei, 2014). In Misungwi, where Sukuma is the dominant language and Kiswahili plays a secondary role, this approach resonates with readers' linguistic characteristics by simplifying jargon and improving message clarity. Translanguaging, as a linguistic resource, when properly combined with visual aids,

produces a complete picture of what is anticipated by practitioners. The former will be responsible for providing linguistic clarification of the phenomenon, while visual aids will reinforce understanding. Text comprehension theory views this as enhancing semantic representation through familiar codes, allowing better integration of agricultural practices (van Dijk & Kintsch, 1983). Grice's cooperative principle is apparent here, as translanguaging ensures relevance (relation maxim) and brevity (manner maxim) by using ethnically resonant terms, evading the ambiguity of monolingual technical discourse. African-based literature strengthens this: in South African multilingual classrooms, translanguaging scaffolds scientific concepts, improving comprehension and epistemic access in contexts similar to Tanzania's rural settings (Charamba, 2023). Similarly, Ubuntu translanguaging in diverse African education promotes inclusive meaning-making, aligning with cooperative communication by appreciating communal linguistic resources (Makalela, 2022). The same phenomenon is reported by Mwogela et al. (2024), who found that translanguaging helped peasants understand the communicated information.

Definitions and synonyms further aid comprehension by clarifying technical jargon, such as "*kilimo mseto*" (mixed farming), through explicit explanations and alternatives (e.g., "*funza*" for larvae). Based on text comprehension theory, definitions build vigorous textbases by resolving ambiguities, while synonyms provide redundancy for situational integration, especially for low-education peasants (Kintsch, 1998). Respondents, such as a female peasant from Bulemeji, emphasised that definitions help them reduce misinformation. Grice's maxims are realised in this context, whereby definitions fulfil quantity (adequate information) and manner (clarity), while synonyms prevent obscurity, as seen in TARI leaflets' use of synonyms like "naitrojeni" and "rutuba". Research in agricultural communication confirms that such strategies mitigate jargon barriers, enhancing cooperative exchanges in extension materials (Mwogela & Sane, 2025; Park & Duncan, 2007).

Visual aids were employed in seven of eight leaflets to support language restrictions, primarily to enhance multimodal comprehension. Visual aids are vital in giving further clarification to enhance and simplify the understanding of technical jargon. Baker and Adams (2015), Devkota et al. (2020), and Paul (1956) assert that visual aids enhance attention and necessitate a short time to evoke instant emotions and understanding in readers' minds about the matter of communication. The use of visual aids plays an instrumental role in guiding agricultural extension officers to peasants, as they are a language peasants understand. Text comprehension theory extends to multimedia, where visuals aid situation model construction by providing concrete representations that integrate with text (Mayer, 2009). Peasants reported that pictures offer reality, something that helps in decoding jargon even without full literacy. This aligns with Grice's relation maxim, as relevant images ensure messages are pertinent and cooperative. The literature on peasants' education demonstrates that visual aids enhance recall and use in agriculture, particularly for visual learners in resource-poor settings (Park & Duncan, 2007; Gibson et al., 2023).

Finally, peasants' inclusion in communication crafting, though limited by financial constraints, represents participatory principles that enhance understanding through co-creation. Inclusion is vital to the effectiveness of analogies and synonyms used in communication. Peasants, if included in early stages of communication crafting, get acquainted with the agricultural terms used together with their meanings. The process offers peasants the opportunity to suggest analogies or synonyms that may work better in their settings. Text comprehension theory suggests involving users ensures materials align with their prior knowledge, facilitating better model building (van Dijk & Kintsch, 1983). Grice's cooperative principle is realised in dialogic processes, where responses maintain the quality and relation maxims. TARI and Misungwi District agricultural officials' partial involvement (e.g., the use of notice boards) shows potential, but peasants expressed inadequate engagement. Studies highlight that participatory communication in agriculture empowers stakeholders, reducing power imbalances and improving relevance, as seen in Ethiopian contexts where inclusivity facilitated equitable dialogues (Besha et al., 2025). The inclusion of peasants, therefore, simplifies technical jargon, leading to improved comprehension and use of information among them.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study highlights strategies necessary for simplifying technical jargon in agriculture during the dissemination of agricultural information, drawing on Grice's Maxims of communication and Farina's Text Comprehension Theory. It identifies the factors employed in TARI's leaflets to simplify technical jargon when communicating agricultural information. These factors include: simplified language, translanguaging, clear definitions, the use of synonyms, visual aids, and the inclusion of peasants in crafting agricultural communication content. These strategies reduce cognitive load, simplify technical jargon, and foster inclusive communication for a better understanding of the information. Embracing human-centred, linguistically designed communication is crucial for effective information interpretation, which ultimately leads to sustainable agricultural development.

5.2 Recommendations

The study recommends TARI and other agricultural stakeholders to systematically use translanguaging, compulsory visual illustrations, simplified language, and analogies. Further, the study endorses inclusive participatory communication design that involves peasants at all stages to ensure technical language is comprehensible, relevant, and actionable. TARI and other agricultural stakeholders should have a dedicated language and communication department necessary for refining language and other communication-related issues. This ensures proper comprehension and use of the communicated information by peasants, promoting agricultural productivity.

Declaration of Interest

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