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BASELINE SURVEY REPORT

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Contents

Executive Summary

The baseline study conducted under the project "Strengthening CSO Support and Advocacy for Sustainable Production and Use of Organic Fertilizer in The Gambia (SAPOF)" sheds light on the current landscape of agroecology and organic fertilizer practices in the country. Agriculture, a significant contributor to greenhouse gas emissions, faces challenges that agroecology seeks to address by integrating ecological principles into farming practices. This study aims to bolster the capacities of Civil Society Organizations (CSOs) in promoting and implementing organic fertilizer practices crucial for sustainable agriculture and food security in The Gambia.

Key stakeholders identified for the research include CSOs, community gardeners, community Kafos, and government agencies. The study primarily focused on the North Bank Region (NBR) and Central River Region (CRR) due to their heavy reliance on agriculture.

A mixed-methods approach was employed, encompassing qualitative and quantitative methods across three phases: preparatory, data collection, and data analysis. Through training and pilot testing, data collection tools were refined, leading to the surveying of 173 representatives from marketing federations in NBR and CRR.

The data analysis highlights trends in gender distribution, education, ethnicity, and community-based organization membership, emphasizing the pivotal role of women in agricultural activities. While organic fertilizer production faces challenges, there's a strong preference for organic fertilizers due to their perceived benefits in soil fertility and crop yield enhancement.

Findings from Focus Group Discussions (FGDs) revealed a significant engagement of youth in organic fertilizer production, despite challenges such as inadequate materials and inconsistent government support. There's a clear demand for better quality materials, consistent support, and comprehensive training programs to enhance organic fertilizer production and agroecology practices. Women-led CSOs play a crucial role, but there's a need for more involvement from youth organizations.

The Government of The Gambia's assistance in organic fertilizer provision is limited but satisfactory in terms of fertilizer quality. However, there's a call for more consistent and accessible support to promote the widespread adoption of organic fertilizers and sustainable agricultural practices.

Overall, the study underscores the importance of addressing gaps in training, support, and policy awareness to foster sustainable agricultural practices and improve farm productivity in The Gambia. By targeting these areas, stakeholders can enhance community engagement, empower farmers with the necessary skills and resources, and promote environmentally friendly agricultural approaches. To improve access to organic fertilizer, training in organic fertilizer production and use may be conducted using educative materials and methods that will be easily understood at the grassroots level. The training may be conducted by experienced and skilled experts in the production and use of organic fertilizer. For effectiveness, the training may be tailored for participants who can easily learn using a hands-on approach. For continual improvement purposes, this kind of training should be conducted at least biannually. Thus, priority should be given: 1) first

to educating the grassroots and the stakeholder on the importance and benefits of organic fertilizer, 2) the requisite resources should be made available to motivate the grassroots in the engagement of the production and use of organic fertilizer, 3) the government support and commitment in the transition from inorganic to organic fertilizer should be forthcoming without any hindrance of delays.

1.0 INTRODUCTION

This baseline study was conducted to satisfy one of the key and clearly outlined activities in the project: **Strengthening CSO Support and Advocacy for Sustainable Production and Use of Organic Fertilizer in The Gambia (SAPOF).** Agriculture is the second largest emitter of greenhouse gases (GHG) after the energy sector, accounting for approximately 30% of total GHG emissions[1]. When agroecology first emerged in the early 1980s, it was most often viewed as a form of alternative to the changes sweeping through the food system as a result of the green revolution, simplification through monocultures, industrialization of all aspects of food production, processing, and distribution, and the increasing corporate control and dominance of the food system[2]. The most common definition of agroecology during the early stages was the application of ecological concepts and principles to the design and management of sustainable agroecosystems, or the science of sustainable agriculture[3,4].

In its early years, agroecology's primary focus was on the farm or farm agroecosystem[2]. This approach encouraged farmers to shift away from conventional industrial farming inputs and practices (particularly fossil fuel-based chemicals and fertilizers) and toward certifiable organic production systems[5,6]. Farmers also began to restore diversity to their farming systems when it became clear that simply substituting inputs was insufficient to address the issues common to monoculture systems. Farming systems were redesigned to be resistant to these problems[2]. By the late 1990s, the definition of agroecology had expanded to include the ecology of the entire food system[2]. The agroecosystem was no longer just the farm; it had to encompass all aspects and participants in the food system since everyone eats, including the entire human race. This included the importance of re-establishing close relationships between those who grow the food and those who consume it, as well as reducing the negative effects of the intermediary system that connects the two. Agroecology evolved into a method of creating relationship-based market systems that are fair, just, and accessible to all [7].

Therefore, the definition of agroecology, according to Gliessman (2018), has evolved to the following: “agroecology is the integration of research, education, action and change that brings sustainability to all parts of the food system: ecological, economic, and social. Agroecology is transdisciplinary in that it values all forms of knowledge and experience in food system change. Agroecology is participatory in that it requires the involvement of all stakeholders from the farm to the table and everyone in between. Agroecology is action-oriented because it confronts the economic and political power structures of the current industrial food system with alternative social structures and policy action. The approach is grounded in ecological thinking where a holistic, systems-level understanding of food system sustainability is required.” (p. 599). On a

much simpler term, Pereira et al. (2018) opined that agroecology has grown in popularity over the last 50 years, but its practices "are as old as agriculture itself." Agroecology is described as a science, a movement, and a set of agricultural practices, but at its heart is the application of ecological concepts and principles to the design and management of sustainable agricultural systems[5]. Agroecology integrates the study of the entire food system, including ecological, economic, and social dimensions, and encourages practitioners to recognize system connectivity while emphasizing unique, appropriate, and context-specific solutions. Most small-scale farmers around the world practice agroecology, and they are also among the poorest in the population.

Altieri and Nicholls (2012) argued that alternative agricultural systems should be based on the diverse ecologically based agricultural approaches developed and practised by at least 75% of the world's 1.5 billion smallholders, family farmers, and indigenous peoples. These alternative farming systems, which are broadly classified as agroecology, are distinguished by the use of ecologically sound technologies, a focus on family farming and local production, low levels of external inputs, and a diverse nature. Thus, making this study significant in the context of agroecology and organic fertilizer practices. Furthermore, this study is significant for The Gambia as a developing country with 47.52 (% of total employment)[9] people deriving their employment from the agriculture sector. Thus, agroecology presents important opportunities for showcasing alternative agricultural development pathways that are contained within planetary boundaries and that demonstrate innovations that are societally desirable and ethically responsible. Moreover, Pereira et al. (2018) suggested developing countries (such as The Gambia) are uniquely positioned to establish alternative agricultural pathways that maximize livelihood creation and sustainable food production as agroecology is a more appropriate agricultural development paradigm for inclusive innovation in which the poorest and most marginalized participate and benefit from associated innovation processes[10].

Additionally, this study is significant because agroecology goes beyond the science and practice of agriculture. It is also a social movement founded on the principles of food sovereignty, ecology, sustainability, gender, justice, farmer networks, land access, resilience, and resistance[11,12]. When viewed in direct opposition to the negative effects of capital-intensive practices introduced during the so-called "Green Revolution," agroecology has grown as a social movement [5]. Agroecological practices' innovations are gaining recognition as they are guided by local knowledge and implemented through participatory methods and community engagement [13].

This study is critically important as organic fertilizer practices have received much attention in the literature. Organic amendments' impact on crop yield and soil fertility has been studied extensively around the world, and it has been identified as critical for sustainable agroecosystem management[4]. For example, Kwesiga et al. (2020) investigated the effects of repeated applications of green and farmyard manures on rain-fed rice performance in East African rural floodplain environments and discovered that both amendments resulted in a significant increase in grain yield (18-62%), with a positive residual effect on non-amended rice yield in the third year, as well as increased soil fertility. Thus, there is enough evidence available even though researchers have paid little attention to these systems – to suggest that agroecological technologies promise to contribute to food security on many levels[7]. This is particularly important for The Gambia as an agriculture-based

economy. The use of organic manure and compost has been shown to improve the soil organic matter content, water infiltration and retention, and the available water content of soils by 58–86%[15].

Organic fertilizers are materials with specific chemical composition and high nutritional value that can provide sufficient nutrients for plant growth[16,17]. Organic fertilizers were primarily created by composting animal manure, human excrement, or plant matter (such as straw and garden waste) with microorganisms that fermented at high temperatures[18]. Organic fertilizers improve soil structure, provide a variety of plant nutrients, and introduce beneficial microorganisms into the soil. Organic fertilizers are widely used in agriculture due to their benefits for soil structure and crop yield[19]. Thus, providing significance for this study. Organic fertilization practices can increase crop yields and soil quality, and combining organic and inorganic fertilizers was thought to be an effective solution for crop ecosystem sustainability.[20] Organic fertilizers can improve soil structure and fertility while also increasing soil organic carbon and other nutrients[21]. Many studies have shown that applying organic fertilizers to the soil surface can provide a rich food source for microorganisms while significantly increasing microbial community composition and diversity when compared to no application[22].

Furthermore, using organic fertilizers **altercation** exchange capacity (CEC) and increases soil moisture content, resulting in changes in soil fauna community structure and composition in acidic soils [23]. Organic fertilizers promote the formation and stability of earthworm communities due to the more stable nutrients in organic manure after aerobic fermentation[24]. Conversely, others have discovered that long-term use of chemical fertilizers can reduce soil organic matter content and change the activity of soil biota, resulting in changes in soil microbial composition and decreased soil invertebrate abundance and diversity due to environmental constraints and pH reductions [25]. The use of organic fertilizers, with a focus on renewable local or farm resources is advantageous in that it is inexpensive, improves soil arrangement, texture, and airing, increases the soil's water retention capabilities, and stimulates healthy root development[26]. In the developing world, such as The Gambia, many farmers use traditional methods that are comparable to organic farming, but are not certified. Thus, providing significance for a greater understanding of the use and application of organic fertilizer by farmers in the geographic context of this study. Hence, given the dynamic and growth trajectory of agroecological practices, this study aims to assess the current practices of the smallholder farmers in the Gambia, particularly in NBR, CRR North and South regions. Furthermore, this study aims to identify areas of improvement for agroecological practices in the study areas and by default the Gambia as a whole.

Definition

Agroecology: In this study, agroecology is defined as agroecology is the integration of research, education, action, and change that brings sustainability to all parts of the food system: ecological, economic, and social.

Organic fertilizer: In this study, organic fertilizer is defined as materials primarily created by composting animal manure, or plant matter (such as straw and garden waste) with microorganisms

that fermented at high temperatures with a specific chemical composition and high nutritional value that can provide sufficient nutrients for plant growth.

1.1 Study Objectives

The overall objection of the project is to strengthen the capacities of Civil Society Organizations (CSOs) in The Gambia to engage in policy dialogue at the national and regional levels, as well as in dialogue, implementation, and monitoring of the European Union (EU) and national development plans and programs.

The specific objectives of the project are to strengthen the research, promotion, production, marketing, vulgarisation/extension, and the use of organic fertilizers in the Gambia are strengthened and to promote the consumption of diversified food items produced using organic fertilizers. Thus, the study is significant to agroecology and the use of organic fertilizer.

The present study measured or evaluated the specific objectives by using mixed method metrics (measurement tools) of research (quantitative method) such as content content-specific reliable questionnaires (see Appendix D). Furthermore, interviews and Focus Group Discussions (FDG) (qualitative qualitative) were utilized to measure/evaluate the level of use of adoption and use of organic fertilizer. This is furthermore explained in section 2.0

1.2. Study Area

As a low-income developing country, The Gambia has poverty and unemployment rates of more than 45% and 35%, respectively. The national per capita income in 2019 was $778[27]. Access to quality education and primary healthcare remains limited across the country, though it is slightly better in cities[28,29]. According to Beyers and Wackernage (2019)[30], The Gambia has a total productive land area of 1.5 million, defined as its biocapacity with an ecological footprint of 2 million, both measured in global hectares (gha) by the Global Footprint Network" (p. 3). Furthermore, the ecological footprint measures people's demand or dependence on nature/natural capital assets and flows[30]. "A country is declared ecologically deficit when its footprint exceeds its biocapacity" (Dampha, 2021a p. 3). The Gambia was declared ecological bankruptcy in 2002, and as of 2016, the country had an ecological deficit of 547,341gha. In 2016, an average Gambian had a per capita biocapacity of 0.7gha, compared to 4gha in 1961, and an ecological or environmental footprint of 1gha [31]. Agriculture and natural resources provide a living for more than 75% of the population in The Gambia. With an increasing reliance on natural capital for consumption, income generation, and wealth accumulation, the average Gambian ecological footprint will more than double by 2050 (urban dwellers more so than rural settlers) [31]. Similarly, as the population grows, the biocapacity deficit expands exponentially. As a result, The Gambia will continue to be not only an economically indebted developing country but also an ecological debtor (importing biocapacity) from countries with natural capital reserves, known as ecological creditors[31].

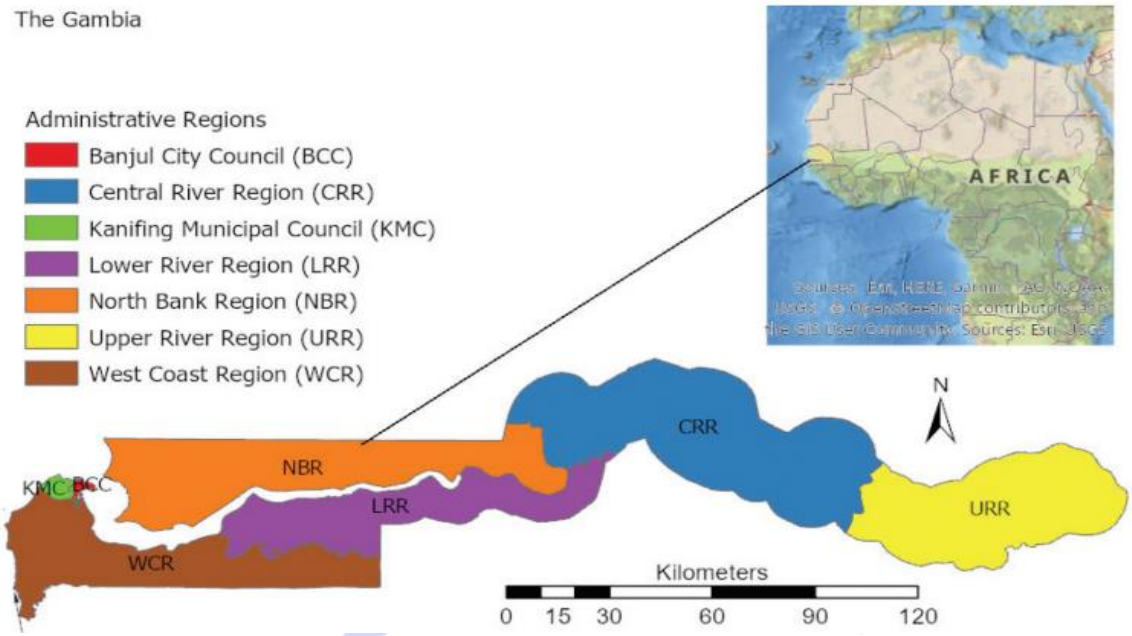
The present study areas are limited to The Gambia: North Bank Region (NBR) specifically Nuimi and Central River Region (CRR) North and South., Lower Fullado and Upper/Lower Saloum respectively. The Gambia is the smallest country in mainland Africa, covering approximately 11,000 square kilometers and bordered by Senegal on all sides except the Atlantic coast.

Administratively, the country is divided into five regions (West Coast, North Bank, Central River, Lower River, and Upper River) and two municipalities (Banjul and Kanifing) [32]. The Gambia is a low-income West African country where agriculture is practised by two-thirds of the population. Peanuts are the primary export crop, while rice, millet, and sorghum are traditionally grown for food. Over the second half of the twentieth century, The Gambia became increasingly reliant on rice as a dietary staple, but the country's farmers were unable to increase their market share of the burgeoning urban rice demand[33]. Socioeconomically, the regions of The Gambia are not dissimilar. Thus, there are shared geographical and socio-economic characteristics among regions of The Gambia except for the West Coast Region (WCR) which is closer to the Atlantic Ocean and therefore has a different typological weather indicative of coastal regions. Generally, CRR is further east of the Gambia often referred to as rural Gambia. Similarly, the NBR region is in the north of the Gambia. The CRR is made up of ten local administrative districts, each headed by a District Chief named Seyfo. According to the 2013 census, The Gambia's Central River Region has 226,018 inhabitants (Gambia Bureau of Statistics (Gbos), 2013). The area has good soil structure and fertility, as well as some vegetative cover when compared to the rest of the country, particularly in the north [35]. Almost all CRR residents rely on agriculture, either directly or indirectly, and poor or failed harvests pose a serious threat to the region's food security. Because of region has approximately 105 horticultural marketing federations, the region was chosen as the subject of this study. As previously stated, NBR is not dissimilar to CRR. Thus, NBR has 68 marketing federations chosen to participate in this study. (See Table 1 below)

Table 1: Study Areas

NO.	Area	# of Federation	Population
1	NBR	68	10463
2	CRR-South	41	6308 estimated
3	CRR-North	64	9847 estimated
	Total		**26618**

Source: Field data (2024). See below in section 3.1.2 Sampling



Source: Dampha (2021) [36] Figure 1

When compared in agricultural terms the NBR and CRR are not dissimilar. However, in marketing federation terms, the CRR region has 105 federations comprising an estimated 16,155 members whereas the NBR region has 68 federations with 10463 members. This comparison is important for the discoveries that the present study may obtain in both regions. Because CRR has a significant number of small-scale farmers than NBR, this study has a greater opportunity to discover more interesting findings and opportunities in CRR. Similarly, the present study has a greater opportunity to access members of the federations in CRR than NBR. Conversely, because of the smaller study area in NBR, the study may experience fewer challenges accessing study participants in NBR. (see Section 5.3)

2.0 BASELINE SURVEY METHODOLOGY

2.1Study Design:

The present baseline study adopted a mixed-methods approach, combining both quantitative and qualitative methods to gather a holistic understanding of agroecology and organic fertilizer practices in The Gambia, and drawing data from horticultural marketing federations in NBR and CRR (North and South). Studies of farming systems with similar objectives to the current study used typological analysis to classify prevailing practices among farmers and identify farmer characteristics that determine their proclivity to engage in those sets of practices[37]. Such analyses typically use multivariate statistical approaches with a variety of techniques[38]. The most commonly used techniques in this regard are factor analysis (FA), principal component analysis, and cluster analysis[39]. The usefulness of each of these techniques is situation-dependent. In the present study, we defined organic fertilizer descriptively as a set of related decisions/actions that a farmer takes at the household level to obtain the input for use/practice. From the literature, we identified a

universal set of observable organic fertilizer use decisions to support possible sub-sets of decisions by farmers in the study area. Since there is no prior information about how farmers make organic fertilizer decisions, we could not assume any number or nature of expected factors. Hence, the present study applied exploratory factor analysis on observed decisions/actions of farmers to identify common factors such as agroecological and organic fertilizer practices. Thus, based on the objectives of the study, the nature of the study was exploratory. Hence the study adopted an exploratory research design using a micro survey (questionnaire and focus group discussions). The study was conducted in three main phases: preparatory phase (1), data collection phase (2), and data analysis phase.

Phase 1: Training and Pilot. April 27, 2024

Table 2: List of participants in the preparatory training at CepRass

No.	Name	Orgnization	Function
1	Fatou Cham	CepRass	Coordinator
2	Dr. Morro Kurubally	CepRass	Facilitator
3	Dr. Faye Jerreh Manneh	CepRass	Facilitator
4	Dr. Banna Sawaneh	CepRass	Facilitator
5	Lamin Dampha	CepRass	Facilitator
6	Bakary Njie	Albreda Ecozone	Data Collection
7	Alasan Sabally	Jameng Apex	Data Collection
8	Demba Sey	Kaur Apex	Data Collection
9	Amat Mbaye	Kudang Apex	Data Collection
10	Cherno Omar Bah	Kerr Cherno Ecozone	Data Collection
11	Mabirang Sanneh	Pinai	Data Collection
12	Mbye Lowe	CepRass	Data Manager

Source: CepRass (2024)

The names listed in Table 2, participated in a preparatory training for the data collection team for the present baseline study. The training lasted for 8 hours during which the training addressed a myriad of issues including and not limited to the following:

1) Introduction to the study (The purpose of the study)
2) Understanding the subject matter of the study
3) Understanding the content of the study
4) Understanding the objectives of the study
5) Understanding the role of the data-collecting team
6) The role and function of CepRass
7) The responsibility of every participant (team member)
8) Understanding the study tools (questionnaires)
9) Conducting content and face validity of the questionnaires
10) Understanding the data collection software and tablets
11) The importance of teamwork
12) The importance of interpersonal skills
13) Appropriate interface with the local people

14) Ethics in data collection
15) Importance of effective communication
16) Time management etc.

2.2 Sampling

The present study collected data from members of horticultural marketing federations in NBR and CRR (North and South). From reliable sources, NBR has 68 horticultural marketing federations in various districts of the region with a total membership of 10,463. CRR-North has 64 horticultural marketing federations with an unknown membership count. Similarly, CRR-South has 41 marketing federations with an unknown membership count. Thus, the use of a conventionally approved sampling method would require knowing the total population of the marketing federations in the study area. For convenience, this study estimated the membership for CRR-North and CRR-South. As such the count of NBR federations with 10,463 was used as a baseline to determine the count for CRR-North and CRR-South. Thus: The formula used was percent (%) to calculate and determine the estimated membership count for CRR-North and CRR-South (See below)

64 is 94.1176% of 68= 94.117% of 10463=9847 (CRR-North)

41 is 60.29% of 68=60.29% of 10463= 6308 (CRR-South)

Based on the percent calculations, the total count for the study population equals:

NBR= 10,463

CRR-North= 9847

CRR-South= 6308

Total: 26618 (See Table 1 above)

Table 3: Proportionate distribution of respondents

Region	Share	Percentage Share (%)
NBR	10,463	39.
CRR-North	9847	37.
CRR-South	6308	24
Total	**26618**	**100**

Source: Author's Computation from Field data (2024)

However, because of the anticipated difficulty in mobilizing and reaching members of the horticultural marketing federations in remote and hard-to-access places in NBR and CRR coupled with limited resources and time, the present study was supplied with a list of representatives of the

horticultural marketing federations in NBR and CRR-North and South with a count of 173 representatives (See Appendix C).

Table 4: Number of Representatives per region

NO.	Region	No. Representatives
1	NBR	68
2	CRR-North	64
3	CRR-South	41
	Total	**173**

Source: Field data (2024)

2.3 Sampling Frame

The sampling for the present research was based on non-probability sampling. Non-probability or judgmental sampling consists of the following: purposive sampling, convenience sampling, and self-selection sampling. In the case of non-probability sampling, the units have minimal likelihood of being chosen as a sample subject[40]. In addition, if time and resources are minimal, non-probability sampling is the best choice to be used for research purposes. Thus, this baseline study was conducted using convenience sampling for lack of sufficient resources and time. The difficulty in accessing the list of representatives of the horticultural marketing federations (Appendix C) warranted the use of convenience sampling. Moreover, these representatives are a sufficient representation of the marketing federation membership in NBR and CRR regions. Moreover, the non-probability sampling approach was the most appropriate for the present baseline study because of the availability of information (list of representatives of the horticultural marketing federations). Furthermore, non-probability sampling is more cost-saving and time-effective[41]. In addition, in recent times, the number of surveys being conducted to answer international agricultural and extension education research questions has increased dramatically with non-probability sampling becoming much more common [42].

The present study was only able to access the list of horticultural marketing federation representatives in NBR and CRR-North and South (See Appendix C). Thus, the present study accessed 173 members of the horticultural marketing federations thus representing the sample size of the study. Sample distribution was calculated based on the proportionate-to-size method: (sample size/population size x federation size). The membership of each of the horticultural marketing federations was calculated based on the number of representatives on the list provided. Table 5 depicts the number of questionnaires that were sent to each horticultural marketing federation; 68 copies of questionnaire were distributed among NBR marketing horticultural federation representatives; 64 copies of questionnaire were distributed among CRR-North horticultural marketing federation representatives, and 41 copies of questionnaire were distributed among the representatives of CRR-South horticultural marketing federation; making a total number of 171 copies of questionnaire, which represented the horticultural marketing federations in The Gambia.

The present study's unique circumstances warranted the use of convenience sampling for the ease of access to the selected participants of the marketing federation members of NBR, CRR-North, and South. Given the characteristics nature of small-scale farmers and horticulturists and the shared geographical locations and practices in the Gambia, the present participants are undoubtedly quite representatives of the Gambia population. Thus, the selected sample for the present study is appropriate for the general representation of the Gambian population and for achieving the objectives of the study.

Table 5: Number of Questionnaires Proportioned by Representatives

Region	Percentage Share (%)	No of Questionnaires
NBR	39	68
CRR-North	37	64
CRR-South	24	41
Total	**100**	**173**

Source: Author's Computation from Field data (2024)

2.4 Qualitative Data Collection

2.4.1 Stakeholder Identification

In addition to the administration of questionnaires for quantitative data, key stakeholders involved in agroecology and organic fertilizer production, distribution, and utilization were identified for the conduct of focus group discussions (FGDs) using purposive sampling. The stakeholders identified include farmers, agricultural extension workers, government agencies, NGOs, and private sector entities. The following list of stakeholders is identified below but not exhausted.

1. CSOs (Civil Society Organizations)
2. Community Gardeners
3. Community “Kafos” (horticultural groups) in rural and semi-urban Gambia
4. Government agencies and affiliates etc.

The FGD captured qualitative insights relevant to the baseline survey objectives. An FGD guide was developed in consultation with the AAITG EU Project Team. This guide facilitated comprehensive discussions covering all aspects pertinent to the baseline survey objectives, comprising both leading and probe questions to extract insights from stakeholders regarding policy, agroecology, organic fertilizer production and usage, market dynamics, and technological advancements in organic composting, aligning with the focus areas of the baseline survey.

The FGDs were facilitated by moderators, with a dedicated notetaker for each FGD session. Three teams were formed and evenly distributed across the study sites. Each team comprised a moderator (researcher) and a notetaker (enumerator), totalling six (6) qualitative data collectors. Additionally, a qualitative field coordinator was appointed to oversee the qualitative

data collection process. The duration of qualitative data collection was 10 days. Before field deployment, a comprehensive two-day training session was conducted to familiarize data collectors with the questionnaire and FGD Guide and train them on their administration. On the final day of training, a pretest of the tools was conducted by each team, with observations incorporated into the final questionnaire. During interviews and discussions, responses were audio-recorded in a language understood by all participants.

2.5 Data Analysis

Simple descriptive statistics were deployed. This included central tendency measures (mean, median, mode), and standard deviation, which were used were relevant. Content and thematic analysis were applied in analyzing FGDs. Following data collection, audio recordings were transcribed and analyzed using content and thematic analysis. The analysis focused on identifying key themes and insights relevant to the research objectives.

2.6 Ethical Considerations

Prior informed consent was obtained from all participants before their involvement in the study. *Confidentiality of participants*' information was ensured, and data will be anonymized during analysis and reporting. *Cultural sensitivities and norms* were respected throughout the research process to ensure the dignity and well-being of participants.

2.7 Quality Assurance

Enumerators were rigorously trained in data collection techniques, ethical considerations, and the use of data collection tools to ensure consistency and accuracy in data collection. Data collection tools were pilot-tested in a small sample of participants to identify and address any issues or ambiguities before full-scale implementation. Field supervisors provided regular supervision and support to enumerators during data collection to ensure adherence to protocols and quality standards.

3.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS

3.1 Baseline Survey Results on Socio-Demographic Characteristics of Respondents

3.1.1 Gender Distribution

The gender distribution in the sample population shows a significant imbalance. Of the 173 participants, only 6% are male, while a vast majority (94%) are female. This indicates a predominant female involvement in the context of agroecology, organic fertilizer production and usage, reflecting gender-specific roles in agricultural activities within the community.

3.1.2 Education Status

The literacy rate among the survey participants is relatively low. Only 21% of the respondents are literate, while the remaining 79% are not. This high rate of illiteracy may impact the community's ability to access and implement advanced agricultural techniques and information related to agroecology and organic fertilizer production.

3.1.4 Marital Status

A significant majority (90%) of the participants are married, while 9% are widows and only 1% are single. The high percentage of married individuals suggests that family structures and household responsibilities are integral to agricultural activities in these communities.

3.1.5 Community-Based Organization Membership

All participants (100%) are members of community-based organizations. This unanimous participation underscores the importance of collective action and community involvement in agroecological practices, and organic fertilizer production and usage.

3.1.6 Level of Education

Among the participants with some form of education, the majority (49%) have primary education, followed closely by secondary education (46%), and a small fraction have tertiary education (5%). This distribution indicates that while there is some level of basic education among the respondents, higher education levels are rare, which might affect the adoption of more sophisticated agricultural practices.

3.1.7 Age Category

The age distribution of participants is varied. The age group category of 45-54 years represents the largest segment at 38%, followed by those above 54 years at 30%, ages 35-44 at 27%, and the 25-34 age group at 5%. This indicates that middle-aged and older individuals are primarily involved in agroecology, and organic fertilizer production and usage possibly due to their experience and established roles in agriculture.

3.1.8 Local Government Area

Participants come from various local government areas, with 39% from NBR, 36% from CRR North, and 25% from CRR South. This distribution shows a balanced representation of different regions, which can provide a comprehensive understanding of regional differences in agricultural practices and challenges.

Table 6: Socio-Demographic Characteristics of Respondents

Gender	**Freq.**	**Mean**	**SD**
Male	173.00	0.06	0.23
Female	173.00	0.94	0.23
Education Status	**Freq.**	**Mean**	**SD**
Literate	173.00	0.21	0.41
Notliterate	173.00	0.79	0.41
Ethnicity	**Freq.**	**Mean**	**SD**
Mandinka	173.00	0.49	0.50
Fula	173.00	0.17	0.38
Wollof	173.00	0.28	0.45
Serahuleh	173.00	0.02	0.13
Serrer	173.00	0.01	0.11
Others_eth	173.00	0.03	0.18
Marital Status	**Freq.**	**Mean**	**SD**
Single	173.00	0.01	0.08
Married	173.00	0.90	0.30
Widow	173.00	0.09	0.29
Community-Based Organization	**Freq.**	**Mean**	**SD**
community_based_organi	173.00	1.00	0.00
Level of Education	**Freq.**	**Mean**	**SD**
Primary	37.00	0.49	0.51
Secondary	37.00	0.46	0.51
Tertiary	37.00	0.05	0.23
Age Category	**Freq.**	**Mean**	**SD**
25-34	173.00	0.05	0.21
35-44	173.00	0.27	0.45
45-54	173.00	0.38	0.49
Above 54	173.00	0.30	0.46
Local Government Area	**Freq.**	**Mean**	**SD**
NBR	173.00	0.39	0.49
CRR_North	173.00	0.36	0.48
CRR_South	173.00	0.25	0.43

Source: Baseline Survey data (2024)

The baseline survey data on socio-demographic characteristics of respondents reveal key insights into the communities' involvement in agroecology, and organic fertilizer production and usage. The significant female involvement, high illiteracy rates, diverse ethnic composition, predominance of married individuals, and widespread participation in community-based organizations highlight the social and cultural dynamics that influence agricultural practices. The

age and education level distributions indicate that while experience plays a crucial role, there is a need for educational initiatives to enhance agricultural knowledge and skills. Lastly, the representation from various local government areas ensures that the study captures regional variations in agro-ecological practices, and organic fertilizer production and usage

4.0 BASELINE SURVEY FINDINGS ON KEY PERFORMANCE INDICATORS (KPIs)

This sub-section reveals key insights from the baseline survey findings. It reports on the initial indicators of the project. The report focused on a set of seven (7) key indicators derived from the project log frame and documents. Below is a list of the main KPIs:

i. Attainment of the objectives of key national policies (i.e., NDP (2023 - 2027), and the
ii. ANR Policy (2017 - 2026).
iii. Number of women and youth producing and using organic fertilizers.
iv. Number of women and youth CSOs engaged in advocacy and policy dialogues about agroecology and organic fertilizers.
v. Number of youth, extension workers, disabled and CSOs trained in circular economy (waste to cash), agroecology and organic fertilizer marketing and use (disaggregated by region and gender).
vi. Number of farmer-to-farmer study tours and exchange visits conducted, and profile of study tour participants.
vii. Number of women's gardens using inputs provided by the action (e.g. quality seeds and organic fertilizers), infrastructure (fencing, boreholes, and solar irrigation systems), and tools (e.g., watering cans, rakes, shovels and mobility).

4.1 Attainment of the Objectives of Key National Policies (i.e., NDP (2023 - 2027), and the ANR Policy (2017 - 2026)

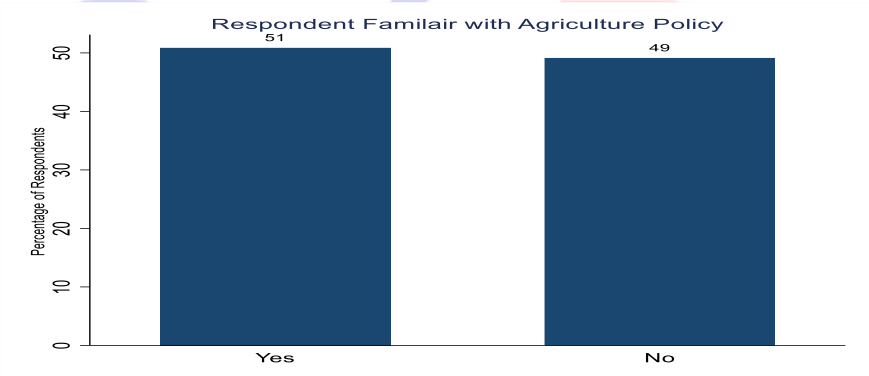
Policy awareness is critical to understanding the sort of regulatory provisions and framework in existence that promote and develop agroecology and organic fertilizer production and usage. This policy awareness is key in assessing the extent to which the ANR and NDP Policy objectives are achieved. The baseline survey results on agroecology and organic fertilizer production reveal that, 51% of respondents reported familiarity with the existence of agricultural policy objectives, while 49% were not familiar. This indicates a moderate level of awareness within the surveyed communities but also highlights that a significant portion lacks essential policy knowledge on assessing the attainment of NDP and ANR policy objectives.

The inadequacy of awareness among 49% of respondents underlines the need for increased education, awareness creation, and training in relevant agroecology and organic fertilizer production and usage. Workshops, informational sessions, advocacies, and continuous support from agricultural extension services are necessary to ensure all community members understand relevant policies. Enhanced policy literacy can help farmers leverage available resources and comply with beneficial regulations. Familiarity with agricultural policies is crucial for implementing best practices in agroecology and organic fertilizer production and usage. Those aware of policies are better positioned to adopt sustainable practices, access support, and

participate in policy dialogues. Conversely, those unaware may miss opportunities or fail to comply with beneficial regulations. CSOs and CBOs can play a pivotal role in bridging this knowledge gap by disseminating policy information and fostering discussions on policy impacts. This community-centric approach can enhance collective understanding and improve policy implementation at the grassroots level.

The split in awareness also suggests differences in engagement and participation in agricultural policy advocacy. Familiar individuals might be more active in advocacy efforts, while those unfamiliar may be less engaged. Strengthening policy awareness can increase the community's advocacy capacity, leading to better representation in policy-making processes. The near-even division in familiarity with agricultural policies among respondents indicates a critical need for intervention. Targeted educational initiatives can strengthen awareness and understanding of agricultural policies, enhancing the community's ability to engage in sustainable agricultural practices. Community-based organizations are essential in facilitating this knowledge transfer, ensuring all members are informed and empowered to benefit from and contribute to agricultural policy frameworks. (See, Figure 1)

Figure 1. Repondents familiard with Agriculture Policy



Source: Survey data (2024)

4.2 Number of women and youth producing and using organic fertilizers

The study findings reveal that 82% of the respondents collectively reported producing organic fertilizer, indicating a substantial portion of participants engaged in this practice. However, 18% indicated they did not produce organic fertilizer, suggesting a minority within the sample may rely on alternative fertilization methods or sources. Participants were allowed to select multiple options regarding the types of organic fertilizers produced. Among the respondents who produced organic fertilizer, the majority (94%) reported producing compost, highlighting its prevalence as a favored choice among farmers. Additionally, 18% indicated cow dung production, suggesting its significance as another common organic fertilizer source. Other types of organic fertilizers reported include poultry waste (11%), fermented fish fertilizer (4%), lime (4%), and miscellaneous options (1%).

These findings carry several implications for agricultural practices and resource management:
The multi-select nature of the question underscores the diversity in organic fertilizer sources utilized by farmers. While compost is predominant, the inclusion of other materials like cow dung, poultry waste, fermented fish fertilizer, and lime reflects the range of resources available and the adaptive strategies employed by farmers. The high percentage of respondents producing compost highlights its importance in sustainable agriculture. Composting not only helps in recycling organic waste but also enriches soil fertility, promotes microbial activity, and reduces the reliance on chemical fertilizers, thereby contributing to environmental sustainability. Overall, the results underscore the importance of organic fertilizer production in agricultural sustainability and highlight opportunities for further research, education, and policy interventions to support farmers in optimizing organic farming practices.

Figure 2. Method of producing organic fertilizer

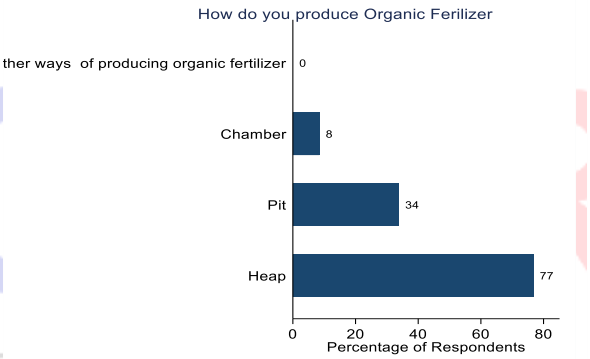
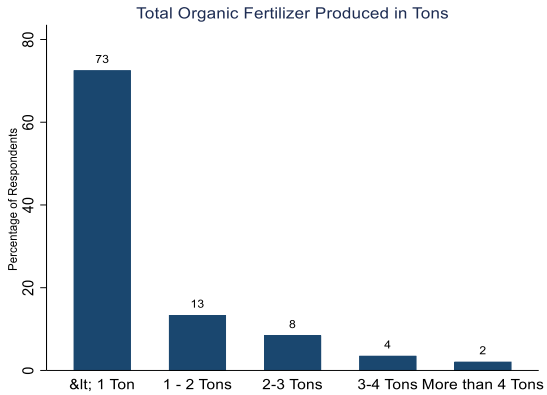


Figure 3. Tons of fertilizer produced



The findings on the production methods and total quantities of organic fertilizer among the respondents provide valuable insights into the practices and capacity of the community in organic farming. When asked about their methods for producing organic fertilizer, most of the respondents (77%) indicated that they use the heap method. This suggests that heap composting is the most popular and possibly the most accessible method among community members. Additionally, 34% of respondents use the pit method, while 8% utilize chambers for producing organic fertilizer. No respondents reported using other methods. (See Figure 2) Regarding the total quantity of organic fertilizer produced, about:

i. 73% of respondents produce less than 1 ton;
ii. 13% produce between 1 and 2 tons;
iii. 8% produce between 2 and 3 tons;
iv. 4% produce between 3 and 4 tons; and
v. 2% produce over 4 tons. (See Figure 3)

The dominance of the heap method indicates a preference for its simplicity and perhaps a lack of resources or knowledge about other methods. Heap composting is typically easier to set up and manage, making it accessible to many farmers. However, it may also indicate an opportunity for

training on more efficient or effective methods like pit or chamber composting, which might offer better control over the composting process and potentially higher quality compost.

The fact that 73% of respondents produce less than 1 ton of organic fertilizer highlights a limited production capacity. This could be due to constraints such as limited availability of organic materials, space, or knowledge on scaling up production. Efforts to enhance the production capacity could include providing additional resources, education on efficient composting techniques, and support for scaling up operations.

The variability in production levels, with a small percentage producing significantly higher quantities (over 4 tons), suggests that some individuals or groups have access to more resources or more efficient production techniques. Understanding and replicating these practices could help increase overall production levels within the community.

The baseline survey results on organic fertilizer production methods and quantities among respondents point to a reliance on traditional heap composting and indicates varying levels of production capacity. By addressing the limitations in production methods and capacity, and fostering knowledge exchange within the community, there is significant potential to enhance the overall production of organic fertilizers. This, in turn, can lead to improved agricultural sustainability and productivity.

Figure 4. Total organic fertilizer produced in tons

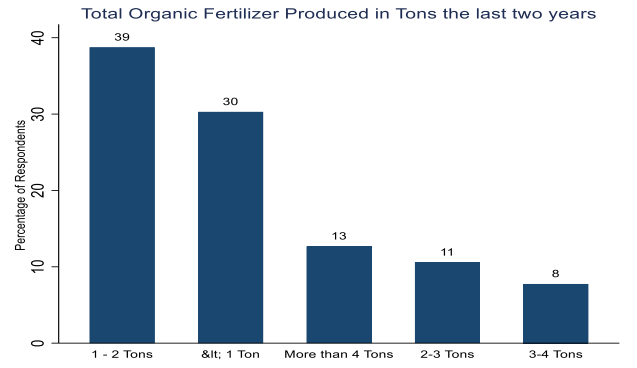
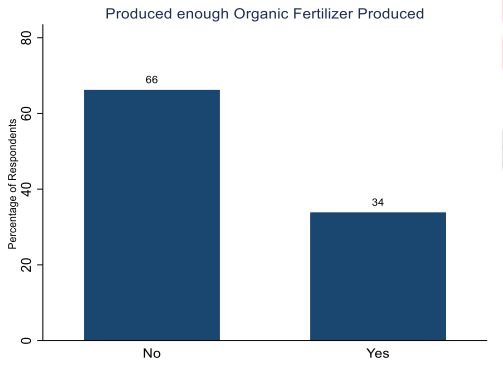


Figure 5. Produce enough organic fertilizer



The respondents provided insights into the total organic fertilizer produced over the last two years. The following distribution of organic fertilizer production quantities shows that about

i. 30% of respondents produced less than 1 ton;

ii. 39% produced between 1 and 2 tons;

iii. 11% produced between 2 and 3 tons;

iv. 8% produced between 3 and 4 tons; and

v. 13% produced over 4 tons. (See Figure 4)

Additionally, when asked if they produced enough fertilizer, 34% of respondents said yes, while 66% said no. (See Figure 5) The distribution of production quantities shows that a significant

portion of respondents (39%) produced between 1 and 2 tons, indicating this is a common production range within the community. However, a substantial number of respondents (30%) are producing less than 1 ton, suggesting that many farmers are operating at a very small scale. The fact that 66% of respondents reported not producing enough fertilizer indicates a significant shortfall in meeting their agricultural needs. This shortfall could be due to several factors, including limited resources, inadequate knowledge of efficient composting techniques, or constraints in the availability of organic materials.

The findings reveal that while some farmers are producing substantial amounts of organic fertilizer, the majority are not meeting their needs, with 66% of respondents indicating they do not produce enough fertilizer. This highlights a critical area for intervention. By focusing on training, resource allocation, and sharing best practices, the community can work towards increasing organic fertilizer production. This will not only help meet the immediate needs of the farmers but also promote long-term sustainability and productivity in their agricultural practices.

Figure 6. Organic improve firm output

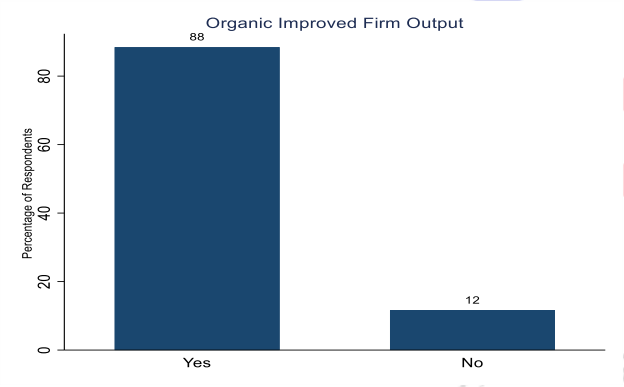
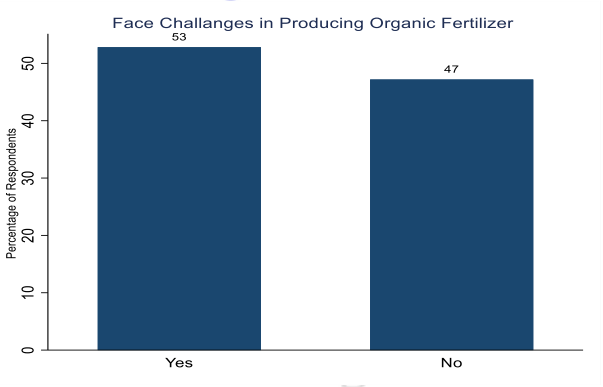


Figure 7. Face challenges in producing organic fertilizer



In addition, most (88%) of the respondents indicated that the application of organic fertilizer has improved the yield of their farm produce compared to inorganic fertilizer. This suggests that organic fertilizers are effective in enhancing crop production and may offer a sustainable alternative to chemical fertilizers. Only 12% of respondents did not observe an improvement, which could be due to various factors such as improper application methods, soil conditions, or specific crop requirements. (See Figure 6)

When asked about challenges in producing organic fertilizer, 53% of respondents reported facing difficulties, while 47% did not. (See Figure 7).

4.3 Number of women and youth CSOs engaged in advocacy and policy dialogues about agroecology and organic fertilizers

The results reveal that collectively 45% of the participants have taken part in policy dialogues, while 55% have not. (See figure 8) The participation rate of 45% suggests that a significant portion of the community-based organization members are engaged in policy discussions, indicating a proactive approach to understanding and influencing agricultural policies. However, the fact that 55% have not participated highlights a gap in engagement that needs to be addressed. Of the above

collective figures, 47% were female CSOs who participated in advocacy and policy dialogues, while 25% were male CSOs. (See figure 9)

Figure 8. Respondents participated in policy dialogue

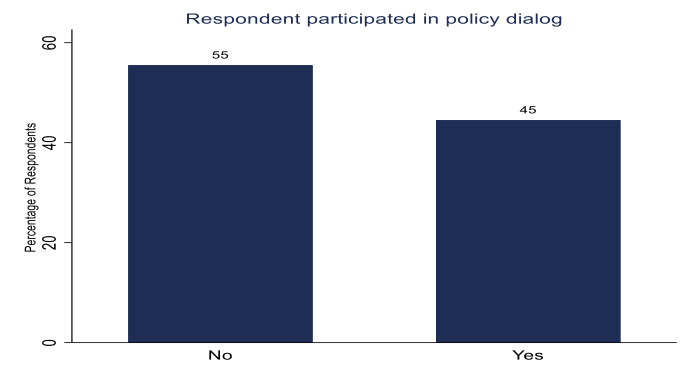
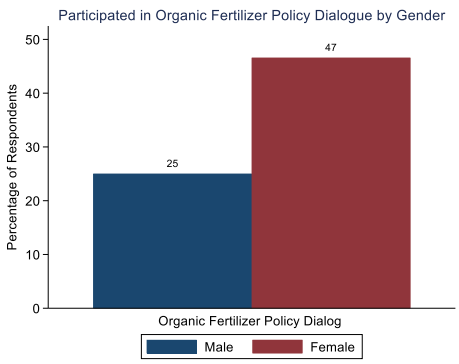


Figure 9. Participate by gender



To bridge this gap, there is a need for targeted educational, advocacy and outreach programmes to encourage broader participation in policy dialogues. CSOs/CBOs and agricultural extension services could play a crucial role in facilitating access to these dialogues and motivating more members to get involved. Participation in policy dialogues is crucial for implementing best practices in agroecology and organic fertilizer production. Those involved in these discussions are better positioned to understand and adopt new policies, access support, and influence future policy directions. Increasing the number of participants can lead to more comprehensive and inclusive policy formulation and implementation. These organizations can act as catalysts for increasing participation in advocacy and policy dialogues by providing information, organizing events, and creating opportunities for community members to engage in meaningful discussions about agricultural policies. By doing so, they can enhance the overall advocacy capacity of the community and ensure that diverse voices are heard.

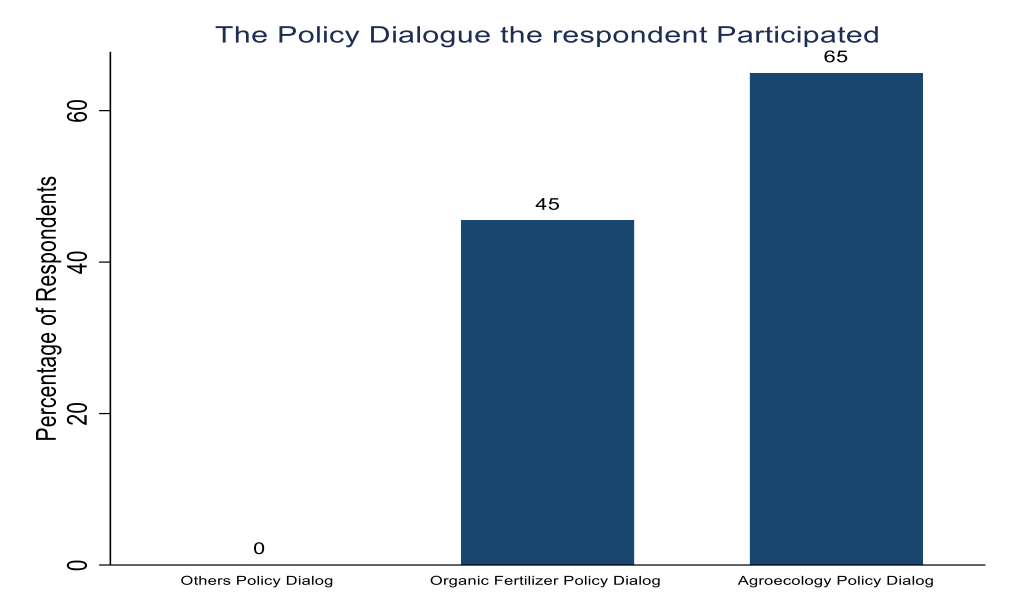
Among the respondents who reported participating in advocacy and policy dialogues, 45% indicated their involvement. Out of this subset, the distribution of participation across different topics was as follows: 65% focused on agroecology, 45% on organic fertilizer, and none on other topics. It's important to note that this question allowed for multiple selections, indicating that respondents could have participated in discussions covering more than one topic. The majority of respondents who engaged in policy dialogues chose to participate in discussions related to agroecology (65%). This emphasis suggests a strong interest and recognition of the importance of sustainable agricultural practices within the community. Agroecology, which promotes environmentally friendly farming methods, appears to be a priority area for policy engagement among participants. (See Figure 10)

Nearly half of the respondents participating in advocacy and policy dialogues (45%) focused on discussions concerning organic fertilizer. These findings underscore the growing awareness and interest in organic farming practices, which prioritize the use of natural inputs and environmentally sustainable approaches to soil fertility management. The high level of engagement in organic

fertilizer discussions reflects a recognition of its potential benefits for soil health, crop productivity, and environmental conservation. (See Figure 10)

However, none of the respondents participating in advocacy and policy dialogues chose topics outside of agroecology and organic fertilizer. This indicates a specific and targeted interest among participants, with a clear preference for issues directly related to sustainable agriculture and soil fertility management. The absence of engagement in other topics suggests that community priorities and concerns may be predominantly centered on sustainability and agriculture and environmental stewardship.

Figure 10. Respondents participated in policy dialogue



4.4 Number of youths, extension workers, disabled and CSOs trained in circular economy (waste to cash), agroecology and organic fertilizer marketing and use (disaggregated by region and gender)

4.4.1 Training in Organic Fertilizer Marketing and Processing

A significant majority of respondents (62%) reported having received training on organic fertilizer production, while 38% had not (See Figure 11). The specific areas of training included:

- Compost making: The most common training received, with a considerable number of respondents (41.67%) indicating this type of training.
- Agroecology, Climate Resilient Sustainable Agriculture, and Compost processing were also noted, though less frequently.

This indicates that while a good proportion of the community has been trained in organic fertilizer production, there remains a substantial minority who have not received any training. This gap

presents an opportunity for further educational initiatives to ensure broader dissemination of knowledge and skills related to organic fertilizer production.

The baseline survey data reported having received training in organic fertilizer marketing and processing:

i. **Organic Fertilizer Marketing**: Only 7% of respondents had received training on marketing organic fertilizers, highlighting a significant knowledge gap that could hinder the commercialization and broader adoption of organic fertilizers.

ii. **Organic Fertilizer Processing**: 29% of respondents received training in processing organic fertilizers, indicating a moderate level of awareness and skill in this area. Specific trainings mentioned include compost making and processing (See Figure 12)

Figure 11. Respondents received training

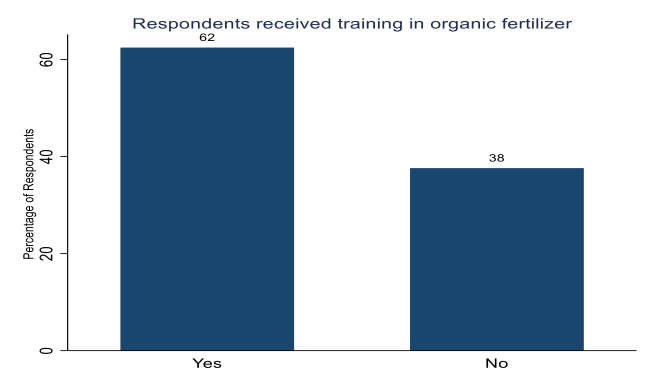
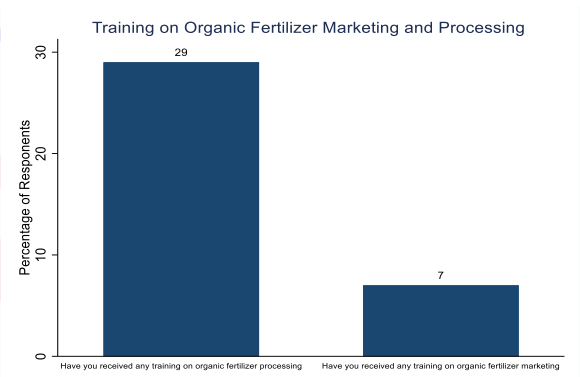


Figure 12. Training in marketing and processing



The analysis underscores the importance of expanding training programs, providing support, and developing markets for organic fertilizer production and use. By addressing these areas, CSOs, CBOs and agricultural projects can significantly enhance the adoption and effectiveness of organic fertilizers, leading to more sustainable agricultural practices and improved farm productivity.

4.4.2 Training Received and Practices in Sustainable Agriculture

The baseline survey findings reported having received training in circular economy, agroecology, climate resilience and sustainable agriculture:

i. **Circular Economy:** only 3% of respondents have received training in the circular economy within the past two years, highlighting a significant gap in knowledge regarding this critical area. (See Figure 13)

ii. **Agroecology:** about 65% of respondents have not received any training on community-based forest management or agroforestry, indicating a need for more educational programs in these fields. (See Figure 14)

iii. **Climate Resilience and Sustainable Agriculture (CRSA):** 35% of respondents have received training on CRSA, while 65% have not, suggesting that while some exposure exists, it is not yet widespread. (See Figure 15)

iv. **Trained on Negative Effects of Inorganic Fertilizer:** 51% of respondents have received training on the negative effects of inorganic fertilizer on the environment. (See Figure 16)

Figure 13. Receiving training on circular economy

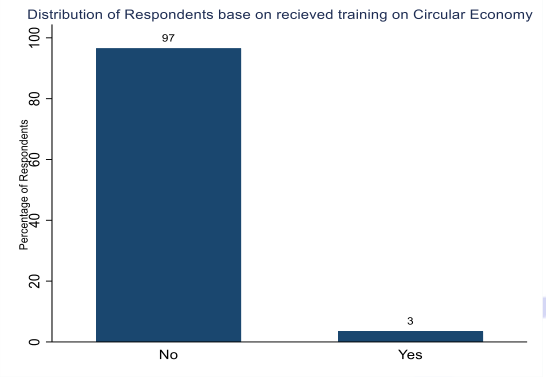


Figure 14. Trained on Agroecology

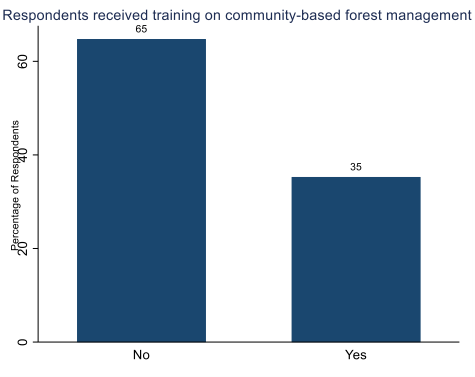


Figure 15. Trained on CRSA

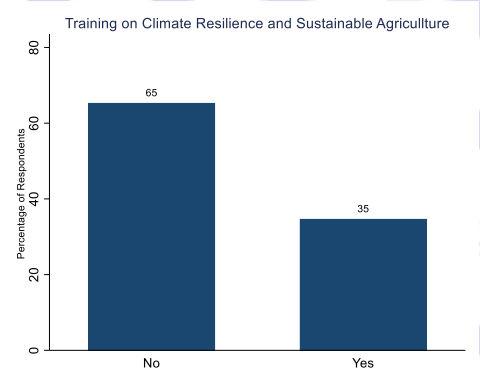
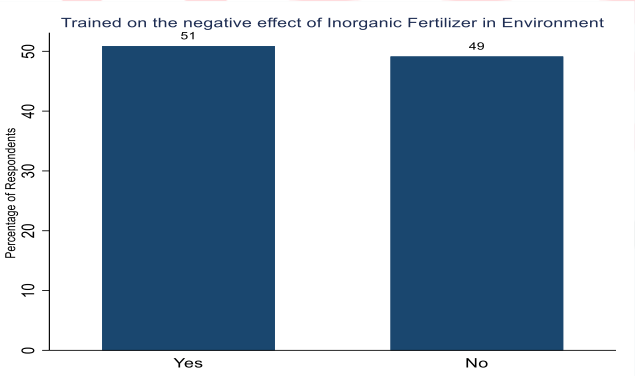


Figure 16. Trained on negative effects



- The data reveals significant gaps and opportunities in the areas of training and support for sustainable agricultural practices. While a majority of respondents prefer organic fertilizers due to their benefits for soil fertility, crop yield, health, and cost-efficiency, there is a clear need for more comprehensive training and support programs. Enhancing awareness and practices related to the circular economy, agroecology, and the negative impacts of inorganic fertilizers, as well as promoting rainwater collection, waste recycling, and biological pest control methods, could significantly contribute to more sustainable agricultural systems. Additionally, increasing access to community-based resources and support from projects can bolster the adoption of these practices.

The qualitative analysis from focus group discussions on training in organic fertilizer production and use shows the following results:

i. ***Compost Maki*ng**: the analysis from FGDs reported that the most frequent training was in composting, with multiple mentions included various centers such as Njawara Agricultural Training Center and under different projects like NEMA and WFP.

ii. ***Agroecology****:* a small number of respondents received training in agroecology, indicating a broader approach to sustainable agricultural practices.

iii. Other trainings mentioned were specific to locations and projects, reflecting a diversity of sources providing these educational opportunities.

4.4.3 Training in Organic Fertilizer Processing

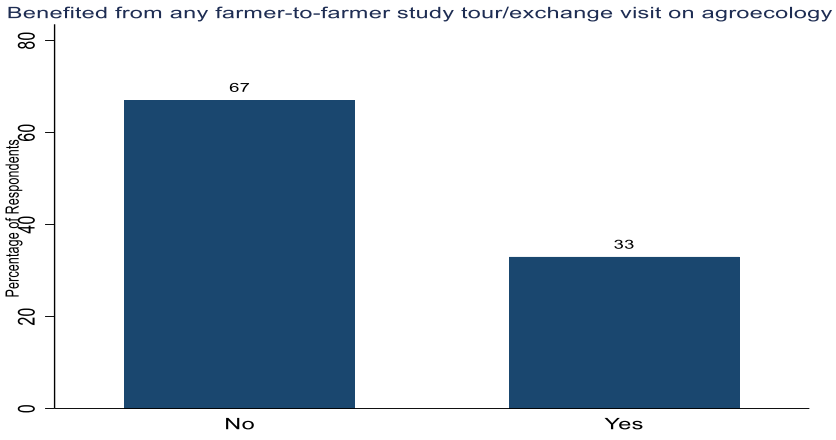
i. **Organic fertilizer processing**: the FGDs indicate that most of the training in organic fertilizer processing equally focused on compost, indicating a strong emphasis on this method of organic fertilizer production.

ii. **Agroecology** and specific project-based training (e.g., FAO, WakomWACOMP project) were less common but still notable.

4.5 Number of farmer-to-farmer study tours and exchange visits conducted, and profile of study tour participants

The baseline survey results reveal that 67% of the participants have not taken part in any farmer-to-farmer study tours and exchange visits conducted, while 33% have participated. The non-participation rate of 67% suggests that a significant number of the respondents have not participated in farmer-to-farmer study tours and exchange visits, indicating the need to organize and increase the number of study tours and exchange visits. However, the 33% participation rate underscores a gap in farmer-to-farmer study tours and exchange visits which needs to be addressed. (See Figure 17)

Figure 17. Benefited on farm to farm study



4.6 Number of women's gardens using inputs provided by the action (e.g. quality seeds and organic fertilizers), infrastructure (fencing, boreholes, and solar irrigation systems), and tools (e.g., watering cans, rakes, shovels and mobility)

The analysis of the availability of tools and infrastructure for gardening and farming activities indicates significant accessibility challenges. With 32% of respondents stating that these tools are "Not very accessible" and 28% saying "Not accessible at all," over half of the participants face difficulties in accessing necessary resources. Only a small proportion finds them "Easily accessible" (16%), "Somewhat accessible" (12%), or "Moderately accessible" (12%), highlighting a disparity in resource distribution. (See Figure 18)

Regarding the effectiveness of garden tools, opinions vary widely: 39% rate them as "Poor," 31% as "Fair," 29% as "Average," and only 11% as "Good." This suggests that even when tools are accessible, their quality and effectiveness might not meet the farmers' needs, potentially hindering productivity and satisfaction. (See Figure 19)

Overwhelmingly, almost all respondents (99%) acknowledge receiving some form of government support, which indicates a strong governmental presence in agricultural assistance. However, the fact that accessibility and effectiveness of tools are still major concerns suggests that government interventions may need to be more targeted or better implemented to address these specific issues effectively. (See Figure 20)

Figure 18. Availability of tools for Gardens Activities

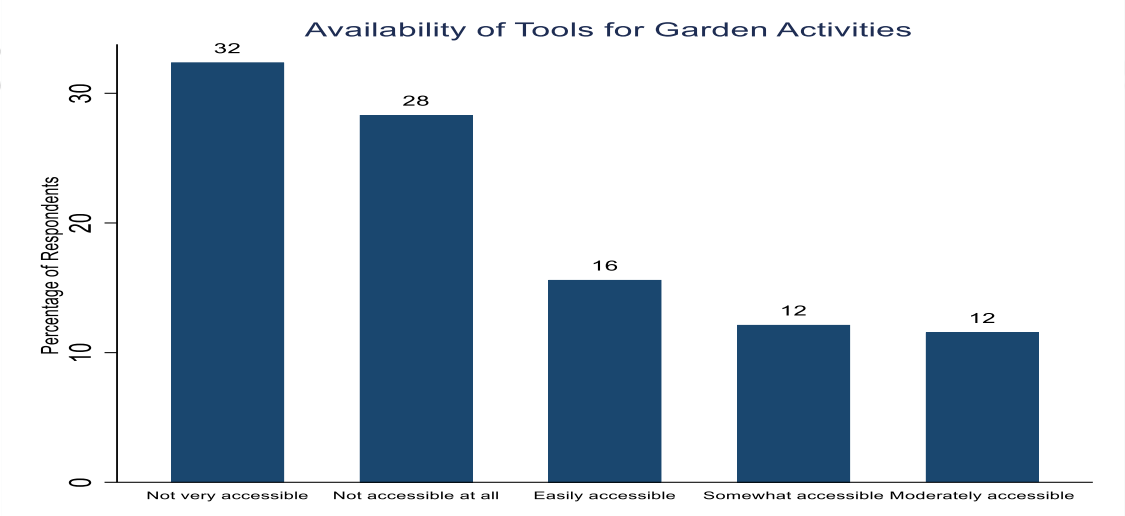


Figure 19. Effectiveness of Garden Tools

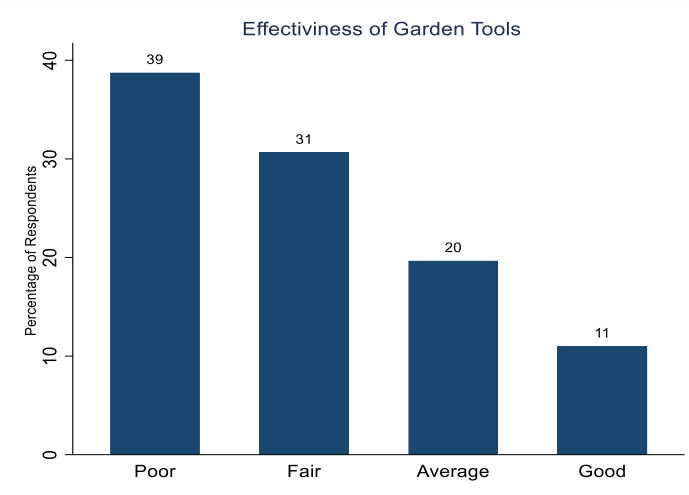
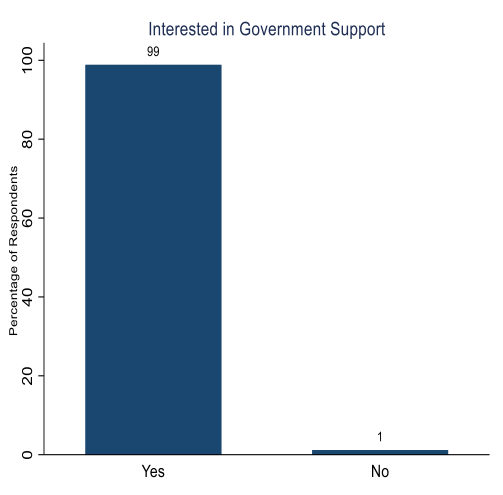


Figure 20. Interested in Gov.Support



4.1.6.1 Access to Garden Infrastructures

- **Borehole water tanks (79%)** and **fencing (77%)** are the most accessible infrastructures, indicating a strong provision of basic water management and security measures.
- **Reservoirs (36%)** and **compost chambers (34%)** are moderately accessible, reflecting some level of investment in water storage and organic waste management.
- **Stores (24%)** and **drying floors (9%)** are less accessible, highlighting potential gaps in post-harvest handling and storage facilities.
- **Other garden infrastructures (14%)** show that a small fraction of farmers have access to additional specific tools or structures. (See Figure 21)

2. Utilization of Garden Tools:

- The most commonly used tools are **rakes (65%)** and **hoes (64%)**, which are fundamental for basic gardening tasks.
- **Watering cans (53%)** and **spades (45%)** are also widely used, essential for watering plants and digging.
- **Wheelbarrows (35%)** and **other tools (26%)** such as pruners or shears indicate a need for more advanced tools for transporting materials and specific gardening tasks.
- **Shovels (18%)** are the least utilized, which might reflect either their lower necessity or lower availability. (See Figure 22)

3. Preferred Government Support for Garden Tools:

- **Assistance for purchasing tools (46%)** and **distribution of free tools (46%)** are equally preferred, showing a strong desire for direct financial or material aid.
- **Training programs on tools (28%)** are also significantly valued, suggesting that farmers recognize the importance of proper tool usage and maintenance.
- **Subsidised or discounted prices of tools/infrastructure (20%)** indicate a preference for making tools more affordable rather than directly provided, reflecting a nuanced approach to support. (See Figure 23)

The data reflects a scenario where basic infrastructure such as water tanks and fencing are relatively well-provided, whereas more specialized infrastructures like reservoirs and compost chambers are less accessible. This indicates a foundational level of support but with substantial room for improvement in more advanced or diversified infrastructure. Regarding tool usage, the high utilization rates of basic tools like rakes and hoes suggest that these are either more readily available or more essential to everyday farming tasks. However, the lower usage rates for items like wheelbarrows and shovels suggest either a lack of availability or a potential gap in the perceived importance or necessity of these tools. The preferences for government support indicate a balanced need for both direct provision (either through free tools or financial assistance) and educational programs. The zero preference for "other supports" suggests that the current categories provided are comprehensive in addressing the farmers' needs.

Overall, while there is significant infrastructure and tool availability for basic gardening needs, there are clear gaps in more advanced infrastructure and tool accessibility and effectiveness. Farmers are looking for a combination of direct assistance in acquiring tools and education on their use, indicating a holistic approach to addressing their needs. The government and supporting organizations could focus on expanding the availability of advanced infrastructure and providing a balanced mix of financial aid, tool distribution, and training programs to maximize the impact of their support.

Figure 21. Garden infrastructure having access

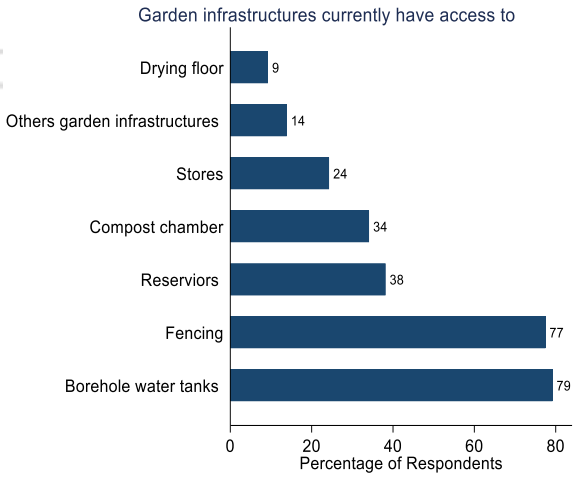


Figure 22. Garden infrastructure utilized

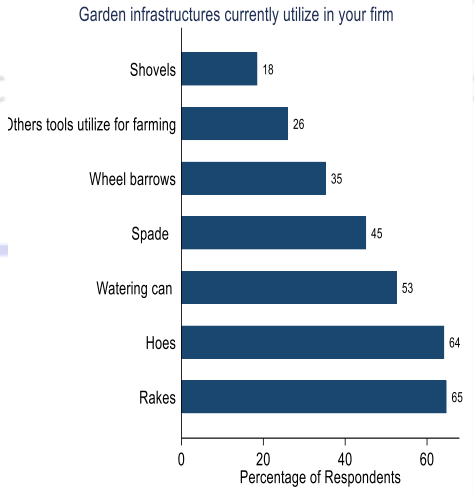
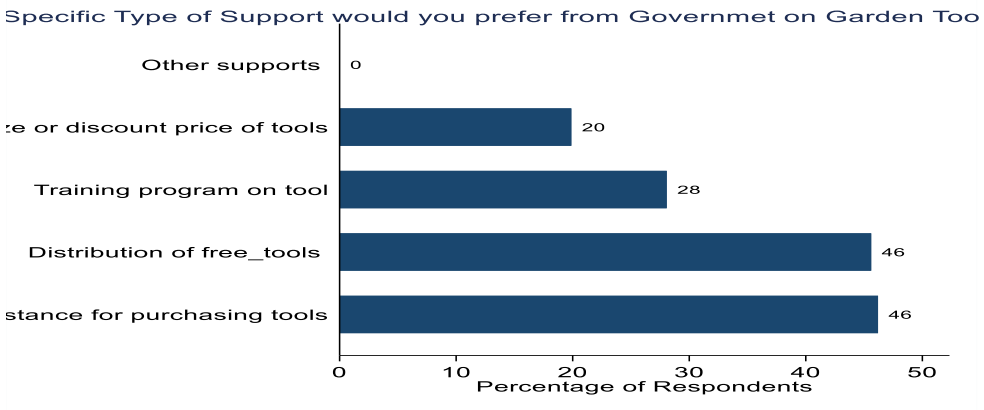


Figure 23. The specific type of support preferred

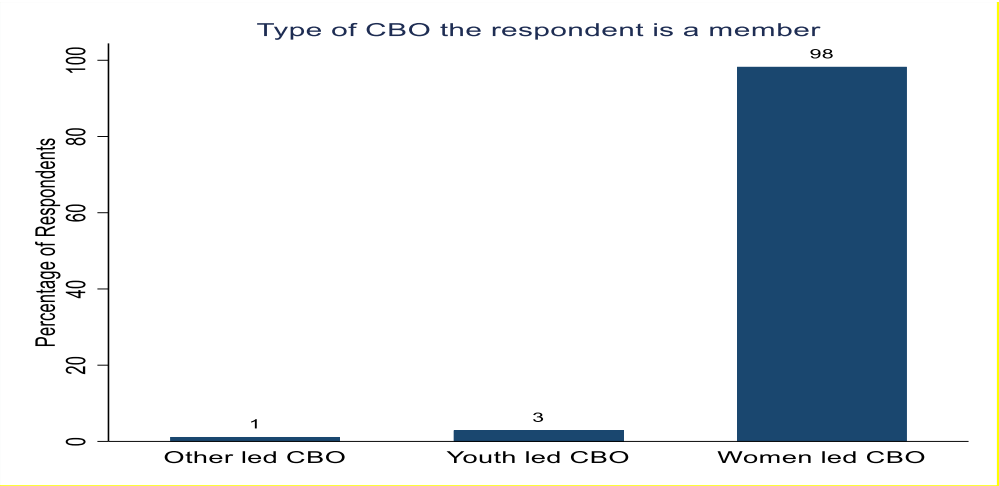


In the baseline study on agroecology and organic fertilizer production and usage, all respondents reported being part of a community-based organization (CBO). Out of these participants, approximately 98% indicated belonging to women-led CBOs, while about 3% mentioned being part of youth-led CBOs. Other categories, which likely include mixed-gender or other types of CBOs, accounted for less than 1%. (See Figure 23)

The fact that 100% of the respondents are members of a CBO underscores the significance of these organizations within the community. CBOs serve as crucial platforms for collective action, knowledge sharing, and resource mobilization, indicating a strong sense of community engagement and collaboration among the participants. The overwhelming majority (98%) of respondents belonging to women-led CBOs reflect the significant role of women in community development and decision-making processes, particularly in the context of agriculture and environmental initiatives. Women's leadership in CBOs can lead to more inclusive and diverse perspectives, ultimately contributing to more effective and sustainable outcomes.

While a smaller percentage (3%) mentioned being part of youth-led CBOs, this finding highlights the growing involvement of young people in community development efforts. Youth-led initiatives can bring fresh ideas, energy, and innovation to address pressing challenges, including those related to agriculture and environmental sustainability. The presence of various types of CBOs, including women-led, youth-led, and potentially other specialized groups, underscores the importance of diverse representation and inclusivity in community-based initiatives. Each type of CBO may cater to different needs, interests, and priorities within the community, ensuring that a wide range of voices are heard and considered in decision-making processes.

Figure 24. Types of CBO membership



4.1.7 Application of Inorganic Fertilizers

When asked about the application of inorganic fertilizer, the responses were nearly evenly split, with 49% of respondents indicating that they use inorganic fertilizer, while 51% said they do not. This suggests that there is a balanced perspective within the community regarding the use of inorganic fertilizers, with a slight majority preferring not to use them. (See Figure 25)

Quantity of Inorganic Fertilizer Applied

For those who use inorganic fertilizers, the amount applied varies significantly:

i. **54%** apply less than 1 bag,
ii. **19%** use between 1 and 2 bags,
iii. **10%** apply between 2 and 3 bags,
iv. **4%** use between 3 and 4 bags,
v. **14%** apply more than 4 bags. (See Figure 26)

Figure 25. Appling inorganic fertilizer

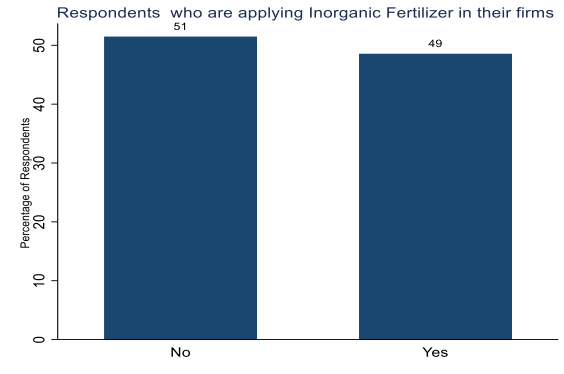
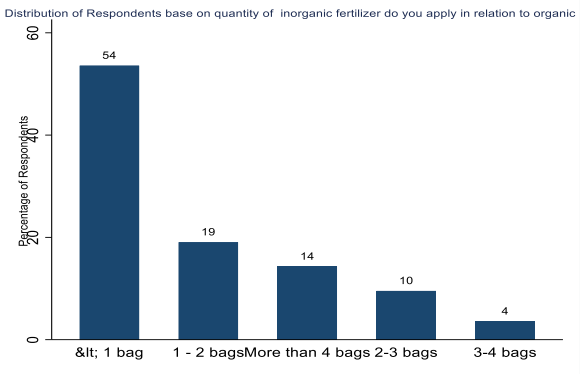


Figure 26. Quantity of inorganic fertilizer applied



The nearly equal split in the usage of inorganic fertilizers indicates that while a substantial number of farmers rely on them, an almost equal number are either fully dependent on organic fertilizers

or are seeking alternatives. This balance may reflect the growing awareness of the benefits of organic farming practices and concerns about the long-term effects of inorganic fertilizers on soil health.

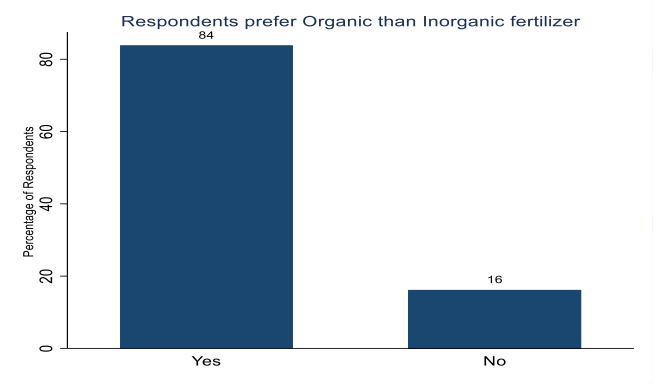
The data suggests a preference for using smaller quantities of inorganic fertilizers, with more than half of the users applying less than 1 bag. This could indicate a trend towards integrating organic practices or a cautious approach to using chemical fertilizers, possibly due to cost, environmental concerns, or the effectiveness of organic alternatives.

The analysis of inorganic fertilizer usage among respondents reveals a balanced approach to fertilizer application within the community. While a slight majority of respondents do not use inorganic fertilizers, those who do tend to apply them in varying amounts, with a significant portion using minimal quantities. This trend underscores the need for continued education and support for sustainable agricultural practices, helping farmers optimize their use of both organic and inorganic fertilizers for improved yield and soil health.

Preferences for Organic to Inorganic Fertilizer

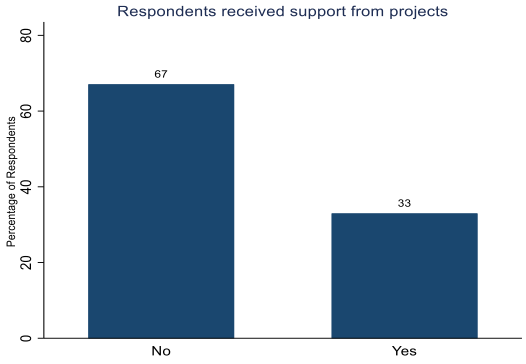
An overwhelming majority of respondents (84%) expressed a preference for using organic fertilizers over inorganic ones, with only 16% preferring inorganic fertilizers. This strong preference for organic fertilizers suggests a positive perception of their benefits among the community, such as improved soil health, sustainability, and potentially better crop yields. (See Figure 27)

Figure 27. Prefer organic fertilizer



Receipt of Support and Assistance from Projects

Figure 28. Received project support



- **Overall Support:** 33% of respondents have received support from various projects, while 67% have not.
- **Types of Support:** Support has come in various forms, including boreholes, fencing materials, seeds, garden tools, financial support, and training. Specific projects mentioned include ActionAid International, FAO, Nema, and Roots project.
- **Distribution of Support:** The support is varied, with some respondents receiving multiple types of assistance (e.g., boreholes, seeds, fencing materials).

Assistance from the Government of The Gambia on Organic Fertilizers

Figure 29. Received government support

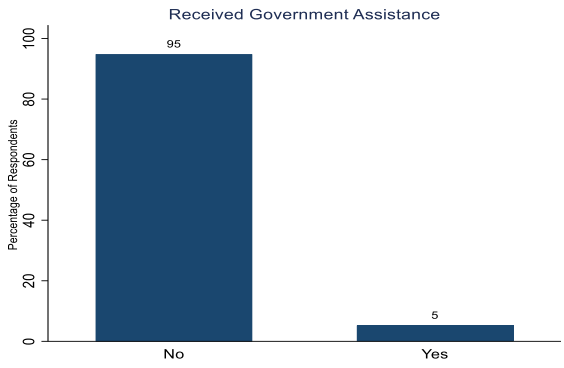


Figure 30. Frequency of government support

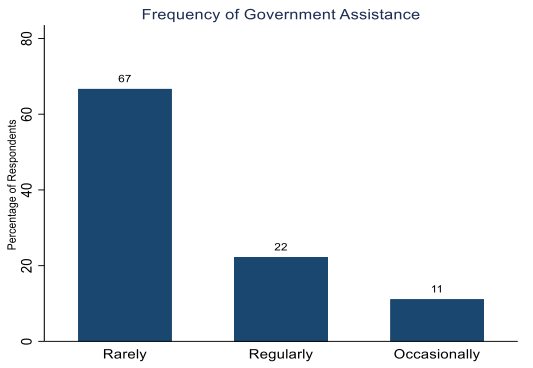


Figure 31. Support in organic fertilizer

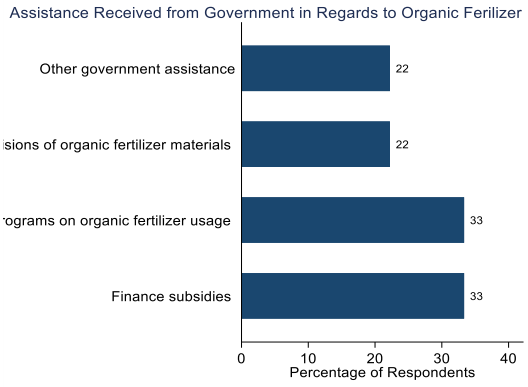
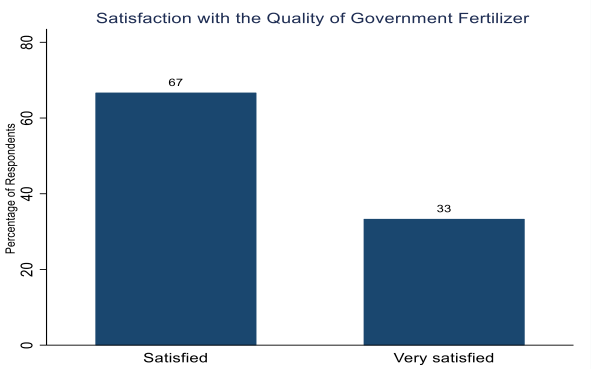


Figure 32.Satisfaction with the quality of fertilizer



Receipt of Assistance

- **No Assistance:** A significant majority, 95% of respondents, have not received any form of assistance from the government specifically aimed at providing organic fertilizers. (See Figure 29)
- **Received Assistance:** Only 5% of respondents have received government assistance related to organic fertilizers. (See Figure 29)

Frequency of Accessing Government Assistance (See Figure 30)

- **Rarely:** 67% of respondents who received assistance reported that they access it rarely.
- **Regularly:** 22% of respondents access government assistance for organic fertilizers regularly.
- **Occasionally:** 11% of respondents access it occasionally.

Types of Assistance Received: Among the respondents who received assistance: (See Figure 31)

- **Financial Subsidies:** 33% received financial subsidies to support organic fertilizer usage.
- **Training or Educational Programs:** 33% participated in training or educational programs on how to use organic fertilizers effectively.
- **Provision of Organic Fertilizer Materials:** 22% received actual materials for organic fertilizer from the government.
- **Other Government Assistance:** 22% benefited from other unspecified types of government assistance related to organic fertilizers.

Satisfaction with the Quality of Government Fertilizer

The quality of organic fertilizers provided by the Central Government has received positive feedback, with 67% of respondents reporting satisfaction and 33% expressing that they are very

satisfied. This high level of satisfaction indicates that the government-supplied organic fertilizers meet or exceed the expectations of the majority of the recipients. (See Figure 32)

The data indicates that the majority of farmers in The Gambia have not received government assistance specifically for organic fertilizers, with only a small fraction benefiting from such support. Among those who have received assistance, financial subsidies and training programs are the most common forms of support, followed by the provision of organic fertilizer materials. However, the frequency of accessing this assistance is predominantly rare, suggesting potential barriers in availability, accessibility, or awareness of such government programs. This highlights the need for increased outreach and consistent support from the government to promote the use of organic fertilizers among farmers.

Participation in research/study related to Organic Fertilizer Production

Participation Rates

- **94% of respondents have never participated in any research or study** related to organic fertilizer production or use. This indicates a very low engagement level among the farming community with scientific research or studies in this area.
- **6% of respondents have participated**, showing that a small segment of the population is involved in research activities. (See Figure 33)

2. Types of Involvement

- Of those who participated, **80% provided data or samples**, indicating that the primary mode of engagement was through the collection of practical information or physical samples for the study.
- **20% participated in interviews or surveys**, suggesting that some respondents were involved in providing qualitative data and insights through direct communication. (See Figure 34)

Figure 33. Participated in research in organic fertilizer

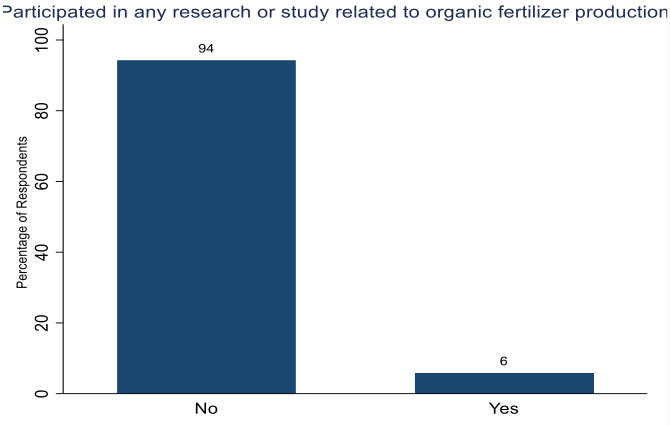
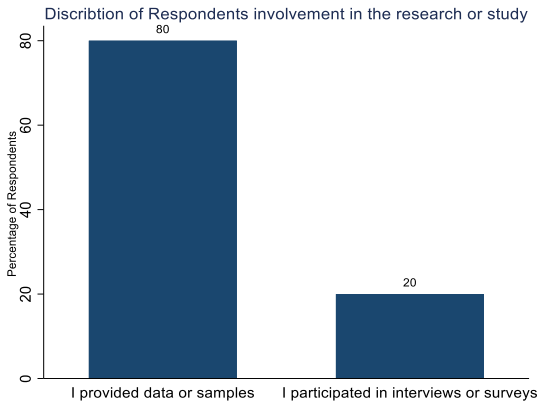


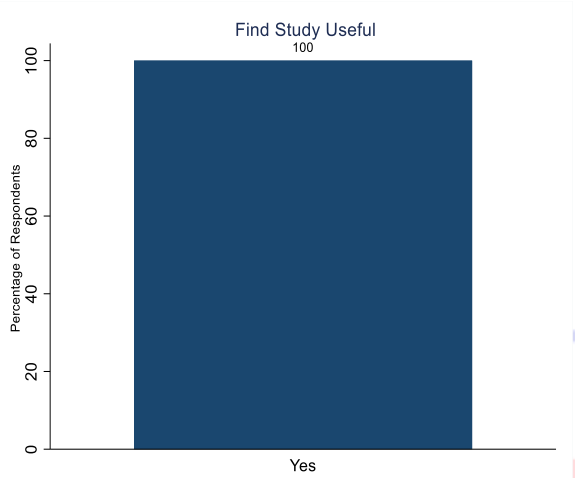
Figure 34. Involved in research



Perceived Value of the Research

About 100% of participants found the research or study informative and useful, highlighting a unanimous positive perception among those who were involved. This suggests that despite the low participation rate, those who did engage found significant value in the experience. (See Figure 35)

Figure 35. Found study useful



The data suggests a clear disparity between the general farming population's engagement with research and the perceived value of such research among those who have participated. The very low participation rate (94% not involved) indicates potential barriers such as lack of awareness, accessibility issues, or limited opportunities for involvement in research activities.

Among the few who did participate, the overwhelming majority found their involvement in providing data or samples. This form of participation is likely the most accessible for farmers, requiring less time and effort compared to more interactive forms such as interviews or surveys.

The unanimous positive feedback from participants regarding the usefulness and informativeness of the research underscores the potential benefits of increasing farmer involvement in such studies. It suggests that exposure to research can enhance farmers' knowledge and practices, thereby improving their agricultural outcomes.

While the engagement of farmers in research related to organic fertilizer production or use is currently minimal, those who do participate find it highly beneficial. This indicates a significant opportunity for increasing farmer participation in research activities. Enhancing awareness and creating more accessible opportunities for involvement could bridge the gap between scientific research and practical application in farming. Encouraging greater participation through education, incentives, and support could lead to broader improvements in organic fertilizer use and overall agricultural practices.

4.1.8 Qualitative Data Analysis of FGD Transcripts

This sub-section presents the thematic analysis of Focus Group Discussions (FGDs) conducted in several communities across The Gambia, focusing on agroecology and organic fertilizer production and use. The discussions were structured to extract insights into community involvement, challenges, support systems, and training needs related to these themes. The communities involved include Batty NjolL, Mahmud Fana, Sinchu Alagie, Juffureh, Sami Kuta, Jaguar Mandinka, Kaur Janneh Kunda, Pakau Njogu, and Ballangar Kerr Jarja.

4.1.8.1 Thematic Analysis

4.1.8.1.1 Capacity in Production, Marketing, Advocacy, and Usage of Organic Fertilizer

Batty Njoll Community

Participants demonstrated a fair understanding of organic fertilizer production, with over 200 youths involved, producing approximately 10 tons annually. However, challenges in obtaining materials such as wheelbarrows were noted. Advocacy efforts are primarily driven by the women-led CSO, BENNO JEM SY KANAM, which has trained five members in organic fertilizer production.

Mahmud Fana Community

With robust engagement in organic fertilizer production, 350 youths are involved, facing similar material challenges. DONNE BENNA, an active organization, advocates for organic fertilizer use and has trained 39 women.

Sinchu Alagie Community

There is no engagement in compost production due to a lack of training, although they use organic fertilizer, producing 10 tons annually. Challenges include transporting manure and waste materials.

Juffureh Community

Eighty-seven people are involved in the community garden, with 20 engaged in organic fertilizer production. Challenges include the difficulty in gathering compost materials.

Sami Kuta Community

The garden comprises 87 members, producing primarily compost heaps. Challenges include water supply, transporting compost, and accessing animal dung.

Jaguar Community

The community produces compost and animal dung, with 175 members involved. Significant challenges include the labor-intensive nature of organic fertilizer production.

Kaur Janneh Kunda Community

The community produces organic fertilizer, with 25 youths trained. Challenges include financial difficulties in accessing garden tools.

Pakau Njogu Community

The community produces organic fertilizer with 40 individuals engaged. Challenges include limited government support and access to essential resources.

Ballangar Kerr Jarja Community

All 40 garden members produce organic fertilizer. Despite minimal government support, the community remains self-reliant, with active CSOs advocating for agroecology.

Training in Circular Economy, Agroecology, and Organic Fertilizer Marketing and Usage

Across all communities, there is a notable absence of training in the circular economy and organic fertilizer marketing. Participants consistently reported the lack of CSOs or individuals trained in these areas. For example, in Batty Njol, no extension personnel have benefited from such training.

Government and Project Support

Batty Njoll Community

Participants received training in Climate Resilience and Sustainable Agriculture (CRSA) and government support in organic fertilizers, improving productivity.

Mahmud Fana Community

Similar support in training and organic fertilizers was reported, marking the first government intervention in organic fertilizer support.

Sinchu Alagie Community

Government support included training in CRSA and the provision of organic fertilizers, with additional benefits from farm implements and cattle.

Juffureh Community

Limited government support was noted, with a focus on garden tools and infrastructure.

Sami Kuta Community

No support was received in the past two years, emphasizing challenges in accessing government-provided fertilizers and tools.

Jaguar Community

The community received support in village boreholes and simple farm tools, but faced significant challenges in organic fertilizer production due to a lack of targeted support.

Kaur Janneh Kunda Community

Participants highlighted the absence of government support, with reliance on project-based assistance for garden tools and infrastructure.

Pakau Njogu Community

No government support was received in the last two years, with a clear call for intervention in providing essential tools and infrastructure.

Ballangar Kerr Jarja Community

Participants expressed a strong desire for government support, particularly for tools and infrastructure.

Materials and Infrastructure Support

In all communities, support in terms of garden tools and infrastructure was deemed insufficient and of low quality. Participants highlighted the need for better quality tools and consistent support to sustain farming activities. For instance, in Batty Njoll, the tools provided were not enough and were of low quality.

Quality and Durability of Support Received

Concerns were raised about the quality and durability of government-provided support. Materials and infrastructure were often of low quality and did not last long. This was emphasized across various communities, indicating a need for better quality farming tools and consistent government support.

The discussions reveal considerable involvement of youth in organic fertilizer production and use across the communities, albeit with significant challenges related to materials and infrastructure. There is a notable absence of training in the circular economy and marketing of organic fertilizers. Government support has been beneficial but inconsistent and often inadequate in terms of quality and durability. Advocacy for organic fertilizer usage is primarily driven by women-led CSOs, with a need for more youth involvement in advocacy efforts. Overall, there is a strong demand for better training, quality materials, and continuous support to enhance organic fertilizer production and agroecology practices in The Gambia.

Direct Quotations (Verbatim)

i. "Youths, who are not members of their organization, are also involved in compost production. However, they face challenges like lack of materials, such as wheelbarrows, for transporting sawdust and waste materials." (Batty Njoll)

ii. "There is no active youth-led CSO advocating for the use of organic fertilizer." (Batty Njoll)

iii. "The organization is officially registered and operates in the garden, producing organic fertilizer." (Mahmud Fana)

iv. "We don’t have the skills for compost making and face challenges in transporting manure and waste to the garden." (Sinchu Alagie)

v. "There is no CSO or single person trained in circular economy and organic fertilizer marketing, but 39 people received training on Climate Resilience Sustainable Agriculture (CRSA)." (Batty Njoll)

vi. "This is the first time we received organic fertilizer support from the government." (Mahmud Fana)

vii. "The tools were effective but did not last more than two years." (Batty Njoll)

viii. "We commonly use hoes, spades, wheelbarrows, forks, and watering cans in the garden, often supplemented by tools from home." (Mahmud Fana)

ix. "We need government support in the form of free distribution of resources and infrastructure, as we face water shortages and lack adequate gardening tools." (Batty Njoll)

x. "We are in dire need of government support, including quality resources and infrastructure." (Sinchu Alagie)

The FGDs reveal: 1) a considerable involvement of youth in organic fertilizer production across the communities, albeit with significant challenges related to materials and infrastructure.; 2) There is a notable absence of training in the circular economy and marketing of organic fertilizers; 3) Government support has been beneficial but inconsistent and often inadequate in terms of quality and durability; 4) Advocacy for organic fertilizer usage is primarily driven by women-led CSOs, with a need for more youth involvement in advocacy efforts; and 5) Overall, there is a strong demand for better training, quality materials, and continuous support to enhance organic fertilizer production and agroecology practices in The Gambia.

The FGDs revealed significant engagement in organic fertilizer production and use within the community gardens, despite challenges in material accessibility and inadequacy of formal training. There is a need for more targeted support from the government and CSOs, particularly in training and resource provision. The community expresses a strong interest in further research and development in organic fertilizer practices to enhance their agricultural productivity. This thematic analysis highlights the critical areas for intervention and support to promote sustainable agricultural practices in Juffureh, North Bank Region. The focus group discussions highlighted the active involvement of the community in organic fertilizer production despite significant challenges in resource accessibility and lack of formal training. The absence of support from CSOs and the government, coupled with the need for better tools and infrastructure, underscores the necessity for targeted interventions. The community members are eager to receive training and support to enhance their agricultural practices and improve their economic status. This thematic analysis provides a clear depiction of the current state and needs of the Female Adusami Kuta community, emphasizing the critical areas for support and development in promoting sustainable agricultural practices.

The FGDs provide valuable insights into the perceptions and experiences of the community regarding transparency, accountability, and organic fertilizer production. Despite challenges, the community demonstrates a strong commitment to sustainable agriculture and expresses a willingness to engage in capacity building and receive government support. This analysis

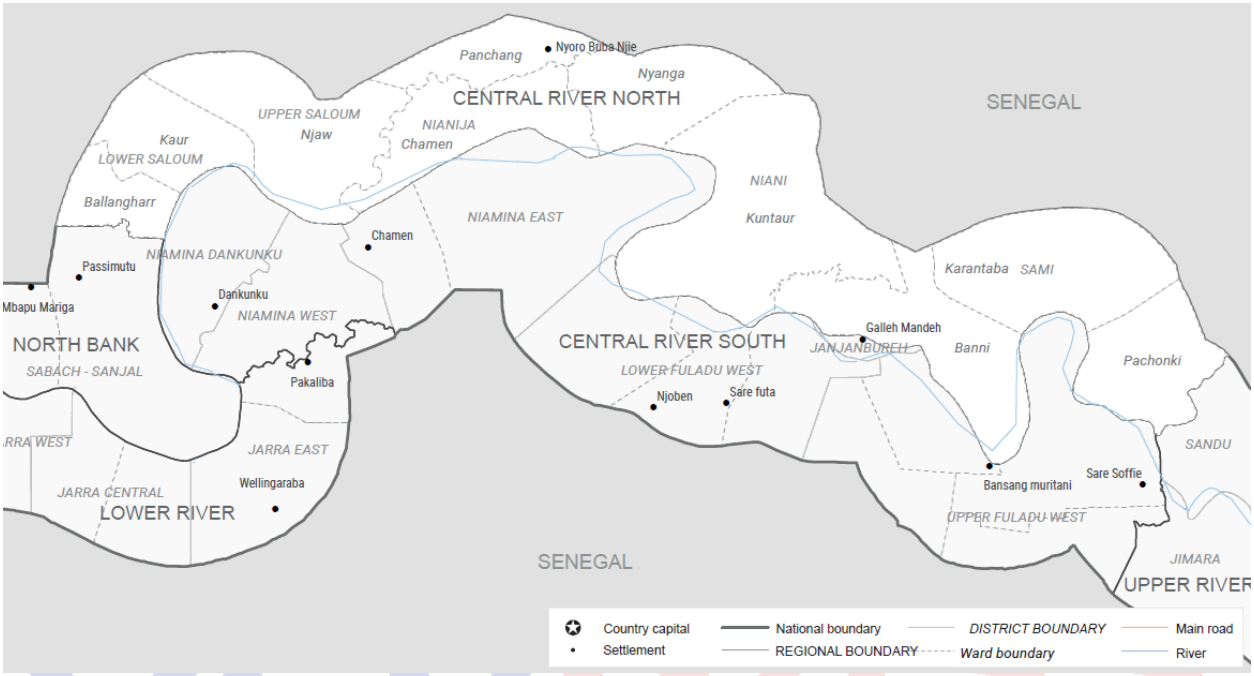
highlights the importance of targeted interventions and collaborative efforts to address the needs of rural communities like Jahaur Village. The FGDs provided valuable insights into the perceptions and experiences of youth in Kaur Janneh Kunda Village regarding transparency, accountability, and organic fertilizer production. Despite limited government support, the community demonstrates a strong commitment to sustainable agriculture and expresses a desire for greater engagement in policy dialogues and capacity-building initiatives. This analysis underscores the importance of tailored interventions to address the specific needs and challenges faced by rural communities like Kaur Janneh Kunda Village.

The FGD provided valuable insights into the perceptions and experiences of male farmers in Pakau Njogu regarding agroecology and organic fertilizer production. Despite challenges such as limited government support and access to resources, the community demonstrates a strong commitment to sustainable agricultural practices. This analysis highlights the importance of targeted interventions to address the specific needs and challenges faced by rural communities like Pakau Njogu in promoting organic fertilizer production and agroecological sustainability. The focus group discussion underscored the community's active engagement in organic farming practices, despite limited external support. Participants expressed a strong desire for government intervention and emphasized the importance of grassroots advocacy in promoting sustainable agriculture. The insights gained from this discussion provide valuable inputs for future policy formulation and community development initiatives in Ballangar Kerr Jarja Village.

The demographic data from the baseline survey reveals key insights into the community involved in agroecology and organic fertilizer production and use. The significant female involvement, high illiteracy rates, diverse ethnic composition, predominance of married individuals, and widespread participation in community-based organizations highlight the social and cultural dynamics that influence agricultural practices. The age and education level distributions indicate that while experience plays a crucial role, there is a need for educational initiatives to enhance agricultural knowledge and skills. Lastly, the representation from various local government areas ensures that the study captures regional variations in agro-ecological practices.

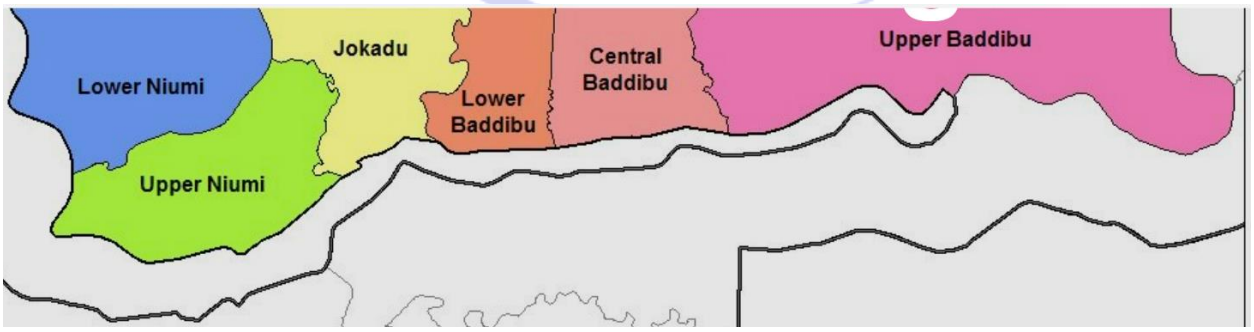
5.1 Regional Comparison Analysis

Map of CRR-NORTH AND SOUTH



Source:[43]

MAP OF NORTH BANK REGION



Source: [44]

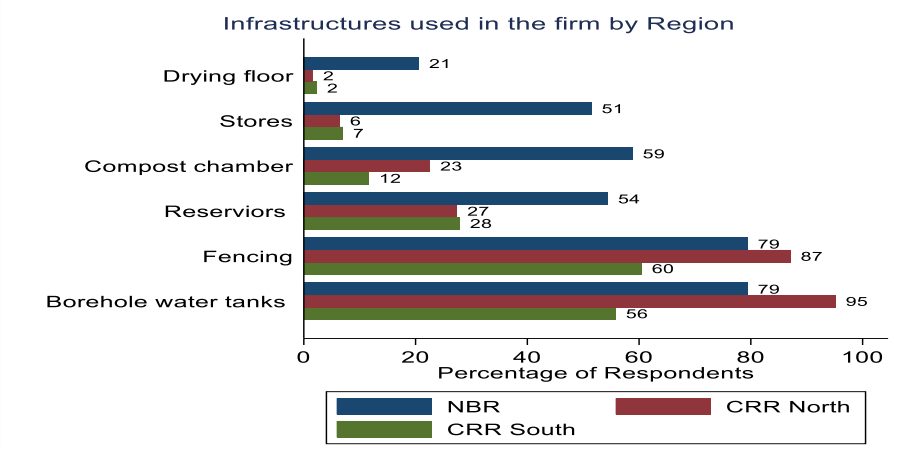
5.1.1 The utilization of the infrastructure in the vegetable gardens

The utilization of the infrastructures in the vegetable gardens significantly varies in the regions (See Figure 36). The analysis indicates the following:

1) The result reveals that utilization of the borehole water tanks is highest in CRR-North (95%), while NBR registered (79%) and (56%) for CRR-South with the lowest.
2) Concerning fencing materials, are highest in CRR North (87%) than the rest of the regions followed by NBR (79%) and CRR South with 60%.
3) Concerning the use of reservoirs, NBR registered the highest (545), while CRR-North and CRR-South registered (27%) and (28%) respectively.
4) Concerning the use of compost chambers, NBR registered the highest with (59%), while comparatively, CRR-North and CRR-South registered (23%) and (12%) respectively. The of compost chambers is lowest in CRR-South
5) Concerning the use of stores for safekeeping as for resource protection, NBR again registered (51%). In comparison, CRR-North and CRR-South registered (6%) and (7%) respectively, indicating a near similarity between the two districts.
6) Concerning drying floors, NBR registered the highest (21%), while CRR-North and CRR-South registered an equal score of (2%) showing no contrast.

The above data, therefore, shows that for all indicators used in the graph (figure 36) below, it is clear that comparatively, the use of infrastructure in vegetable gardens is highest in NBR and lowest in CRR-South. Thus, in relative terms, the need for immediate intervention to make the necessary gardening infrastructure available is highest in CRR-South.

Figure 36. Utilization of the infrastructures in the regions

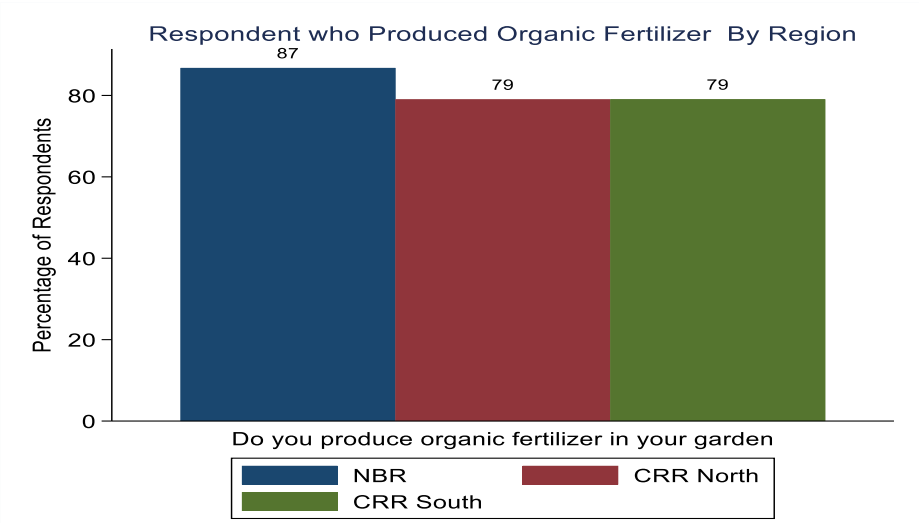


5.1.2 The production of organic fertilizer

The results show a clear disparity between regions in organic fertilizer production (See Figure 37). The results show:

1) The majority of the respondents (87%) in NBR produce organic fertilizer than the rest of the regions followed by CRR South and CRR North with 79% each.
2) Comparatively, NBR has a higher engagement in the production of organic fertilizer. Thus, in relative terms, the need for immediate intervention in the production of organic fertilizer is implicitly higher in CRR-North and South more than in NBR.

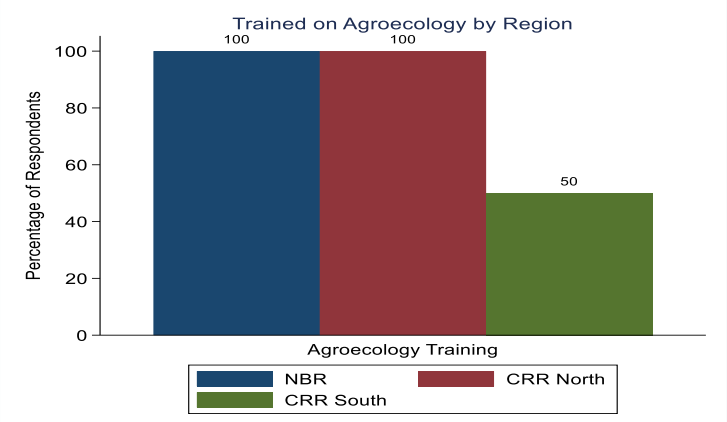
Figure 37. Production of organic fertilizer in the regions



5.1.3Trained on Agroecology by Region

Figure 38 below shows the percentage of respondents trained in agroecological practices. The findings indicate that all the respondents (100%) in NBR and CRR North received training on agroecology while only 50% of respondents had the training in CRR South.

Figure 38. Percentage of respondents trained in agroecology in the regions

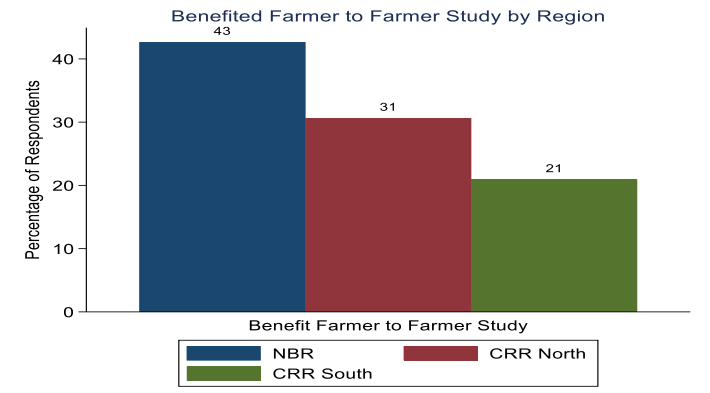


5.1.4 Farmer-to-Farmer Study

The study reveals a low percentage of the respondents who benefited from farmer-to-farmer study in the regions (See Figure 39). The findings indicate the following:

1) All the regions had less than 50% of the respondents who benefited from farmer to farmer study tour.
2) However, the highest percentage of the respondents who benefited from farmer to farmer study was observed in NBR (43%) followed by CRR South (31%) and (CRR North (21%).
3) Thus, comparatively, the difference in the experience and benefits gained from farmer-to-farmer study is highest in NBR followed by CRR-North and least in CRR-South.
4) In terms of the need for immediate intervention may be highest in CRR-South followed by CRR-North. This report notwithstanding, it may be necessary to further improve this experience for all regions to at least increase the number of farmers benefiting from farmer-to-farmer studies.

Figure 39. Percentage of beneficiaries of farmer-to-farmer study tours in the regions

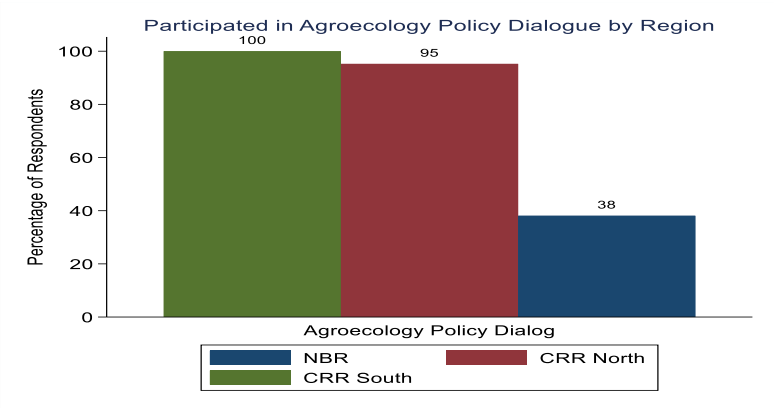


5.1.5 Agroecology Policy Dialogues

The results of the present study indicate the following:

1) All the respondents (100%) in CRR South participated in agroecology policy dialogues
2) 95% of the respondents in CRR North participated (See Figure 40).
3) The NBR had the lowest percentage of the respondents (38%) who participated in agroecology policy dialogue.
4) Comparatively, the results, therefore, suggest that there is a higher need for improving the involvement of NBR natives in policy dialogues for educational and policy drive purposes.

Figure 40. Participation of the respondents in agroecology policy dialogue in the regions



5.2 Regional Comparison Analysis - FGD

5.2.1 Community Engagement and Production

In CRR South, communities like Batty Njol demonstrate robust youth participation in compost production, yielding 10 tons annually, supported by women-led CSOs. In contrast, CRR North shows mixed engagement, with some communities actively producing compost but facing challenges in material accessibility. The North Bank Region varies widely, with some communities actively producing compost, while others lack formal training and support, hindering their engagement in organic fertilizer production.

5.2.2 Challenges and Support

Across all regions, challenges in material transportation and access to resources are prevalent. While CRR South and CRR North report some government support, such as organic fertilizer and infrastructure, the North Bank Region notes minimal recent support. The quality and sufficiency of government-provided tools remain inadequate in all regions, impacting agricultural productivity.

5.2.3 Training and Advocacy

Training in the circular economy and agroecology is deficient across CRR South, CRR North, and the North Bank Region, though CRR North shows progress with trained youths. Advocacy efforts are more pronounced in CRR South, particularly through women-led CSOs, whereas the North Bank Region lacks significant advocacy and support from CSOs, reflecting varied community involvement in policy dialogues.

5.2.4 Infrastructure and Access

Access to essential tools and infrastructure remains a challenge across all regions, with communities in CRR North and the North Bank Region highlighting financial difficulties in acquiring adequate gardening tools. This issue affects agricultural efficiency and underscores the need for improved support mechanisms from both government and civil society.

This comparative analysis highlights the diverse challenges and varying levels of community engagement and support across CRR South, CRR North, and the North Bank Region regarding agroecology and organic fertilizer production. Addressing these disparities requires targeted interventions focused on improving resource access, enhancing training opportunities, and fostering greater advocacy and policy dialogue participation.

6.0 CONCLUSION AND RECOMMENDATIONS

The baseline survey data on agroecology and organic fertilizer production and use in The Gambia provide valuable insights into the community's dynamics, challenges, and opportunities. Several key findings emerge from the analysis of demographic data, participation in civil society organizations (CSOs) and community-based organizations (CBOs), awareness of agricultural policies, engagement in policy dialogues, production and usage of organic fertilizers, availability and effectiveness of garden infrastructures and tools, as well as participation in research studies.

6.1 Conclusion

The demographic data from the baseline study reveals key insights into the community involved in agroecology and organic fertilizer production. The significant female involvement, high illiteracy rates, diverse ethnic composition, predominance of married individuals, and widespread participation in CSOs and CBOs highlight the social and cultural dynamics that influence agricultural practices. The age and education level distributions indicate that while experience plays a crucial role, there is a need for educational initiatives to enhance agricultural knowledge and skills. Lastly, the representation from various local government areas ensures that the study captures regional variations in agro-ecological practices. The FGDs provide a comprehensive understanding of the state of agroecology and organic fertilizer production across various communities in The Gambia. Despite significant challenges, there is a strong commitment to sustainable agricultural practices. The analysis highlights the need for targeted interventions, better quality materials, consistent government support, and enhanced training programs to address the specific needs and challenges faced by these rural communities. Furthermore, this baseline study has provided an impetus to recommend for future research to build on the findings of this study. The present study has also provided a strong reason to call for action by stakeholders, particularly government and development partners to commit to the development of knowledge of the production and use of organic fertilizers in the country. Moreover, it is important to note the following:

1. **Community Dynamics:** The community involved in agroecology and organic fertilizer production exhibits significant female participation, high illiteracy rates, and diverse ethnic composition. Married individuals are predominant, indicating a family-centric approach to agriculture. Participation in CSOs and CBOs is universal, with women-led organizations being most prevalent.
2. **Awareness and Engagement:** While there is moderate familiarity with agricultural policies, a significant portion lacks essential policy knowledge. Participation in policy dialogues is relatively high, indicating proactive engagement but also highlighting gaps

that need to be addressed. Engagement in research studies related to organic fertilizer is minimal but highly valued by participants. Furthermore, the findings indicate that all the respondents (100%) in NBR and CRR South received training on agroecology while only 50% of respondents had the training in CRR South. This indicates the need for intervention to increase agroecology training for the natives of CRR South. Added training will create familiarization, understanding, and knowledge of agroecological practices for the production and use of organic fertilizer.

3. **Organic Fertilizer Production and Usage:** There is a preference for organic fertilizers over inorganic ones, with perceived benefits including improved soil health, crop yield, and environmental sustainability. However, challenges in production capacity and accessibility persist, highlighting the need for targeted interventions to enhance training, resources, and support. Furthermore, comparatively, NBR has a higher engagement in the production of organic fertilizer. Thus, in relative terms, the need for immediate intervention in the production of organic fertilizer is implicitly higher in CRR-North and South than in NBR.
4. **Garden Infrastructures and Tools:** While basic infrastructures like water tanks and fencing are relatively accessible, more specialized infrastructures and tools face challenges in availability and effectiveness. Government support is acknowledged but often accessed rarely, indicating potential barriers to awareness or accessibility. Comparatively, the use of infrastructure in vegetable gardens is highest in NBR and lowest in CRR-South. Thus, in relative terms, the need for immediate intervention to make the necessary gardening infrastructure available is highest in CRR-South.

5. **Farmer-to-Farmer Study:** The need for immediate intervention for farmer-to-farmer study may be highest in CRR-South followed by CRR-North. This report notwithstanding, it may be necessary to further improve this experience for all regions to at least increase the number of farmers benefiting from farmer-to-farmer studies. These kinds of studies are a good source of knowledge sharing, skills improvement and networking among people with shared interests such as agroecological practices.

6. **Agroecology Policy Dialogues:** The NBR had the lowest percentage of the respondents (38%) who participated in agroecology policy dialogue. Comparatively, the results, therefore, suggest that there is a higher need for improving the involvement of NBR farmers in policy dialogues for educational and policy drive purposes. These kinds of citizen participation create a sense of inclusivity in policy formulation and drive for adoption and appreciation.

6.2 Recommendations

1. **Education and Training:** Increase educational initiatives to enhance agricultural knowledge and skills, focusing on policy literacy, sustainable practices, and organic fertilizer production techniques. Engage community-based organizations and agricultural

extension services in disseminating information and fostering discussions on policy impacts and best practices. To improve access to organic fertilizer, this training in organic fertilizer production and use may be conducted using educative materials and methods that will be easily understood at the grassroots level. The training may be conducted by experienced and skilled experts in the production and use of organic fertilizer. For effectiveness, the training may be tailored for participants who can easily learn using a hands-on approach. For continual improvement purposes, this kind of training should be conducted at least biannually. Thus, priority should be given: 2) first to educating the grassroots and the stakeholders on the importance and benefits of organic fertilizer, 2) the requisite resources should be made available to motivate the grassroots in the engagement of the production and use of organic fertilizer, 3) the government support and commitment in the transition from inorganic to organic fertilizer should be forthcoming without any hindrance of delays.

2. **Policy Advocacy:** Strengthen advocacy efforts to increase community representation in policy dialogues and decision-making processes related to agriculture. Enhance policy awareness and engagement to ensure effective implementation of sustainable agricultural practices and resource allocation.
3. **Infrastructure and Tool Accessibility:** Improve access to specialized garden infrastructures and tools through targeted government interventions, including subsidies, distribution programs, and training initiatives. Address gaps in availability and effectiveness to enhance productivity and satisfaction among farmers.
4. **Research and Collaboration:** Encourage greater farmer participation in research studies related to organic fertilizer production and usage. Foster collaboration between research institutions, government agencies, and community organizations to bridge the gap between scientific research and practical application in farming.
5. **Capacity Building and Support:** Provide comprehensive support and assistance programs to farmers, including training, resources, and market access, to optimize organic fertilizer production and usage. Empower CSOs and CBOs to serve as catalysts for knowledge exchange, capacity building, and advocacy at the grassroots level.

   By implementing these recommendations, stakeholders can address the identified challenges and leverage the opportunities to promote sustainable agricultural practices, enhance food security, and improve livelihoods within the farming community in The Gambia.

6. Conduct a diagnostic study to better understand the challenges of engagement in the production and use of organic fertilizer. This may be done using a reputable and competent research firm or consultancy

6.3 Limitations

The baseline study conducted under the project "Strengthening CSO Support and Advocacy for Sustainable Production and Use of Organic Fertilizer in The Gambia (SAPOF)" faced some limitations.

1. **Constraints in Reaching Out to Respondents**

Reaching out to respondents posed a significant challenge during the study. The North Bank Region (NBR) and Central River Region (CRR), which were the primary focus areas, have dispersed and often remote communities. This geographic dispersion made it difficult to access all intended respondents within the study timeframe. Additionally, the reliance on community networks and local contacts, while beneficial in some respects, also introduced variability in the response rate. Moreover, there were discrepancies where some names did not correspond with the details in the sampling frame.

2. **Limited Time Availability for Conducting Interviews**

Agricultural communities often have busy schedules, especially in their gardens, which necessitated rescheduling and repeated visits, further constraining the study's timeline.

3. **Poor Internet Connectivity**

The use of tablets for data collection, while intended to streamline the process, was hindered by poor internet connectivity in many parts of NBR and CRR. Inadequate internet infrastructure in these rural areas meant that data uploading and synchronization with central databases were often delayed. This resulted in inefficiencies and sometimes the loss of data, requiring additional effort to verify and input information manually.

Despite these limitations, the baseline study provided valuable insights into the current landscape of agroecology and organic fertilizer practices in The Gambia. Addressing these constraints in future studies will be crucial for obtaining more comprehensive and reliable data. These improvements will enable stakeholders to make informed decisions and implement effective strategies for sustainable agricultural practices in the country.

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Annexes

Additional supplementary materials, such as survey questionnaires, interview guides, and data analysis tools.

This report outline provides a concise framework for organizing the baseline study report, ensuring that key components are addressed effectively while maintaining brevity and clarity

APPENDIX A- Questionnaire

APPENDIX B

Tabulation of name_village (FGD)

Name of Villages in NBR	Freq.

Juffureh	1
Pakau Njogu	1
Sami Kuta	1
Total	3

Tabulation of name_village

Name of Villags in CRR North.	Freq.
Ballangara Kerr Jarga	1
Jaguar Mandinka	1
Kaur Janneh Kunda	1
Total	3

Tabulation of name_village

Name of Villages in CRR SOUTH	Freq.
Batty Njoll	1
Mahmud Fana Village	1
Sinchu Alagie	1
Total	3

Tabulation of name_village (SURVEY)

Name of Villages in NBR	Freq.	Percent	Cum.
Alkali Kunda	1	1.47	1.47
Baddibou India	1	1.47	2.94
Bakang	1	1.47	4.41
Bali Mandinka	1	1.47	5.88
Banni	1	1.47	7.35
Bokahalat	1	1.47	8.82
Buniadou	1	1.47	10.29
Chilla	1	1.47	11.76
Conteh Kunda Sukoto	1	1.47	13.24
Conteh Kunda Niji	1	1.47	14.71
Daru Barakati	1	1.47	16.18
Daru Fodayba	1	1.47	17.65
Daru salam	1	1.47	19.12
Dasilami	1	1.47	20.59
Fass Njaka choi	1	1.47	22.06
Human Sara Ba	1	1.47	23.53
Illiyassa	1	1.47	25.00
Jajari	1	1.47	26.47
Jalaba	1	1.47	27.94
Jali Kunda	1	1.47	29.41
Jamagen	1	1.47	30.88
Juffureh	1	1.47	32.35
Jurunku	1	1.47	33.82
Kahel	1	1.47	35.29

Kanno Kunda Suba	1	1.47	36.76
Kanuma	1	1.47	38.24
Karantaba	1	1.47	39.71
Kekuta Kunda	1	1.47	41.18
Kerewan	3	4.41	45.59
Kerr Amadou Faye	1	1.47	47.06
Kerr Ardo	2	2.94	50.00
Kerr Bano	1	1.47	51.47
Kerr Jarga Jobe	1	1.47	52.94
Kerr Ngorr	1	1.47	54.41
Kerr Omar saine	1	1.47	55.88
Kerr Sait Cham	1	1.47	57.35
Kerr Selleh	1	1.47	58.82
Kinteh Kunda	1	1.47	60.29
Lang Sarr	1	1.47	61.76
Make Farafenni	1	1.47	63.24
Marong Kunda	1	1.47	64.71
Mbollet Ba	1	1.47	66.18
Medina Serigne mass	1	1.47	67.65
Minteh Kunda	1	1.47	69.12
Minteh Kunda	1	1.47	70.59
Munyagen	1	1.47	72.06
Ndungu Kebba	1	1.47	73.53
Ndunku charreh	1	1.47	75.00
Ngen sanjal	1	1.47	76.47
Niumi Lamen	1	1.47	77.94
Njaba Kunda	1	1.47	79.41
Njawara	2	2.94	82.35
Njuffen	1	1.47	83.82
No Kunda	1	1.47	85.29
Pakau Njogu	1	1.47	86.76
Saba	1	1.47	88.24
Salikene	1	1.47	89.71
Sallykene	1	1.47	91.18
Samba Taba	1	1.47	92.65
Sami	1	1.47	94.12
Sara Kunda	1	1.47	95.59
Sukoto Fula	1	1.47	97.06
Tambana	1	1.47	98.53
Yallal Tankonjala	1	1.47	100.00
Total	68	100.00	

Tabulation of name_village

Name of Villags in CRR North.	Freq.	Percent	Cum.
Bakadaji Nianija	1	1.61	1.61

Ballangara Kerr Jarga	1	1.61	3.23
Bara Jally Tenda	1	1.61	4.84
Barjali Suba	1	1.61	6.45
Bati Jaha	1	1.61	8.06
Batty Yongo	1	1.61	9.68
Chapman Nianija	1	1.61	11.29
Daru Mbayen	1	1.61	12.90
Dobo Village	1	1.61	14.52
Fass	1	1.61	16.13
Freedows	1	1.61	17.74
Grainge Wolof	1	1.61	19.35
Guy Jahanka	1	1.61	20.97
Hosnan	1	1.61	22.58
Jaguar Mandinka	1	1.61	24.19
Jailan	1	1.61	25.81
Jakaba	1	1.61	27.42
Jamally Ganiado	1	1.61	29.03
Jamally Kebba Jobe	1	1.61	30.65
Jareng Passi	1	1.61	32.26
Jarumeh Koto	1	1.61	33.87
Jarumeh Kuta	1	1.61	35.48
Jokul Ndowen	1	1.61	37.10
Kaur Diane Kunda	1	1.61	38.71
Kaur Jaanh Kunda	1	1.61	40.32
Kaur Janneh Kunda	1	1.61	41.94
Kaur Touray Kunda	1	1.61	43.55
Kaur Wharf Town	1	1.61	45.16
Kayai	2	3.23	48.39
Kerr Maila	1	1.61	50.00
Kerr Sait Saloum	1	1.61	51.61
Kofa	2	3.23	54.84
Konteh	1	1.61	56.45
Korean Sitokono	1	1.61	58.06
Kujew Village	1	1.61	59.68
Kuntaur Fulla Kunda	1	1.61	61.29
Kunting	2	3.23	64.52
Kunting Mandinka kunda	1	1.61	66.13
Lamin Koto	1	1.61	67.74
Leba Malick Mbye	1	1.61	69.35
Macca Saderr	1	1.61	70.97
Madina Lamin Kanteh	1	1.61	72.58
Madina Yankeh	1	1.61	74.19
Mbayen Sainey	1	1.61	75.81
Nema Samba	1	1.61	77.42
Nienhen	1	1.61	79.03
Njaw Sawalo	1	1.61	80.65

Njoben Fula	1	1.61	82.26
Pallang Mandinka	1	1.61	83.87
Panchang	1	1.61	85.48
Sam	1	1.61	87.10
Sarah Sedi	1	1.61	88.71
Sinchu Baya	1	1.61	90.32
Sotokoi	1	1.61	91.94
Touba Koto	1	1.61	93.55
Touba Kuta	1	1.61	95.16
Wassu	1	1.61	96.77
Wellingara Alpha	1	1.61	98.39
Yonna	1	1.61	100.00
Total	62	100.00	

Tabulation of name_village

Name of Villages in CRR SOUTH	Freq.	Percent	Cum.
Batty Njoll	1	2.33	2.33
Birkamanding	1	2.33	4.65
Brikamaba	1	2.33	6.98
Dankunku Village	1	2.33	9.30
Darsillameh	1	2.33	11.63
Daru	1	2.33	13.95
Dobong Kunda	3	6.98	20.93
Fulabantang	1	2.33	23.26
Fulladou Faraba	1	2.33	25.58
Fulladou Tabanani	1	2.33	27.91
Galleh Manda	1	2.33	30.23
Jahali	1	2.33	32.56
Jahally Village	1	2.33	34.88
Janjanbureh	2	4.65	39.53
Janjanbureh Darsillameh	1	2.33	41.86
Karantaba Dotokoto	1	2.33	44.19
Katamina Village	1	2.33	46.51
Kerewan Dumbokono	1	2.33	48.84
Kumbaney Mandinka	1	2.33	51.16
Kununku Village	1	2.33	53.49
Mabali Kuta	1	2.33	55.81
Madina Nfally	1	2.33	58.14
Mahmud Fana Village	1	2.33	60.47
Manneh Kunda	1	2.33	62.79
Manually Koto	1	2.33	65.12
Mawndeh Kunda	1	2.33	67.44
Morita Village	1	2.33	69.77
Nan_Ba	1	2.33	72.09
Njoben	1	2.33	74.42

Sambang Fula Kunda	1	2.33	76.74
Sambel Kunda	1	2.33	79.07
Saruja	1	2.33	81.40
Sinchu Alagie	1	2.33	83.72
Sinchu Gunda	1	2.33	86.05
Sinchu Gundo	1	2.33	88.37
Sinhu Alagie (Darusalam)	1	2.33	90.70
Sololo Mandinka	1	2.33	93.02
Sukurr	1	2.33	95.35
Touba Demba Sama	1	2.33	97.67
Wellingara Madina	1	2.33	100.00
Total	43	100.00	

APPENDIX C: List of Names of Representative of Horticultural Marketing Federations in NBR and CRR-North and South

SOLICITA MEMBERSHIP

FANKASO MARKETING FEDERATION CRR SOUTH

HEWAL MARKETING FEDERATION COMMUNITY

APPENDIX D: Survey Questionnaires

Agroecology and Organic Fertilizer ActionAid Study

SURVEY IDENTIFICATION INFORMATION
QUESTIONNAIRE DESCRIPTION

COVER
No sub-sections, No rosters, Questions: 4.

CONSENT
No sub-sections, No rosters, Questions: 1, Static texts: 1.

A. DEMOGRAPHIC INFORMATION OF THE RESPONDENTS
No sub-sections, No rosters, Questions: 10.

B. INVOLVEMENT IN COMMUNITY ORGANIZATIONS AND KNOWLEDGE OF AGRICULTURE POLICIES
No sub-sections, No rosters, Questions: 6.

C. ORGANIC FERTILIZER PRODUCTION AND USAGE
No sub-sections, No rosters, Questions: 14.

D. TRAINING AND SUPPORT
No sub-sections, No rosters, Questions: 10.

E. ENVIRONMENTAL PRACTICES AND SUSTAINABLE AGRICULTURE TECHNIQUES
No sub-sections, No rosters, Questions: 14.

APPENDIX A — CATEGORIES

LEGEND

COVER

1.Enumerator	SINGLE-SELECT enumerator 01 ○ Mariama Darboe 02 ○ Musa Manneh 03 ○ Muhammed Bah 04 ○ Fatou A Bajinka 05 ○ Fatoumata sanneh 06 ○ Bajereh
2. Supervisor	SINGLE-SELECT supervisor 01 ○ Alpha Sey 02 ○ Wally Jallow 03 ○ Foday Jarjusey
3. GPS coordinates	GPS gps_coordinates N W A
4. Date of Interview	DATE: CURRENT TIME date_interview

CONSENT

STATIC TEXT

I am %enumerator%, I work with the The Center for Policy, Research, and Strategic Studies (CepRass). The Center for Policy, Research, and Strategic Studies (CepRass) is a prestigious academic and policy research institution associated with the University of the Gambia, situated within the School of Business and Public Administration (SBPA). Our core activities encompass extensive research, consultancy services, and tailored training programs catering to both public and private entities within and beyond the Gambian borders. We boast a rich network of international collaborations, bolstering our mission across three focal areas. In a collaborative initiative with ActionAid International The Gambia, generously funded by the European Union, CepRass is embarking on a significant endeavor aimed at fortifying Civil Society Organization (CSO) support and advocacy for the sustainable production and utilization of organic fertilizer in The Gambia. As part of this noble initiative, we are conducting a comprehensive baseline study focusing on agroecology and organic fertilizer. Your esteemed participation in this endeavor is highly valued, as you have been selected as one of the fortunate Gambian citizens to contribute your invaluable insights on critical aspects of agroecology and organic fertilizer. Rest assured, all information provided will be treated with utmost confidentiality and anonymity. We sincerely request a small fraction of your time to respond thoughtfully to the following set of questions, which will serve as a cornerstone in shaping our understanding of these crucial issues and guiding future endeavors towards sustainable agricultural practices in The Gambia.

1. Are you willing to participate?	SINGLE-SELECT willin_participate 01 ○ Yes 02 ○ No

A. DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

E willin_participate==1

1. LGA	SINGLE-SELECT lga 01 ○ NBR 02 ○ CRR North 03 ○ CRR South
2.Name of Village.	TEXT name_village _____
3. Name of District	TEXT name_of_district _____
4. Name of Respondent.	TEXT name_of_respondent _____
5. Age Group of the respondent	SINGLE-SELECT age_group_respond 01 ○ Under 18 02 ○ 18-24 03 ○ 25-34 04 ○ 35-44 05 ○ 45-54 06 ○ Above 54
6. Sex of Respondent	SINGLE-SELECT sex_of_respond 01 ○ Male 02 ○ Female
7. Education Status	SINGLE-SELECT education_status 01 ○ Literate 02 ○ Not literate
8. Highest level attained E education_status==1	SINGLE-SELECT high_level_attain 01 ○ Primary 02 ○ Secondary 03 ○ Tertiary

9. Name of Ethnicity	SINGLE-SELECT name_of_ethnic 01 ○ Mandinka 02 ○ Fula 03 ○ Wollof 04 ○ Jola 05 ○ Serahuleh 06 ○ Manjago 07 ○ Aku 08 ○ Serrer 09 ○ Others
10. What is your Marital Status	SINGLE-SELECT mariatal_status 01 ○ Single 02 ○ Married 03 ○ Divorced 04 ○ Widow

B. INVOLVEMENT IN COMMUNITY ORGANIZATIONS AND KNOWLEDGE OF AGRICULTURE POLICIES

E willin_participate==1

11. Are you part of any Community-Based Organization (CBO) in your community or elsewhere ?	SINGLE-SELECT community_based_organi 01 ○ Yes 02 ○ No
12. If yes, which one? E community_based_organi==1	TEXT comuni_base_organi_yes _____
13. Are you familiar with any Agriculture Policy?	SINGLE-SELECT familiar_agric_policy 01 ○ Yes 02 ○ No
14. If yes, please specify the Agriculture Policy: E familiar_agric_policy==1	TEXT familiar_agric_policy_os _____
15. Have you participated in any policy dialogues?	SINGLE-SELECT partici_policy_dialog 01 ○ Yes 02 ○ No
16. If yes, which policy dialogue(s) were you part of? E partici_policy_dialog==1	SINGLE-SELECT which_policy_dialog 01 ○ Agroecology 02 ○ Organic Fertilizer 03 ○ Other

C. ORGANIC FERTILIZER PRODUCTION AND USAGE

E willin_participate==1

---

17. Do you produce organic fertilizer in your garden?

SINGLE-SELECT prod_organic_fertili

01 ○ Yes
02 ○ No

---

18. If yes, what type of organic fertilizer do you produce?

I Select All that apply
E prod_organic_fertili==1

MULTI-SELECT type_organi_fertil

01 ☐ Compost
02 ☐ Poultry waste
03 ☐ Cow dung
04 ☐ Fermented fish fertilizer
05 ☐ Lime
06 ☐ Others

18.1 Other organic fertilizer please specify

E type_organi_fertil.Contains(6)

TEXT organic_fertil_os

---

19. How do you produce organic fertilizer?

E prod_organic_fertili==1

MULTI-SELECT how_produce_organic

01 ☐ Chamber
02 ☐ Pit
03 ☐ Heap
04 ☐ Others

19.1 Other methods of producing organic ferilizer please specify

E how_produce_organic.Contains(4)

TEXT how_prod_organic_os

---

20. How much organic fertilizer do you produce this season?

E prod_organic_fertili==1

SINGLE-SELECT much_organic_produce

01 ○ < 1 Ton
02 ○ 1 - 2 Tons
03 ○ 2-3 Tons
04 ○ 3-4 Tons
05 ○ More than 4 Tons

---

21. How much organic fertilizer do you produce two years ago?

E prod_organic_fertili==1

SINGLE-SELECT organ_fertlz_prod_two

01 ○ < 1 Ton
02 ○ 1 - 2 Tons
03 ○ 2-3 Tons
04 ○ 3-4 Tons
05 ○ More than 4 Tons

---

22. Do you produce enough organic fertilizer for your garden?

E prod_organic_fertili==1

SINGLE-SELECT prod_enough_organic_fertil

01 ○ Yes
02 ○ No

---

23. If yes, what do you do with the excess? E prod_enough_organic_fertil==1	TEXT prod_enough_feriliz_yes _____
24. Has the application of organic fertilizer improved the yield of your farm produce compared to inorganic fertilizer?	SINGLE-SELECT organic_improve_produce 01 O Yes 02 O No
25. Do you face any challenges in the production of organic fertilizer? E prod_organic_fertili==1	SINGLE-SELECT challen_produc_organic_fertil 01 O Yes 02 O No
25.1. If yes, please specify according to their importance: E challen_produc_organic_fertil==1	TEXT specify_challan_pro_organic _____
26. Do you apply inorganic fertilizer?	SINGLE-SELECT apply_inorganic 01 O Yes 02 O No
27. If yes, how much inorganic fertilizer do you apply in relation to organic fertilizer? E apply_inorganic==1	SINGLE-SELECT inorganic_inr_organic 01 O < 1 bag 02 O 1 - 2 bags 03 O 2-3 bags 04 O 3-4 bags 05 O More than 4 bags

D. TRAINING AND SUPPORT

E willin_participate==1

28.Have you received any training on organic f ertilizer production?	SINGLE-SELECT train_organic_fertiliz 01 ○ Yes 02 ○ No
28.1 If yes which one? E train_organic_fertiliz==1	TEXT yes_train_organic
29. Have you received any training on organic f ertilizer processing?	SINGLE-SELECT organic_fertilz_procssin 01 ○ Yes 02 ○ No
29.1 If yes which one? E organic_fertilz_procssin==1	TEXT yes_organic_processin
30. Have you received any training on organic f ertilizer marketing?	SINGLE-SELECT organic_fertilz_marketin 01 ○ Yes 02 ○ No
30.1 If yes which one? E organic_fertilz_marketin==1	TEXT yes_organic_marketin
31. Overall, would you prefer using organic fert ilizer over inorganic fertilizer?	SINGLE-SELECT prefer_organic_inorganic 01 ○ Yes 02 ○ No
32. If yes, why? E prefer_organic_inorganic==1	TEXT pref_organic_yes
33. Have you received any support or assistanc e from any project?	SINGLE-SELECT receiv_support_project 01 ○ Yes 02 ○ No
34. If yes, please specify E receiv_support_project==1	TEXT yes_receiv_proj_supp

E. ENVIRONMENTAL PRACTICES AND SUSTAINABLE AGRICULTURE TECHNIQUES

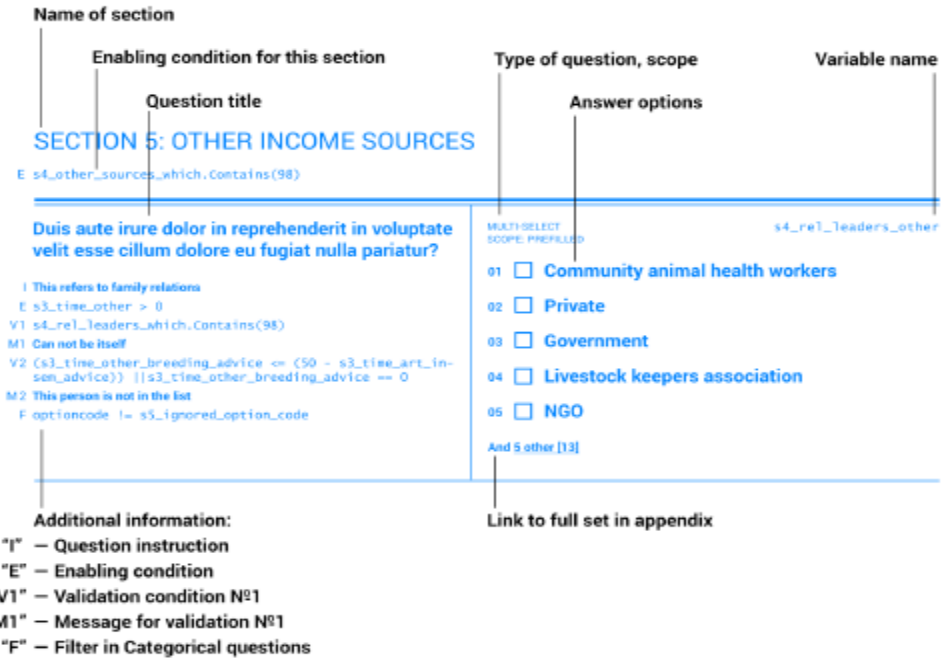
E willin_participate==1

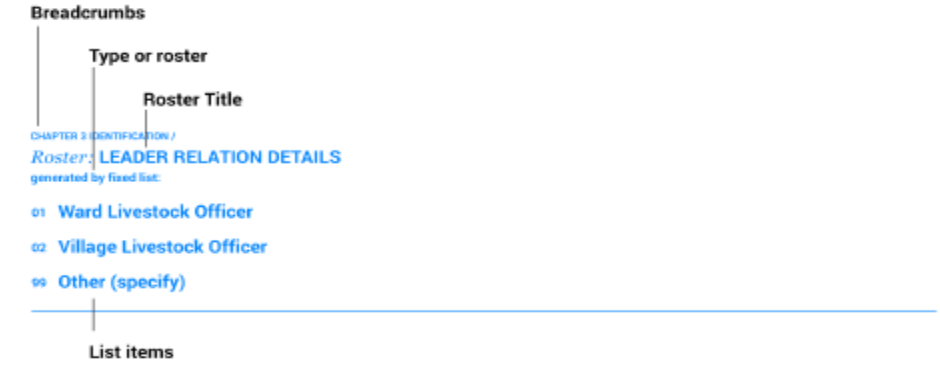
35. Have you benefited from any training on cir cular economy (waste to cash)?	SINGLE-SELECT 01 O Yes 02 O No	train_circular_economy
36. If yes, please specify the type of training: E train_circular_economy==1	TEXT	type_circular_train
37. Have you been trained on the negative effe cts of inorganic fertilizer on the environment?	SINGLE-SELECT 01 O Yes 02 O No	negative_inorganic_environ
38. Do you practice rainwater collection and/or waste recycling in your garden?	SINGLE-SELECT 01 O Yes 02 O No	water_recyclin_garden
39. Do you have any farm saved-seeds or com munity seed bank or seed saver network in you r area?	SINGLE-SELECT 01 O Yes 02 O No	seed_saver_network
40. Do you practice crop rotation in your farm?	SINGLE-SELECT 01 O Yes 02 O No	crop_rotation_farm
41. Do you practice habitat management throu gh planting particular plant species to encoura ge pollinators or pest predators?	SINGLE-SELECT 01 O Yes 02 O No	habitat_plant_species
42. Have you received any training on communi ty-based forest management or agroforestry?	SINGLE-SELECT 01 O Yes 02 O No	comuni_base_forest_train
43. Have you benefited from any farmer-to-far mer study tour/exchange visit on agroecology?	SINGLE-SELECT 01 O Yes 02 O No	bene_farmer_study
44. If yes, please specify: E bene_farmer_study==1	TEXT	bene_farmer_study_yes
45. Have you received any training on Climate R esilience and Sustainable Agriculture -CRSA (Cli mate Change Mitigation and Adaptation)?	SINGLE-SELECT 01 O Yes 02 O No	train_climate_resilien
46. If yes, please specify: E train_climate_resilien==1	TEXT	train_climate_resil_yes

47.How do you control pest in your garden?	MULTI-SELECT contr_pest_garden 01 ☐ Apply chemicals 02 ☐ Apply botanicals 03 ☐ Apply physical 04 ☐ Apply biological 05 ☐ Others, please specify
47.1 Others, please specify E contr_pest_garden.Contains(5)	TEXT contr_past_garden_os

LEGEND

Legend and structure of information in this file





APPENDIX E: FGD Guide

Project: Strengthening CSO Support and Advocacy for Sustainable Production and Use of Organic Fertilizer in The Gambia (SAPOF)"

Diagnostic Study on Agroecology and Organic Fertilizer Production and Usage in The Gambia

Method: Focus Group Discussion

Participants: Beneficiaries

A. Informed Consent:

You have been invited to participate in a focus group sponsored by CepRass under the direction of Action Aid International The Gambia, funded by the European Union, to conduct a Diagnostic Study on Agroecology and organic fertilizer. This is a follow-up to our earlier Baseline study on Agroecology and Organic Fertilizer Production and Usage.

Thank you for participating in this focus group discussion (FGD) on agroecology and organic fertilizer. Your insights are invaluable in shaping our understanding of these important topics. Before we begin, let's introduce ourselves and establish some ground rules for the discussion:

As part of this study, you will be placed in a group of 6 individuals. I as the moderator will ask you several questions while facilitating the discussion. As per standard research quality assurance requirements, and with your consent, this focus group will be audio-recorded and my colleague here will be the note-taker. However, your responses will remain confidential, and no names will be included in the final report. You can choose whether or not to participate in the focus group, and you may stop at any time during the course of the study.

Please note that there are no right or wrong answers to focus group questions. CepRass wants to hear the many varying viewpoints and would like for everyone to contribute their thoughts. Out of respect, please refrain from interrupting others. However, feel free to be honest even when your responses counter those of other group members.

Should you choose to participate, I will ask you to respect the privacy of other focus group members by not disclosing any content discussed here.

Researchers within CepRass will analyze the data, but—as stated above—your responses will remain confidential, and no names will be included in any reports.

If you have any questions or concerns regarding this study, please contact:

Name: Lamin Dampha Organization: CepRass Email/Phone: ldampha@utg.edu.gm/7838193

B. FGD Consent Form Signatures:

S/N	Name	Anonymous Code	Signature / Thumb print
1			
2			
3			
4			
5			
6			
7			
8			

C. Discussion Questions

INTRODUCTION

1. **Welcome and Purpose:**
   - Thank participants for joining the discussion.
   - Explain the purpose of the focus group: to gather insights on engagement, challenges, and opportunities in agroecology and organic fertilizer production.
2. **Ground Rules:**
   - Encourage open and honest communication.
   - Ensure confidentiality of the discussion.
   - Request respect for different opinions and experiences.
3. **Introductions:**
   - Ask participants to briefly introduce themselves and their involvement in agroecology and organic fertilizer production.

ENGAGEMENT IN AGROECOLOGY AND ORGANIC FERTILIZER PRODUCTION

Youth Engagement:

1. **Question:** How would you rate the level of youth engagement in agroecology and organic fertilizer production and usage?
    - **Probing:** Can you provide examples of youth-led initiatives or projects? What factors contribute to the current level of engagement?

Women Engagement:

2. **Question:** How would you rate the level of women engagement in agroecology and organic fertilizer production and usage?

- **Probing:** What are some success stories of women in these fields? What challenges do women face that may hinder their participation?

Training Programs for Disabled People:

3. **Question:** How effective do you find the training programs for disabled people in circular economy (CE), agroecology, and organic fertilizer production?

- **Probing:** What aspects of the training are most beneficial? What improvements could be made to these programs?

Training Quality for Extension Workers:

4. **Question:** How would you rate the training quality for extension workers in CE, agroecology, and organic fertilizer production?

- **Probing:** What specific training topics have been most useful? Are there any gaps in the training provided?

Journalist Engagement:

5. **Question:** How would you assess the engagement of journalists in the training of CE, agroecology, and organic fertilizer production?

- **Probing:** How does media coverage affect public awareness and participation? What more can be done to engage journalists?

CHALLENGES IN ORGANIC FERTILIZER PRODUCTION

Structures for Production:

6. **Question:** What structures do you have in place for the production of organic fertilizers?

- **Probing:** How do these structures support production? Are there any structural improvements needed?

Challenges in Obtaining Raw Materials:

7. **Question:** What are the main challenges you face in obtaining raw materials for organic fertilizer production? (Select all that apply)

- **Probing:** How do these challenges affect your production process? What solutions could help mitigate these challenges?

Funding Situation:

8. **Question:** How would you describe your funding situation for organic fertilizer production?

- **Probing:** What sources of funding do you rely on? What additional funding options could be explored?

Knowledge on Production and Usage:

9. **Question:** How would you rate your knowledge on the production and usage of organic fertilizer?

- **Probing:** What areas of knowledge need improvement? How can training programs be enhanced?

Access to Tools and Equipment:

10. **Question:** What challenges do you face in accessing tools and equipment for organic fertilizer production and usage?

Probing: How do these challenges impact your operations? What specific tools or equipment are most needed?

Modern Technologies:

11. **Question:** What challenges do you face in accessing modern technologies on organic fertilizer production and usage?

Probing: How can technology access be improved? What technologies have you found most beneficial?

Information and Data Access:

12. **Question:** What constraints do you experience in accessing information and data on the production and usage of organic fertilizers?

Probing: How do you currently access information? What improvements could be made to information dissemination?

Accessibility of Organic Fertilizers:

13. **Question:** How easy is it for you to access organic fertilizers from agricultural input shops?

Probing: What factors influence accessibility? How can access be improved?

Support and Supplies:

14. **Question:** What constraints do you face in receiving support and supplies for organic fertilizer production?

Probing: How do these constraints affect your production capacity? What types of support are most needed?

Transportation Challenges:

15. **Question:** What challenges do you face in transporting fertilizer products and raw materials for production?

Probing: How do transportation issues impact your business? What solutions could help alleviate these challenges?

Information on Standards:

16. **Question:** How would you rate the availability of information on recommended standards for the production and usage of organic fertilizers?

Probing: How do you currently access information on standards? What improvements are needed in this area?

Impact of Chemical Fertilizer Costs:

17. **Question:** Has the increase in the cost of chemical fertilizers led to higher production and usage of organic fertilizers in your community?

Probing: How has this shift affected your practices? What further changes have you observed?

OPPORTUNITIES FOR ORGANIC FERTILIZER PRODUCTION

Infrastructure:

18. **Question:** Do you have the necessary infrastructure for the production of organic fertilizers?

Probing: What infrastructure is currently in place? What additional infrastructure is needed?

Knowledge and Skills:

19. **Question:** How would you rate your knowledge and skills in the production of organic fertilizers?

Probing: What specific skills are most beneficial? What training programs have you participated in?

Availability of Tools:

20. **Question:** How would you rate the availability of tools for the production and usage of organic fertilizers?

Probing: What tools are most critical? How can tool availability be improved?

Raw Materials:

21. **Question:** How sufficient are the raw materials for organic fertilizer production? -

Probing: What raw materials do you primarily use? What challenges do you face in sourcing these materials?

Market Adequacy:

22. **Question:** Are there adequate markets for the sale of organic fertilizers?

Probing: How do you access these markets? What market improvements are needed?

Political Will:

23. **Question:** How does the political will affect your ability to produce and use organic fertilizers?

Probing: How have policies supported or hindered your efforts? What policy changes would be beneficial?

Socio-Economic Environment:

24. **Question:** How has the socio-economic environment supported your production and usage of organic fertilizers?

Probing: What socio-economic factors have the most impact? How can the environment be more supportive?

Training Impact:

25. **Question:** Will added training provide you with the requisite knowledge about the production and usage of organic fertilizers?

Probing: What specific training topics would be most beneficial? How can training programs be improved?

CHALLENGES IN AGROECOLOGY

Availability of Trained Personnel:

26. **Question:** How would you rate the availability of trained personnel in agroecology in your community?

Probing: What training programs have been effective? What are the gaps in training?

Funding Adequacy:

27. **Question:** How adequate are the funds for implementing agroecology practices? -

Probing: What are the main sources of funding? How can funding be improved?

Youth Awareness:

28. **Question:** How aware are the youth about agroecology practices?

Probing: What initiatives have increased youth awareness? What more can be done?

Youth Interest:

29. **Question:** How interested are the youth in the implementation of agroecology?

Probing: What factors influence youth interest? How can engagement be increased?

Women Awareness:

30. **Question:** How aware are the women about agroecology practices?

Probing: What initiatives have increased women's awareness? What more can be done?

Women Interest:

31. **Question:** How interested are the women in the implementation of agroecology? -

Probing: What factors influence women's interest? How can engagement be increased?

PWD Awareness:

32. **Question:** How aware are the people living with disabilities (PWD) about agroecology practices?

Probing: What initiatives have increased PWD awareness? What more can be done?

PWD Interest:

33. **Question:** How interested are the PWD in the implementation of agroecology?

Probing: What factors influence PWD interest? How can engagement be increased?

Availability of Land:

34. **Question:** How would you rate the availability of land for practicing agroecology? -

Probing: What challenges do you face in accessing land? How can land access be improved?

Pesticide Usage:

35. **Question:** How frequently do you use pesticides in agroecology practices?

Probing: What alternatives to pesticides do you use? How can pesticide usage be reduced?

Qualification of Extension Workers:

36. **Question:** How would you rate the qualification of extension workers in agroecology? **Probing:** What training have extension workers received? What further training is needed?

Empowerment of Women:

37. **Question:** How empowered are women in the implementation of agroecology practices? **Probing:** What initiatives have empowered women? What further empowerment is needed?

Land Tenure System:

38. **Question:** How does the land tenure system affect the implementation of agroecology? **Probing:** What changes in the land tenure system would

Do you have questions, comments, or anything that you would like to add that we have not yet talked about or that you would like to stress again?

Thank you.

Summary of interview (to be completed by the interviewer/transcriber)
[Please write down your general impressions on how the discussion went, the participants' behaviour, their way to answer questions during the discussion etc.]