



PHOTO: Participants attending a group discussion on soil health and waste management during the baseline survey.

# Baseline Survey

Enhancing Soil Health & Agricultural Sustainability in Kitoba, Hoima District.

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# 01. Executive Summary

Soil Health & Climate Action Network (SHCAN) conducted a baseline survey in Kitoba Sub-County, Hoima District, involving 57 farmers and 3 focus group discussions (FGDs), to assess current farming practices, soil health, climate perceptions, and readiness for sustainable agriculture interventions. The survey found that farming is the primary livelihood (86%), mainly practised by middle-aged and older adults, with women slightly predominant.

Most farmers (77%) rely on rented land, limiting long-term investments in soil fertility. Soil management practices are uneven: Furthermore, it was found that 26% of farmers use chemical fertilisers, 23% apply manure, 16% practice crop rotation, while 23% do not improve soil fertility. It was found that awareness of regenerative agriculture is high (86%) and most farmers (95%) are willing to adopt new techniques; however, practical skills, particularly the use of alternative fertilisers such as urine or compost, remain limited. It was also found out that waste management knowledge is low, with only 18% having experience with human waste composting, though 89% are willing to try treated urine as fertiliser.

Farmers report noticeable climate variability, including irregular seasons, reduced rainfall, and extreme heat, which affects crop growth and yields. Coping strategies to climate change are largely reactive, with 39% taking no preventive measures. Participants emphasised challenges like low yields, pest infestations, and the need for technical guidance, with one noting: *“We are ready to try new methods, but we need guidance on how to use them properly.”*

The baseline demonstrates strong potential for sustainable practice adoption if farmers are supported through capacity building in regenerative agriculture and safe use of human waste-based fertilisers, input provision such as affordable fertilisers and improved seeds, and financial assistance through accessible agricultural loans. Further support in climate adaptation, youth engagement, and for vulnerable groups is recommended, alongside monitoring and follow-up to track progress.

This assessment highlights clear entry points for interventions aimed at enhancing soil health and agricultural sustainability in Kitoba Sub-County.

**Keywords:** *Soil health, Agricultural sustainability, Agricultural inputs, Regenerative agriculture, Climate adaptation, Smallholder farmers, Capacity building, Input support, Organic fertilisers, Waste-based fertilisers.*

## 02. Project Background

The Soil Health and Climate Action Network (SHCAN) conducted a baseline survey in Kitoba Sub-county, Hoima District, Western Uganda, as part of its ongoing efforts to promote sustainable soil management and improve smallholder farmers' resilience to climate change. Kitoba is a small sub-county, located to the north of Hoima City, and is one of the four (4) sub-counties that make up Bugahya County, in Hoima District.

The survey covered seven villages, namely; Birungu East, Birungu West, Bujwahya, Kihomboza, Kitembeka, Kyakataba, and Mbaraara.

The exercise aimed to collect essential data to guide the implementation of a soil health project which was designed to strengthen sustainable farming practices, enhance soil fertility, and promote the adoption of eco-friendly technologies among smallholder farmers in this community.

The baseline survey sought to understand farmers' current knowledge, attitudes, and practices related to soil management, organic fertiliser usage, and their understanding of sustainable agriculture. Using a mixture of household interviews, and small group discussions, the study identified key barriers and motivators influencing farmers' adoption of climate-smart and organic soil improvement practices.

The data collected will serve as a benchmark for evaluating project impact and designing context-specific interventions. The project also includes experimental field trials to test various organic bio-nutrient soil treatments, such as combinations of urine, biochar, animal manure, and compost. These are being conducted across four experimental plots within the sub-county. Furthermore, a urine-diverting (UD) demonstration toilet will be installed to promote awareness and acceptance of nutrient recovery technologies, helping to reduce stigma while enhancing soil fertility management through circular resource use.

The findings from this baseline survey are crucial to informing evidence-based decision-making throughout the project lifecycle. Further more, they will provide a foundation for tracking progress, refining intervention strategies, and measuring the project's contribution to improved soil fertility, higher crop yields, and increased farmer incomes.

This survey has helped SHCAN to establish a clear understanding of the existing conditions and challenges faced by smallholder farmers in Kitoba Sub-county. It will therefore help us ensure that project activities remain responsive to local challenges and aligned with SHCAN's broader mission of promoting agroecology, climate action, and community-driven development.

# 03: Introduction, Objectives & Methodology

## Introduction

Soil health is central to agricultural productivity and sustainability. In Hoima District, declining soil fertility, poor farming practices, and climate change threaten food security and livelihoods. Soil health is a critical determinant of agricultural productivity and long-term sustainability. In Uganda, particularly in Hoima District, farming households depend heavily on the fertility of their soils to sustain livelihoods, ensure food security, and generate income. However, challenges such as declining soil fertility, unsustainable farming practices, and climate variability continue to threaten agricultural productivity.

Soil Health & Climate Action Network (SHCAN) through the project “*Enhancing Soil Health and Agricultural Sustainability in Kitoba*”, conducted a baseline survey to understand farmers’ practices, perceptions, and challenges in order to inform future interventions.

## Strategic Objectives

The survey sought to:

- Profile household and socio-economic characteristics of smallholder farmers.
- Document current farming and soil management practices.
- Assess awareness and attitudes toward regenerative agriculture and organic fertilisers.
- Capture perceptions of climate change and coping strategies.
- Identify opportunities and barriers to adopting agricultural sustainable practices in the area.

## Methodology

The survey employed a mixed-methods approach, combining quantitative and qualitative data collection techniques. Through random sampling, 57 farmers from 7 villages in Kitoba Sub- County were surveyed using a structured questionnaire administered on KoboCollect. To enrich the data, 3 focus group discussions were held with farmers, providing insights into collective experiences and attitudes toward soil health and sustainable agriculture.

## Purpose of the survey

To understand the factors influencing the adoption of sustainable agricultural practices among smallholder farmers in Kitoba sub-county, Hoima District.

# 04: Household & Demographic Information

This section captures key details about the respondent’s background, household composition, education, income sources, and land ownership, providing context for understanding farming practices and livelihoods.

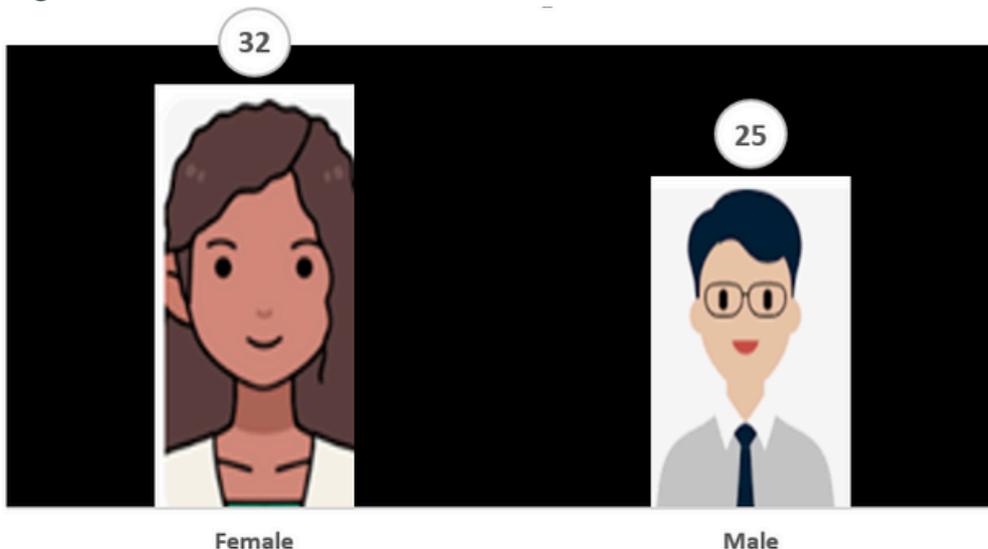
**Table 1: Respondents by Village and Parishes**

Parishes	#Respondents by Village							Total
	Birungu East	Birungu West	Bujwahya	Kihomboza	Kitembeka	Kyakataba	Mbaraara	
Birungu	3	20			8			31
Bujumbura			1	1				2
Bulyango						5	10	15
Kihomboza			9					9
<b>Grand Total</b>	<b>3</b>	<b>20</b>	<b>10</b>	<b>1</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>57</b>

Source: SHCAN Baseline data, 2025

Table 1: indicates that out of the 57 respondents, the majority were from Birungu Parish (31, 54.4%), followed by Bulyango (15, 26.3%), Kihomboza (9, 15.8%), and Bujumbura (2, 3.5%). At village level, Birungu West (20, 35.1%) and Birungu East (3, 5.3%) dominated within Birungu Parish, while Kyakataba (5, 8.8%) and Mbaraara (10, 17.5%) made up Bulyango Parish.

**Figure 1: Gender of Respondents**



Source: SHCAN Baseline data, 2025

Figure 1 shows that out of 57 respondents, 32 were female (56.1%) and 25 male (43.9%), indicating a slight female majority and reflecting women’s strong involvement in farming in Kitoba Sub- County.

**Table 2: Gender Vs Age**

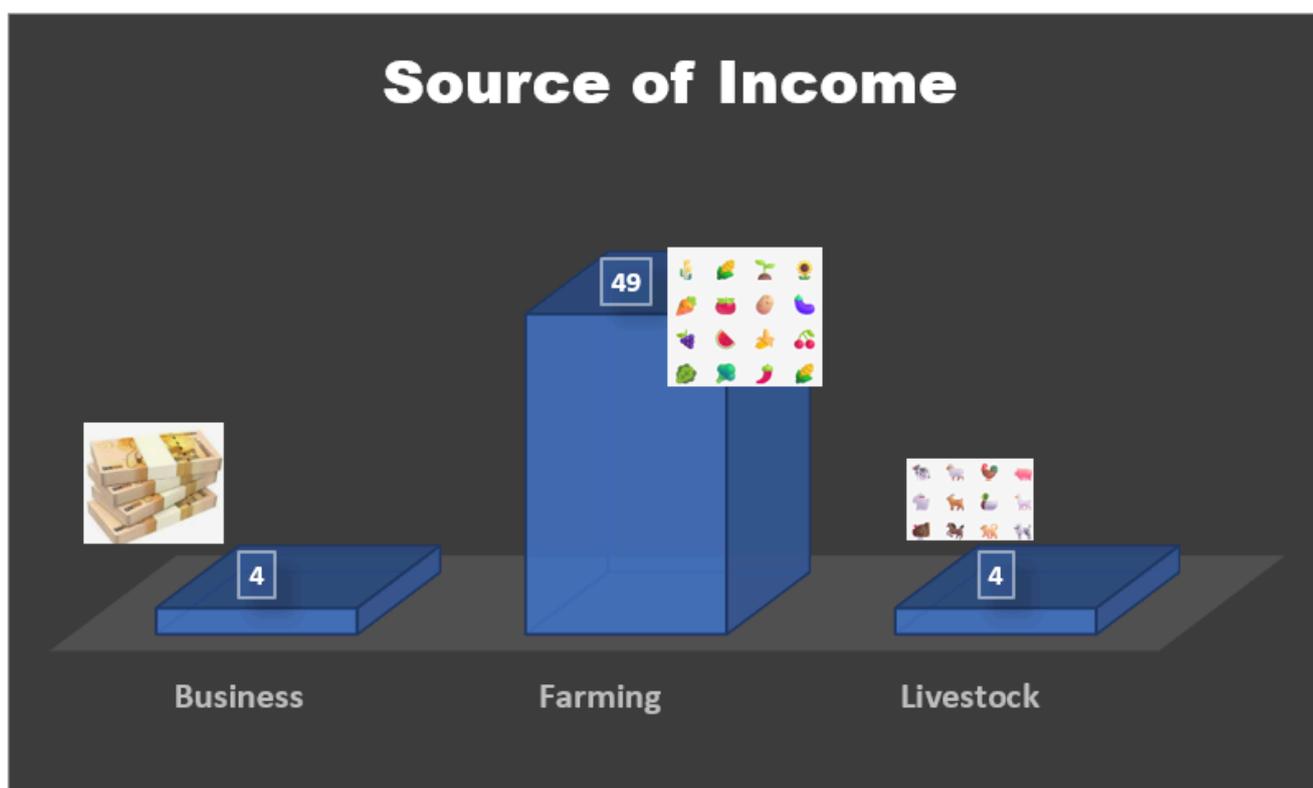
Gender	Age Bracket				Total
	18-25	26-35	36-45	Above 45	
Female	2	5	12	13	3
Male	1	4	10	10	25
<b>Grand Total</b>	<b>3</b>	<b>9</b>	<b>22</b>	<b>23</b>	<b>57</b>

Source: SHCAN Baseline data, 2025

Table 2 shows that most respondents were aged above 45 years (23, 40.4%) and 36–45 years (22, 38.6%), while only 12 (21.0%) were below 35 years. Females slightly outnumbered males across all age groups, particularly in the 36–45 and above 45 brackets. This suggests that farming in Kitoba Sub-County is largely dominated by middle-aged and older adults, with relatively low youth participation, highlighting potential challenges for generational succession in agriculture.

For triangulation purposes, results from the FGD indicate that; A participant from FGD 2 (Mbaraara Village) noted, “Youth are not very involved; if we don’t train them, knowledge might be lost.”

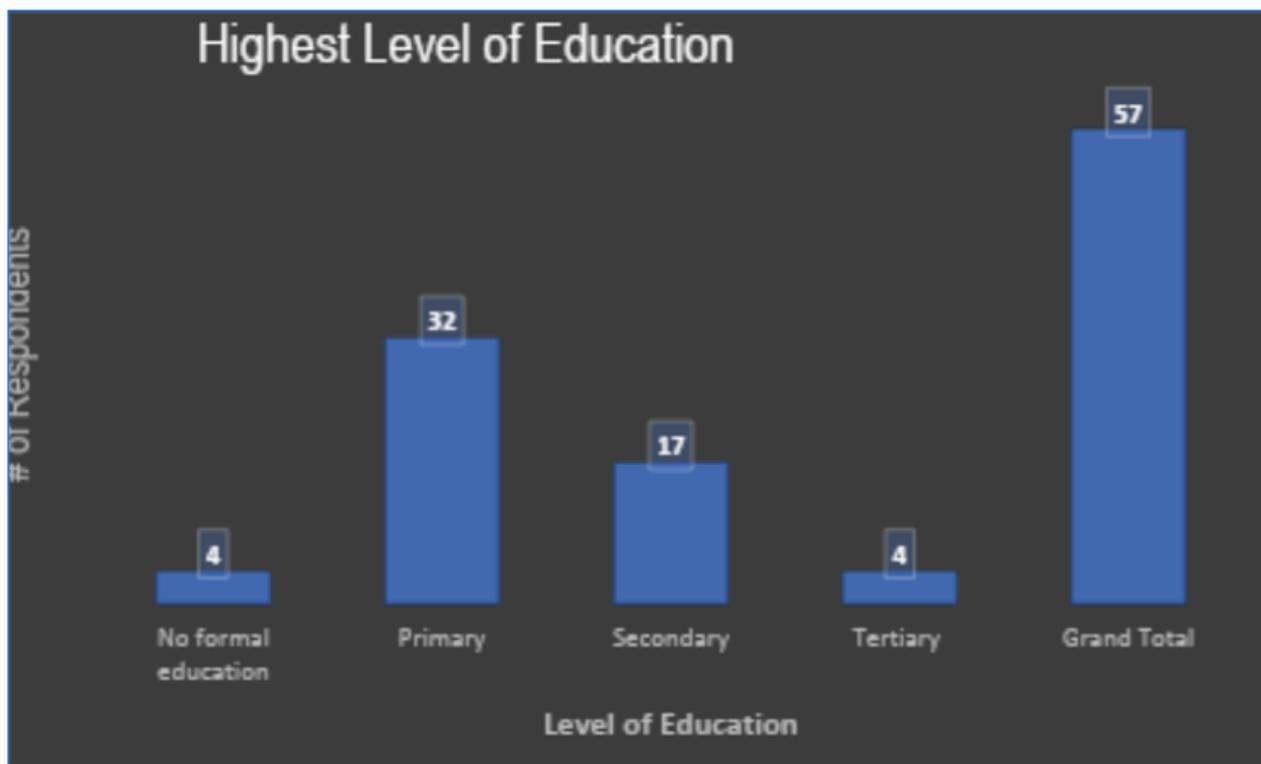
**Figure 2: Source of Income**



Source: SHCAN Baseline data, 2025

Figure 2 shows that out of the 57 participants surveyed, 49 (86.0%) rely on farming as their main source of income, while 4 (7.0%) rely on business and 4 (7.0%) on livestock, highlighting the dominant role of crop farming in sustaining livelihoods in Kitoba Sub-county.

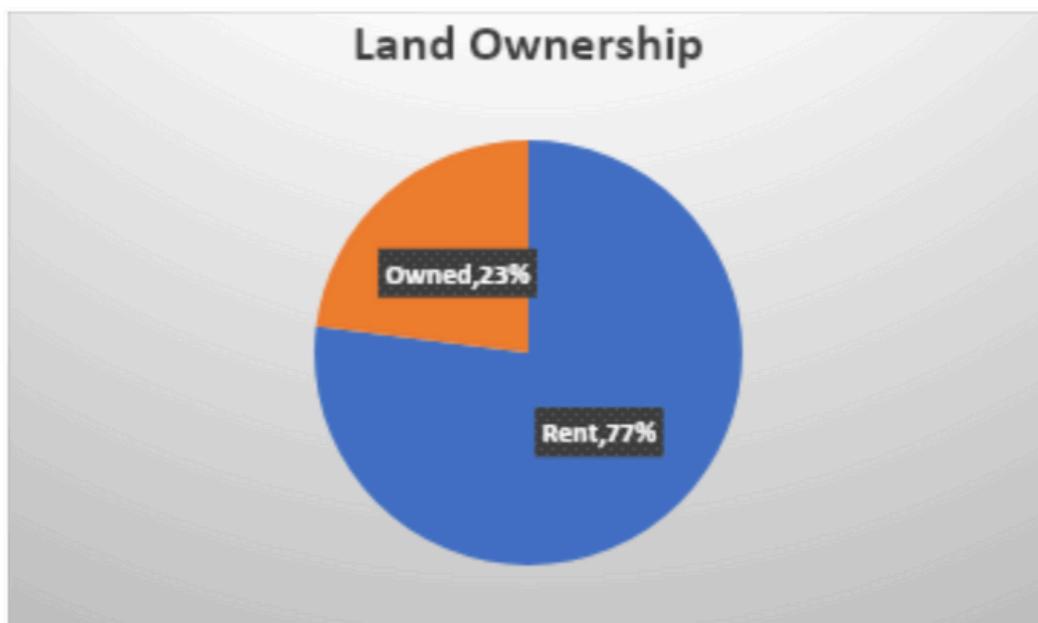
**Figure 3: Level of Education**



Source: SHCAN Baseline data, 2025

Figure 3 shows the highest level of education among the 57 respondents. The majority had primary education (32, 56.1%), followed by secondary education (17, 29.8%). Only 4 respondents (7.0%) had no formal education, and another 4 (7.0%) had tertiary education. This indicates that most farmers in Kitoba Sub-County have basic literacy, which may facilitate the adoption of improved farming practices.

**Figure 4: Land Ownership Status**



Source: SHCAN Baseline data, 2025

Figure 4 above shows that a majority of the farmers in Kitoba Sub-County, Hoima District (77%), rely on rented land for their farming activities, while only 23% own the land they cultivate.

This indicates that most farmers face land tenure insecurity, which may limit long-term investments in soil fertility improvement and sustainable agricultural practices.

However, one participant from FGD 1 (Bujwahya Village) was quoted as saying: *“I am proud that I can provide for my family even on rented land, but I wish we owned it.”*

## 05: Soil & Waste Management

This section presents farmers’ practices for maintaining and improving soil fertility, highlighting current methods and perceptions in Kitoba Sub-County.

### 5.1 Soil Composition

**Table 3: Methods used to Improve soil fertility**

Methods used to improve soil fertility in Kitoba Sub County, Hoima	# of Participants	Percentage (%)
Crop rotation	9	16%
Fallowing	2	4%
Fertilizer application	15	26%
Manure Application	13	23%
Mulching	2	4%
None	13	23%
Restorative crop growing	2	4%
Tractor ploughing	1	2%
<b>Grand Total</b>	<b>57</b>	<b>100%</b>

Source: SHCAN Baseline data, 2025

Table 3 shows that farmers in Kitoba Sub-County employ various methods to improve soil fertility. The most common practice is fertiliser application (26%), followed by manure application (23%) and crop rotation (16%).

Notably, 23% of farmers do not use any soil improvement methods, indicating a significant gap in soil fertility management. Less common practices include fallowing, mulching, restorative crop growing, and tractor ploughing.

**Figure 5: Soil Description by Participants**



Source: SHCAN Baseline data, 2025

The baseline assessment shows that most farmers in Kitoba Sub- County perceive their soil fertility as moderate (52 farmers, 91%). Only 1 farmer (2%) reported very good fertility, 3 farmers (5%) reported poor fertility, and 1 farmer (2%) indicated declining fertility. This highlights the need for targeted soil improvement interventions in the area.

### Triangulation of voices from Focus Group Discussions (FGD):

A participant from FGD 3 (Kyakataba Village) said, “Our soil changes every season; some parts are good, others moderate. Yields are low, so we try fertilisers and manure.”

Another from FGD 1 mentioned (Bujwaha Village) said, “We use a mix of chemical fertiliser, urine, and manure to help our crops grow better.”

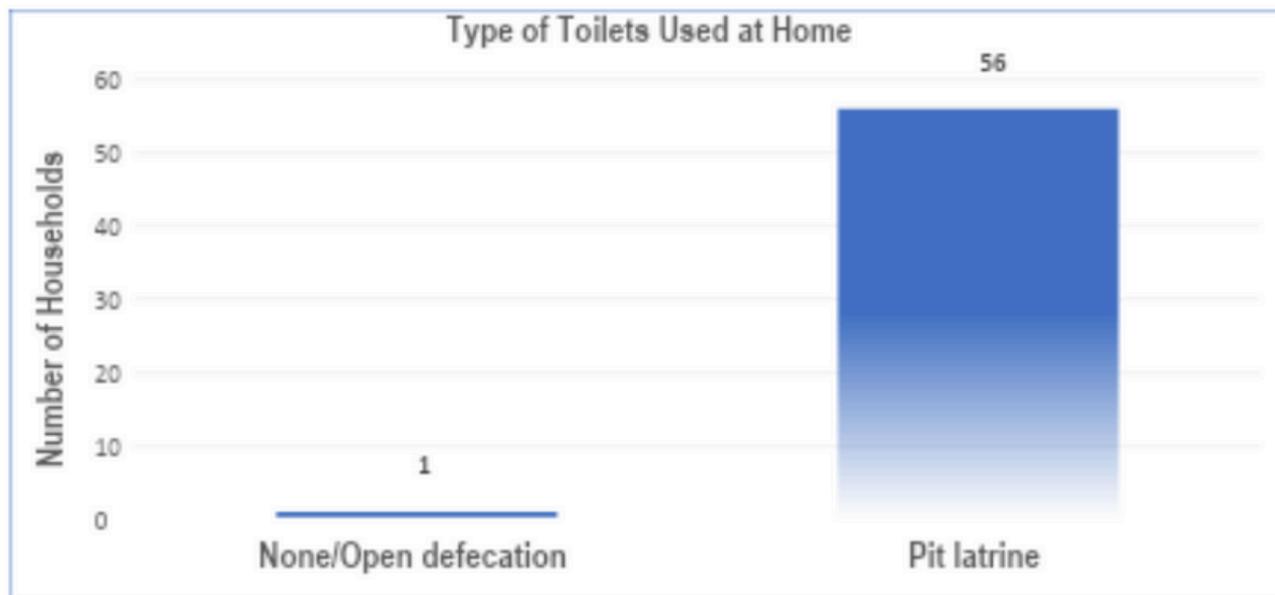
A participant from FGD 2 added (Mbaraara Village) said, “Crop rotation helps, but it’s not enough because the soil still loses nutrients quickly.”

In general, soil fertility is variable; farmers employ both chemical and organic strategies but lack consistent and effective soil management.

## 5.2 Waste Management

Waste management is vital for soil fertility and sustainable farming. The survey assessed sanitation practices and farmers’ knowledge and willingness to use treated human waste as fertiliser.

**Figure 6: Type of Toilets Used in Homes**



Source: SHCAN Baseline data, 2025

The survey revealed that the vast majority of households in Kitoba Sub-County use pit latrines (56 farmers, 98%), while only 1 household (2%) practices open defecation.

**Table 4: Experience or knowledge about urine recycling or human waste**

Experience or knowledge about urine recycling or human waste	Response	Farmers	% of Total (57)
Would you be willing to use urine as fertilizer if it's treated and safe?	Yes	51	89%
	No	3	5%
	Not sure	3	5%
Experience or knowledge about urine recycling or human waste composting	Yes	10	18%
	No	47	82%
Challenges that would prevent Farmers from using human waste-based fertilizers	Lack of skills	39	68%
	High costs involved	10	18%
	Bad smell	6	11%
	Labour intensive	1	2%
	Breeding place for pests	1	2%

The baseline survey (Table 4 above) shows that a majority of farmers (51 farmers, 89%) are willing to use treated urine as fertiliser, while only 3 farmers (5%) refused and 3 (5%) were unsure. However, experience with urine recycling or human waste composting is limited, with only 10 farmers (18%) having knowledge and 47 farmers (82%) lacking experience.

The main challenges preventing adoption include lack of skills (39 farmers, 68%), high costs (10 farmers, 18%), bad odour (6 farmers, 11%), and labour-intensive processes or pest concerns (1 farmer each, 2%).

This calls for the need for training, cost-effective solutions, and awareness campaigns about utilising human waste as an alternative to soil health improvement.



PHOTO: Participants from Kyakataaba Village attending a focus group discuss for the baseline survey.

## 06: Awareness & Attitudes

This section presents farmers' awareness, attitudes, and perceptions regarding modern and sustainable farming practices, including regenerative agriculture and the use of urine or composted waste as fertilisers.

**Table 5: Awareness & Attitudes on Farming Practices**

Category / Question	Category	Farmers	% of Total (57)
Awareness of regenerative agriculture	Yes	49	86%
	No	8	14%
Sources of farming knowledge or training	NGO	21	37%
	Radio	18	32%
	Other farmers	9	16%
	None	6	11%
	Extension worker	2	4%
	Internet	1	2%
Openness to adopting new farming techniques	Yes	54	95%
	No	2	4%
	Maybe	1	2%
Community acceptance of urine or composted waste as fertilizer	Yes	52	91%
	No	3	5%
	Not sure	2	4%
Concerns about using urine or composted waste as fertilizer	Require training	41	72%
	Expensive	9	16%
	Good practice	2	4%
	Infections and diseases	1	2%
	Bad feeling about them	1	2%
	Fertilizer sometimes burns crops	1	2%
	Time consuming	1	2%
	Yields poor variety of crops	1	2%

Source: SHCAN Baseline data, 2025

Most farmers sampled from Kitoba Sub-County are aware of regenerative agriculture, with 49 out of 57 respondents (86%) reporting familiarity with the concept, while 14% remain unaware.

The main sources of farming knowledge are NGOs (37%) and radio (32%), followed by information from other farmers (16%), with very few relying on extension workers (4%) or the internet (2%).



# 07: Environmental Perception and Climate

This section presents farmers’ awareness and perceptions of climatic and environmental changes affecting agriculture in Kitoba Sub-County.

**Table 6: Environmental Perception and Climate**

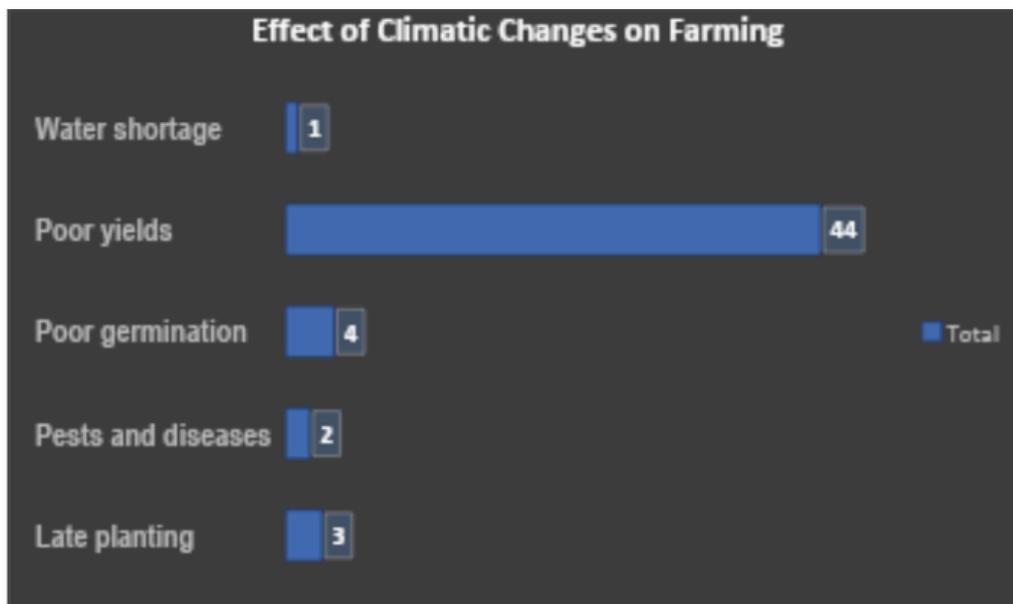
Awareness and changes	Category	Farmers	% of Total (57)
Awareness of the climatic and environmental changes	Yes	54	95%
	No	3	5%
Type of Change Observed	Less rainfall	18	32%
	Irregular seasons	32	59%
	Droughts	7	13%
	Hotter temperatures	8	15%

Source: SHCAN Baseline data, 2025

Table 6 shows that most farmers (54 farmers, 95%) are aware of changes in climate and the environment, while only 5% reported no awareness. Among those who observed changes, the most commonly reported issues were irregular seasons (59%) and reduced rainfall (32%), with fewer farmers noting hotter temperatures (15%) and droughts (13%).

These perceptions indicate that farmers are experiencing noticeable climatic variability, which has implications for farming planning and adaptation strategies.

**Figure 7: Effect of Climatic Changes on Farming**



Source: SHCAN Baseline data, 2025

Figure 7 shows that poor crop yields are the primary impact of climatic changes, affecting 44 out of 57 farmers. Other challenges reported include poor germination (4 farmers), late planting (3 farmers), pests and diseases (2 farmers), and water shortages (1 farmer).

These findings highlight that while all farmers experience some effects of climate variability, the most critical concern is reduced agricultural productivity, emphasizing the need for adaptive strategies to mitigate climate-related risks.

**Table 7: Coping strategies used during bad seasons by the Farmers**

Coping Strategy	Farmers	% of Total (57)
Afforestation	3	5%
Fertilizer and Pesticide application	15	26%
Hoarding of seeds	2	4%
Mulching	1	2%
None	22	39%
Planting resistant crops	2	4%
Planting seasonal crops	4	7%
Timely harvesting	5	9%
Timely planting	3	5%
<b>Total</b>	<b>57</b>	<b>100%</b>

Source: SHCAN Baseline data, 2025

Table 7 shows that 39% of farmers (22/57) do not employ any coping strategy during bad seasons, highlighting high vulnerability. Among those who adopt strategies, fertiliser and pesticide application is most common (26%, 15/57), followed by timely harvesting (9%, 5/57) and planting seasonal crops (7%, 4/57).

Other strategies like afforestation, timely planting, planting resistant crops, hoarding seeds, and mulching are rarely used (2–5%).

Overall, proactive and preventive measures are limited, with farmers mainly relying on reactive practices.

**To triangulate with the quantitative results, FGD Voices were captured;**

A participant from FGD 3 said, “Prolonged rain and short dry spells are destroying crops. Sometimes we can’t tell when to plant.”

Another from FGD 1 observed, “Hot days dry our beans, and pests increase when temperatures rise.”

A participant from FGD 2 emphasised, “Before, we knew exactly when each season starts, but now everything is unpredictable.”

In general, climate variability is severe in the area, affecting crop growth, yields, and planning, highlighting the need for adaptive strategies.

## 08: Feedback from Farmers

**Table 8: Recommendations for Improving Soil Fertility**

Requests from the Farmers	Farmers	Percentage (%)
Assistance with agriculture loans	14	25%
Employment opportunities	1	2%
Fertilizer provision	18	32%
Provision of agriculture loans	1	2%
Support to PWDs with wheel chairs	1	2%
Support with good agronomic practices	22	39%
<b>Grand Total</b>	<b>57</b>	<b>100%</b>

Source: SHCAN Baseline data, 2025

Farmers' wishes (Table 8) show that 39% (22/57) seek support with adopting good agronomic practices, 32% (18/57) wish to be supported with acquiring organic fertilisers, and 25% (14/57) would love to get assistance with agricultural loans.

Less frequently cited needs from farmers include employment opportunities, provision of agriculture loans, and support for PWDs with wheelchairs, at 2% (1/57) each.

Overall, most farmers prioritize knowledge and input support to improve soil fertility and harvest outcomes.

## 09: Recommendations

The following general recommendations were developed based on the discussions and outcomes from the baseline survey for the project.

### 01. Capacity Building:

Implement targeted training on sustainable soil fertility management, including composting, regenerative agriculture techniques, and safe use of human waste-based fertilisers.

### 02. Input Support:

Facilitate access to affordable fertilizers, improved seeds, and other essential agricultural inputs to enhance productivity.

### 03. Agricultural Loans:

Develop accessible agricultural loan schemes tailored to smallholder farmers to enable investment in soil and crop management.

### 03. Climate Adaptation:

Promote proactive coping strategies such as drought-resistant crops, timely planting, mulching, and afforestation to mitigate climate-related risks.

### 04. Youth Engagement:

Encourage youth participation in agriculture through mentorship programs, training, and incentives to ensure generational continuity.

### 05. Monitoring and Follow-up:

Conduct regular follow-up surveys and participatory evaluations to track adoption of practices and identify emerging challenges.

## 10: Conclusion

The baseline survey in Kitoba Sub-County shows that farming is mainly practised by middle-aged and older adults, with women slightly predominant. Farming is the primary livelihood (86%), yet most farmers work on rented land (77%), limiting long-term soil investments. Soil fertility practices are uneven: 26% use fertilisers, 23% apply manure, and 23% use no improvement methods.

Awareness of regenerative agriculture is high (86%), and 95% are willing to adopt new techniques, but practical skills, especially for alternative fertilisers, remain limited. Farmers face climate variability, with irregular seasons and reduced rainfall affecting yields, and coping strategies are mostly reactive.

Farmers prioritise training in good agronomic practices (39%) and access to inputs such as fertilisers (32%) and agricultural loans (25%), indicating strong potential for sustainable practice adoption if supported appropriately.

# 01: Annex

## Baseline Survey Questionnaire

**Project: Enhancing Soil Health and Agricultural Sustainability in Kitoba, Hoima**

Survey Number: \_\_\_\_\_ Date: \_\_\_\_\_ Enumerator Name: \_\_\_\_\_

Village/Parish: \_\_\_\_\_

### Section 1: Household & Demographic Information

Name of respondent: \_\_\_\_\_

Age: \_\_\_\_\_ Gender:  Male  Female  Other

Phone number (optional): \_\_\_\_\_

Marital status:  Single  Married  Widowed  Divorced

Household size: \_\_\_\_\_

Education level:  No formal education  Primary  Secondary  Vocational  Tertiary

Main source of income:  Farming  Livestock  Business  Employment  Other: \_\_\_\_\_

Do you own land?  Yes  No

If yes, how many acres? \_\_\_\_\_

Do you rent or share land for farming?  Yes  No

### Section 2: Current Agricultural Practices

What crops do you currently grow? (List all) \_\_\_\_\_

Do you use chemical fertilizers?  Yes  No

If yes: Which types? \_\_\_\_\_ Quantity per season? \_\_\_\_\_

Do you use animal manure?  Yes  No

If yes, how is it stored/applied? \_\_\_\_\_

Do you make or use compost?  Yes  No

What do you do with crop residues after harvest?  Burn  Compost  Leave on field

Feed to animals  Other: \_\_\_\_\_

Do you practice any of the following: - Intercropping?  Yes  No - Crop rotation?  Yes

No - Minimum tillage (reduced ploughing)?  Yes  No

Do you use irrigation?  Yes  No

If yes, what method? \_\_\_\_\_

### Section 3: Soil & Waste Management

How would you describe your soil fertility?  Very good  Moderate  Poor  Declining

Have you done any soil testing before?  Yes  No

What methods do you use to improve your soil? \_\_\_\_\_

What type of toilet do you use at home?

Pit latrine  Flush toilet  None/Open defecation  Urine-diverting toilet

Would you be willing to use urine as fertilizer if it's treated and safe?  Yes  No  Not sure

Do you have any experience or knowledge about urine recycling or human waste composting?  Yes  No

What challenges would prevent you from using human waste-based fertilizers? \_\_\_\_\_

### Section 4: Awareness & Attitudes

Have you heard of "regenerative agriculture"?  Yes  No

Where do you get farming knowledge or training?  Radio  Extension worker  NGO  Other farmers  Internet  None

Are you open to adopting new farming techniques if they are safe and beneficial?

Yes  No  Maybe

Do you think your community would accept the use of urine or composted waste as fertilizer?

Yes  No  Not sure

What concerns (if any) do you or others have about these practices? \_\_\_\_\_

### Section 5: Environmental Perception & Climate

Have you noticed any changes in the climate over the past 5 years?  Yes  No

If yes, what changes?

Less rainfall  Irregular seasons  Droughts  Floods  Hotter temperatures

How have these changes affected your farming? \_\_\_\_\_

What coping strategies have you used during bad seasons? \_\_\_\_\_

### Final Notes

- What would help you improve your soil fertility and harvest? \_\_\_\_\_
- Any suggestions or questions for the project team?

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## 02: Baseline Survey Data

All baseline data were compiled and analyzed using KoboCollect. The raw dataset is attached as an external Google Sheets link: [SHCAN Baseline Dataset 20250903](#), which contains quantitative and qualitative responses from all seven villages surveyed

# 03: Annex

## Baseline Survey Focus Group Discussion Guide

### FOCUS GROUP DISCUSSION GUIDE

**Study Title:** *Enhancing Soil Health and Agricultural Sustainability in Kitoba, Hoima*

#### Moderator's Introduction:

"Good morning/afternoon, I'm [Name]. We're here to talk about your farming practices, soil health, and how climate affects your crops. Please share your experiences openly; there are no right or wrong answers." This discussion will take about 45 minutes. Everything shared will be confidential. Let's start with introductions."

Main Question	Probing (Follow-ups)	Objective Link
1. Please introduce yourself and tell us one thing you are proud of in your farming.	<ul style="list-style-type: none"> <li>Name, village</li> <li>Years farming</li> <li>Small or big farming achievement</li> </ul>	Build rapport and
2. What crops do you mainly grow and why?	<ul style="list-style-type: none"> <li>Main crops</li> <li>Reasons for choosing these crops</li> <li>Changes in crops over years</li> </ul>	Understand livelihood base and crop choice
3. How would you describe your soil and its fertility?	<ul style="list-style-type: none"> <li>Current fertility (good/moderate/poor)</li> <li>Observed changes over years</li> <li>Challenges in maintaining soil health</li> </ul>	Capture farmers' perception of soil
4. What do you use to help your crops grow?	<ul style="list-style-type: none"> <li>Fertilizers (chemical or organic)</li> <li>Manure, compost, crop residues</li> <li>Frequency, method of application</li> </ul>	Explore soil improvement practices and inputs
5. Are you aware of or willing to try new farming techniques or alternative fertilizers?	<ul style="list-style-type: none"> <li>Examples of new methods heard</li> <li>Openness to try safe methods (e.g., treated urine or compost)</li> <li>Sources of knowledge</li> </ul>	Assess awareness, openness, and potential adoption of innovations
6. Have you noticed changes in weather or climate in the past 5 years?	<ul style="list-style-type: none"> <li>Rainfall patterns</li> <li>Temperature changes</li> <li>Droughts or floods</li> </ul>	Understand climate perception and its impact on crops
7. How have these changes affected your crops and farming?	<ul style="list-style-type: none"> <li>Crop yields</li> <li>Planting/harvest timing</li> <li>Challenges faced</li> </ul>	Explore impacts of climate variability on agriculture
8. What strategies do you use to cope with bad seasons, and what would help improve your soil and yields?	<ul style="list-style-type: none"> <li>Coping strategies (mulching, irrigation, crop rotation)</li> <li>Resources, training, or support needed</li> </ul>	Identify adaptation strategies and support needs
9. "Any concerns or questions before we finish?"	Open floor for final input.	<ul style="list-style-type: none"> <li>Clarifications</li> <li>Expectations</li> </ul>

#### Moderator Notes (Quick)

**Probes:** "Tell me more?" / "Others think?" / "Example?" / "How feel?"

**Participation:** Encourage quiet: "John, your view?"; Limit dominant: "Thanks, others?"

**Neutrality:** Avoid agreement/disagreement; say "I understand" / "Interesting"



PHOTO: Participants giving feedback during the baseline survey.

“

Essentially, all life depends upon the soil... There can be no life without soil and no soil without life; they have evolved together.

—Charles E. Kellogg, 1938

## Contact

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