

Satisfaction with the Accessibility and Usefulness of Bundled CSA Practices for Rehabilitation of Degraded Landscapes

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Technical Report



AICCRA
Accelerating Impacts of CGIAR
Climate Research for Africa



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Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA)

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About AICCRA

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Introduction

In Africa, particularly East Africa, more than 80% of the population depends on agriculture and the income generated from the sector that contributes about 30-40% to the regional Gross Domestic Product (GDP) (Adesina, 2019). Ethiopia is the second most populated country in Africa with 80% of them are living in rural areas (Sakketa, 2022). Studies showed that many families in Ethiopia are unable to produce the necessary amount of food and generate income for their own subsistence and food security (Devereux and Sussex, 2000). The high levels of poverty coupled with the high population pressure, land degradation, and water scarcity are increasing the vulnerability of the country to climate change (Tadesse et al, 2021).

Ethiopia is among one of the countries in East Africa at disproportionately higher risk of adverse consequences of climate change (Zermoglio et. al., N.A). The country is extremely vulnerable to various climate change events, and it is considered a climate hotspot where climate change poses grave threats to human well-being and natural environments (Aid, 2018). Climate variability and change are having significant direct and indirect impacts on agricultural production, agricultural value chains, food, and nutrition security as well as the overall sustainable growth of the sector in Ethiopia (Gitz et. al., 2016). The number of rainy days in the country has decreased perceptibly, which increases dry spells by 0.8 days per decade, causing crop moisture stress during the growing season. The mean annual temperature has been warming at a rate of 0.12 to 0.54 °C per decade and it is expected to rise by 1.4 to 4.1 °C by 2080. Average annual temperatures nationwide are expected to rise 3.1°C by 2060, and 5.1°C by 2090 (Rovin et al, 2013).

The accelerating pace of climate change is invariably being felt through increased extreme weather change and variability, which affects the frequency, intensity, spatial distribution, duration and timing of extreme weather and climate events (Belay et. al., 2022). Over the coming decades, climate change is also expected to significantly affect agriculture, food security, and livelihood in sub-Saharan African countries including Ethiopia by increasing water demand and limiting crop productivity (Ofori et. al, 2021). This is mainly because of the high poverty rates, vulnerability levels, and low adaptive capacities. Furthermore, the rural populations of Eastern African countries for whom agricultural production is the primary source of direct and indirect employment and income - will be most affected because of agriculture's direct exposure to water-related impacts primarily linked to climate variability and change (FAO, 2014).

Recent studies show that awareness about climate change and associated risks, as well as the access to enhanced climate smart agriculture (CSA), climate information services (CIS) and climate informed-digital agro-advisories could help the country and its people to become more resilient in coping with the increasing impacts of climate variability and change (Ngigi and

Muang, 2022). The Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) project aims to support farmers and livestock keepers to better anticipate climate-related events and take preventative actions, with better access to climate advisories linked to information about effective response measures.

AICCRA-Ethiopia cluster plans to achieving project development objectives targets of making gender-responsive CIS and/or validated CSA technology bundles accessible by working with Ethiopia's Meteorological Institute (EMI), National Disaster Risk Management Commission (NDRMC), Ministry of Health (MoH), and Ministry of Agriculture (MoA) - through Ethiopia's centralized public extension system to the beneficiaries (a universe of grassroots-level agricultural extensionists, development agents, service providers and other value chain actors) as well as end-users encompassing smallholder farmers, agro-pastoralists, pastoralists and other forms of livestock keepers. Other strategies include dissemination of contextualized CIS and validated CSA innovations through AICCRA-Ethiopia's partner organizations such as the media (EBC, Fana, Walta, OBN, AMA, etc.), NGOs (Inter Aide, Send a Cow, World Vision, etc.) and the private sector (Lersha Green Agro-solutions PLC) delivery channels and digital platforms to the beneficiaries and end users via participatory engagements, demonstration plots, capacity building activities, farmer field days, and targeted awareness creation events. Understanding how the enhanced and validated technologies and innovations bridge the gaps and how tailored CIS and CSA meet the end user's needs and contribute to building resilience in Ethiopia's key economic sectors is critical.

To this end, this report presents the findings of a survey of small holder farmers and stakeholders that access bundled CSA practices for rehabilitation of degraded landscapes accessible through Inter Aide platform and details are discussed below.

Brief on Bundled CSA practices for rehabilitation of degraded landscapes accessible through Inter Aide platform

The Doyogena, Kacha bira, Hadero and Duna climate smart landscape is characterized by steep slope with high rainfall amount that makes it highly susceptible to soil erosion. The district in Southern Ethiopia, face climate related risks that include increasing rainfall intensity and variability, water stress, soil erosion, deforestation, severe land degradation and fragmentation, declining soil fertility, shortage of livestock feed, and increased incidence of crop and livestock diseases and pests. To help farmers address these challenges, an international NGO called Inter Aide has been co-designing and co-implementing CSA interventions both in crop and livestock systems for the last few years. In order to collaborate in terms of capacity building, evidence generation and co-designing and implementation of bundled CSA practices, a strategic partnership has been established between Inter Aide, international livestock research institute (ILRI-AICCRA), the Alliance of Bioversity International and the International Center for Tropical

Agriculture (CIAT), Africa RISING, a sustainable agricultural intensification research program supported by the United States Agency for International Development (USAID), International Center for Agricultural Research in the Dry Areas (ICARDA), the University of Natural Resources and Life Sciences (BOKU).

The CSA practices implemented in the landscapes include climate-smart integrated physical and biological (“Desho” grass) soil and water conservation practices, hedgerow planting with oat grass, crop residue management, row planting and restricted grazing on croplands. Crop rotation of cereals with legumes like fava bean is also one of the CSA activities practiced in the area. There is also a pre-existing perennial-crop based Stratified climate-smart agroforestry system that mainly involves Enset plantations mixed with vegetables like potato, cabbage, carrot, beetroot, and garlic. Other tree species including *Erythrina abyssinica*, eucalyptus and juniper are also found around croplands. Climate-smart cereal-legume intensification systems including green manuring using lupine and vetch also being piloted. Climate-smart integration of forage and feeds into mixed crop and livestock systems in rehabilitated landscapes is also implemented in the site.



Figure 1. Overview of participatory watershed management intervention site where both physical and biological measures were used to rehabilitate agricultural land.

Project outreach

Project outreach thus far has been progressive. The uptake of bundled crop and livestock climate smart technologies in the community where the project operates was rapidly increasing. In 2004, when the project started there were only 204 households engaged in fodder production, covering 58km with vegetation structures. By 2022, more than 37,712 farming households have adopted fodder innovations and are rehabilitating over 4,000km (5,900ha) of degraded agricultural landscapes (Shilomboleni et.al., 2022).

Objectives

Given the critical importance of achieving AICCRA's Project Development Objectives (PDO) and to demonstrate the project impact on beneficiaries and end-users, the survey was conducted with the specific objectives of:

- Assessing qualitative and quantitative information about AICCRA partners and stakeholders in the project area increasingly accessing the technologies.
- Evaluating the information about the satisfaction with the quality and usefulness of climate-relevant knowledge products, decision-making tools and services received under AICCRA from partners and stakeholders.
- Studying the use or adaptation of AICCRA-funded climate-relevant knowledge products, decision-making tools, and services.
- Getting information whether the enhanced CIS and CSA technologies can address climate or non-climate related constraints, help enhance productivity and livelihoods, build resilience against climate variability and change.

Methods

Description of the study areas

The Doyogena, Kacha bira, Hadero in Kembata Tembaro zone and Duna in Hadiya Zone is in Southern Nations, Nationalities, and People's Region of Ethiopia. The mean annual rainfall of the district ranges from 1,000 to 1,400 mm. There are two rainfall seasons in the area "*Belg*" (the short rainy season) from January to March and "*Meher*" (main rainy season) from June to October. It is a highland with altitude ranging from 2420 to 2740 meters above sea level. The mean annual temperature ranges from 12 °C to 20 °C. The main economic activity in the study area involves mixed farming system with enset, cereal, and livestock production. The main types of cereal crops grown in the area are wheat and barley. Legumes and vegetables like fava bean and potato are also grown. Enset (*Ensete ventricosum*), which is an important source of food, is grown in the area by almost all households. Most farmers are small-scale subsistence farmers with land size less than 0.5ha.

Sampling

The sample woreda for the survey were purposively selected targeting project implementation woredas. About 20 households residing in 3 kebeles were selected within a woreda with the assistance from project implementers. Subsequently, 4 woredas, 12 kebeles, and 240 sample

households were covered by the survey targeting Inter-aide-ALLICANCE beneficiary farmers (Table 1).

Table 1. Sample kebele description

Kebele	Zone	District (Woreda)				Total number of households
		Doyogena	Kacha bira	Hadero	Duna	
Doyogena - Ancha sedecha	Kembata	20				20
Doyogena - Gemora gewada	Kembata	20				20
Doyogena - Lemi suticho	Kembata	20				20
Kacha bira - Burchana	Kembata		20			20
Kacha bira - Hodda	Kembata		20			20
Kacha bira - Hobicheka	Kembata		20			20
Hadero - Hachecho	Kembata			20		20
Hadero - Lechacho	Kembata			20		20
Hadero - Ameleka	Kembata			20		20
Duna - Sutemb	Hadiya				20	20
Duna - Ashewale wache	Hadiya				20	20
Duna - Ashewale watto	Hadiya				20	20
Total						240

Stakeholders facilitating delivery of bundled tailored CSA technologies to beneficiaries/farmers were interviewed across the sample areas. Overall, 16 woreda and 24 kebele stakeholders were covered in the survey (see table 1.2 below). The stakeholders covered in the survey included were:

- District/Woreda crop expert
- District/Woreda livestock expert
- District/Woreda natural resources expert
- District/Woreda cooperative representative
- Kebele crop development agent
- Kebele Livestock development agent

Table 1.2: Sample stakeholders

Zone	Woreda	Woreda stakeholder	Kebele stakeholder	Total
Kembata	Doyogena	4	6	10
Kembata	Kacha bira	4	6	10
Kembata	Hadero	4	6	10
Hadiya	Duna	4	6	10
Total		16	24	40

Findings

Characteristics of respondents

The survey covered about 240 households. Gender wise, almost all respondents (97.5%) were male respondents as head of the household is mostly men. Age wise, most of the respondents (88%) of respondents are under the adult category. Almost all (97%) of the respondents are married (i.e., describing couple households). In terms of education, most respondents (81%) of them have reached primary to secondary school levels. Finally, the majority (95%) reportedly own a mobile phone (Figure 1).

For the stakeholder sample, a proportionate number of youth (42%) and adults (50%) were interviewed. Most of the respondents (80%) are bachelor's degree holders (Figure 2).

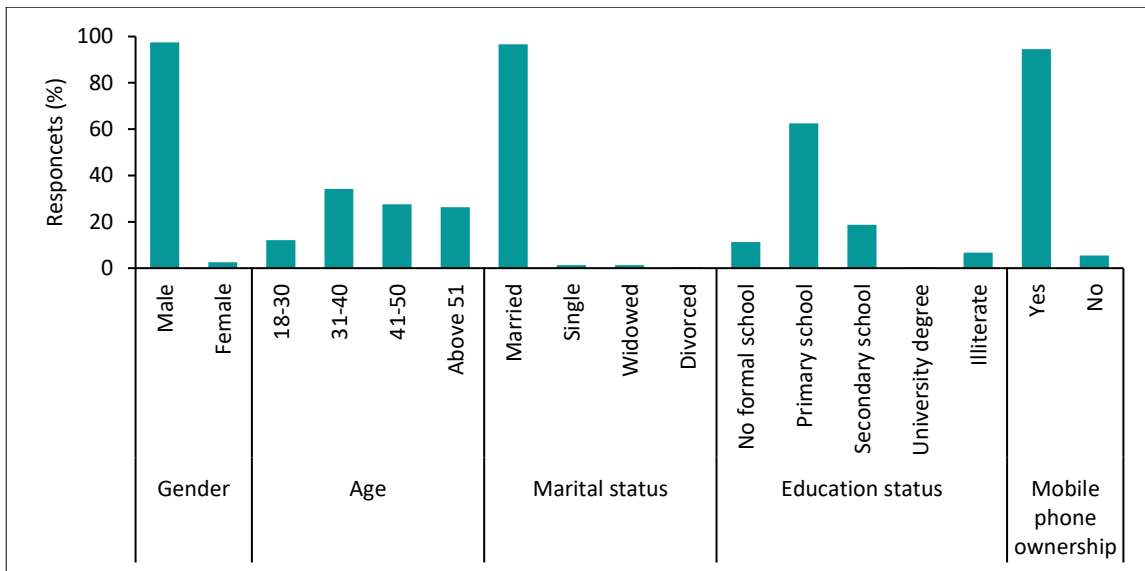


Figure 2. Characteristics of sample farmer respondents

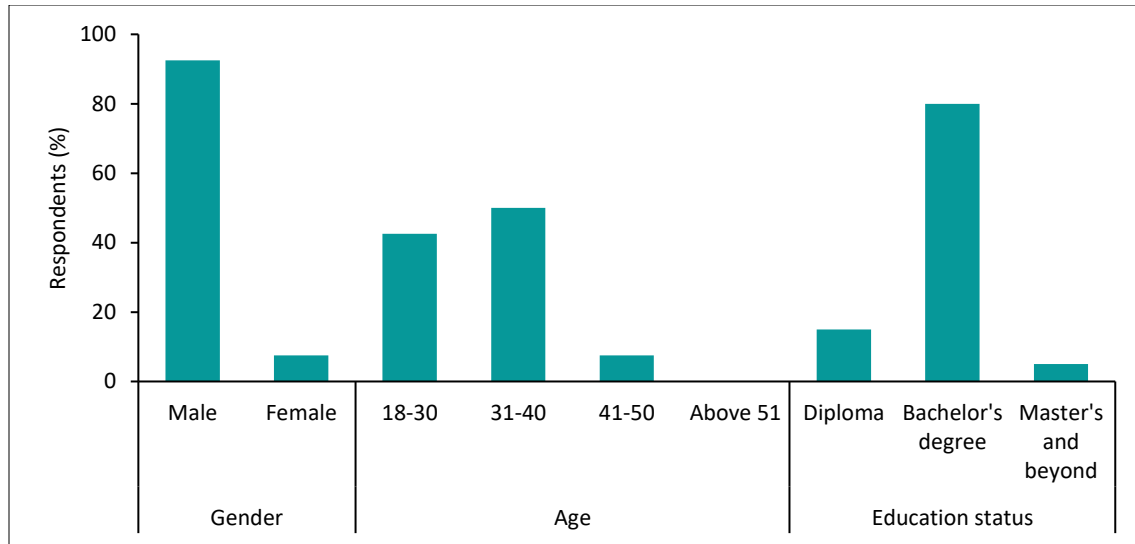


Figure 3. Characteristics of stakeholder respondents

Beneficiaries' perceptions on usefulness of bundle CSA practices

Farmers' Perceptions

The survey has investigated the usefulness of different interventions implemented in climate smart landscape in the southern Ethiopia (led by Inter Aide) to evaluate the view of beneficiary farmers and their satisfaction level. The result revealed that all interventions were useful to the farmers, reportedly farmers were satisfied in almost all CSA technologies. The survey has found that about 95% of beneficiary farmers engaged in crop and livestock production were very satisfied with the usefulness of climate-smart integrated physical and biological soil and water conservation practices (Figure 4) and climate-smart integration of forage and feed into mixed crop and livestock practices (Figure 7). Whereas 66% and 57% farmers engaged in animal fattening were very satisfied with physical and biological SWC and the CS integration of forage and feed into mixed crop and livestock practices, respectively. While about 80% of farmers working on crop and livestock production were very satisfied with the usefulness of stratified climate-smart agroforestry systems (Figure 5) and climate-smart cereal-legume intensification systems including green manuring (Figure 6).

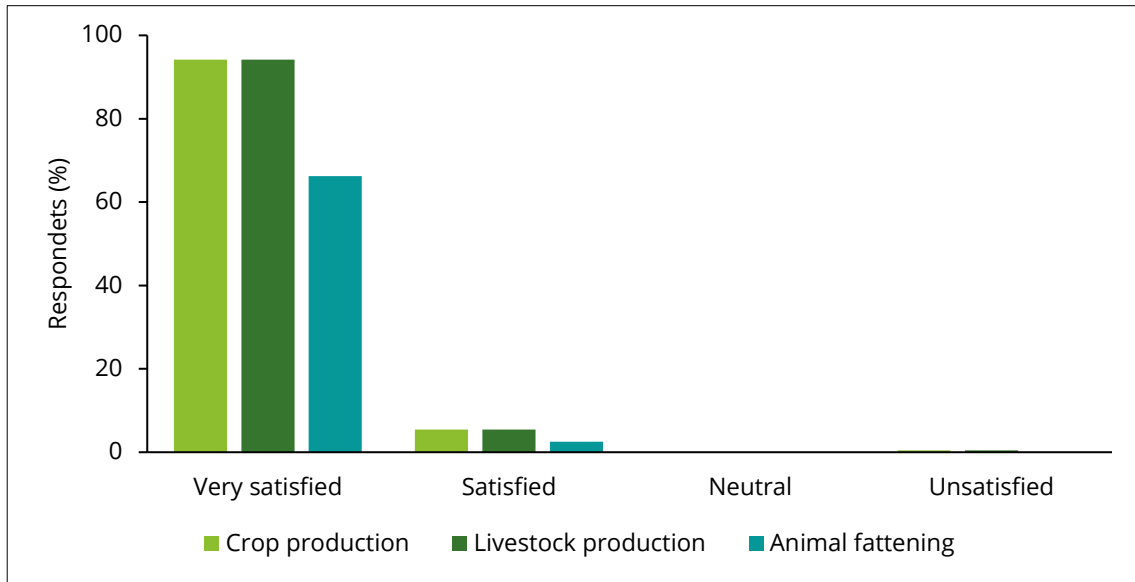


Figure 4. Farmers satisfaction on Usefulness of Climate-Smart Integrated Physical and biological Soil and Water Conservation practices

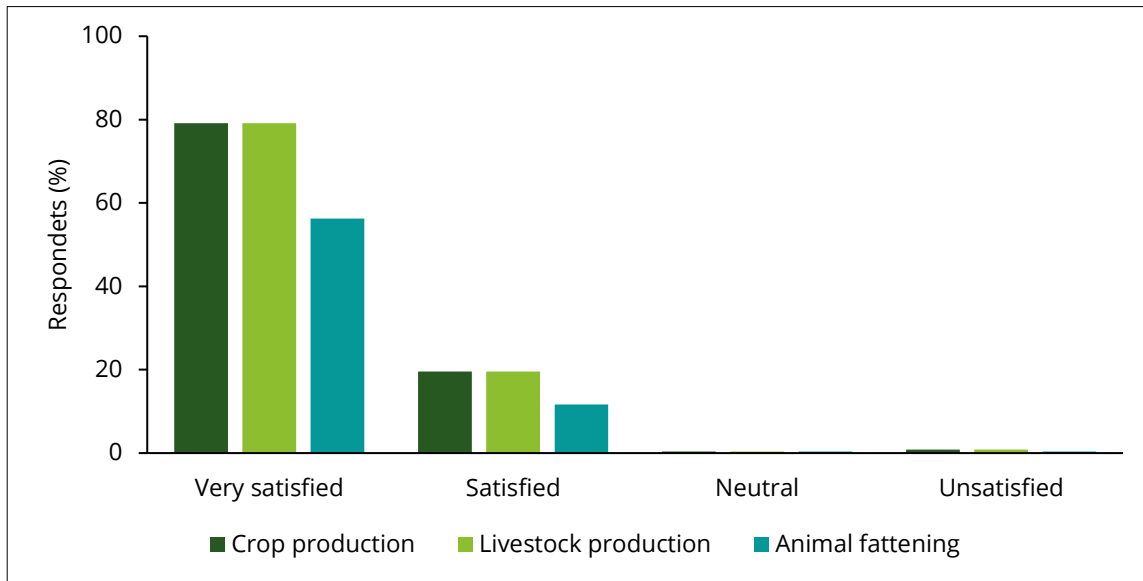


Figure 5. Farmers Satisfaction on the Usefulness of stratified climate-smart agroforestry systems

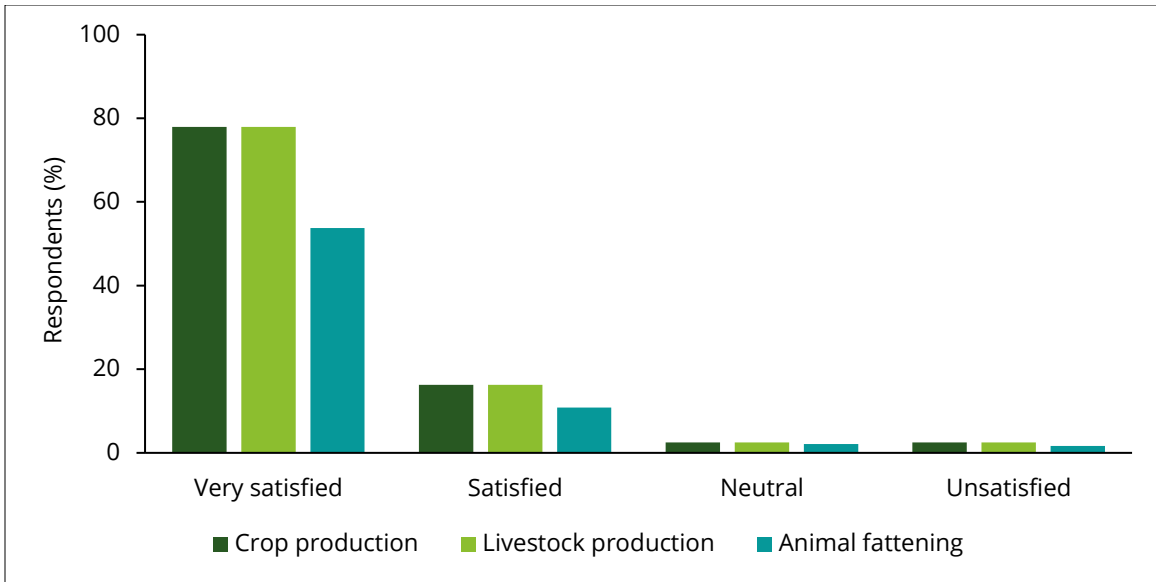


Figure 6. Satisfaction of Farmers on Usefulness of climate-smart cereal-legume intensification systems including green manuring

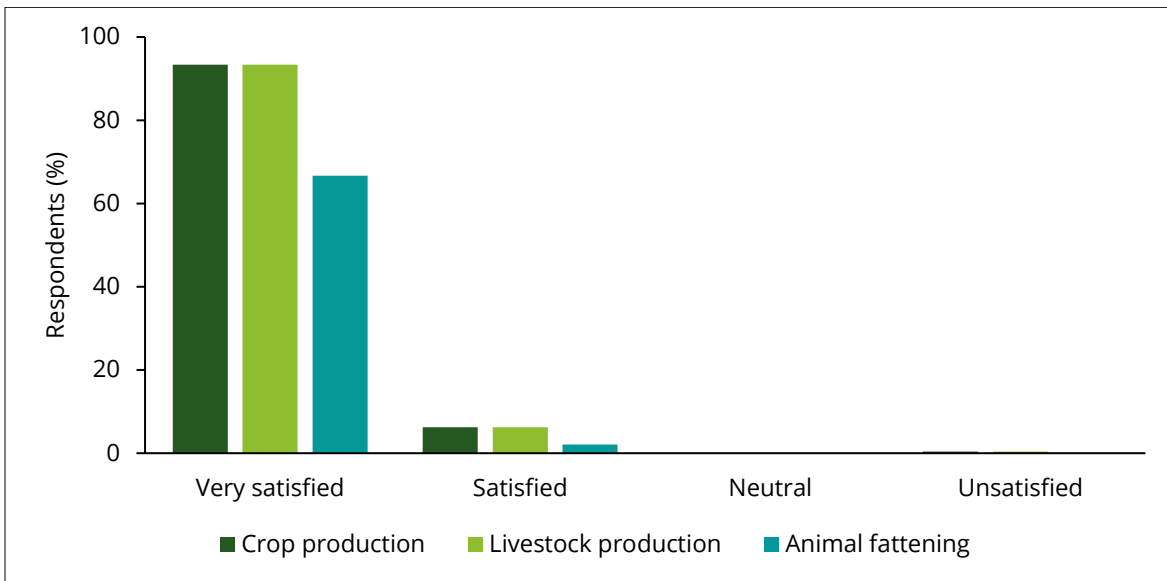


Figure 7. Satisfaction level of farmers on the Usefulness of climate-smart integration of forage and feeds into mixed crop and livestock systems

Stakeholders' perceptions

Similarly, stakeholder survey revealed significant responses on usefulness of the bundle CSA practices to farmers indicating that they are very satisfied by bundle CSA practice usefulness as reported by more than 90% of stakeholder respondents (Figure 8).

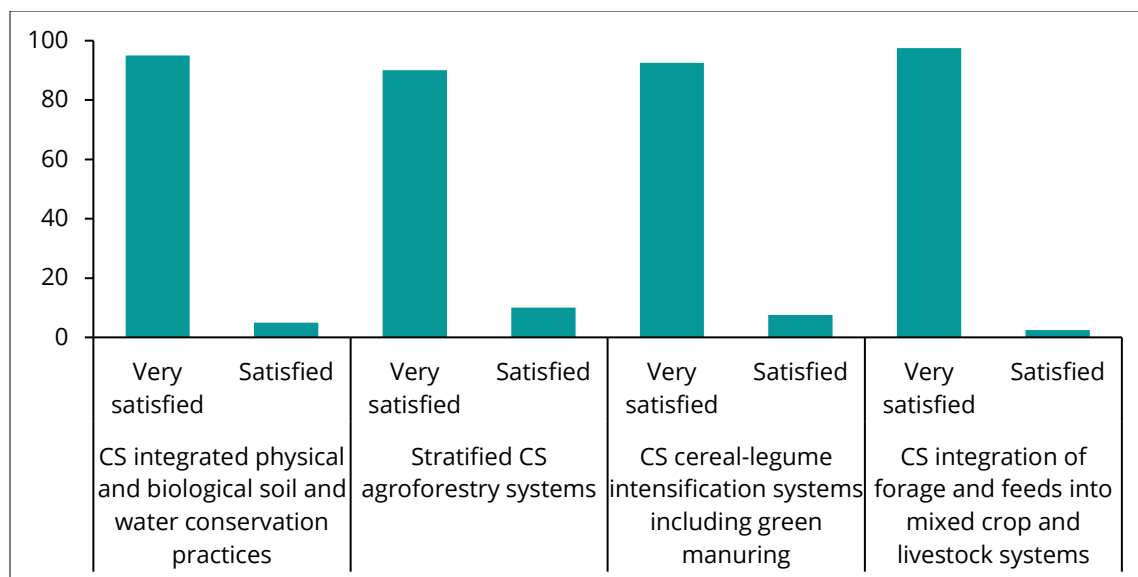


Figure 8. Usefulness perception of stakeholders

Beneficiaries' perceptions on accessibility of bundled CSA practices

Farmers' perception

The survey has also questioned farmers' satisfaction on the accessibility of bundled CSA technologies. It was found that there exists good accessibility of the intervention as depicted by the satisfaction level of farmers. Evidently, 89%, 78%, 72% and 87% of crop and livestock producing farmers were satisfied by the accessibility of the four interventions namely (CS integrated physical and biological SWC practices, stratified CS agroforestry systems, CS cereal-legume intensification systems including green manuring using vetch and lupin and CS integration of forage and feeds into mixed crop and livestock systems, respectively) (Figure 9-12). Farmers who are engaged in animal fattening recorded more than 50% in all cases.

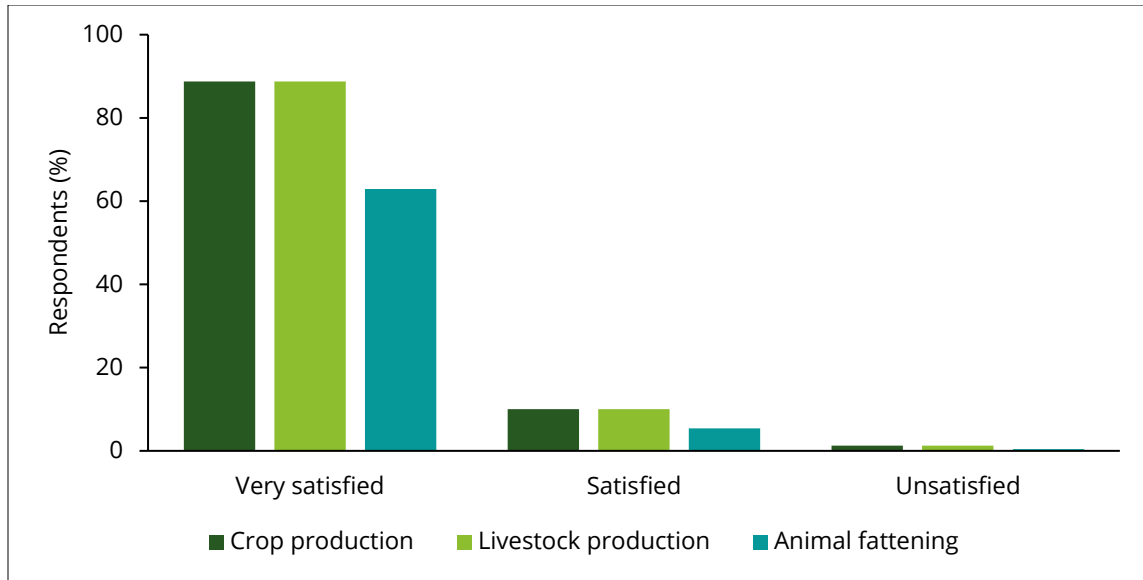


Figure 9. Satisfaction on the accessibility of farmers to climate-smart integrated physical and biological soil and water conservation practices

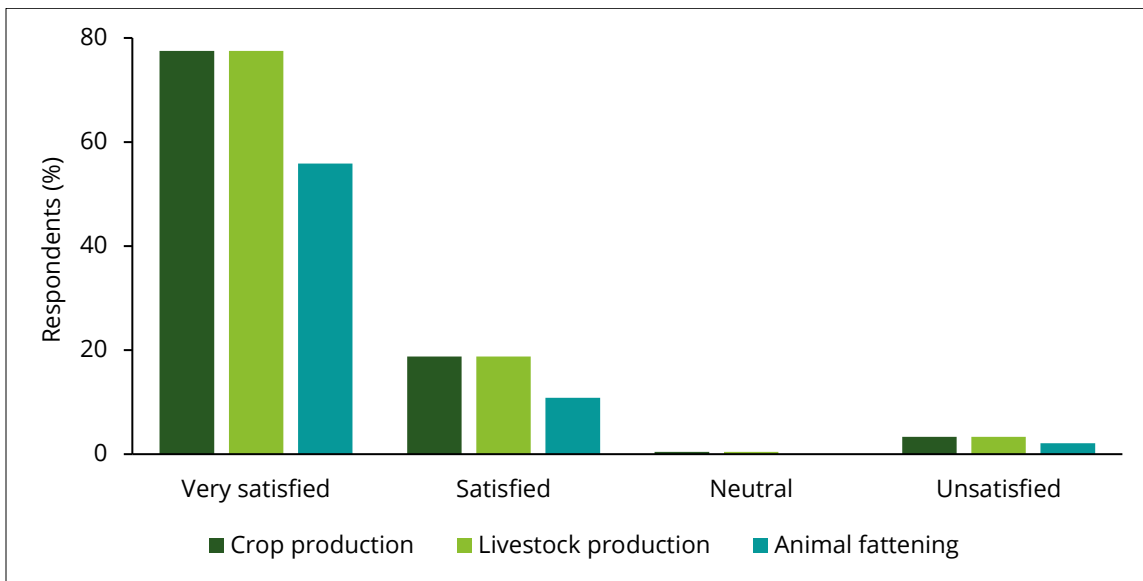


Figure 10. Satisfaction on the accessibility of farmers to stratified climate-smart agroforestry systems

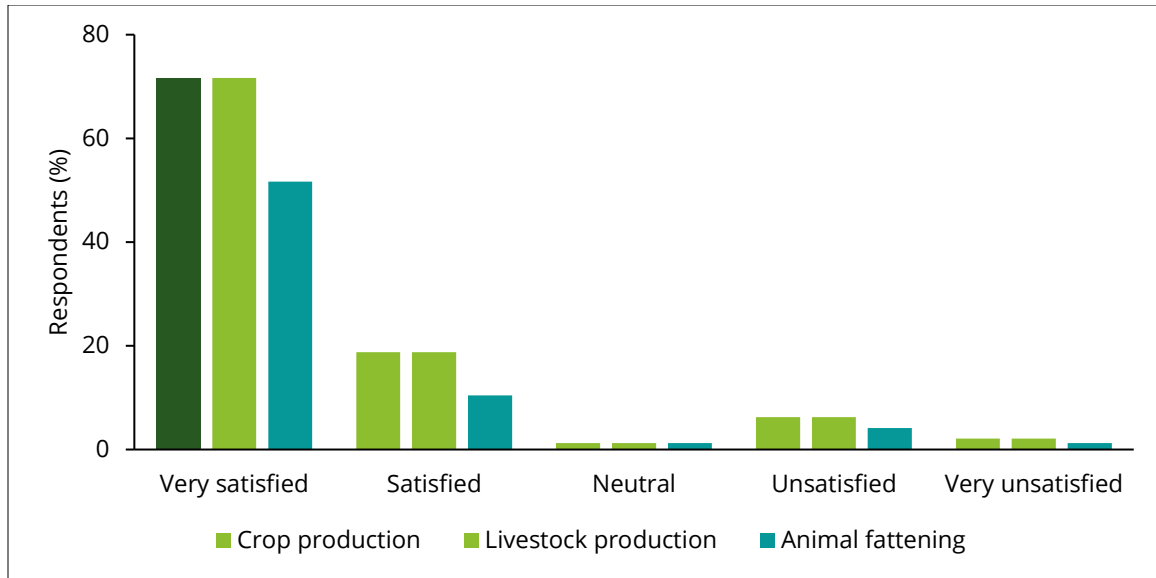


Figure 11. Satisfaction on the accessibility of farmers to climate-smart cereal-legume intensification systems including green manuring

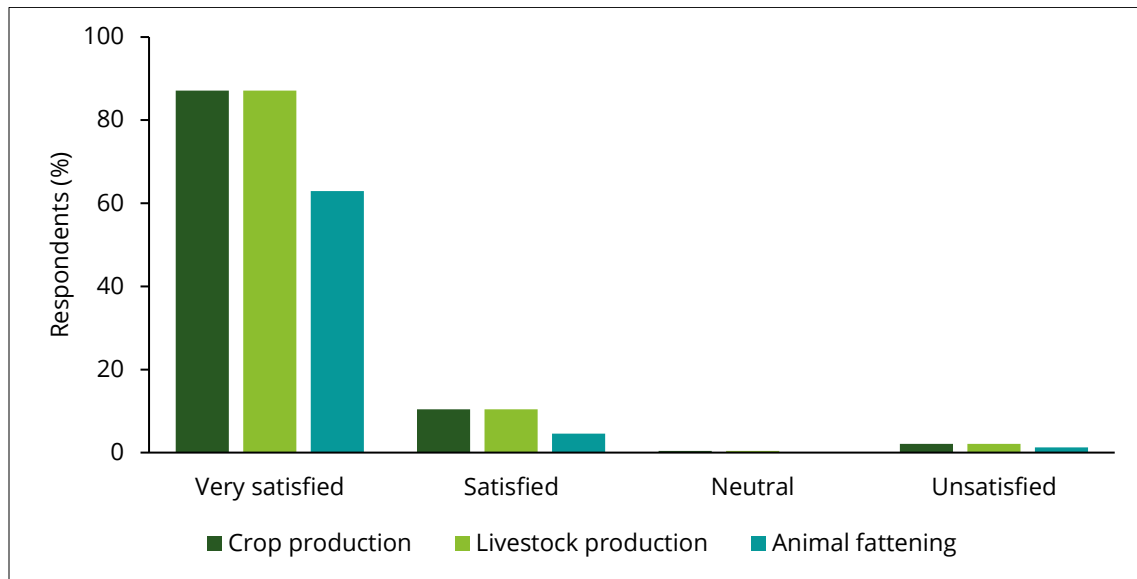


Figure 12. Satisfaction on the accessibility of farmers to climate-smart integration of forage and feeds into mixed crop and livestock systems

Stakeholders' perception

Partners/stakeholders also have almost the same views as farmers on accessibility of bundled CSA practices. Of all respondents, 70.5% are very satisfied with the accessibility to the four CSA technologies whereas almost 29.5% of them are satisfied (Figure 13).

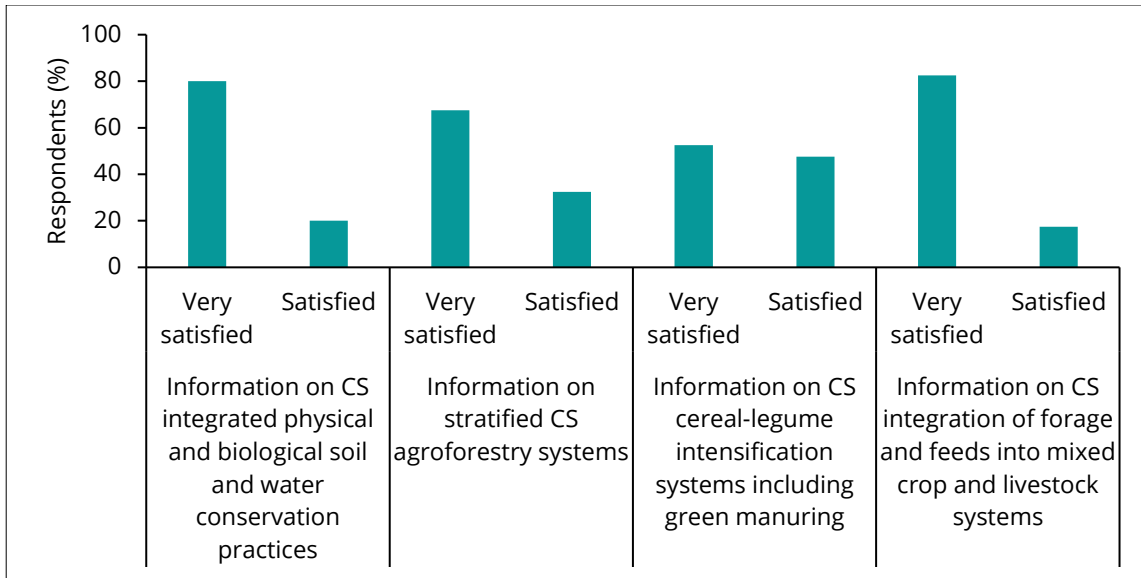


Figure 13. Accessibility of stakeholders to bundled CSA technologies

Sources of information

Farmers and stakeholder were asked how they receive the bundled CSA activities information and technical assistance. The access to information is presented in figures 14 and 15. Beneficiary farmers have reported that they receive CSA related information from multiple sources. The major sources of information were Inter-Aide field technicians (97%) and development agents (92%) that assist farmers at the kebele level and 40% of the respondents get information from different workshops/training organized by different partners.

As for the stakeholders, it was found that inter-aid field technicians (90%), social media (87%) training/workshops (100%) as the main source of CSA bundle practices information.

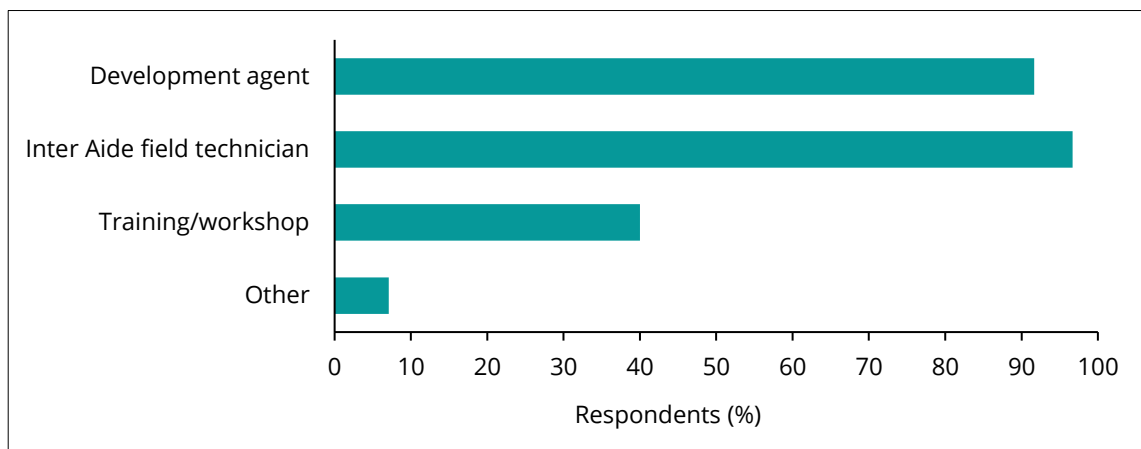


Figure 14. Sources of information by farmers

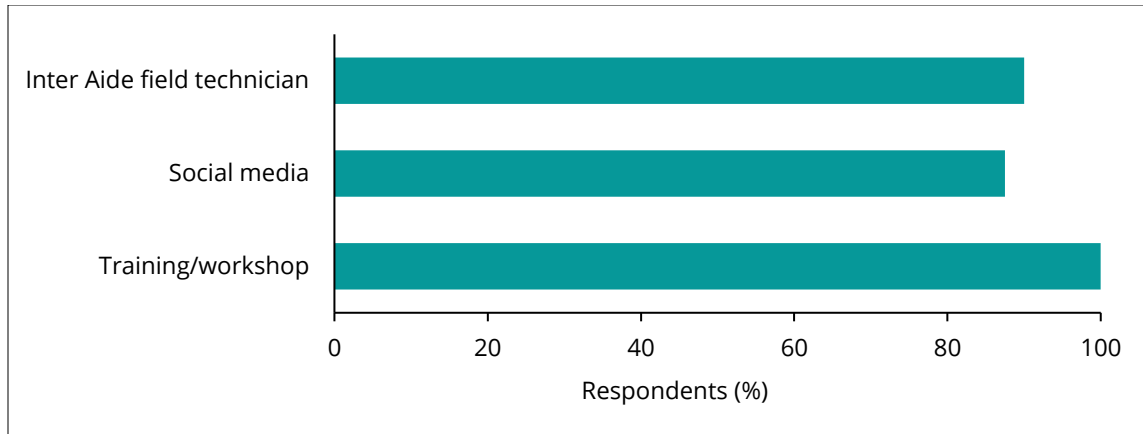


Figure 15. Stakeholders' information source

Gender and youth responsiveness

The survey has also found that four of the interventions respond to gender and youth needs. As reported by 96% of farmers, in view of relevance and usefulness parameters, the bundled CSA practices were found to be important in responding to youth and women needs (Figure 16).

Likewise, stakeholders also have the same views as the farmers. According to the stakeholder interviews, it was found that bundled CSA interventions are important to responding the needs of the youth and women. As shown in figure 17, 93% of the respondents claim the CSA bundles are very important.

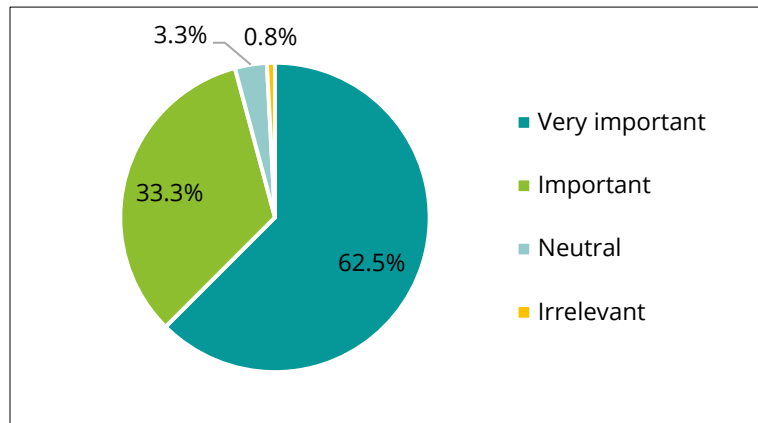


Figure 16. Gender and youth need responsiveness view of farmers

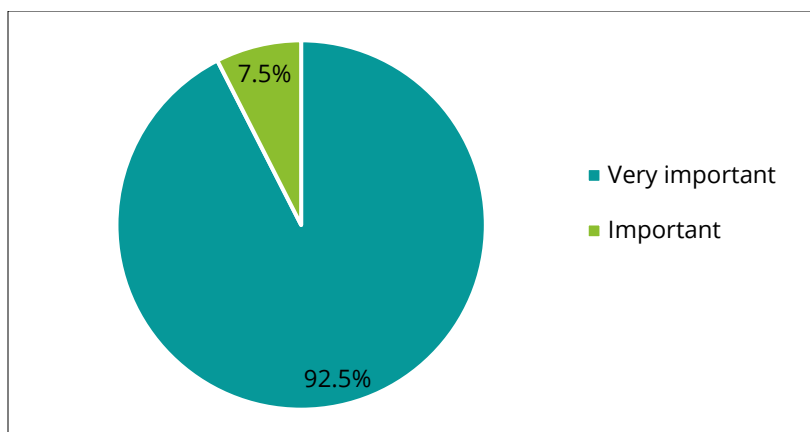


Figure 17. Gender and youth need responsiveness view of stakeholders

Livelihood impacts

Farmers' perception

As reported by the farmers, the bundled CSA practices have helped farmers to improve their livelihood. About 93% sample farmers have reported that CSA practices have helped them to increase yield, and about 92% reported that CSA practices have helped them to increase their livestock value and about 93% have reported that CSA practices have helped them to diversify their livelihood (Table 3).

Table 3. The impact of implemented CSA practices on farmers livelihood

Impact	Respondents (%)
Crop yield increased	93.3%
Livestock value increased	92.1%
Household income diversified	92.9%

The result from the survey shows that the implementation of CSA practices has helped farmers to increase yield by different levels. According to Figure 18, 54%, 15% and 18% of farmers claim yield increase by half, three fourth and quarter, respectively. A small proportion of farmers (13%) reported a double yield increase because of CSA practices. Likewise, CSA bundle practices related to feed and forage, have helped farmers to increase their livestock values by more than half as reported by 83% of sample farmers. Of which, 42% of farmers reported a livestock value increase by half because of availability of improved feed and forage. A small number of farmers (22% and 20%) reported an increase value of three fourth and double, respectively (Figure 19).

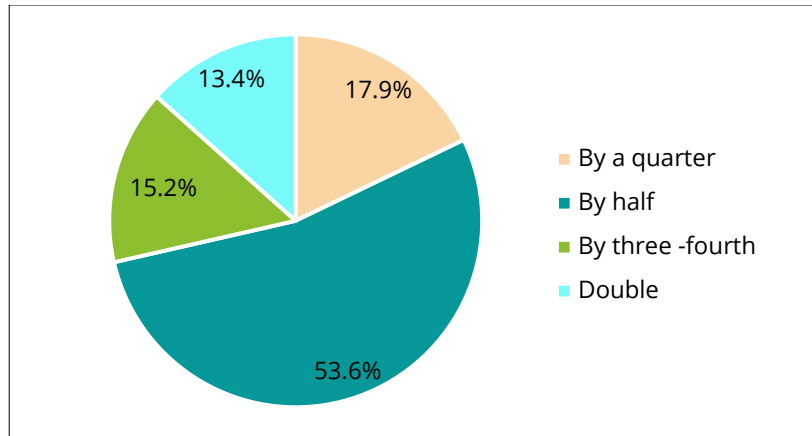


Figure 18. The perception of farmers on yield increment after implementing CSA practices

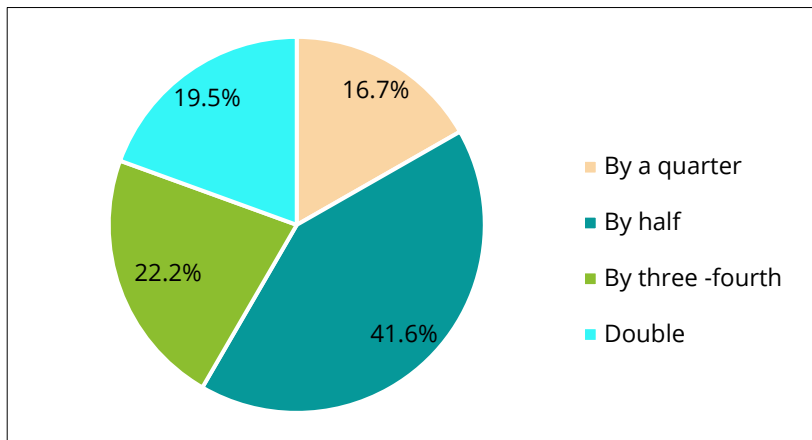


Figure 19. The perception of farmers on Livestock value increment after implementing CSA practices

Further analysis indicated that 89% of farmers always understand the information given to them about bundled CSA practices/technologies and of which 86% of them revealed the information always helps them make agricultural decisions.

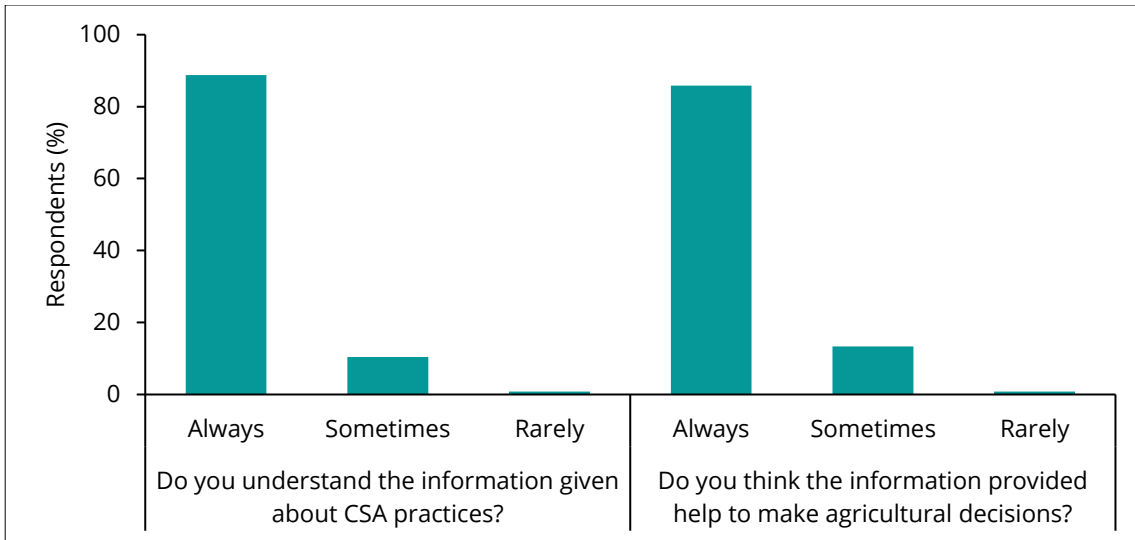


Figure 20. Understanding of information by farmers and their contribution to make agricultural decisions

A survey with stakeholders also confirmed the reports by the farmers such that farmers livelihood has improved because of the implementation of bundled CSA practices.

Household nutrition impact

Farmers' perception

Regarding household food consumption pattern change, the survey found that 99.6% farmers reported the implementation of bundled CSA practices helped them to improve their household food consumption pattern and have improved their household diet diversity in a positive way. Accordingly, more than 80% of farmers have reported that they are eating more protein rich cereals and legumes, more vegetables, more dairy products and three times a day (Figure 21).

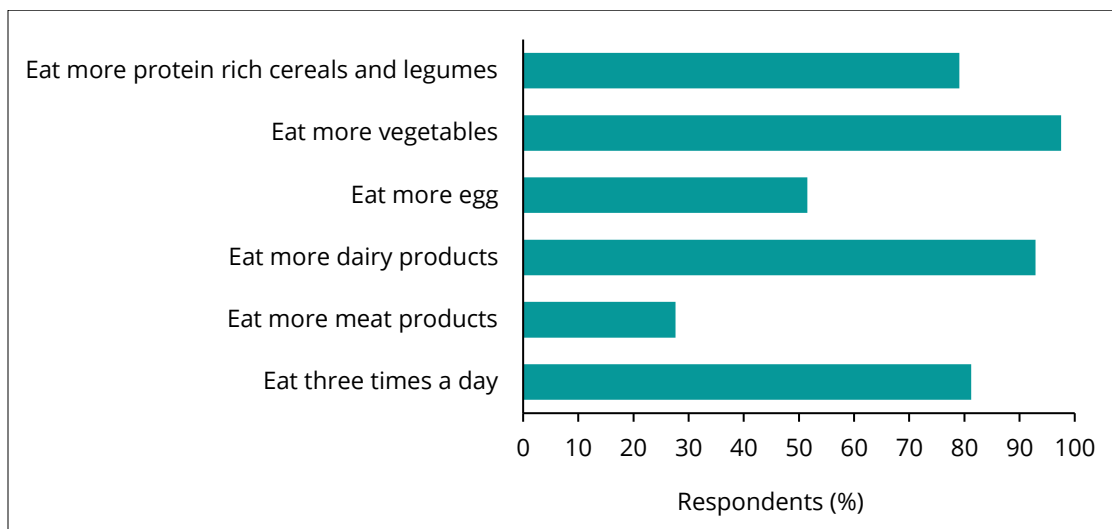


Figure 21. The impact of implemented CSA practices on household food consumption pattern as reported by farmers

The survey with stakeholders revealed 95% of them believe that farmers' household food consumption pattern and household food diversity was improved because of farmers' engagement in bundle CSA practices. As reported by more than 90 percent of stakeholders, beneficiary farmers' food consumption pattern and household diet diversity were improved by eating more vegetables, more dairy products and three times a day (Figure 22).

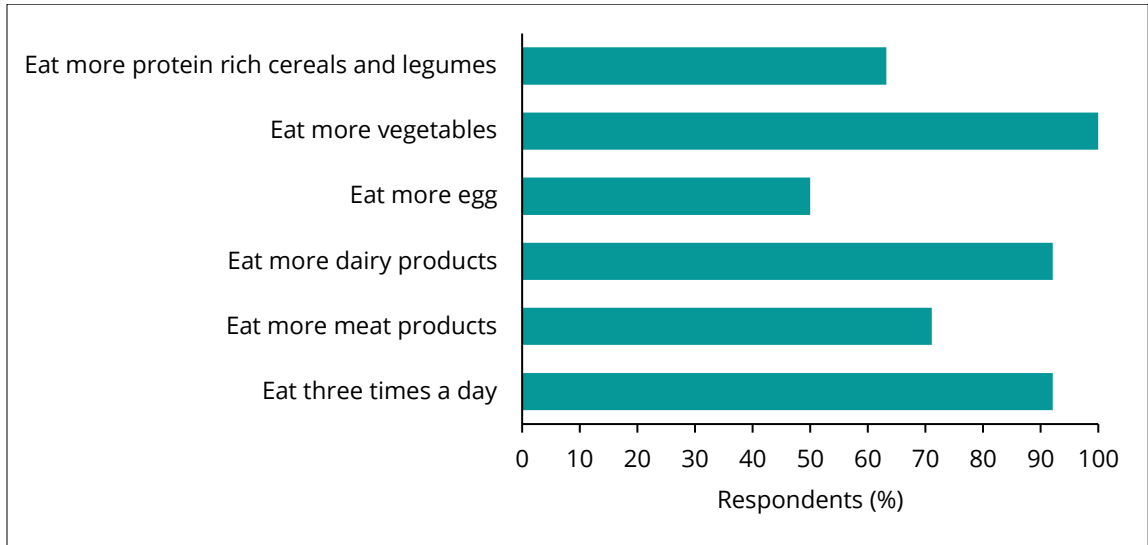


Figure 22. The impact of implemented CSA practices on household food consumption pattern as reported by stakeholders

Conclusion

This technical report evaluated the satisfaction level of farmers and stakeholders on the usefulness and accessibility of climate-smart integrated physical and biological soil and water conservation practices, stratified climate-smart agroforestry systems, climate-smart cereal-legume intensification systems including green manuring with vetch and lupin, climate-smart integration of forage and feeds into mixed crop and livestock systems in rehabilitated landscapes. Accordingly, both the farmers' and stakeholders' survey has indicated that there exists good reach of bundle CSA interventions channeled through Inter-Aide and ALLIANCE platform. Specifically, it was found that farmers and stakeholders are satisfied with the usefulness and accessibility of bundled CSA practices. Beyond satisfaction with the accessibility and usefulness of the technologies, it has been shown that farmers have improved their household food consumption pattern and a change in livelihood in a positive way.

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Annex

Annex 1. Inter Aide-Alliance questionnaire for farmers

Dear respondent,

This questionnaire is to gather information related to the CSA technologies/options/practices you have been implementing with Inter Aide in collaboration with different organizations such as CIAT, ILRI, Africa RISING, etc. All the information collected will only be used for this purpose. Thank you for your willingness and support.

Personal Information

1. Gender of the respondent
 - Male
 - Women
2. Age of the respondent
 - 18-30
 - 31-40
 - 41-50
 - Above 51
3. Marital status of the respondent
 - Married
 - Single
 - Widowed
 - Divorced
 - Other
4. Education status of the respondent
 - No formal school
 - Primary school
 - Secondary school
 - Vocational School
 - University degree
 - Illiterate
 - Other, please specify
5. Do you own a cell phone?
 - Yes
 - No
6. If yes, Cell phone Number.....

Climate smart agriculture questions

7. Which of the following agricultural activities are you engaged in? (Multiple options)
 - Crop production
 - Livestock production
 - Animal fattening
 - Natural resource management
 - Other, please specify
8. Is bundled **climate smart agriculture practices** on soil and water conservation, feed and forage, and green manuring **important** to your work?
 - Yes
 - No
 - Not sure
9. If your answer is yes, which products do you implement?
 - Climate-smart integrated physical and biological soil and water conservation practices
 - Stratified climate-smart agroforestry systems
 - Climate-smart cereal-legume intensification systems including green manuring
 - Climate-smart integration of forage and feeds into mixed crop and livestock systems in rehabilitated landscapes
 - Other, please specify
10. How satisfied are you with the **usefulness of climate-smart integrated physical and biological soil and water conservation** practices provided by?
 - Very satisfied
 - Satisfied

- Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
11. How satisfied are you with the **accessibility** of information on **climate-smart integrated physical and biological soil and water conservation** practices provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 12. How satisfied are you with the **usefulness** of **stratified climate-smart agroforestry systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 13. How satisfied are you with the **accessibility** of information on **stratified climate-smart agroforestry systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 14. How satisfied are you with the **usefulness** of **climate-smart cereal-legume intensification systems including green manuring** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 15. How satisfied are you with the **accessibility** of information on **climate-smart cereal-legume intensification systems including green manuring** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 16. How satisfied are you with the **usefulness** of **climate-smart integration of forage and feeds into mixed crop and livestock systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 17. How satisfied are you with the **accessibility** of information on **climate-smart integration of forage and feeds into mixed crop and livestock systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
 18. How **relevant and useful** are bundled **climate smart agriculture practices** on SWC, feed and forage, water harvesting and green manuring gender/youth responsiveness?
 - Very important
 - Important
 - Neutral
 - Irrelevant
 - Very irrelevant
 19. **How** did you **receive** the information? (Multiple options)
 - Development agent
 - Inter Aide field technician
 - Training/workshop
 - If other, please specify
 20. Does the products provided help in your farming activities and **help make agricultural decisions**?
 - Always
 - Sometimes
 - Rarely
 - It doesn't help
 21. Do you **understand the information** given about **climate smart agriculture practices** on SWC, feed and forage, water harvesting and green manuring?
 - Always
 - Sometimes

- Rarely
 - No
22. Do you think that the CSA practices implemented on your farmland have helped you to improve your livelihood?
- Yes
 - No
 - I do not know
23. If yes, in what way?
- By increasing crop yield
 - By increasing livestock value
 - By diversifying income source
 - If other, please specify
24. If your livelihood was improved by crop yield increase, by how much did it increase?
- By a quarter
 - By a half
 - By three-fourth
 - By double
25. If your livelihood was improved by an increase in livestock value, by how much did it increase?
- By a quarter
 - By a half
 - By three-fourth
 - By double
26. Do you think that the CSA practices implemented on your farmland have helped you to improve your household food consumption and your HH diet diversity?
- Yes
 - No
27. If yes to 23, in what way did it help?
- Eat three times a day
 - Eat more meat products
 - Eat more dairy products
 - Eat more egg
 - Eat more vegetables
 - Eat more protein rich cereals and legumes
 - Other, please specify
28. Do the CSA practices implemented on your farmland help you to protect/manage your livelihood activities from weather and climate risks?
- Yes
 - No
 - I do not know
29. If yes to question 27, in what way? _____

Final Questions

30. What problems do you observe while implementing bundled **climate smart agriculture practices** on SWC, feed and forage, and green manuring?
31. In general, if you have any additional comments

Thank you!

Annex 2. Inter Aide- ALLIANCE questionnaire for Stakeholders

Dear respondent,

This questionnaire is to gather information related to the CSA technologies/options/practices you have been implementing with Inter Aide in collaboration with different organizations such as CIAT, ILRI, Africa RISING, etc. All the information collected will only be used for this purpose. Thank you for your willingness and support.

Personal Information

1. Gender of the respondent
 - Male
 - Women
 - Other
 - Do not want to say
2. Age of the respondent
 - 18-30
 - 31-40
 - 41-50
 - Above 51
3. Education status of the respondent
 - Diploma
 - Bachelor's degree
 - Masters and beyond, please specify
 - Other
4. The institution where you work _____

Basic questions

5. Are climate smart agriculture practices such as soil and water conservation, feed and forage, water harvesting and green manuring important to your work?
 - Yes
 - No
 - Not sure
6. If your answer is yes, which products do farmers implement?
 - Climate-smart integrated physical and biological soil and water conservation practices
 - Stratified climate-smart agroforestry systems
 - Climate-smart cereal-legume intensification systems including green manuring
 - Climate-smart integration of forage and feeds into mixed crop and livestock systems in rehabilitated landscapes
 - Other, please specify
7. How satisfied are you with the **usefulness** of **climate-smart integrated physical and biological soil and water conservation** practices provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
8. How satisfied are you with the **accessibility** of information on **climate-smart integrated physical and biological soil and water conservation** practices provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
9. How satisfied are you with the **usefulness** of **stratified climate-smart agroforestry systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
10. How satisfied are you with the **accessibility** of information on **stratified climate-smart agroforestry systems** provided?
 - Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied

- Very unsatisfied
 - Not applicable
11. How satisfied are you with the **usefulness** of **climate-smart cereal-legume intensification systems including green manuring** provided?
- Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
12. How satisfied are you with the **accessibility** of information on **climate-smart cereal-legume intensification systems including green manuring** provided?
- Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
13. How satisfied are you with the **usefulness** of **climate-smart integration of forage and feeds into mixed crop and livestock systems** provided?
- Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
14. How satisfied are you with the **accessibility** of information on **climate-smart integration of forage and feeds into mixed crop and livestock systems** provided?
- Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Not applicable
15. How **relevant and useful** are bundled **climate smart agriculture practices** on SWC, feed and forage, and green manuring gender/youth responsiveness?
- Very important
 - Important
 - Neutral
 - Irrelevant
 - Very irrelevant
16. How did you receive the information?
- Email
 - Training/workshop
 - Social media
 - Inter Aide field technician
 - If other, please specify
17. If your answer to the above question is via e-mail, please provide us with your e-mail address
-
18. Do you think that the provided bundled **CSA practices implemented** has improved livelihood of farmers?
- Yes
 - No
 - I do not know
19. If yes, in what way?
- By increasing crop yield
 - By increasing livestock value
 - By saving assets from destruction
 - By diversifying income source
 - If other, please specify
20. If farmers livelihood was improved by crop yield increase, by how much did it increase?
- By a quarter
 - By a half
 - By three-fourth
 - By double
21. If farmers livelihood was improved by increase in livestock value, by how much did it increase?
- By a quarter
 - By a half
 - By three-fourth
 - By double

22. Do you think that the CSA practices implemented on farmers' farmland have helped to improve their household food consumption and your HH diet diversity?
- Yes
 - No
23. If yes to 23, in what way did it help?
- Eat three times a day
 - Eat more meat products
 - Eat more dairy products
 - Eat more egg
 - Eat more vegetables
 - Eat more protein rich cereals and legumes
 - Other, please specify
24. Do the bundled **CSA practices implemented** help farmers to protect/manage the livelihood activities from weather and climate risks?
- Yes
 - No
 - I do not know
25. If yes, in what way? _____

Final Questions

26. What problems do you observe while implementing bundled **climate-smart agriculture practices** on SWC, feed and forage, and green manuring?
27. In general, if you have any additional comments



AICCRA

Accelerating Impacts of CGIAR
Climate Research for Africa



About AICCRA

Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) is a project that helps deliver a climate-smart African future driven by science and innovation in agriculture.

It is led by the Alliance of Bioversity International and CIAT and supported by a grant from the International Development Association (IDA) of the World Bank.

Discover more at aiccra.cgiar.org

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