Impact report 2024

Increased food security, income, climate resilience and stronger civil society among smallholder farmers organized in farmer family learning groups (FFLGs).

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0. Background

The ESFROMA Program is implemented by Caritas Kampala (CK), Uganda Rural Development and Training program (URDT), Tanzania Organic Agriculture Movement (TOAM), UWAMWIMA, Organic Denmark (OD), Great Lakes Organic Farmers Association (GLOFA) and Kilimo Organic Farmer Learning Centre (KOFLEC).

The overall development goal of the ESFROMA program is to decrease food insecurity and poverty through organic farming and empowerment of small-scale farmers including women and youth in Uganda and Tanzania. Small-scale farmers in the rural areas of the target areas suffer from poverty, limited educational training and difficulties providing for their households and securing sustainable livelihoods for the family. Capacity building providing knowledge and skills is critically demanded to develop agricultural practice, apply sustainable organic farming methods and produce yields that fulfill the demanded quality and quantity to gain access to relevant markets while strengthening resilience towards increasingly prevalent climate changes in the rural areas. The FFLG approach provides a resilient framework for engaging small-scale farmer families in democratic rural organizations, empowering them to improve their livelihoods through capacity building, networking, participatory learning, exchange of practical experience and collective organic agricultural, marketing and advocacy efforts.

1. Introduction – overview over data

This report analyzes progress against increased food security, income, climate resilience and stronger civil society among smallholder farmers organized in farmer family learning groups organized in the ESFROMA program 2024, estimated 20.000 farmer families (HH) organized in 600 FFLGs.

The analysis is based on two separate datasets: one consisting of interviews with individual farmer households, and the other of interviews with FFLGs. The household dataset includes responses from 241 farmers across three geographical areas: Uganda (145), Tanzania (48), and Zanzibar (48). All respondents are participants in the ESFROMA project and represent 40 different FFLGs, with approximately six respondents per group. The sample includes 146 women and 95 men.

The FFLG dataset covers 40 farmer groups in total: 8 from Tanzania, 24 from Uganda, and 16 from Zanzibar. Collectively, the groups account for 905 members (170 in Tanzania, 620 in Uganda, and 115 in Zanzibar), with an average of 19 members per group. At the time of the interviews, 514 members were present across the participating FFLGs (Appendix, table 1).

2. Method

2.1 Data collection

Data for this report was collected through a mixed-methods approach, as advised by the ESFROMA project framework. The data is based on structured interviews with both farmer households and FFLGs. The surveys were carried out by specially trained master facilitators and conducted during August 2024.

2.2 Geographically grouping

The data comes from three areas in Uganda (Kagadi, Kasese, Wakiso) and two areas in Tanzania (Zanzibar Islands and Chamwino).

2.3 Evaluation of data validity

There are several limitations to be aware of when interpreting the data.

First, the data is cross-sectional and reflects one specific time period. As a result, it is not possible to assess changes over time or determine whether the observed outcomes, such as the number of meals per day, are directly related to the adoption of organic farming practices.

Similarly, while the data allows for comparison between countries, it cannot determine whether those differences existed prior to the project or are a result of project activities. These limitations may be solved when the second round of data will be collected in 2025.

There are also some concrete limitations in the way data has been collected. In the household dataset the question about nutrition-types was asked for the past year instead of the past 24 hours and therefore cannot be compared to the standard food security measure Household Dietary Diversity Score (HDDS). Data on the adoption of organic farming practices at the FFLG-level also has limits for evaluation, since in some cases it has been collected in the number of members present at the time of the interview and in other cases the total number of members. The same issue applies to some of the other questions in the FFLG dataset as well.

Overall, these limitations should be kept in mind when interpreting the findings and drawing conclusions about causality or long-term impact based on the data.

3. Food security

The UN World Food Programme defines food security as when people have access to enough safe and nutritious food for normal growth and development, and an active and healthy life (www.wfp.org).

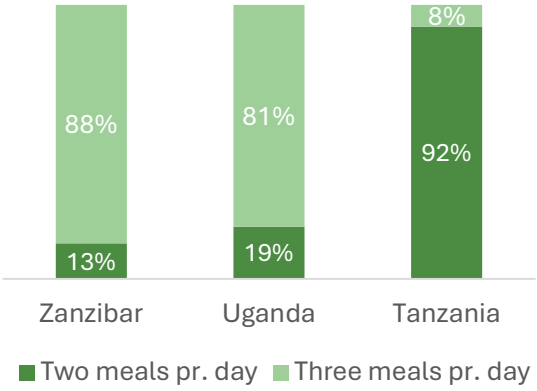
When asked to define food security, 42% of respondents identified it as ‘the ability to produce sufficient food’, and another 30% as having ‘access to sufficient food needed with the resources available’. Respondents were asked to select only one option, therefore

the answer is the aspect they consider most central to the concept of food security. A smaller proportion associated food security with nutrition quality and health: 13% viewed it as the ability to afford a balanced diet, while 11% linked it to stable access to healthy food over a considerable period. Only 3% considered proper utilization of available food and resources as the key aspect (Appendix, table 2). These responses suggest that the majority of participants associate food security more with quantity and access to sufficient food rather than with nutritional quality and long-term stability.

Household meals per day:
Looking at food security from the perspective of the average daily household number of meals over the past year, 70% of respondents reported having three meals per day, while 30% reported having two meals.

However, we see large geographical differences: In Tanzania, more than 90% of respondents report eating only two meals per day, while in Zanzibar and Uganda this proportion is below 20%, where most households reported consuming three meals per day.

Figure 1: *Number of meals per day*



Note: N (241 respondents)

There can be several explanations for the geographical difference, which will be elaborated in the following sections, when unfolding the possible explanations for food security.

3.1 Income levels
One possible explanation for the difference in daily meal frequency between the countries is income. However, a full comparison across all three countries is not possible due to differences in currency and response categories. Therefore, this analysis focuses only on Tanzania and Zanzibar, where income is reported in the same currency (TZS).
According to the data, 90% of respondents in Zanzibar report an annual income of 1,500,001 TZS and above, while only 46% of respondents in Tanzania fall into this income category. Instead, 46% of Tanzanian respondents report earning between 600,001 and 1,000,000 TZS annually.

This suggests that lower income levels may partly explain why respondents in Tanzania are more likely to report eating only two meals per day than in Zanzibar. However, it is important to note that the income question lacks a response category between '1,000,001 and 1,500,000' TZS and 'less than 300,000TZS'. This gap limits the accuracy of the comparison and reduces the overall validity of the income measure (Appendix, figure 4).

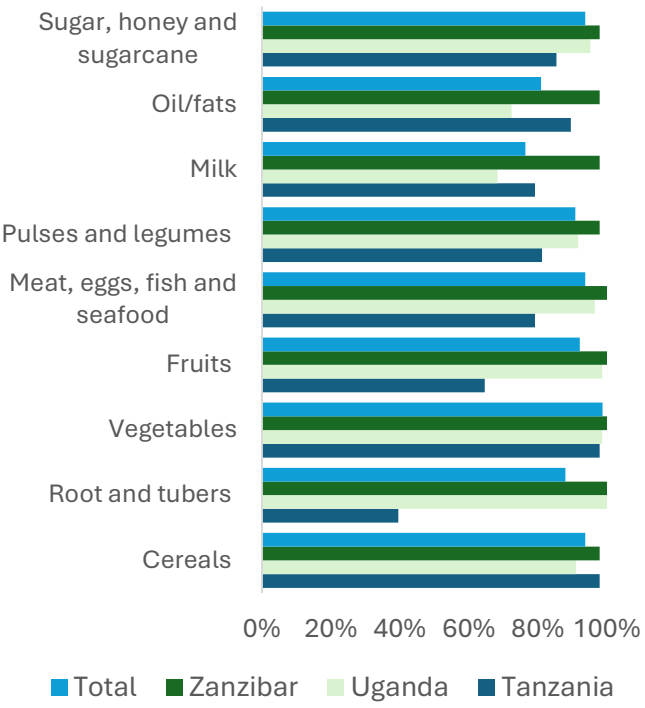
3.2 Cultural norms and nutritional diversity

Another possible explanation for the differences in meal frequency is cultural norms and differences around eating habits. The survey does not provide information about meal size or local perceptions of what constitutes a "normal" number of meals per day. In some areas, two meals may be customary and not necessarily reflect food insecurity. Furthermore, the time of season might also be a considerable factor as rural communities tend to have more food (and therefore more meals in a day) during and immediately after harvest and much less later. As such, meal frequency alone cannot be used as a definitive measure of food security. To explore this further, we look at nutrition diversity based on the types of food consumed over the past year.

Figure 2 shows that respondents in Zanzibar report the highest consumption across almost all nutrition categories, nearly 100% for each. Ugandan respondents also score high on most food groups, though slightly lower for milk and oils/fats. In contrast, Tanzanian respondents consistently report the lowest levels of consumption, particularly for roots and tubers, as well as fruits.

Figure 2: *Food nutrition*

Questions/Has your family been eating any of the following food groups in the last 1 year?



Note: N (241 respondents)

While the data suggests that most respondents have consumed all nutrition types at some point during the past year, it does not indicate how often or in what quantities. We therefore cannot conclude whether their daily meals are nutritionally balanced or sufficient, which limits our ability to assess overall food security based on this indicator alone.

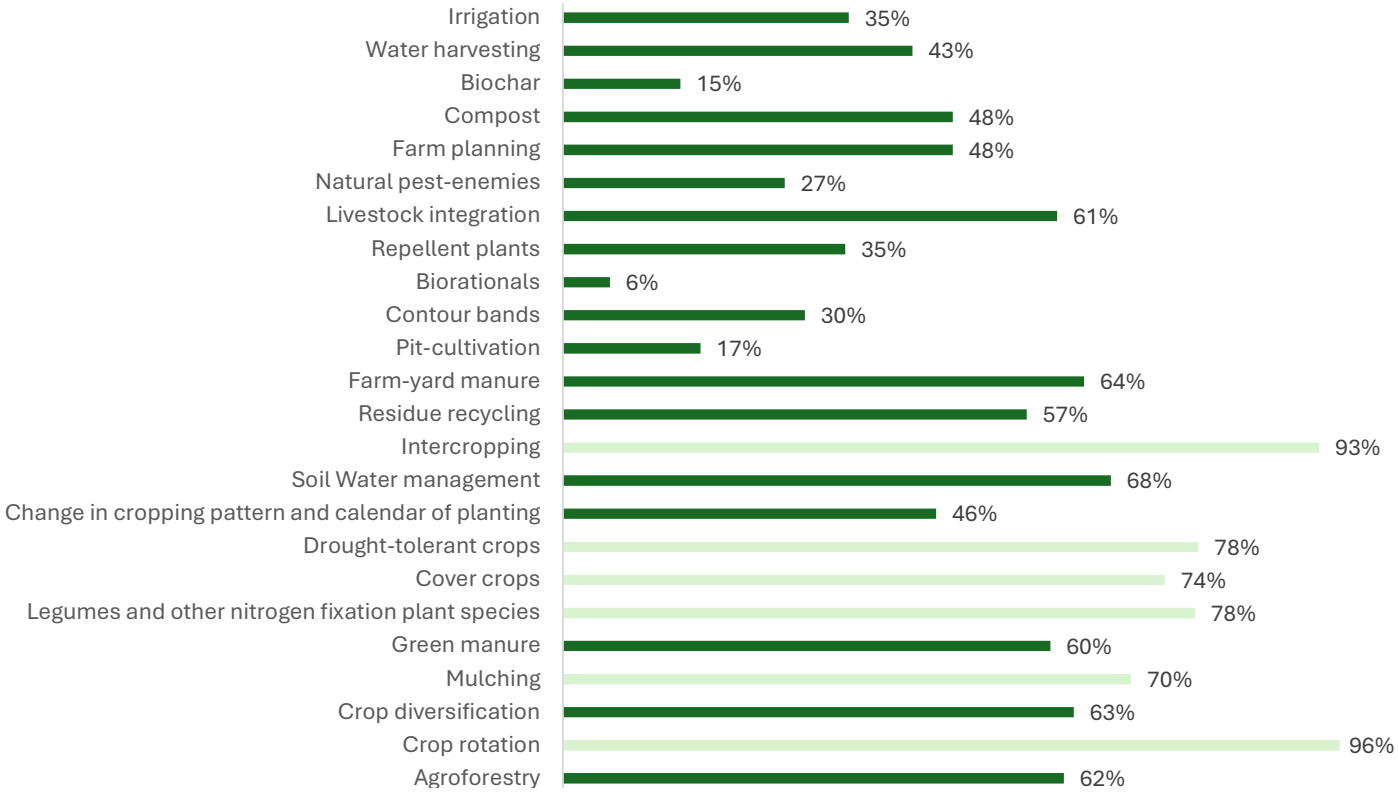
3.3 Farming practices and climate change

A third possible explanation for the differences in food security across countries relates to the farming practices used by respondents. The survey asked whether farmers had used any of 24 different organic farming methods during the last season. Among these, the following six practices were used by more than 70% of respondents overall: *intercropping*, *crop rotation*, *drought-tolerant crops*, *legumes and other nitrogen-fixing species*, *cover crops*, and *mulching*. On average the farmers used between 12 and 13 of the methods. Furthermore, all the respondents are practicing 3 or more organic climate change adaptation farming practices.

Overall, we see a high degree of adoption of farming methods among the respondents. This may be linked to their awareness of climate change and its impact on agricultural conditions, where 94% of respondents report that climate change is an issue in their area. This is likely to influence their motivation to adopt organic climate adaptation practices and supports the relevance of the programs focus on climate resilience.

***Figure 3**: The overall adoption of organic farming methods.*

Questions/Did you practice any of the following organic climate change adaptation practices in the last season?



Note: N (241 respondents)

If we compare the use of the six most adopted farming methods across the three countries, we see a widespread use of these practices in all countries. However, one notable exception is mulching, which is practiced by only around 30% of Tanzanian respondents (Appendix, figure 5).

Despite this, it remains unclear whether differences in farming practices explain the lower meal frequency observed in Tanzania. Many external factors—such as weather conditions, conflict, political instability, or disease outbreaks—may also impact food security and are not accounted for in this dataset.

However, a comparison of the average number of organic practices used by respondents shows that those who report eating three meals per day use, on average, two more farming methods than those who eat only two meals daily.

***Table 3**: Relationship between meal frequency and organic farming methods used.*

Meals pr. Day	Average number of organic farming methods used
2	11
3	13,5

Note: N (241)

This suggests a possible connection between the use of organic farming practices and improved food security. While this is a promising finding, it is important to note that the difference is not statistically tested, and causal relationships cannot be confirmed.

3.4 Future food security

When asked what the respondents believe is most important for securing enough food in the coming year, 33% of respondents highlighted the need to adopt more resilient organic farming methods, and 23% pointed to more collaboration within their FFLG. This supports the assumption that both organic farming methods and farmer organizations play an important role in strengthening household food security. In addition, 17% of respondents identified water availability and 16% mentioned access to inputs like seeds as key factors (Appendix, table 2)

4. The role of FFLG's

4.1 Climate change, farming practices and food security in FFLG

The data shows that nearly all FFLGs (97,5%) are actively working with climate adaptation farming practices, and 95% state that these practices have had a positive impact on their food production. Furthermore, 90% of FFLGs believe that using these methods has improved their food security, and 97.5% report improvements in diet quality since joining the farmer group.

These findings support the project's aim of promoting sustainable farming practices while strengthening farmers' food security. They also align with the household-level data, which suggests a link between the use of organic farming methods and increased food security (Appendix, table 4).

4.2 Women and youth

All 40 FFLGs surveyed responded 'yes' to the questions regarding the inclusion of women and youth in the FFLGs. This involve that women and youth are included in discussions, that they have a say in priorities and goals, they feel comfortable sharing opinions and that they are being encouraged to take leadership roles and responsibilities.

These responses suggest that women have a voice in decision-making in the FFLG's. However, there are important limitations to consider when interpreting these findings.

We do not know the gender of the person responding to the survey on behalf of the FFLG, and the composition of the members present during the interview. This creates an increased risk of social desirability bias, where respondents may answer what they believe is expected or socially acceptable, rather than reflecting the actual practice. For example, if a woman is present during the interview but not in a leadership role, she may be unwilling to contradict the official group representative, especially if he claims that women have equal influence in decision-making.

If we look beyond self-reported perceptions, the descriptive data offers a more nuanced picture. On average, each FFLG leadership board or committee consists of seven members, where around four are women (54%) and three are youth (40%), which is indicating a relatively strong level of representation within the FFLG (Appendix, table 5). On the other side there are still 15% of the boards, which has no women represented at all. When looking at marketing boards we also see strong

representation, where 54% are women and 37% is youth (Appendix, table 6).

However, participation at the local government level appears more modest. Among the 40 FFLGs surveyed, 23 have members engaged in local government committees. The total number of individuals participating is not specified, making it difficult to compare representation across groups. Still, the available data suggests that, on average, only around one woman and fewer than one youth are involved in these committees, indicating that representation beyond the FFLG level remains limited (Appendix, table 5). However apart from the official Local Council leadership there are several other structures that members of the FFLG's could participate in, such as School Committee, the Church/Mosque Committees etc.

These findings overall suggest that while formal inclusion of women and youth is present and, in some cases, very strong in the FFLGs, there may still be limitations in actual influence and representation, particularly beyond the FFLG level in the local government committees.

4.3 Collective marketing

We further have a look at the FFLG's that do collective marketing. Overall half of the FFLG's surveyed report engaging in collective marketing, while the other half do not. When comparing across countries, it is primarily the FFLG's in Uganda and Zanzibar, where in Tanzania, only 1 out of 8 FFLGs reported practicing collective marketing (Appendix, table 6).

To examine whether collective marketing is associated with income differences, FFLGs must be analyzed within their national context, as income data is reported in local currencies. It is also important to consider the number of members per FFLG, as larger groups may naturally report higher total income. FFLG's that engage in collective marketing have on average 4 more members in Uganda, 2 more in Zanzibar, but 4 fewer members in Tanzania than the FFLGs that doesn't do collective marketing.

In Uganda, there appears to be a positive link between collective marketing and income. Among the FFLG's not engaged in collective marketing, 60% earn less than 10,000,000 UGX, compared to only 29% among those who does collective marketing. Furthermore around 35% earns 30,000,0001 or more compared to only 20% of the FFLG's without collective marketing.

However, these results must be interpreted with caution. We cannot rule out other factors and selection bias, e.g. higher-income groups may be more likely and able to engage with collective marketing to begin with.

In Zanzibar, the tendency is reversed. FFLG's that do not engage in collective marketing report a higher average annual income than those who do (Appendix, figure 6)

In Tanzania, meaningful comparison is not possible due to the very small number of cases, with only one FFLG doing collective marketing.

Finally, it is important to note that the average size of the farm members in the cooperative marketing groups varies by country: on average there are 25 farm-members in Uganda, 21 in Tanzania and 14 in Zanzibar. This difference in group size further complicates direct comparisons of income and marketing practices across countries (Appendix, table 6).

5. Conclusion

The ESFROMA program demonstrates promising progress toward enhancing food security, climate resilience, and civil society engagement among smallholder farmers in Uganda and Tanzania. The data reveals that the majority of participating households report improved food access, with a significant portion consuming three meals per day—though notable disparities remain, particularly in Tanzania. These differences appear to be influenced by a combination of income levels, cultural norms, and the adoption of organic farming practices.

The widespread use of organic climate adaptation methods, especially among those with higher food security, suggests a positive correlation between sustainable farming and improved livelihoods. Furthermore, the Farmer Family Learning Groups (FFLGs) play a critical role in facilitating knowledge exchange, promoting inclusive participation, and supporting collective action. Their efforts in climate adaptation and collective marketing have shown potential to increase both food production and income, particularly in Uganda.

However, limitations in data collection and the cross-sectional nature of the study mean that causality cannot be definitively established. Future rounds of data collection will be essential to assess long-term impacts and trends. Nonetheless, the findings support the continued investment in organic farming, capacity building, and inclusive farmer organizations as key strategies for sustainable rural development.