



Is GAFSP reaching  
small-scale food  
producers in Tanzania?

# Introduction: The GAFSP-supported ERPP in Tanzania

The United Republic of Tanzania remains a primarily agriculture-based economy with significant rural-urban and regional socio-economic disparities. In the last decade, Tanzanian Gross Domestic Product (GDP) performance has been impressive, growing at 7% annually.<sup>1</sup> However, this growth has not been equitably shared, with the rural population benefiting less. Despite employing over 75% of people living in rural areas, the agricultural sector is growing at a slower rate of 4.4%.

In Tanzania, the performance of the agricultural sector is critical for poverty reduction and food security. Food is the principal sub-sector that has performed poorly and is grown mainly by subsistence smallholder farmers. Smallholder producers contribute 75% of the food produced in the country, yet the number of people living below the basic poverty line is higher in rural areas (33.3%) than in urban areas (21.7%).<sup>2,3,4</sup> About 45.2% of the rural population experienced food shortages through the year compared to 34.6% of the urban population.<sup>5</sup>

In rural areas the distribution of time between productive and reproductive activities differs substantially between men and women. Domestic tasks and household chores such as food preparation, water and fuel collection, and caring for children and the elderly are primarily carried out by women. In addition, 65% of agricultural laborers are women cultivating between one and three hectares. Heavy engagement in family care limits their productive and earning potential, which in turn limits access to modern technology, machinery and inputs. This inevitably increases vulnerability to food insecurity, malnutrition and reduced income.

The majority of these farmers work on subsistence agriculture and can easily be pushed into poverty by weather fluctuations (drought or floods), biotic stress, and other external shocks, notably food price fluctuations due to poor access to information, innovations, value added initiatives, improved varieties and good quality seeds. This leads to insufficient returns as compared to production labor and costs. These have contributed to stagnant growth in the agriculture sector in recent decades, with the annual growth rate falling below 5%.<sup>6</sup> Access to improved inputs and reliable domestic and export output markets is thus considered the main requirement for increasing agricultural productivity, closing yield gaps, and contributing to economic growth. The project intervention model aims to improve rice productivity and

## Glossary

<b>ANSAF</b>	Agricultural Non-State Actors Forum
<b>ASA</b>	Agricultural Seed Agency
<b>ASDP</b>	Agricultural Sector Development Program
<b>ASP</b>	Agricultural Sector Plan
<b>ASWG</b>	Agricultural Sector Working Group
<b>BOT</b>	Bank of Tanzania
<b>ERPP</b>	Expanding Rice Production Project
<b>FFS</b>	Farmer Field School
<b>GAFSP</b>	Global Agriculture and Food Security Program
<b>KATRIN</b>	Kilombero Agricultural Training and Research Institute
<b>MVIWATA</b>	National Network of Farmers Groups in Tanzania, also known in Kiswahili as Mtandao wa Vikundi vya Wakulima Tanzania
<b>NBS</b>	National Bureau of Statistics
<b>RGoZ</b>	Revolutionary Government of Zanzibar
<b>SRI</b>	Systems of Rice Intensification
<b>TADB</b>	Tanzania Agricultural Development Bank
<b>TAFSIP</b>	Tanzania Agriculture and Food Security Investment Plan
<b>TARIPA</b>	Tanzania Rice Partnership initiative
<b>TOSCI</b>	Tanzania Official Seed Certification Institute
<b>UNECA</b>	United Nations Economic Commission for Africa

1 Bank of Tanzania (2017). Annual Report 2016/2017. Bank of Tanzania, Dar es Salaam, Tanzania. <https://www.bot.go.tz/Publications/EconomicAndOperationsAnnualReports/BOT%20Annual%20Report%202016-17.pdf>

2 National Bureau of Statistics (2016). Tanzania in Figures. National Bureau of Statistics, Dar es Salaam, Tanzania.

3 Economic Commission for Africa (2015). Country Profile-United Republic of Tanzania. United Nations Economic Commission for Africa. [<https://www.uneca.org/sites/default/files/images/ORIA/CP/tanzania.pdf>]

4 FAO (2014) Tanzania Mainland country profile: gender inequalities in rural employment in Tanzania Mainland, an overview. Rome. [<http://www.fao.org/3/a-i4083e.pdf>] site visit visited on 22 July 2018.

5 National Bureau of Statistics (2017). Tanzania National Panel Survey Wave 4, 2014-2015. National Bureau of Statistics, Dar es Salaam.

6 Economic Commission for Africa (2015). Country Profile-United Republic of Tanzania



ensure food security, nutrition, and the incomes of small-scale rice producers, through the adoption of improved rice varieties and production technology which would transform rice subsistence production to commercial scale.

Smallholder producers also face limited access to financing. They are sidelined by the banking system and other financial institutions due to over-reliance on rain-fed production, which increases interest rates, collateral requirements and other risk premium assets. The Bank of Tanzania (BOT) reports that banks' credit to agriculture has been decreasing over the years, diminishing from 8.4% in 2013 to 7.8% and 7.7% of the total loans in 2014 and 2015 respectively. It is noteworthy that credit to agriculture continues to slow down in favor of other economic activities, notably trade and manufacturing. However, the establishment of the Tanzania Agricultural Development Bank (TADB)<sup>7</sup> is a significant move towards improving the financial access of rural farming communities.

The Tanzanian Government aims to develop farming business. The goal is to enhance production, increase the productivity and profitability of the agriculture sector, and transform it from its subsistence nature into a commercially viable, competitive and sustainable sector. The Expanding Rice Production Project (ERRP) augments the Government's efforts to forge a strong public-private partnership in the rice value chain called the Tanzania Rice Partnership Initiative (TARIPA).

Specifically, the project intends to achieve the following objectives:

- Promote public-private sector partnerships in the development of innovative approaches to the multiplication and distribution of improved rice seed varieties in the project area
- Accelerate adoption rates of high-yielding rice seed varieties by rice farmers in the project area through an agricultural inputs subsidy to cover costs for seed, fertilizer and pesticides
- Rehabilitate rice irrigation schemes that are not covered by the current Agricultural

<sup>7</sup> TADB is an agricultural development financing bank with a mission to facilitate the development and transformation of the agriculture sector, by providing short, medium and long-term financing to agriculture projects in Tanzania that promote economic growth, food security and reduction of income poverty.

RICE IS A STAPLE CROP  
IN TANZANIA.

CREDIT: ALLAN  
GICHIGI/ACTIONAID

Sector Development Program (ASDP) and Agricultural Sector Plan (ASP)<sup>8</sup> funding in the selected project area of TARIPA-SAGCOT on the mainland and in Mtwango, Kibokwa, and Ole in Zanzibar

- Enhance the capacity of the monitoring and evaluation system to ensure effective implementation, achieve envisaged results, and provide lessons for replicating the project's public-private partnership model to other areas

The Global Agriculture and Food Security Program (GAFSP) Multi-Donor Trust Fund, through its Public Sector Window, supports the Tanzania Agriculture and Food Security Investment Plan (TAFSIP) by providing funds to implement the ERPP. The project is a country-led effort to raise agricultural productivity, link farmers to markets, reduce risk and vulnerability, improve non-farm rural livelihoods, and develop the capacity of farmers, communities, the government and the private sector to improve income and food and nutrition security.

The project was anticipated to support about 37,000 farm households producing irrigated rice in Morogoro, Tanzania mainland, and 8,000 in Zanzibar. In Morogoro, the project was implemented in Kilombero, Kilosa and Mvomero Districts. In Zanzibar it was in the Northern Central and Northern South regions. These sites were selected because of their fertile soil for rice production and irrigation potential to improve productivity. The project was designed to pay particular attention to women's and youth employment and to build resilience to climate change.

The Ministry of Agriculture Food Security and Cooperatives of Mainland Tanzania and the Ministry of Agriculture and Natural Resources of the Revolutionary Government of Zanzibar jointly implemented, supervised and managed project activities. Agricultural Seed Agency (ASA), a public-private government institution on the Tanzania mainland, and Kizimbani Agricultural Research Institute undertook the multiplication and distribution of improved rice seed varieties in the project areas. Research activities on the mainland were done by Kilombero Agricultural Training and Research Institute (KATRIN). Local Government Councils implemented the project. The total funding for the project was US\$22.9 million. The World Bank was the supervising entity for the project.

COMPONENTS	SUB-COMPONENTS	EXPECTED OUTCOMES
Promote public-private sector partnerships in developing innovative approaches to the multiplication and distribution of improved rice seed varieties	<ul style="list-style-type: none"> <li>• Provision of improved seeds</li> <li>• Demonstration of improved seed varieties</li> <li>• Training on good agronomic management practices</li> </ul>	Increased productivity and improved management practices
Accelerate adoption rates of high-yielding rice seed varieties by rice farmers in the project area through an agricultural inputs subsidy for seed, fertilizer and pesticides	<ul style="list-style-type: none"> <li>• Introduction of System of Rice Intensification (SRI)<sup>9</sup></li> </ul>	Increased adoption of SRI
Rehabilitate rice irrigation schemes that are not currently covered by ASDP and ASP funding in the selected project area of TARIPA-SAGCOT on the mainland and Mtwango, Kibokwa and Ole in Zanzibar	<ul style="list-style-type: none"> <li>• Construction and rehabilitation of selected irrigation schemes</li> <li>• Constructions of warehouse</li> <li>• Constructions of roads</li> </ul>	Increased rice productivity
Enhance the capacity of the monitoring and evaluation system to ensure effective implementation, achieve envisaged results, and provide lessons for the replication of the project's private-public partnership model in other areas	<ul style="list-style-type: none"> <li>• Strengthening of producer groups</li> <li>• Management of inputs subsidy</li> </ul>	Enhanced producer groups performance and sustainability

<sup>8</sup> ASP is the agricultural sector development plan implemented in Zanzibar.

<sup>9</sup> The System of Rice Intensification, known as SRI – le Système de Riziculture Intensive in French and la Sistema Intensivo de Cultivo Arrocerero (SICA) in Spanish – is an agroecological methodology for increasing the productivity of irrigated rice by changing the management of plants, soil, water and nutrients. <http://sri.ciifad.cornell.edu/>

## Scope of this study

ActionAid USA, in collaboration with ActionAid Tanzania, commissioned this case study in Tanzania to showcase successes and lessons learned from the implementation of the ERPP and to use these learnings to encourage further donor support to GAFSP and improvements of future GAFSP projects.

The implementation of the ERPP focused on small-scale food producers; women producers; the engagement and participation of producer and civil society organizations; and climate resilience which is considered an important element for enhancing food security and poverty alleviation in the long term.

This study is based on a field mission carried out in July 2018 in the districts of Kilosa and Mvomero in Morogoro region, Tanzania Mainland, and two Districts of North and Central in North Unguja region. These areas were selected at random in consultation with ActionAid International and the World Bank as the main advisers to the Government of United Republic of Tanzania. Methodology for the preparation of this report included a desk review of relevant reports, focus group discussions, individual interviews, and field observations.

Interviews were undertaken with 25 small scale farmers (12 women); 15 government officials of whom two were ERPP project focal persons at the district level and five were farm extension officers; three national-level ERPP staff; ASA staff; and two representatives from producer organizations at the local, regional and national levels farmers' association (MVIWATA & ANSAF).<sup>10,11</sup> Focus group discussions were held at Cheju Irrigation Scheme.

## Key findings on the project implementation

After two years of implementation, the ERPP began to show transformations in participants' livelihoods. Technical and organizational capacity building among government extension staff and lead farmers from the producer group was observed. The ERPP has been successful in reaching producers experiencing the highest levels of vulnerability and poverty, especially women and youth. It has initiated momentum in improving rice productivity, raising household income and stabilizing food availability for participants and surrounding farmers in locations surrounding the project area.

Farmers said they were involved in important decisions particularly in selecting seed varieties and receiving training in Systems of Rice Intensification (SRI) from farm preparations, nursery management, transplanting, weeding, managing agrochemical or herbicides, harvesting, and organoleptic tasting of the seed varieties in order to select two varieties out of nine which were demonstrated.

The project experienced several delays during the procurement of contractors for irrigation rehabilitation, warehouse construction, farm road constructions and inputs payments, which affected the greater positive outcomes of the project. Despite these delays, farmers enthusiastically reported that they have been able to continue farming using SRI with improved seed varieties. They were impressed with productivity outcomes and promised to continue with SRI farming. Their commitment is important for the sustainability of the project even after support for the project is phased out. However, some farmers expressed concern around the costs of a more expensive technology. It remains to be seen how the long-term

10 National Network of Farmers Groups in Tanzania also known in Kiswahili as Mtandao wa Vikundi vya Wakulima Tanzania (MVIWATA)

11 Agricultural Non-State Actors Forum



impact of massive use of fertilizers and pesticides to boost rice productivity affects the sustainability of the project.

## 1. Does the project target small-scale food producers?

The ERPP targets 11 districts on the Tanzania mainland – Mbarali, Kyela, Mbozi, Morogoro, Kilombero, Kilosa, Mvomero, Iringa, Sumbawanga, Mpanda, and Songea, and three districts on the Zanzibar Islands – Mtwango, Kibokwa, and Ole. These areas are known for rice production, but productivity has been very low at 1.5MT/ha compared with rice producers in other countries, e.g. Egypt 9.5MT/ha; Vietnam 4.9MT/ha; Bangladesh 4.0MT/ha and India 3.3MT/ha. These selected areas have the potential to increase rice productivity through irrigation and adoption of improved seed varieties. Both the mainland Government and the Revolutionary Government of Zanzibar (RGoZ) see rice as a potential crop to achieve national food self-sufficiency in the long-term and reduce imports. Since rice is a major staple crop that is also highly commercialized, it has a high probability for attaining food security in the country as well as increasing household income and reducing income poverty.

In the Kilosa, Mvomero and Kibokwa districts, farmers reported that the selection of participants was done by local government extension officers in the selected districts, with a focus on identifying vulnerable households according to a range of issues that included gender, vulnerability to food insecurity, and income.

*“A village meeting was called by the ERPP focal person from the district for the purpose of introducing the project objectives, expected outcomes and impact to the community.*

USING EXTRA INCOME SHE EARNS FROM SELLING RICE, JOYCE JAMES KINYAMI EMPLOYS YOUTH IN HER VILLAGE TO WORK WITH HER WELDING MACHINE.

CREDIT: HANS NGOTEYA/ACTIONAID

*After the meeting 20 farmers (10 female) were selected to attend a training on good agronomic management practices at Mkindo Agricultural Research Institute. Each participating farmer was requested to set aside one acre of farmland for the demonstration of the SRI, and each trained farmer was required to train four other farmers after the training.” – Neema Isack Mkanga, Village Agricultural Extension Officer, and James Peter Mbiu, Irrigation Technician, Kigugu Village, Mvomero, Morogoro Region*

ASA intended to reach 120 villages and 20 irrigation schemes through a field day approach, by using demonstration plots for peer learning. Farmers who acquired the skills better than others were supported to establish multiplication plots in their villages or irrigation schemes to sell seedlings to other farmers adopting SRI. As farmers learned from their colleagues about SRI and the performance of different rice varieties, they were able to establish multiplication plots and demonstration plots in each irrigation scheme. At the demonstration plots they received further training on farm preparation, nursery management, transplanting, and harvesting, and during farmer’s field days they participated in organoleptic tasting of the seed varieties. Providing opportunities to learn through observing and comparing outputs from different seed varieties was instrumental in reaching farmers.

*“Up until 2017-2018 ASA managed to reach 1,336 farmers. These farmers are able to identify improved varieties and their performance, and they have abandoned old varieties.*

*“In collaboration with extension officers, we started informing farmers about the project in five [irrigation] schemes in Mvomero (Mboga and Kigugu-Komtonga), Kilosa (Mvumi) and Kilombero (Msolwa and Njage-Ujamaa village) for the trials of improved rice varieties. Two rice farmers, one male and one female, from each village were selected to attend*

### **The System of Rice Intensification<sup>1</sup>**

The system of rice intensification (SRI) is defined as an agro-ecological methodology for increasing the productivity of irrigated rice by changing the management of plants, soil, water and nutrients.

SRI originated in Madagascar in the 1980s and is based on the cropping principles of significantly reducing plant population, improving soil conditions and irrigation methods for root and plant development, and improving plant establishment methods. The benefits of SRI have been demonstrated in over 50 countries. They include: 20%-100% or more increased yields, up to a 90% reduction in required seed, and up to 50% water savings. SRI is not a fixed technology, rather a set of principles and practices that can adapt to different agro-ecological and cropping system conditions. SRI principles and practices have been adapted for rain fed rice with yield increases and associated economic benefits.

Research has demonstrated SRI’s positive contributions to food security and nutrition, increased income and livelihoods options, climate change adaptation and mitigation, and improved health and reduced drudgery for women.<sup>2</sup>

<sup>1</sup> See more from SRI International Network and Resources Center at Cornell University at <http://sri.ciifad.cornell.edu>. RI-Rice ONLINE and its associated social networking sites are maintained by the SRI International Network and Resources Center (SRI-Rice) at Cornell University. SRI-Rice ONLINE contains the most comprehensive collection of information on the System of Rice Intensification globally.

<sup>2</sup> [http://sri.ciifad.cornell.edu/conferences/IRC2014/booth/SRI\\_gender\\_handout\\_2014.pdf](http://sri.ciifad.cornell.edu/conferences/IRC2014/booth/SRI_gender_handout_2014.pdf)

*the SRI training at Mkindo Agricultural Research Training Institute for a week to become lead farmers in their villages, in order to help others and propagate the adoption of the SRI technology in their villages... Within a week, 20 lead farmers were able to reach 40 other smallholder farmers who used conventional methods of producing rice to adopt SRI.” – Johnson Tillya, agronomist, Agricultural Seed Agency*

In both Zanzibar and the mainland, the project has successfully reached women and small-scale producers who are experiencing low productivity due to lacking inputs and poor farming practices. Paddy producers in Zanzibar participated in the selection of two varieties: Saro 5 and SUPA BC varieties.

*“We used to plant traditionally by putting 6 to 10 seedlings per hole, about 10 cm apart, although the majority of us didn’t observe this distance. Seeds were recycled from the previous season and ... were randomly thrown and distributed across the farm. Despite spending many hours for irrigation and lots of water we used to harvest [only] five to eight bags per acre (equivalent to 0.5 to 0.8 tons per acre).” – Ritha Rogers, smallholder rice producer, Ilonga Village, Kilosa, Morogoro Region*

Many farmers interviewed shared a similar story.

The majority of the households are food secure for only seven to nine months of the year due to low levels of productivity, and both men and women have to look for casual labor within or outside of the village to earn income for buying food. In some instances, it was challenging to recruit farmers to the project due to expectations that the project would offer grants to finance inputs or some financial rewards for participation.

*“After the training we were provided with a toolkit and asked to train four other vulnerable farmers in the village as part of mobilizing more farmers to adopt SRI. This was challenging because they expected the project would offer them grants or some sort of reward for participating in the project activities.” – Mselenga, lead farmer and smallholder rice producer, Komtonga Village, Mvomero, Morogoro Region*

Nonetheless, the project succeeded in reaching women and youth with training and inputs subsidy. In each activity of the project women were highly encouraged to participate, and it was insisted that women should make up 50% of participants. There was equal participation of women and men in the ERPP activities particularly in the adoption of SRI.

*“Women’s participation in the project activities is equal to men’s, and each woman managed to have a farming plot of 0.25 acre at Cheju Irrigation Scheme. The land is owned by the revolutionary government of Zanzibar where farmers have the right to use it for farming activities only.” – Tatu Ali Khatibu, Ndijani, Central District, Unguja*

*“After seeing the success of SRI adoption in improving yield from the average of 0.6 tons/acre to 3.1 tons/acre, the Morogoro regional government intends to use government funds to scale up this intervention to all districts.” – Dr. Rosalia, Morogoro Regional Agricultural Advisor*

In general, the project activities were successful in reaching some of the most vulnerable individuals within the regions selected, and the peer training helped disseminate new techniques among farmers. However, it must be noted that the activities relating to the provision of subsidized improved inputs (improved seeds, fertilizer, herbicides and pesticides) might not be sustainable for the poorest farmers after the project ends in some districts, due to the higher costs of inputs.



Farmer participants are required to use the income generated from the first harvest to redeem inputs vouchers, but with the current setup, many feel unable to redeem vouchers from the first harvest.

*"I am a smallholder rice farmer and beneficiary of ERPP project. But I am not convinced if the input subsidy benefits majority of vulnerable farmers like me because I can only redeem vouchers for planting fertilizer but the other two fertilizer I cannot redeem the vouchers before I harvest." – Athumani Ismail, smallholder rice producer, Mvumi Village, Kilosa, Mvumi Region*

In addition to that there was a delay caused by the Government in delivering fertilizer which was not anticipated during project design.

Moreover, the SRI calls for less use of agrochemicals and records positive results from the use of organic inputs such as compost and mulch. Even if the use of fertilizers and pesticides is not totally excluded from SRI, they reduce the SRI's positive gains potential on soil, health environment, and affordability.

## **2. How has the project reached small-scale food producers?**

### **a. Increase in agricultural production**

The farmers reported that the inputs and technical training they received enabled them to adopt a new farming system and increase productivity. Farmers explained that SRI training and the support of field extension officers helped them do away with the traditional rice

SINCE PARTICIPATING IN THE ERPP, RITHA ROGERS NOW HARVESTS ALMOST 4 TIMES AS MUCH RICE AS SHE USED TO.

CREDIT: HANS NGOTEYA/ACTIONAID

farming system and tripled their production. Rice producers were able to explain SRI techniques on nursery preparation, farm leveling and spacing, transplanting, when to apply fertilizer and how to inspect plants if there are any pest outbreaks.

*"I am so excited about this project. We used to labor a lot with rice production for very scarce harvests, but now little labor for plenty of harvests." – Tatu Ali Khatibu, farmer, Cheju, Zanzibar*

*"I was skeptical about SRI and Saro rice varieties which were introduced because I used to grow a local variety call 'supa', though I only got five to eight bags of paddy each weighing 100kgs. I decided to use SRI and Saro seed varieties on a half-acre plot to experiment. After harvesting 15 more bags of paddy than I expected, this season I allocated the whole one-acre farm to produce rice using SRI and Saro seed, and I have harvested 33 bags of paddy." – Hadija Hassan, farmer, Mvumi Village, Morogoro Region*

The provision of subsidized inputs has resulted in farmers being able to use improved seed varieties and fertilizers at different stages of plant growth. The demonstration plots approach helped farmers hone their skills in adopting SRI, and the farmer's field day was an incentive for farmers to increase production.

*"During farmer's field day some farmers can tell which harvested rice was transplanted on the eighth day. According to them it yields long and thick grain, and it's very interesting to listen to how they debate which harvested rice followed all the SRI procedures." – Johnson Tilya, agronomist, Agricultural Seed Agency*

Despite positive remarks from paddy producers, it was observed that they face challenges in expanding the production area within the irrigation scheme. It was reported that farmers and people interested in rice production from other regions come before the season starts to rent farms, and due to high demand the very few who own 3 to 5 acres rent out parts of their farm at high prices. High demand increases the rental price per acre. This makes it difficult for smallholder farmers to increase production acreage to earn more income.

## **b. Access to improved production technologies**

The ERPP activities have given significant attention to providing farmers groups with technical training, networking, and inputs to increase their outputs. Farmers reported an increase in their income due to the support they received from the project. Some farmers were also supported with foundation seeds for the multiplications of the improved rice varieties. This made it easy for other farmers to access improved varieties. The improved seeds had been locally tested by the Tanzania Official Seed Certification Institute (TOSCI), which were developed and purified by Kilombero Agricultural Training and Research Institute (KATRIN). The Agricultural Seed Agency (ASA) multiplied and distributed the seeds through their authorized dealers outlets or directly to producers.

On the mainland rice producers reported having received 5 to 6 kg of subsidized seed for a one-acre farm. There are concerns about the procedures of giving improved seeds and fertilizers to producers, and the sustainability of its impact. Some participants reported having challenges affording subsidized inputs, and in some districts there were delays in the delivery of fertilizers. The continued success of the subsidy component of the project will depend on the timely delivery of fertilizer and seeds to farmers. It would be worth exploring the opportunity for farmers to be trained on the use of organic inputs such as compost and mulching in order to be less dependent on the provision of external inputs in the future. Organic inputs also contribute to better soil management.



*"When we started, only 20% of the targeted paddy producers were reached, and we had planned to reach 200 paddy producers at Kigugu and Komtonga rice irrigation schemes. This was mainly caused by delays in delivery of the fertilizers due to procurement procedures." – Baraka Mteri, Agricultural Officer, Mvomero, ERPP Focal Person*

Despite the delays and challenges, farmers attested to having accessed and received subsidized fertilizers and seeds during the first year of the project implementation. In the first year, farmers contributed 30% of the subsidized inputs package, which contained fertilizer, seed, herbicides and pesticides, before harvest and 40% after harvest. The money was paid to the contracted supplier.

*"I paid Tsh 39,500 before harvest and Tsh 59,750 after harvest to redeem fertilizer and seeds vouchers." – Selenga Inama, lead farmer, Komtonga Village, Mvomero, Morogoro Region*

### **c. Increase in income**

Overall, farmers saw an increase in income as they were able to store and sell surplus paddy in the local markets. SRI was new to the majority of farmers, and it was the first time they generated more income from the paddy surplus. Victoria Yohana, female paddy farmer from the Kigugu irrigation scheme in Mvomero District, reported that her income has increased from Tsh 400,000 to Tsh 1,200,000 per year, and she has built a modern poultry house to diversify her sources of income. Farmers with a good grasp of SRI generated additional income by being hired by other farmers interested in using SRI on their farms.

WITH SUPPORT FROM THE ERPP, VICTORIA YOHANA INCREASED HER INCOME FROM SELLING RICE AND WAS ABLE TO BUILD THIS POULTRY HOUSE.

**CREDIT: HANS NGOTEYA/ACTIONAID**



Very few have been able to add value and sell rice at a higher price because they are unable to pay upfront processing and packaging costs. But still they are motivated to continue using SRI even if the project is phased out.

*“For me SRI is my full-time job. I am even called farm drafter because of my meticulous skills in ensuring planting paddy seedling spacing is 25 cm by 25 cm. I am using timber for farm leveling and drafting 25 cm square boxes. Other farmers hire me just to draft those squares for Tsh 5000-7000 for a quarter acre farm. In a day when the season starts I can earn up to Tsh 15,000.” – Selenga Inama, lead farmer, Komtonga Village, Mvomero, Morogoro Region*

Despite the improvement in productivity and knowledge of SRI, farmers complained that a lack of warehouses and processing machines limit the greater potential income increase they could earn from improved productivity.

*“There is improvement in wellbeing since I adopted SRI and Saro varieties. We still have problems in marketing because we are selling paddy. If we could process paddy and sell rice we could have many options for where to sell in order to get better prices.” – Koba Majeshi, farmer, Komtonga Village, Mvomero, Morogoro Region*

WITH THE INCREASED INCOME HE'S EARNING FROM SELLING RICE, FARMER Koba MAJESHI CAN AFFORD TO START BUILDING A NEW HOUSE.

CREDIT: HANS NGOTEYA/ACTIONAID

#### **d. Food security**

It was widely reported by both men and women farmers that surplus rice produced was enough to ensure food availability at the household level throughout the year. Before the project intervention, farmers both on the mainland and in Zanzibar reported low production per season and hence didn't have enough reserves to take them to the next season. They frequently experienced food shortage from January to March.

*“Before starting SRI farming I normally experienced food shortage from January to March and some days I had to look for casual labor in order to provide food for my family. But things have changed now. SRI farming helped me to have enough food reserves, and I can sell and buy other food items when I want.” – Salum Abdallah, farmer, Cheju, Zanzibar*

The adoption of better production technology, namely SRI and the use of improved seed varieties and fertilizers, has contributed to household food security. This resulted in increased availability, accessibility and affordability of food.

### **e. Strengthening of local farmers' groups**

The ERPP focused on reaching and strengthening producer groups and associations at the farm level. SRI-trained farmers were able to establish groups that specialized in SRI farming.

SRI made previously dormant producer groups become active again. These groups have leadership structures, and they rent farms and store their harvests to wait for better market prices. Some have opened bank accounts. Informal groups have been encouraged to register group constitutions and other government formalities. Some of these groups are being hired by other farmers to teach and prepare plots for SRI farming.

This output-based approach operates in multiple channels using farmers groups, in which each group conducts farmer's field days on demonstration plots. First, farm leaders from each village were trained to establish demonstration plots to train their fellow members. In each scheme 28 demonstration farms were established. Secondly, through field days other farmers were able to learn and adopt SRI. Thirdly, farmer's field day allowed farmers from different irrigations schemes to gather to learn from and evaluate each other. Fourthly, the project organized farmers groups' field visits to other farmers who performed exceptionally well to learn and exchange ideas.

Farmer Field School (FFS), demonstration plots, farmer's day and farmers group visits have been successful in terms of farmer mobilization, technical assistance delivery, awareness raising and other support for farmers. However, there is concern among both farmers and experts on how the autonomy and strength of farmers groups will be sustained in the long run when technical support and input delivery of the project ends by 2020. They pointed out the importance of continued capacity building on SRI and good agronomic practices for rice production.

*“We need more and more support to educate many farmers to adopt SRI. This is the only way vulnerable farmers will be moved out of poverty sustainably.” – Godfray Joseph Pascal, farmer, Ilonga Village, Kilosa, Morogoro Region*

## **3. How does the project engage small-scale food producers, farmer organizations and civil society organizations?**

### **a. Engagement and participation of small-scale food producers, especially women**

The design of the ERPP was based on the review of national agricultural development policy, strategies, investment plans and projects. These national documents have been developed through a national consultation process and consensus that included small-scale producers



at the national, regional, districts and village levels. Therefore, the design of the ERPP was meant to implement interventions suggested by farmer organizations and local government experts for the benefit of small-scale producers.

During the implementation phase of the project, farmers were consulted through village meetings and initial training workshops by the local government focal person, who oversaw implementation in collaboration with extension officers and program participants, especially women. Farmers were also mobilized to volunteer demonstration plots and to participate in FFS to learn. A survey showed that women and men farmers were satisfied with their participation in FFS and farmers groups. In all activities, both women and men farmers had space and scope to decide on group activities. They implemented the activities themselves through collective decisions, with the support of the technicians and the extension officers from the Department of Agricultural Irrigation and Cooperatives office, KATRIN and ASA. This has increased ownership and influence over the project's approach, strategies, impacts and sustainability. For example, paddy farmers participated in deciding which paddy varieties to produce and promote.

### **b. Engagement and participation of farmer and civil society organizations**

The role of local Nongovernmental Organizations (NGOs) and Civil Society Organizations (CSOs) such as Agricultural Council of Tanzania, Tanzania Farmer's Association, the National Network of Farmers Groups in Tanzania also known in Kiswahili as Mtandao wa Vikundi vya Wakulima Tanzania (MVIWATA), and the Non-State Actors Forum (ANSAF), was mainly seen in the designing stage of the ERPP. They also participated at the national level through annual and regular evaluation meetings of the Technical Committee for the Agricultural Sector

TECHNOLOGY  
TRANSFER OFFICER  
SAADA SAIF (MIDDLE)  
ADVISES LOCAL  
FARMERS ON HOW  
BEST TO DRY RICE  
AFTER HARVEST.  
KIBOKWA IRRIGATION  
SCHEME, ZANZIBAR.

**CREDIT: ALLAN  
GICHIGI/ACTIONAID**

Development Program in mainland Tanzania and the Agriculture Sector Plan in Zanzibar. They also participate in the Agricultural Sector Working Group (ASWG), where they monitor and evaluate all agricultural intervention projects in the country including the ERPP, since the ERPP is also implemented within the national Agricultural Sector Development Program system.

Within the ERPP, the local government has the role of ensuring the project is reaching out to farmer participants. They have been efficient in reaching the most deprived target groups and delivering services and activities on behalf of the project. The ERPP is a key component within the Agricultural Sector Development Program, and project activities have been executed through the Government's planning, budgetary, monitoring and evaluation system. In Zanzibar, the implementation responsibility was under the Ministry of Agriculture and Natural Resources.

At the local government level in both mainland Tanzania and Zanzibar, the ERPP has helped increase extension staff capacity to transfer production technology and technical services to small-scale paddy producers who are vulnerable to food insecurity and income poverty.

Because the ERPP was designed to make use of the Agricultural Sector Development Program's implementation systems, it helped strengthen government extension staff. By including extension staff at the local government level, there was no space for farmers, NGOs, or CSOs in the implementation.

At the national level the Ministry of Agricultural Food Security and Cooperatives coordinates ERPP implementation. The ERPP coordinator reports to the director of policy and planning within the Ministry of Agriculture in both Tanzania mainland and Zanzibar.

Farmer representation in the project is organized at both the district and national levels during farmer's day. Our research shows that farmers were not sufficiently involved in the strategic decision-making of the project. This was the case because the ERPP contributes to the implementation of the issues which have been raised in other documents such as Tanzania Food Security Investment Plan (TAFSIP) and the Agricultural Sector Development Program (ASDP), which have been prepared through nationwide consultative processes including farmer organizations. Farmer organizations and CSOs were satisfied with their involvement during the preparation of the ERPP proposal through consultative meetings and workshops. However, they were not satisfied being left out during implementation especially for the provision of extension services such as MVIWATA.

#### **4. How does the project reach and benefit women?**

The ERPP by design is centered on women and youth. Within two years of project implementation on the mainland, the participation of women and youth in FFS and demonstration plots is nearly equal to 50% of all project participants. Women in particular appreciated labor saved from irrigation, which used to make rice farming a difficult way for women to generate income. After realizing the advantages of labor saved from adopting SRI, more women are enthusiastic about rice farming.

In Zanzibar, according to project coordinator Salehe M. Juma: "Women constitute about 64% (4,175) of the project beneficiary farmers. Women participated in the project after appreciating labor-saving technologies introduced by the project such as the use of push weeders, which is typically done by women in rice farming household."

Women's membership in producer groups is also approximately 50%. It has been reported that some women who are not directly involved in the project have adopted SRI and

increased their income and their household's food security after practicing techniques they learned from project participants.

*"I like SRI because it uses less of everything from seed, water, and labor, while harvests are double or tripled. It allows us women to have more time to take care of children and to cook." – Subira Kombo Vuai, farmer, Cheju, Zanzibar*

Besides reducing women's workload, the project has brought about positive economic and social changes in traditional rice farming. Through SRI some of the producer groups, including women, started group saving and increased the reach of SRI through renting. In mixed-gender producer groups, women have also held leadership positions.

While the ERPP has clearly supported a large number of women to improve their livelihoods, it could have been more systematic in supporting the inclusion of women in project activities. For example, the ERPP could have started with a baseline study specifically looking at the issues of gender in rice production in order to design interventions that accommodate the specific needs of youth and women in rice production. Rice is a highly commercialized cereal in Tanzania and it is often dominated by men and those with relatively high capital. Women and youth often lack adequate capital to produce rice at commercial scale. Inputs subsidy could have been clearly stipulated to target 70% of the women small-scale paddy producers in order to increase women's participation in rice production and counterbalance the existing male majority.

This lack of systemic approach to women's inclusion has led to some shortcomings in the project implementation. For example, there is a high proportion of men compared to women among the project's technical experts, and women faced limited options to manage household responsibilities in order to increase their participation in consultation meetings, farmer's field day and group field visits. They suggested group trainings could be organized near where they lived to reduce travel time, and consultative meetings should last one or two hours.

## **5. Does the project make communities more climate resilient?**

Tanzania has had six major droughts over the past 30 years. The country ranked 40 in terms of vulnerability to climate change in Africa. Climate resilience is especially important for smallholder farmers. However, the ERPP focused on introducing new production technologies, rehabilitation of irrigation schemes, and strengthening producer organizations.

*"We depend on water from the Sangata river for irrigation, using local farming methods called 'mchakamchaka', which literally means 'fast sowing of rice seedlings in numbers within 10 cm'. We used a lot of water for irrigation. Since the adoption of SRI, I use less water because I sow systematically and in good arrangement." – Hadija Hassan, farmer, Mvumi Village, Morogoro Region*

SRI implicitly supports farmers' resilience to climate change because it requires less water, and the maturity duration of the rice varieties introduced is short. However, in some traditional rice schemes where they don't have water control gates, excess water from rainfall reduces farmers' resilience. Even if they use SRI, they don't have the technology or means to control excess water. At the project implementation level, the construction of irrigation schemes had not started during the time of interviews. This was the reason that in some irrigation schemes, farmers failed to control excess water.



*“Our irrigation scheme (Komtonga rice irrigation scheme) is traditional and is surrounded by three rivers. During excess rainfall we have fewer or no harvests. If this project intervenes by building irrigation canals and water controlling gates, it will build resilience against climate changes especially during excess rainfall.” – James Peter Mbiu, Irrigation Officer, Mvomero, Morogoro Region*

FARMER KHAMISI RAMADHAN HADJI WASHES HIS HANDS WITH WATER FROM THE PUMP STATION AT THE UZINI IRRIGATION SCHEME IN ZANZIBAR.

**CREDIT: ALLAN GICHIGI/ACTIONAID**

Though SRI offers climate resilience to some extent, the ERPP lacks a systematic approach to tackling climate change. This is because there were no project-based planning activities for the interventions targeted at building climate resilience at the community level, activities such as risk mapping and developing community adaptation plans and budgets. When asked about climate resilience, project staff and focal persons gave different responses.

The Morogoro Regional Agriculture Advisor said climate resilience was under component 4 of the project. Under this component environmental conservation and management training were done, including the distribution of fliers to educate farmers on how to control diseases. She also said social impact studies have been done.

In the Kilosa and Mvomero districts, this was not found or reported by the ERPP focal person, partly due to the delay in constructing irrigation systems, warehouses and roads.

# Recommendations

The project has been successful in mobilizing and reaching women farmers and vulnerable households through transferring improved production technologies and strengthening producer groups through FFS, demonstration plots, and farmers group field visits. This was made possible by working with government extension staff. The following recommendations could improve the sustainability, resilience and gender dimensions of future interventions after the completion of the ERPP.

## **On the general project approach and strategy:**

- The project needs to consider how to further support and strengthen producer groups so they can be economically independent by producing and processing paddy, packaging rice, and accessing diverse markets for better prices. Many projects have been focusing on capacity building, and after interventions they go back to business as usual.
- The ERPP is currently delivering its remaining activities of rehabilitation of rice irrigation schemes, warehouses and farm roads as it moves into its third year of implementation. It is therefore important to ensure that activities are completed on time while ensuring that the project has a lasting and sustainable impact.
- This project should improve the involvement of farmer organizations like MVIWATA and civil society organizations, including women's rights organizations, in the implementation, monitoring, evaluation and strategic management of the project. A project steering committee with the participation of the different stakeholders, including civil society and farmers' organizations, would certainly improve the ownership and the sustainability of the project.
- The project would benefit from adopting a rights-based approach to its intervention strategy, especially with regards to productive land access with potential for irrigation for vulnerable small-scale paddy producers who wish to expand but cannot access land. Many irrigation schemes are crowded, and it's expensive to rent land.

## **On women's empowerment:**

- A gender approach should be systematically adopted to ensure the inclusion of women and youth at all levels of project activities and subsidy packages. Women and youth are the most vulnerable groups with regard to accessing production technologies in the agriculture sector. It's important that the inputs subsidy is designed in such a way that they can afford redemption of inputs subsidy vouchers before harvesting. For example, they should be given a grace period to put some money in savings for the first year. Women would also benefit from a transition to organic inputs to reduce their exposure to agrochemicals.

## **On climate resilience and sustainability of the project:**

- Firstly, there is a need to come to a common understanding of the climate resilience concepts within the project. Secondly, it's important to conduct social and environmental assessments of planned construction work. However, it's equally important to consider integrating a community-based or community-managed resilience-building approach, with activities such as community-level vulnerability and risk mapping, action planning, alliance building, and community resilience budgeting or funding.

JOHN ANDREA  
KUNAMBA (MIDDLE)  
AND HIS FAMILY USED  
TO EAT ONLY ONCE A  
DAY. NOW THEY ARE  
ABLE TO HARVEST  
ENOUGH RICE FOR  
THREE HEALTHY MEALS  
EACH DAY.

**CREDIT: HANS  
NGOTEYA/ACTIONAID**



- The project needs to consider maximizing the use of the plots after harvests by researching other crops that will give farmers good returns while they wait for the next paddy production season.
- The project should expedite the procurement process for the construction of warehouses, irrigation scheme rehabilitation and farm roads. Delays to a large extent have limited the impact of the project, and these are important lessons for upscaling the intervention.
- The project should develop a clear plan to ensure the sustainability of the supported farmers' and women's groups and the sustainability of activities that have relied heavily on the distribution of costly inputs and equipment.
- Transitions to a more agroecological implementation of SRI could be explored and promoted by the Government in order to deploy the full potential of SRI. This would also allow farmers experiencing high levels of poverty to adopt SRI, as they can't afford expensive inputs. Building farmers' autonomy within their groups through increasing their returns from processing paddy and packaging should be considered an important exit strategy.

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