



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



## Feed the Future Zimbabwe Mechanization and Extension Activity FY 2025 Quarter One Report October 1, 2024 - December 31, 2024



**USAID**  
FROM THE AMERICAN PEOPLE



**CIMMYT**

[www.cimmyt.org](http://www.cimmyt.org)

Carretera México-Veracruz, Km. 45, El Batán

56237 Texcoco

MÉXICO

**Feed the Future Zimbabwe Mechanization and Extension Activity**

CIMMYT Zimbabwe

12.5 KM Peg

Mazowe Road

Mount Pleasant

Harare

P.O. Box MPI63

[www.cimmyt.org](http://www.cimmyt.org)

*Cover photos by CIMMYT Zimbabwe*

**Submitted January 30, 2024**

**DISCLAIMER**

This publication was made possible through support provided by Feed the Future through the U.S. Agency for International Development, under the terms of Contract No. AID-BFS-IO-17-00005. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

# CONTENTS

I. EXECUTIVE SUMMARY	5
II. PROGRESS ON OBJECTIVES	7
Objective I: Identification of Demand-driven smallholder farm machinery and building capacity of manufacturing companies .....	7
1.1 Machinery needs assessment .....	7
1.2 Develop a database of smallholder machinery suppliers and manufacturers and carry out a value chain analysis .....	9
1.3 Engage with the key suppliers and manufacturers of smallholder agricultural machinery to provide them with capacity building .....	10
1.4 Explore Access to Finance options .....	10
1.5 Linking suppliers & manufacturers with SPs and farmers .....	14
Objective II: Building capacity of service providers to purchase, operate and maintain machinery to provide mechanized services to small-scale agricultural value chain actors.....	14
2.1 Establishment of 150 Service providers .....	14
2.2 Capacity building of the SPs on technical and business matters .....	16
2.3 Conduct promotional activities (field demonstrations, field days, fairs and awareness meetings) .....	18
2.4 Train local mechanics and operators to support the service providers and establish spare parts manufacturers / dealers at the Hub or district levels. ....	20
2.5 Collect feedback from SPs on fine-tuning of the machinery .....	21
2.6 Test (and improve as needed) a few other important machinery (power weeder, peanut sheller, solar dryer) .....	22
Objective III: Coordinate and collaborate with other USG and non-USG funded activities, capacitate service providers to serve as extension agents, aggregate produces, and link farmers to markets .....	23
3.1 Agronomic, marketing trainings and farm management trainings .....	23
3.2 Support aggregation of produce linkage with input and product markets .....	24
3.3 Round table meetings/ review and planning meetings and partners visit to activity sites .....	24
III. GENDER AND YOUTH	27
3.1 Monitoring of gender and youth disaggregated data .....	27
3.2 Selection criteria are adjusted to bridge systemic disadvantages of women and youth .....	27
3.3 Collaboration with other USAID FtF Zimbabwe Activities .....	28
IV. LESSONS LEARNED	31
V. CHALLENGES	33
VI. SUMMARY OF ACHIEVEMENTS AGAINST TARGETS	34
VII. ACTIVITY IMPACT STORIES	35
VIII. ACTIVITIES PLANNED	39
IX. SERVICE PROVIDERS PROFILING	45

## ACRONYMS

<b>2WT</b>	Two-wheel tractor
<b>A2F</b>	Access to Finance
<b>ARDAS</b>	Agricultural and Rural Development Advisory Services
<b>CA</b>	Conservation Agriculture
<b>CBA</b>	Cost-Benefit Analysis
<b>CGIAR</b>	Consultative Group on International Agricultural Research
<b>BCR</b>	Benefit-Cost Ratio
<b>CSA</b>	Climate Smart Agriculture
<b>DDC</b>	District Development Coordinator
<b>FARM</b>	Fostering Agribusiness for Resilient Markets
<b>FAW</b>	Fall Army Worm
<b>FtF</b>	Feed the Future
<b>FY2</b>	Financial Year 2
<b>IPM</b>	Integrated pest management
<b>IRR</b>	Internal Rate of Return
<b>ISAL</b>	Internal Savings and Lending
<b>LEAD</b>	Linkages for Economic Advancement of the Disadvantaged
<b>MFI</b> s	Micro Financing Institutions
<b>NGO</b> s	Non-Governmental Organizations
<b>NPV</b>	Net Present Value
<b>NTFP GDA</b>	Non-Timber Forest Products Global Development Alliance
<b>PSP</b> s	Prospective Service Providers
<b>ROI</b>	Return on Investment
<b>RDC</b>	Rural District Councils
<b>SAT</b>	Sustainable Agricultural Technology (SAT) Zimbabwe
<b>SME</b> s	Small to Medium-sized Enterprises
<b>SP</b> s	Service Providers
<b>TAAT</b>	Technologies for African Agricultural Transformation
<b>USAID</b>	United States Agency for International Development
<b>USG</b>	United States Government
<b>VSAL</b>	Village Savings and Lending
<b>ZAS</b>	Zimbabwe Agricultural Show

# FOREWORD

The Feed the Future Zimbabwe Mechanization and Extension Activity began on October 1, 2022, and will run until September 30, 2027. The Mechanization Activity aims to improve smallholder farmers' access to farm power and machinery to enhance their land and labor productivity, profitability, and income. These will be achieved by establishing mechanization service providers in the farming communities who will offer mechanization services around the year to communities, including farmers, for fees. The Activity is being implemented in 10 districts of Manicaland and Masvingo provinces (Natural Regions IV and V) of Zimbabwe. The primary beneficiaries of the Activity **300** service providers who are expected to provide mechanization services for up to **7,500 women, men and youth smallholder farmers**. Other beneficiaries will include 30 rural mechanics, 30 technicians from local farm machinery manufacturing companies or SMEs, and two interns/students.

The specific objectives of the Activity are:



The infographic consists of five vertical blue panels, each containing a white icon in a circle at the top and a text box below. The icons represent: 1. A person working at a computer. 2. A tractor. 3. A bar chart with an upward-pointing arrow. 4. Two hands shaking. 5. A classical building with columns.

- Assess and build capacity of smallholder machinery manufacturers and suppliers to manufacture demand-driven farm machinery, provide after sale and repair services, and import small scale demand-driven farm machinery for smallholder agricultural production systems;**
- Establish mechanization service providers and build their capacity to purchase, operate, and maintain farm machinery for providing mechanized services to small scale agricultural value chain actors to enhance their land and labour productivity and income;**
- Promote the use of the machinery through field validation, demonstrations and other demand creation activities, and training of rural women and youth in postharvest processing of agricultural produce to generate increased income from value addition and storage for sales during the lean periods.**
- Coordinate and collaborate with other mechanization and FTF activities to build capacity of the interested service providers to be agricultural extension agents to their customers during the cropping season, and to be aggregators of farm produce, linking the farmers to markets.**
- Support service providers, manufacturers, and distributors to access credit to acquire machinery or mechanized services.**

**Through the establishment of mechanization service providers in the community, smallholder farmers enhance their land and labor productivity, profitability, and income.**

## **Intervention areas and collaboration**

The Activity is being implemented in 10 districts of Manicaland and Masvingo provinces, under three Hubs over two years in partnership with private sector partners. These districts are Buhera, Chimanimani, Chipinge, and Mutare in Manicaland province and Bikita, Chiredzi, Chivi, Masvingo, Mwenezi, and Zaka in Masvingo province. Each Hub covers 3–4 districts. From similar experiences in Bangladesh and in Masvingo province, Zimbabwe, mechanization projects (being different from agronomy, seed or other projects) can be more successful if the service providers and resources are clustered in a district or in a few adjacent districts. Therefore, the Activity focused on about three administrative Wards per district. The Activity is working with financial institutions that can provide affordable loans to the service providers to procure the machinery.

The International Maize and Wheat Improvement Center (CIMMYT) is implementing the Mechanization Activity in cooperation with a subcontractor, 'Linkages for Economic Advancement of the Disadvantaged (LEAD) Trust', and other Feed the Future Activities in the country. Additionally, the activity is working and collaborating with private sector companies (such as machinery manufacturers, local mechanics, and financial institutions) and various government departments (within the context of US government (USG) policies in Zimbabwe).

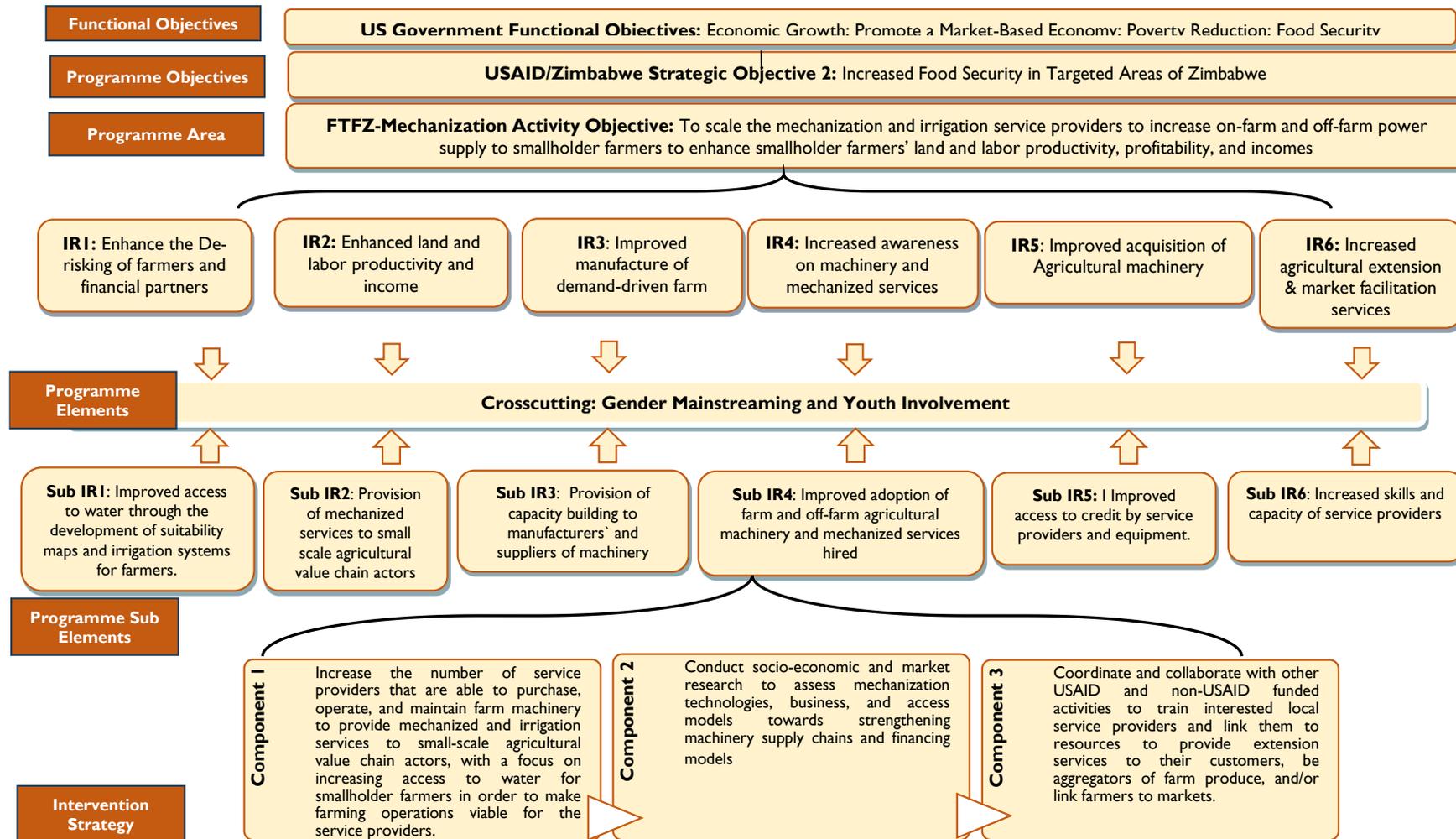
Under the contract AID-BFS-IO-17-00005 with USAID, CIMMYT (with the support of LEAD) also works closely with the Feed the Future Fostering Agribusiness for Resilient Markets (FARM) activity being implemented in the same 10 districts by Chemonics International to achieve the following: (i) ensure that both activities work in harmony to achieve synergy, avoid duplication of efforts and share resources for common activities, and build on each other's specific technical expertise; (ii) build partner's organizational and technical capacity to implement the activity as well as future activities. Based on experience in implementing the Feed the Future Zimbabwe Crop Development Activity and other smallholder commercialization crop and livestock projects, LEAD's collaboration and support to CIMMYT implementation of the Mechanization Activity is strategically meant to upscale and enhance the impact of the Activity through reaching the target of 22,500 farmers using mechanization services within the two years of the Activity.

In summary, the mechanization activity is a market-driven intervention that works closely with small and medium mechanization suppliers and service providers to stimulate demand for mechanized services and increase access to service provision. The Activity directly contributes to accessibility by concurrently increasing access to finance of rural households in selected areas while sustainably creating income generating activities.

### **The Mechanization activity Results Framework**

The Mechanization Activity's Results Framework is the roadmap for CIMMYT's implementation approach and achievement of activity objectives. The framework portrays a graphical representation of a set of functional objectives grounded in a cause-and-effect logic, showing how the planned activities will lead to the expected outcomes and results of the mechanization activity. The framework also provides logical relationship on proposed benchmark indicators that will frequently be monitored to assess ongoing activity performance and inform the planning and management processes. A summary of the results framework is shown in Exhibit II.

**Figure 1: FTFZ-Mechanization Results Framework**



# I. EXECUTIVE SUMMARY

This is the **Financial Year 2 (FY2) annual report covering October 2023 to September 2024** of the Feed the Future Zimbabwe Mechanization and Extension Activity, funded by USAID/Zimbabwe under the contract AID-BFS-IO-17-00005 and implemented by the International Maize and Wheat Improvement Center (CIMMYT) in cooperation with its subcontractor. The FY2 annual report outlines key achievements by the Mechanization Activity in its quest to improve smallholder farmers' land and labor productivity and income and reduce drudgery through mechanization. Major efforts focused on establishing service providers, increasing awareness and demand for mechanization, promoting irrigation solutions, and facilitating access to finance.

## Key Highlights:

**Service Provider Development:** In FY2, 139 mechanization and irrigation service providers (SPs) were established, bringing the cumulative SPs to 159, exceeding the target of 150 by the end of FY2. Of these SPs, 40% were female and 6% were youth. The SPs provided 2,953 services to 1,494 farmers valued at \$15,425 from October 2023 to September 2024, reflecting strong community uptake.

**Surge in Demand for Basin Diggers:** Demand for basin diggers for Pfumvudza grew significantly during the reporting period, positioning them as the most appropriate, demanding, and affordable machine for the service providers. The Activity connected the service providers with multiple suppliers established under the Activity so that they could get the diggers at a competitive price (as low as \$122).

**Irrigation Service Providers:** To mitigate the effects of El Niño, four irrigation service providers were established in Manicaland (Buhera, Chimanimani and Mutare Districts) and Masvingo (Chiredzi district) provinces. These service providers have so far provided services to 36 farmers (28 women) to produce irrigated horticultural crops, wheat, and fruit trees in 2.45 hectares, boosting their income and climate resilience.

**Demonstration and Training Initiatives:** Three mechanized winter wheat demonstration plots were set up in Chimanimani using a two-wheel tractor-operated strip-till seeder. These plots demonstrated the productivity benefits of mechanization and served as practical examples for local farmers.

**Expanded Supplier Network:** The number of machinery suppliers grew from 15 to 22, supported by new partnerships. Additionally, 25 local manufacturers from the two provinces were trained to fabricate peanut butter processing machines, enhance local manufacturing capacity, and reduce reliance on urban suppliers.

**Access to Finance:** Financial access improved with 37 new bank accounts opened, 16 loan applications submitted, and 9 loans approved. Although engagement with financial institutions is positive, the low loan approval rate highlights areas of improvement going forward.

**Progress with financing institutions:** The Activity engaged with banks and Micro Financing Institutions (MFIs) to broaden financing options for prospective service providers. Agreements with Steward Bank, CBZ Agro-yield, and Generational Impact Finance are in final review stage with the CIMMYT's legal department.

**Capacity Building and Training:** A total of 14,597 farmers participated in technical meetings and training, with 62–64% being women per training. Youth participation remained low at 7–12% per training, indicating the need for targeted youth engagement strategies.

**Promotional Efforts:** The activity participated in agricultural shows, expos, media campaigns, and social media initiatives to raise awareness and encourage mechanization adoption among smallholder farmers.

**Challenges and Strategic Responses:** While women's participation was high, youth involvement lagged. The activity aims to enhance youth engagement through targeted interventions. Additionally, challenges with loan approvals have prompted strategies for better collaboration with financial institutions and efforts to involve younger family members in loan applications.

FY2 demonstrated significant progress in service provision, capacity building, financing, and promotion of mechanization. These achievements lay a strong foundation for further mechanization interventions.

Financial spending details will be provided separately by CIMMYT HQ's Project Management Unit.

## II. PROGRESS ON OBJECTIVES

This section outlines the generalized implementation framework to be applied by the Mechanization activity to achieve intended impacts and objectives over the program duration.

### Objective 1: Identification of Demand-driven smallholder farm machinery and building capacity of manufacturing companies

Key activities under the reporting period to achieve this objective included:



#### I.1 Machinery needs assessment

During the reporting period, the demand for basin diggers increased significantly, prompting their inclusion among the machinery promoted by the activity. After being connected to suppliers through the activity, service providers (SPs) were able to purchase the basin diggers directly using cash, given their relatively low cost.

In response to the El Niño conditions experienced during the reporting period, the activity intensified responsive efforts by developing irrigation service providers. As a result, four irrigation service providers were established in Manicaland and Masvingo provinces. So far, they have a total of 2.45 hectares under irrigation, as detailed in Table I below. The irrigation service providers currently have a total of 36 customers (28 females and 8 males). This initiative aims to enhance climate resilience and improve water management for smallholder farmers in the affected regions.

**Table I:** Area (ha) and Crops irrigated.

Service provider No	District	Gender of the SP	Are irrigated, ha	Crops irrigated
1	Buhera	Female	0.10	Cabbages, Watermelons, onions, tomato, Covo
2	Chimanimani	Female	1.25	Wheat, watermelons, cabbages, and tomato
3	Mutare	Male	0.20	Tomatoes, Green peppers, Watermelons, Cauliflower, cabbages
4	Chiredzi	Female	0.55	Cabbages, tomatoes, maize and fruit trees
<b>Total</b>			<b>2.45</b>	
Service provider No	District	Gender of the SP	Are irrigated, ha	Crops irrigated
1	Buhera	Female	0.10	Cabbages, Watermelons, onions, tomato, Covo
2	Chimanimani	Female	1.25	Wheat, watermelons, cabbages, and tomato
3	Mutare	Male	0.20	Tomatoes, Green peppers, Watermelons, Cauliflower, cabbages
4	Chiredzi	Female	0.55	Cabbages, tomatoes, maize and fruit trees
<b>Total</b>			<b>2.45</b>	

To further promote irrigation, three winter wheat demonstration plots were established in Chimanimani using a two-wheel tractor (2WT) operated strip-till seeder. Farmers irrigated the plots throughout the winter season, with the wheat expected to be ready for harvest in October 2024. To demonstrate the benefits of mechanization across multiple stages of production, the wheat will be threshed using a multi-crop thresher. This initiative aims to enhance awareness and adoption of mechanization, ultimately improving agricultural efficiency and productivity.



**Picture 1:** Neliet Mugebe's multi-crop thresher providing services at Sarah Muzvuzvu's winter wheat plot in Ward 18, Chimanimani district, Manicaland province

## I.2 Develop a database of smallholder machinery suppliers and manufacturers and carry out a value chain analysis

In financial year 2 (FY2), the number of machinery suppliers increased from 15 to 22. William Bain and Company Holdings, a manufacturer specializing in machinery for commercial farms, is now collaborating with the activity to offer more affordable ripping solutions. Additionally, Centre Pivot Irrigation partnered with the Activity to provide family drip kits for irrigation pilot demonstrations. Other local manufacturers working on the activity include Absan Agric Engineering in Chiredzi and Edlite Welders in Chimanimani, both of which are fabricating peanut roasters and peanut butter machines. Ruzha Brands and National Agro also supplied machinery during FY2, as summarized in Table 2 below.

**Table 2:** List of seven new Suppliers in FY2

Manufacturer	Location	Machinery list	Phone number	Email address
1. Ruzha Brands	Harare	<ul style="list-style-type: none"> <li>• Groundnut sheller</li> <li>• Peanut roster</li> <li>• Chopper grinder</li> <li>• Peanut butter machines</li> <li>• Water pumps</li> <li>• Maputi gun</li> <li>• Silage cutter</li> </ul>	0774326784	<a href="mailto:ruzhabrands@gmail.com">ruzhabrands@gmail.com</a>
2. Abasan Agric Engineering	Chiredzi	<ul style="list-style-type: none"> <li>• Chopper grinders</li> <li>• Threshers</li> </ul>	0772265840	<a href="mailto:absaneng@gmail.com">absaneng@gmail.com</a>
3. Edlite Welders	Chimanimani	<ul style="list-style-type: none"> <li>• Peanut roasters</li> </ul>	077 335 7145	<a href="mailto:edlitechiwanza@gmail.com">edlitechiwanza@gmail.com</a>
4. Millenium Farmer Supplies	Harare	<ul style="list-style-type: none"> <li>• Boom Sprayers</li> <li>• Boom sprayer pumps</li> <li>• Nozzles</li> <li>• PTO shafts</li> </ul>	+263 665183	<a href="mailto:sales@mfs.co.zw">sales@mfs.co.zw</a> / <a href="mailto:chamaonaj@mfs.co.zw">chamaonaj@mfs.co.zw</a>
5. National Agro	India	<ul style="list-style-type: none"> <li>• National maize/multi-crop planter</li> <li>• multi-crop ridge planter</li> <li>• maize-sheller.</li> </ul>	+91 814 610 1101 +91 161 222 2041	<a href="mailto:sales@nationalagro.com">sales@nationalagro.com</a>
6. William Bain and company Holdings	Harare	<ul style="list-style-type: none"> <li>• Ripper</li> <li>• 2WT trailer</li> </ul>	+263 772 149 246	<a href="mailto:bain@bain.co.zw">bain@bain.co.zw</a>
7. Centre pivot irrigation	Harare	<ul style="list-style-type: none"> <li>• Irrigation drip kits</li> </ul>	+263 772 419 410	<a href="mailto:rosso@valleyzim.co.zw">rosso@valleyzim.co.zw</a>

### 1.3 Engage with the key suppliers and manufacturers of smallholder agricultural machinery to provide them with capacity building

A total of 25 local manufacturers from the 10 districts where the Mechanization and Extension Activity is implemented were trained in FY2 on fabricating machines for the peanut butter value chain. The training rolled out progressively, with six manufacturers trained in Q1, 9 in Q2, and 10 in Q3. The sessions covered the fabrication, assembly, and costing of peanut butter machines and peanut roasters. Among the participants were 10 youths; however, no women participated. This initiative is aimed to equip local manufacturers with the skills to produce peanut value chain machines at the district level, reducing reliance on suppliers from major cities like Harare and Bulawayo.



**Picture 2 and 3:** Whitecliff Muchacha from Ward 25, Mutare Rural district is one of twenty-five local manufacturers trained under the Mechanization activity. In addition to servicing and repairing machinery promoted under the activity, Whitecliff owns a shop that sells spares for the machinery giving easier access to service providers in the area

As a result of the training, two local manufacturers began fabricating peanut butter machines and peanut roasters in their districts. Edmore Chiwanza of Edlite Welders in Chimanimani successfully fabricated and sold two peanut roasters, while Mamovha Enterprises in Chivi received an order for six peanut butter machines through service providers established under the USAID-funded Takunda activity. Both manufacturers were linked to key suppliers to source affordable raw materials and services for completing their machines. Additionally, Edlite Welders received support to register their company, and is now an official supplier of the peanut roaster for the Activity.

### 1.4 Explore Access to Finance options

During FY2, the Mechanization and Extension activity closely monitored key metrics to assess the effectiveness of the bank facility in improving access to finance for mechanization. Over the past year, 37 new bank accounts were opened, 16 loan applications were submitted, and 9 loans were approved, as detailed in Table 3. While these figures demonstrate some uptake of the bank facility, the relatively low loan approval rate reflects challenges in the application process and instances where applicants did not meet the bank's eligibility criteria. Efforts are ongoing to address these issues and streamline access to financing for mechanization.

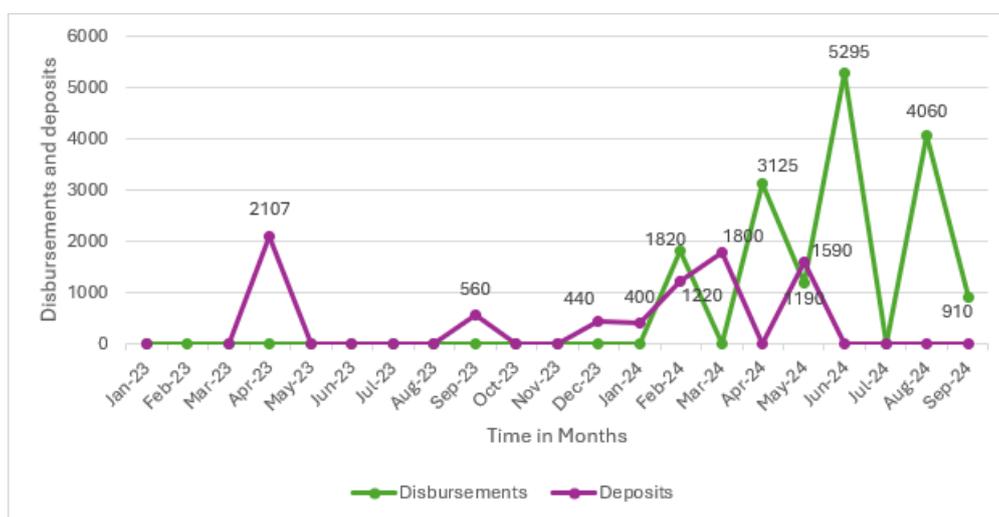
**Table 3:** BancABC financial inclusion indicators for access to finance for mechanization business

Indicator	Quarter one	Quarter two	Quarter three	Quarter four	Total
Number of bank accounts opened	13	14	5	5	37
New loan applications	2	9	5	0	16
Number of loans approved	0	0	5	4	9

### 30% Deposits and BancABC loan disbursements trend

Figure 1 below illustrates the loan disbursement trends for BancABC from January 2023 to September 2024. The loan approval process was initially slow in the early stages of FY2, as the bank approached approvals cautiously, concerned about borrowers' creditworthiness. However, confidence improved over time as existing borrowers consistently made timely repayments. The highest loan disbursement occurred in June 2024, peaking at US\$5,295. Disbursements, however, showed significant fluctuations, with a steady decline observed from May to September.

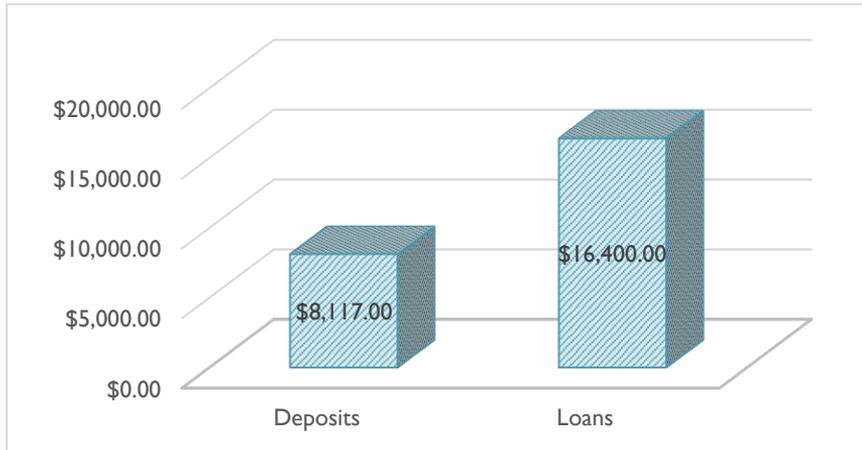
On the other hand, deposit of 30% commitment fees by potential service providers was more stable, though at lower values compared to loan disbursements. While occasional peaks were noted in March 2023, April 2024, and May 2024, the overall deposit activity remained relatively low throughout the reporting period. This suggests that while some progress was made in securing deposits, the overall uptake of loan financing was still inconsistent.



**Figure 1:** BancABC Loan disbursements to Service Providers by month.

### Client contribution towards machinery purchase

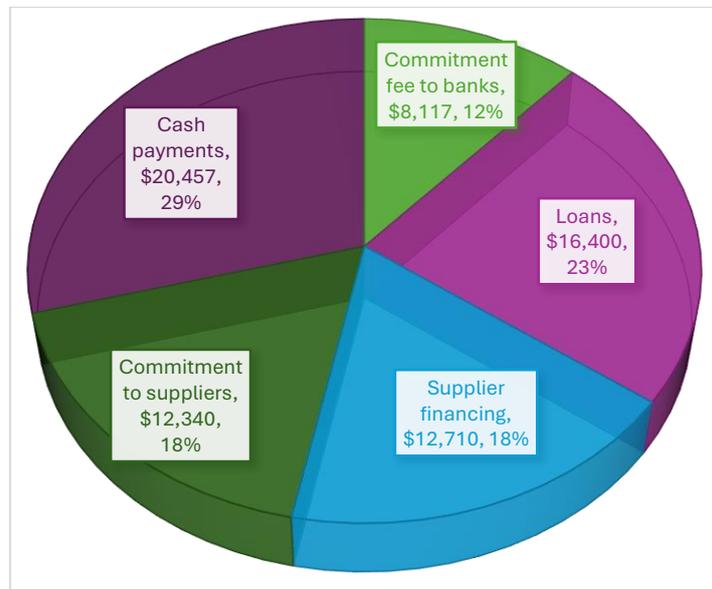
Figure 2 shows the total 30 percent commitment fees and loan disbursements during FY2. The 30 percent commitment fee represents the client's contribution toward the mechanization business they intend to launch. The data indicates that the total amount of loans disbursed was US\$16,400, while the corresponding deposits amounted to US\$8,117. This comparison highlights significant financial investment made by clients alongside the loans, reflecting their commitment to the mechanization process and the business ventures they aim to establish.



**Figure 1: Deposits to loans proportion**

**Sources of Finance for Machinery Acquisition**

Figure 3 depicts the investment in acquiring machinery for the Mechanization Activity in FY2. The largest proportion of machinery was bought through cash payments, accounting for 29%, followed by loans at 23%, supplier financing at 18%, and commitment fees to banks at 12%. This distribution indicates that the machinery ownership relies significantly on external financing sources, highlighting the need for robust risk mitigation strategies to manage potential defaults. However, the notable contribution from internal sources, including commitment fees and cash payments, provides a financial cushion that could help offset some of the risks associated with external financing.



**Figure 2: Global proportion of machinery investment options**



**Picture 4:** Service providers such as (left) from Ward 12 Mutare and Elnathan Mboweni (right) from Ward 2 Mwenezi invested in a peanut butter machine and chopper grinder, respectively, boosting their income-generating opportunities.

In ongoing efforts to expand financing options, the activity engaged with several new potential financial institutions, including banks and microfinance institutions (MFIs), during the reporting period. Table 4 below provides an overview of the institutions approached, and the status of collaboration. A primary focus for these institutions is mitigating risk by ensuring that loan applicants have access to a guaranteed market for both agricultural products and mechanization services. This assurance is viewed as a key factor in their willingness to support mechanization financing.

**Table 4:** Potential financial partners

Name	Focus	Status of Collaboration Efforts
Steward Bank	Commercial banking	Memorandum of Agreement with CIMMYT legal department
CBZ Agro-yield	Farming loans	Memorandum of Agreement with CIMMYT legal department
Generational Impact Finance	Micro business loans	Memorandum of Agreement with CIMMYT legal department
AFC Leasing company	Machinery leasing through aggregators	Reviewing of memorandum of agreement
Stanbic Bank	Commercial banking	Documents exchange and model design
African Century Bank	Asset financing	Documents exchange and model design
Microloan Foundation	Micro business loans	Value proposition development

### Internal Savings and Lending (ISAL) groups engagement survey

Between November 27, 2023, and December 8, 2024, the activity assessed the potential of 44 Internal Savings and Lending (ISAL) groups to support access to finance for mechanization. This was done across the ten districts where the activity was conducted. These groups were assessed based on their potential and maturity, with their index scores converted into percentages to classify them into four stages of maturity: infancy (0–39%), growth (40–59%), managed (60–89%), and mature (90–100%). The majority of ISAL and Village Savings and Lending (VSAL) groups (78%) were categorized as being in the managed stage, with only one ISAL group reaching the mature stage. This calls for the Mechanization Activity to interact with groups in form of trainings frequently. The strongest resource mobilization efforts were observed in Chiredzi, Mutare, and Bikita districts.

## 1.5 Linking suppliers & manufacturers with SPs and farmers

During the reporting period, the activity facilitated connections between SPs, machinery suppliers, and manufacturers to acquire agricultural equipment through various financing options, including bank loans, hire purchase, and cash payments. These efforts resulted in the establishment of 139 new SPs in FY2. With a target of 150 service providers by the end of FY2, the activity exceeded expectations, reaching a total of 159 SPs surpassing the target by 6%. Among these, 64 service providers are women, representing 40% of the total, while youth account for 6%. These results underscore the activity's commitment to promoting gender and social inclusivity, while expanding mechanization efforts among smallholder farmers.

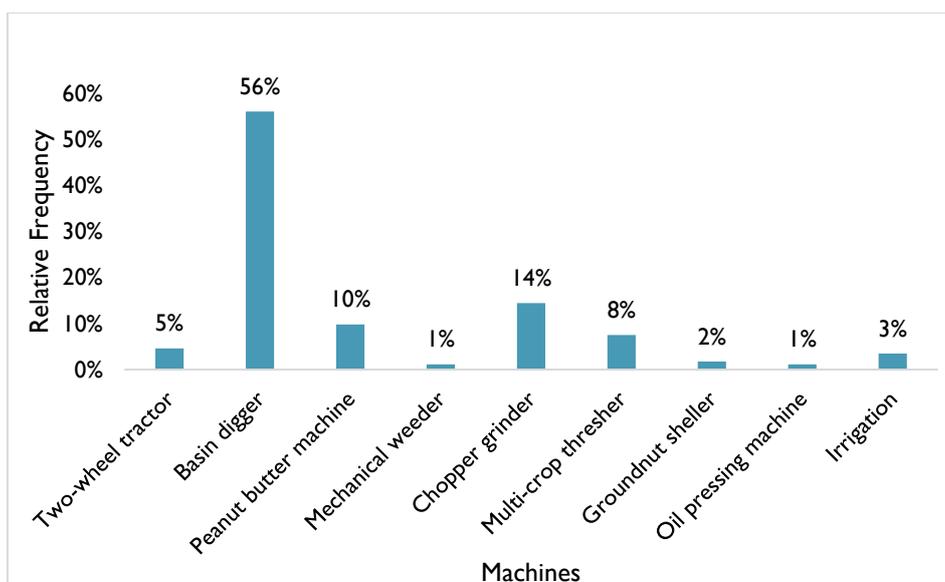
### Objective II: Building capacity of service providers to purchase, operate and maintain machinery to provide mechanized services to small-scale agricultural value chain actors

Key activities to achieve this objective include:



#### 2.1 Establishment of 150 Service providers

The activity had a target of establishing 150 service providers by the end of FY2 and successfully exceeded the target by reaching a total of 159 service providers. Of these 159, 64 are female, representing 40% of the total service providers, while youth accounts for 6%. As shown in Figure 4 below, the most purchased machines were Basin Diggers (56%), Chopper Grinders (14%), and Peanut Butter Machines (10%).



**Figure 4: Service Provider Machinery Breakdown**

In FY2, a total of 2,953 services valued at US\$15,425.20 were provided by service providers to 1,494 beneficiaries, including 929 women and 14 youth. Since the activity's inception, 2,997 services have been offered, with a total value of US\$15,913.78 across various service categories shown in table 5 below. Women have accessed services worth US\$7,640.93 (48% of the total), while men accessed US\$8,272.85 (51.9%). Youth accounted for services valued at US\$1,373.70 (approximately 8.6%).

The highest value of services hired was observed in land preparation services, amounting to US\$4,816, with the majority (US\$3,061) coming from male clients, reflecting the traditional role men play in land preparation. Women primarily hired services in post-harvest processes, with US\$1,472 spent on grinding and US\$2,049 on maize threshing, underscoring their significant engagement in these activities. Youth contributions were notable in grinding (US\$492) and maize threshing (US\$225), although their overall value of services hired remains relatively low.

The data indicates a balance in services hired between genders, with men slightly ahead. However, the low participation of youth highlights a potential area for growth. To address this, the activity is developing initiatives aimed at increasing youth involvement while continuing to leverage women's expertise in high-performing areas. Additionally, the activity is exploring the promotion of services such as wheat and cowpea threshing to unlock further opportunities for growth in mechanization service provision.

**Table 5:** Summary of Services offered to date.

Service Type	Magnitude	Number of Services	Value of Services accessed by Youths (US\$)	Value of services accessed by Females (US\$)	Value of services accessed by Males (US\$)	Grand Total (US\$)
Chopping	6378Kg	22	20.00	161.00	383.00	544.00
Grinding	41488.97Kg	2041	492.05	1,472.21	773.49	2,245.70
Groundnut Shelling	3.36MT	16	9.90	152.72	22.11	174.83
Irrigating	2.45Ha	150	133.50	548.00	272.00	820.00
Land preparation	39.17Ha	170	271.00	1,755.00	3,061.00	4,816.00
Maize Crushing	626Kg	26	6.00	19.00	15.00	34.00
Oil pressing	90.5L	20	2.00	7.00	38.00	45.00
Peanut Butter	2198.5L	370	177.25	649.65	200.50	850.15
Stock Feed	914Kg	5	1.00	302.00	14.00	316.00
Threshing of Beans	350Kg	1	-	-	7.50	7.50
Threshing of cowpeas	54Kgs	1	-	1.25	-	1.25
Threshing of maize	165724Kg	60	225.00	2,049.00	2,101.25	4,150.25
Threshing of millet	1000Kg	1	-	-	20.00	20.00
Threshing of sorghum	49834.3Kg	38	18.00	246.60	1,026.50	1,273.10
Threshing of wheat	864Kg	3	-	75.00	-	75.00
Transportation of goods	510Km	73	18.00	202.50	338.50	541.00
<b>Grand Total</b>		<b>2,997</b>	<b>1,373.70</b>	<b>7,640.93</b>	<b>8,272.85</b>	<b>15,913.78</b>

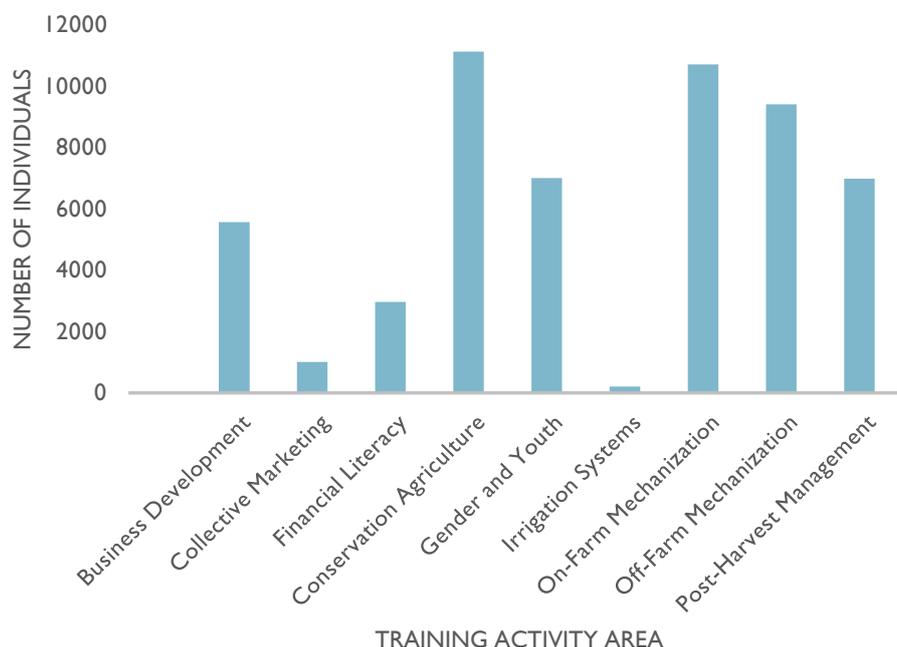
## 2.2 Capacity building of the SPs on technical and business matters

During FY2, the activity organized a series of technical meetings and training sessions, targeting service providers (SPs), prospective service providers (PSPs), and farmers. These efforts reached a total of 14,597 individuals across all implementation sites, including 9,159 women, 5,438 men, and 1,732 youth. The capacity-building activities covered a wide range of topics, as summarized in Figure 5 below.

On-farm mechanization training emphasized the use of machinery in conservation agriculture and highlighted its labor-saving benefits. The Mechanization and Extension Activity field officers delivered these trainings in collaboration with the Agricultural and Rural Development Advisory Services (ARDAS) and other activities, such as FARM.

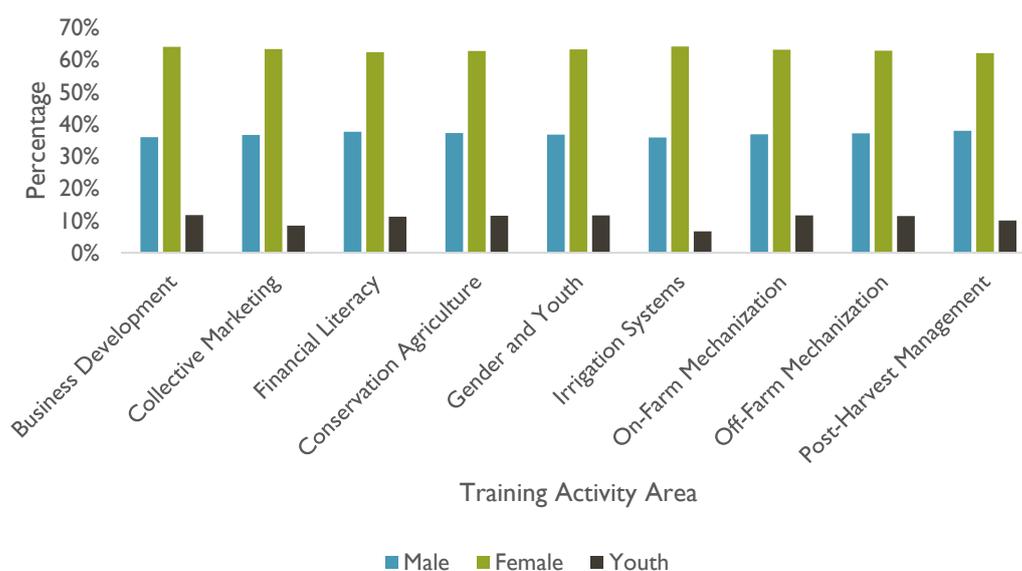
All service providers and prospective service providers received training on the safe use and maintenance of machinery, along with business development skills. The business skills training focused on the concept of "mechanization as a business" and covered essential topics such as costing, break-

even analysis, and financial management. The objective was to equip SPs and PSPs with the necessary skills to run their mechanization service businesses profitably and sustainably.



**Figure 5:** Number of individuals trained per Activity Area in FY2

The activity's capacity-building interventions successfully engaged women and youth participants. Women consistently made up the majority (62-64%) of trainees, while men accounted for 36-38%. Youth participation, however, remained low at 7-12%, with the highest involvement seen in business development, conservation agriculture (CA), and on-farm mechanization trainings, as shown in Figure 6. This highlights strong female participation but underscores the need for additional strategies to increase youth participation.



**Figure 6:** Women and youth participation in capacity building interventions in FY2

## 2.3 Conduct promotional activities (field demonstrations, field days, fairs and awareness meetings)

During FY2, the Feed the Future Zimbabwe Mechanization and Extension activity carried out extensive communications and promotional efforts to increase awareness and encourage the adoption of mechanization services in rural Zimbabwe. These activities emphasized the transformative impact of mechanized farming on reducing labor, increasing productivity, and enhancing income generation for smallholder farmers.

### **Key promotional strategies included:**

#### **Provincial Shows and Expos:**

The Mechanization activity participated in notable events like the Manicaland Agricultural Show, Masvingo Provincial Show, and the Manicaland Business Expo. These platforms allowed the team to demonstrate a range of appropriate scale machinery, such as 2-wheel tractors with attachments trailer and ripper, basin diggers, chopper grinders, multi-crop threshers, peanut butter-making machines, etc. At the Manicaland Agricultural Show, which attracted over 350 visitors, 61 potential service providers expressed interest. The event also fostered partnerships with financial institutions like ZB Bank, further supporting the promotion of mechanization.

#### **CIMMYT Seed and Mechanization Fairs:**

In Masvingo rural district, 947 farmers were introduced to machinery to improve efficiency and reduce manual labor. Live demonstrations generated interest, especially among women, with 686 female farmers participating. Successful savings groups were awarded machinery like basin diggers and peanut butter machines to enhance their productivity.

#### **Zimbabwe Agricultural Show (ZAS):**

The Activity stand at the show attracted over 150 visitors, including prospective service providers and youth groups. Partnerships with organizations like SAFIRE to host technical days and hands-on training, focusing on youth involvement in mechanization to nurture future agripreneurs.

#### **Radio and Media Engagements:**

To further expand its outreach, the Mechanization activity utilized radio programs and media platforms like Hevoi FM, ZBC News, and ZiFM to promote success stories and encourage youth participation in agriculture. These platforms shared testimonies from service providers who have benefited from mechanization, further inspiring adoption.

#### **Social Media Campaigns and Commemorations:**

The activity also leveraged social media to commemorate key events such as Youth Month and International Women's Day. These campaigns highlighted the achievements of young and female service providers, sharing success stories and raising awareness about the role of mechanization in empowering underserved communities.

### Agroecology Fairs:

As part of the Consultative Group on International Agricultural Research (CGIAR) Initiative on Agroecology, the Activity participated in fairs in Murewa and Mbire districts, demonstrating how mechanization can improve farming sustainability and efficiency. Farmers expressed strong interest in the service provider model, which allows them to access machinery services without needing to purchase equipment.



**Picture 5:** Live demonstrations of the multi-crop thresher (left) and two-wheel tractor with boom sprayer attachment at the 2024 CIMMYT seed and mechanization fairs in Masvingo contributes to demand creation for mechanization services

### Mechanization Demonstrations:

The activity established 33 mechanization demonstrations across three provinces to showcase how mechanization reduces labor, time, and costs associated with crop establishment. The demonstrations included treatments such as mechanized ripping and mechanized strip cropping, which highlighted the potential for agricultural intensification through mechanization.

These promotional activities have significantly raised awareness and engagement, driving the adoption of mechanization services across rural Zimbabwe.

**Table 6:** Summary of promotional activities

District	Demonstration	Fairs	Field Days	Technical Day	Total
Bikita	6		1	4	11
Buhera	16	3	2	23	44
Chimanimani	28	6	11	32	77
Chipinge	28	1	2	6	37
Chiredzi	23	7	6	9	45
Chivi	6	2	1	6	15
Masvingo	1	2	2	8	13
Mutare	26		2	49	77
Mwenezi	20	6	8	15	49
Zaka	10		1	4	15
<b>Total</b>	<b>164</b>	<b>27</b>	<b>36</b>	<b>156</b>	<b>383</b>

The table 6 above summarizes the activities conducted across 10 districts, totaling 383 events. Chimanimani and Mutare had the highest level of engagement with 77 activities each, while Bikita recorded the lowest at 11

#### 2.4 Train local mechanics and operators to support the service providers and establish spare parts manufacturers / dealers at the Hub or district levels.

In FY2, 21 local mechanics from the activity operational districts received training, bringing the cumulative number of trained mechanics to 31. Seven were youth, including one female youth. The training focused on the maintenance and servicing of agricultural machinery promoted by the activity and the repair and maintenance of diesel and petrol engines. Service providers and CIMMYT field staff continue to actively engage these mechanics to deliver essential machinery services, ensuring the sustainability of mechanization efforts.



**Picture 6:** Mechanics undergoing a week-long comprehensive training on petrol (left) of the basin digger and diesel engine including a Kirloskar 2WT from Kurima machinery (right).

Throughout FY2, the activity focused on strengthening the machinery supply chain by engaging new suppliers and improving linkages of service providers with machinery dealers, commission agents, and spare parts retailers in key districts. A dealer engagement survey was across 11 districts, identifying 40 dealers (18 existing and 22 potential).

Several parts or machinery dealers were reached at the district level, with Masvingo having the highest outreach selling. Chivhu, Zaka, Bikita, Chipinge, and Chivi districts had lower engagement rates. Both existing and potential dealers expressed interest in continuing or starting machinery supply operations, with some proposing a stockist-on-commission model to address capital limitations. Dealers were willing to collaborate with CIMMYT on business training and information exchange.

Existing dealers primarily stock spare parts and agro-related products, while potential dealers focused on veterinary drugs and agrochemicals. However, a lack of capital limits the availability of complete machinery in stock. As a way forward, the Mechanization Activity is developing a platform to improve communication and collaboration between local dealers and established suppliers. This platform will provide a space for listing contact information, product catalogs, pricing, and training on parts identification and basic machinery maintenance, thereby strengthening the machinery supply chain.

## 2.5 Collect feedback from SPs on fine-tuning of the machinery

The Activity collected feedback from SPs on fine-tuning of the machinery with the aim to fine tune/improve them and train/inform suppliers, manufacturers, and SPs on those improvements. Table 7 below summarizes the feedback collected from service providers (SPs) and details the fine-tuning efforts carried out in collaboration with machinery manufacturers to improve equipment performance and suitability during FY2.

**Table 7: Machinery Performance Feedback and Corrective Actions Implemented**

<b>Machinery</b>	<b>Comments</b>	<b>Action</b>
Multi-crop Thresher	The blower assembly was loosely attached to the thresher main frame, causing excess vibration when the machine is in operation.	Two support angle iron bars were fitted to the machine, and the manufacturer has since adopted them on the new multi-crop thresher design.
Two-wheel tractor (2WT)	Price is too high with the power tiller going for US\$4500	Introduction of the Kirloskar tractor. Price is US\$3300 without rotavator and US\$3800 with rotavator was introduced by Kurima Machinery and Technology which is now promoted under the activity
Peanut Butter machine	Machine has high demand; however, it is not covered by the loan scheme because its price is less than US\$1000. The price is high for other potential service providers as they cannot meet the \$600 required. A cheaper alternative is needed.	A petrol-powered Peanut butter machine costing US\$350 has been designed, tested, locally manufactured, and being sold to the farmers
Peanut butter making machine	Farmer requested if the sieve could be easily replaceable	The manufacturer is still working on the sieve to make it replaceable without replacing the whole grinding pot.
Chopper grinder	The inlet hopper is a bit small for forage/silage/crop residue cutting and for grinding. There is a need to widen the inlet hopper to increase the capacity	A new chopper grinder with a wider inlet and bigger engine (now 20 Hp) has been designed, tested, and locally manufactured and is being sold to the farmers at the small price of US\$1300. It also comes on wheels for easy transportation, vibration absorption, and providing home-to-home services.
Ripper	Too heavy when turning a row, a lifting mechanism would be beneficial for the implement	Collaboration with William Bain and Company holdings on the design and testing of a new, cheaper and lighter ripper commenced during FY2. One design was selected after tests and is under development. So far, the selected ripper has rigid tines which penetrate the soil easier and is lighter than the model already promoted under the activity.

## 2.6 Test (and improve as needed) a few other important machinery (power weeder, peanut sheller, solar dryer)

In FY2, the activity focused on developing, testing and improving key machinery, including the seed cleaner, peanut sheller, and solar dryer, in collaboration with other activities, service providers, machinery companies, and local manufacturers.

In response to a request from the Non-Timber Forest Products Global Development Alliance (NTFP GDA) for the development of a seed cleaner, the Mechanization activity partnered with Gilvatek Investments to fabricate the machine, with technical support provided by the activity's research and development team. The seed cleaner is currently in the advanced stages of fine-tuning. During testing at the Gilvatek workshop, it was observed that the sieves required trimming to ensure a better fit. Additionally, a locking mechanism was proposed to secure the sieves during operation. The seed cleaner is expected to be fully completed in quarter 1 of FY3.

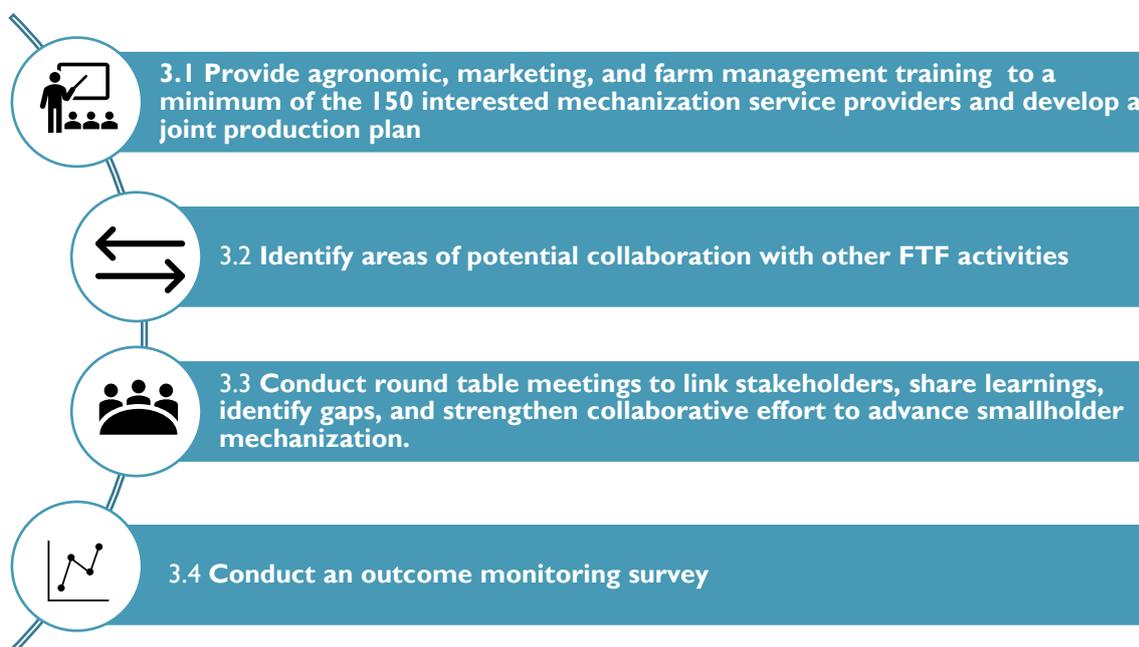


**Picture 7:** *Gilvatek investments artisans work on the locking mechanism of the sieves compartment of the seed cleaner(left). Gilvatek catches up with Beth from Trees for Life and Calvin from the mechanization activity as they develop (right)*

A petrol-driven peanut sheller from Ruzha Brands has been developed at CIMMYT's Harare office. After five tests, it was observed that the machine caused high levels of peanut breakage. To address this, adjustments were made to reduce breakage, and further improvements are ongoing. The aim is to automate peanut shelling in the districts, the machine will be ready for promotion before the next shelling season.

Additionally, more affordable models of solar dryers were ordered from South Africa for prototyping, as locally available Zimbabwean models were too expensive, ranging from US\$1,300 to US\$2,000, making them unaffordable for smallholder farmers. The prototypes will be developed in collaboration with local suppliers, with completion expected in FY3.

**Objective III: Coordinate and collaborate with other USG and non-USG funded activities, capacitate service providers to serve as extension agents, aggregate produces, and link farmers to markets**



### 3.1 Agronomic, marketing trainings and farm management trainings

This financial year, the Activity conducted agronomic, marketing, and on-farm mechanization training sessions with significant participation. A total of 11,133 individuals attended the conservation agriculture (CA) agronomic trainings, with 63% of participants being female and 12% youth. The collective marketing training involved 1,008 participants, also with 63% female and 8% youth. On-farm mechanization training attracted 10,717 participants, maintaining the same gender and youth representation of 63% female and 12% youth. Additionally, these trainings were extended to service providers (SPs).



**Picture 8:** A range of topics covered in various training session such as the safe operation of machinery like the basin digger (left) and tomato value addition done in collaboration with the Farmer-to-farmer program (right).

### 3.2 Support aggregation of produce linkage with input and product markets

During FY2, the Mechanization activity, in collaboration with LEAD, promoted the aggregation of produce and the establishment of market linkages for smallholder farmers. A training session was conducted to enhance farmers' understanding of collective marketing, attracting 1,008 (63% female and 8% youth) participants. These efforts contributed to better knowledge of aggregation and more direct market access.

Working with LEAD, the Mechanization activity facilitated key market linkages. For example, one of Joyleen Rumhungwe's clients sold 34 kg of sugar beans to Lydia Chimonyo Girls High. Additionally, Naboth Dhaure, a solar water delivery service provider in Mutare, was assisted in connecting with buyers for his horticultural produce. Two major buyers identified were Mweyamutsvene High Boarding School, which required 150 kg of green leafy vegetables, 105 kg of tomatoes, and 45 kg of cabbages weekly, and Zimbabwe Consolidated Diamond Mine, which prioritized purchasing a variety of horticultural crops from local farmers.



**Picture 9:** In Ward 25 of Mutare Rural District, Naboth Dhaure's solar-powered irrigation kit (left) sustains his family's diverse horticulture plot, enabling year-round production of green peppers, cabbages, leafy greens, and green maize. The solar-driven drip irrigation system supports consistent harvests for multiple markets

These market linkages provided farmers with reliable and consistent outlets for their produce, enabling them to benefit from increased sales and better market access. LEAD also identified 17 large-scale off-takers to strengthen aggregation efforts, with plans to formalize these arrangements through a roundtable meeting. Additionally, the activity continued linking machinery suppliers with locally trained mechanics to support mechanization and the extension system.

Looking ahead, collaboration with LEAD and FARM will be instrumental in further enhancing aggregation and market linkages, while strengthening local service provision and input systems.

### 3.3 Round table meetings/ review and planning meetings and partners visit to activity sites

In Q2 of FY2, two provincial roundtable meetings were held as part of the co-creation phase for potential activity scaling, where partners and stakeholders shared valuable input for the next phase. Additionally, three district-level implementation meetings took place in Chipinge, Chiredzi, and Buhera. These meetings saw participation from key representatives, including the Agricultural and

Rural Development Advisory Services (ARDAS) Agricultural and Rural Development Advisory Services (ARDAS), District Development Coordinators (DDC) Offices, Rural District Councils (RDCs), the Ministry of Youth, Women Affairs, Community and SME Development, and the President’s Office. Table 8 below provides a breakdown of participants per district.

**Table 8: Number of Roundtable Meeting Participants per District**

District	Date	Venue	Female	Male	Total
Buhera	March 25, 2024	Chigavakava Business Centre	4	11	15
Chipinge	March 19, 2024	ARDAS Office	19	7	26
Chiredzi	March 20, 2024	DDC’s Office	2	7	9
<b>Total</b>			<b>25</b>	<b>25</b>	<b>50</b>

In FY2 the Mechanization activity had two donor visits. Firstly, in partnership with FARM from June 17-18, 2024, the activities hosted USAID officials Mr. Rick Somarriba (USAID Washington) and Mr. Kennedy Matikiti (USAID Zimbabwe) who visited service providers (SPs) Naboth Dhaure and Naison Ndanyafa in Irimai and Mutudza villages. These visits highlighted the practical applications of mechanization technologies promoted by the Mechanization activity. Dhaure, specializing in water delivery and livestock feed processing, demonstrated how the chopper grinder and solar irrigation systems are used in collaboration with FARM’s livestock feed training programs. At Ndanyafa’s homestead, USAID officials observed the operation of multiple machines, including peanut butter machines, shellers, and a tractor, underscoring the value of mechanization in boosting productivity and income.

On June 26, 2024, the USAID Zimbabwe Mission Director Ms. Janean Davis visited the Chibuwe Irrigation Scheme in Chipinge District. The visit highlighted the transformative impact of mechanization in reducing drudgery, increasing productivity, and mitigating climate change effects. Ms. Davis engaged with SPs, a youth female mechanic, Banc ABC representatives, and other stakeholders who emphasized the critical role of mechanization in enhancing agricultural efficiency.

A total of 83 participants attended the event, including 23 women and six SPs (four females). The Mission Director commended the collaboration between USAID-funded activities and was particularly inspired by the involvement of young women in a traditionally male-dominated field, furthering gender inclusivity in mechanization.

These visits demonstrated the significant progress made by the Mechanization Activity in collaborating with FARM, showing tangible results and strong interest from the private sector in ongoing partnerships



**Picture 10:** Rick Somarriba addressing activity participants during a monitoring visit to Ward 25, Mutare district and Naboth Dhaure (in blue shirt), a service provider from Ward 25 showcasing his mobile irrigation system.



**Picture 11:** The USAID Zimbabwe Mission Director interacting with some of the Mechanization Activity beneficiaries, Janet Mlambo (left) and Elton Sienza (right).

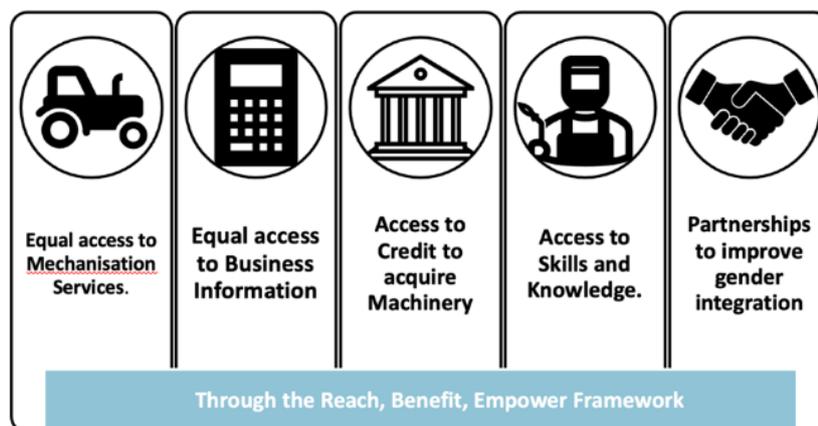
During FY2, the activity organized stakeholder visits to key project sites. In Buhera District, stakeholders visited the homestead of Blessmore Mumvuri, the first service provider (SP) to receive a chopper grinder through the bank loan scheme. In Chipinge District, they visited two additional SPs: Orlando Gudo, who acquired a chopper grinder, and Chipo Mugobo, who purchased a multi-crop thresher. These visits offered stakeholders valuable insights into the performance of the machinery, as well as opportunities to engage with SPs on business operations and discuss the positive impacts of mechanization in their communities.



**Picture 12:** Two service providers from Chipinge district, Manicaland province Orlando Gudo (center left) and Chipo Mugobo (right) acquired the chopper grinder and multi-crop thresher respectively.

# III. GENDER AND YOUTH

The Mechanization and Extension Activity aims to improve the situation of all genders and youth farmers in the following components:



To contribute to gender equality and youth empowerment, the following activities were carried out in the last quarter.

## 3.1 Monitoring of gender and youth disaggregated data

During the FY2, the Activity monitored and collected gender and youth disaggregated data on participation in training and mechanization activities. While women's involvement remained strong, youth engagement was notably lower. Of the 159 service providers, 64 are female, representing 40%, while youth account for only 6%. In total, training initiatives reached 14,597 farmers, including 9,159 females, 5,438 males, and 1,732 youths.

To address the low youth participation, the activity intensified its efforts, particularly in Q4 of FY2, by collaborating with local youth representatives, USAID-supported initiatives, and non-USG projects aimed at promoting youth and female engagement. Joint interventions and activity plans were developed to target these groups. These enhanced efforts are expected to result in improved youth involvement in the coming year.

## 3.2 Selection criteria are adjusted to bridge systemic disadvantages of women and youth

The activity continued to award additional points when ranking to women and youth during the pre-selection process for service providers (SPs) who wanted to access bank loans for mechanization. This approach aims to mitigate systemic disadvantages faced by these groups, promoting their participation without compromising the success of the activity. During FY2 Gender and youth trainings were conducted, attracting a total of 7,005 participants, of which 63% were female and 12% were youth.

### 3.3 Collaboration with other USAID FtF Zimbabwe Activities

Throughout FY2, the Activity collaborated extensively with various USAID Zimbabwe initiatives, other organizations, projects, and the private sector. These partnerships were instrumental in capacity building for farmers, promoting mechanization, identification of SPs and PSPs, advancing climate-smart agriculture (CSA), and supporting farmers in mitigating the impacts of El Niño. Additionally, these collaborations expanded the activity's reach. Table 9 below summarizes key collaborative efforts undertaken during the reporting period.

**Table 9:** Summary of collaborative activities

No	Province	District	Ward	Focus	Partners	Number of Participants/Achievement
1	Manicaland	Mutare	25	Commemoration of women's month and Mechanization Equipment Demonstrations	Local NGOs and Private Companies	130 (68 female)
2	Masvingo	Zaka	15	Technical day – Equipment Demonstrations	ARDAS	164 farmers (41 females, 17 youths)
3	Masvingo	Zaka	20	Technical day - Demonstrating mechanized sorghum and cowpea production under conservation agriculture	ARDAS, Fostering Agribusiness for Resilient Markets (FARM), Agrolive and Execuplants	97 farmers (57 females and 7 youths)
4	Manicaland	Chimanimani	1	Field day – Demonstration of the number of equipment	Seedco, the Agricultural Marketing Authority, and Nedziwa Farmers Association,	79 attendees, (47 females and 5 youths)
5	Manicaland	Buhera	2	Machinery handover ceremony	FARM and ARDAS livestock officer	195 farmers (110 females),
6	Manicaland	Chimanimani	18	Field Day equipment demonstrated	Ministry of Women Affairs, ARDAS, NGOs, seed houses, agrochemical companies, community leaders, FARM, Fivet, Agriseeds and K2	168 participants (94 females, 74 males)
7	Manicaland	Mutare	24	Technical Day	FARM	144 farmers (51 females, 9 youths)
8	Manicaland	Chimanimani	1	Field Day - Demonstration of maize variety PAN53 cultivated under mechanized conservation agriculture	ARDAS and Valley Seeds	68 participants (37 females)
9	Masvingo	Chiredzi	11	Field day on National Sorghum Field Day under the theme " <i>Small Grain Production.</i> "	The Chief Director from the Ministry of Land, Agriculture, Fisheries, Water, and Rural Development as the Guest of Honor	153 individuals (83 females)
10	Masvingo	Mwenezi	1	Field day to promote mechanized conservation agriculture systems	ARDAS	101 farmers (69 women)
11	Masvingo	Masvingo	23	Field day	Technologies for African Agricultural Transformation (TAAT)	54 farmers (43 females and 4 youths)

No	Province	District	Ward	Focus	Partners	Number of Participants/Achievement
12	Masvingo	Mwenezi	2	Field Day - Empowering sesame farmers through mechanization	Sustainable Agricultural Technology (SAT) Zimbabwe	81 farmers (51 females)
13	Masvingo	Chiredzi	2	Technical Day - Promoting climate resilience: mechanization and smart farming techniques	Care International, through its CBA SCALE+ project	251 farmers (167 women and 23 youths)
14	Manicaland	Chipinge		Technical day- Integrated pest management (IPM) in controlling fall armyworm (FAW)	FARM	55 farmers (45% women)
15	Masvingo	Zaka	11	Promotion of mechanization	Takunda	Takunda Lead Farmer acquired a Basin Digger and was trained on operation and maintenance by the mechanization activity

## IV. LESSONS LEARNED

Throughout FY2, several important lessons emerged that have shaped the direction and approach of the Mechanization Activity. These insights, drawn from field experiences, stakeholder interactions, and challenges faced, provide valuable guidance for refining project strategies and ensuring more effective implementation in the future. Key lessons include:

**Age Barrier for Loan Applicants:** Many loan applications were rejected by the BancABC due to applicants being over 60 years old. To address this, the Activity encourages older potential service providers to involve younger/qualified household members as the loan, with the older members acting as their guarantors.

**Challenges in Loan Applications:** While BancABC provided useful loan application training, collecting accurate cash flow and income data from service providers was time-consuming, delaying loan approvals. Additionally, slow loan appraisal processes and bank account setup further delayed disbursements.

**Loan Processing Delays:** Delays in loan approval were caused by limited bank staffing. To mitigate this, the Activity is considering hiring a consultant, trusted by the bank, to assist with loan assessments alongside activity staff. Additionally, by engaging more banks, the Activity aims to expedite approvals through increased competition.

**Varied Bank Requirements:** Different banks have unique requirements for the proposed incentive-for-results structure, requiring contract adjustments tailored to each bank. This has lengthened partnership establishment timelines but ensures more sustainable relationships.

**Service provider willingness to invest:** Some service providers showed readiness to invest in machinery by preparing more than a 30% down payment. This highlights their ability to raise funds to finance investments in mechanization.

**Market Linkages and Engagement of Off-takers:** Establishing strong market linkages is crucial for service providers' success. Engaging off-takers of produce from service provision and including service providers in commodity production with guaranteed markets will help secure demand. Private sector partnerships are equally important for ensuring a steady supply chain for spare parts and machinery. LEAD, as a subgrantee, will continue focusing on identifying private sector partners and organizing roundtable discussions to solidify these relationships.

**Private Sector Engagement for Supply Chain:** On the supply side, engaging the private sector is crucial to maintaining a viable supply chain for spare parts and machinery. With the support of LEAD, we will identify suitable partners and arrange necessary engagements to address these supply chain needs.

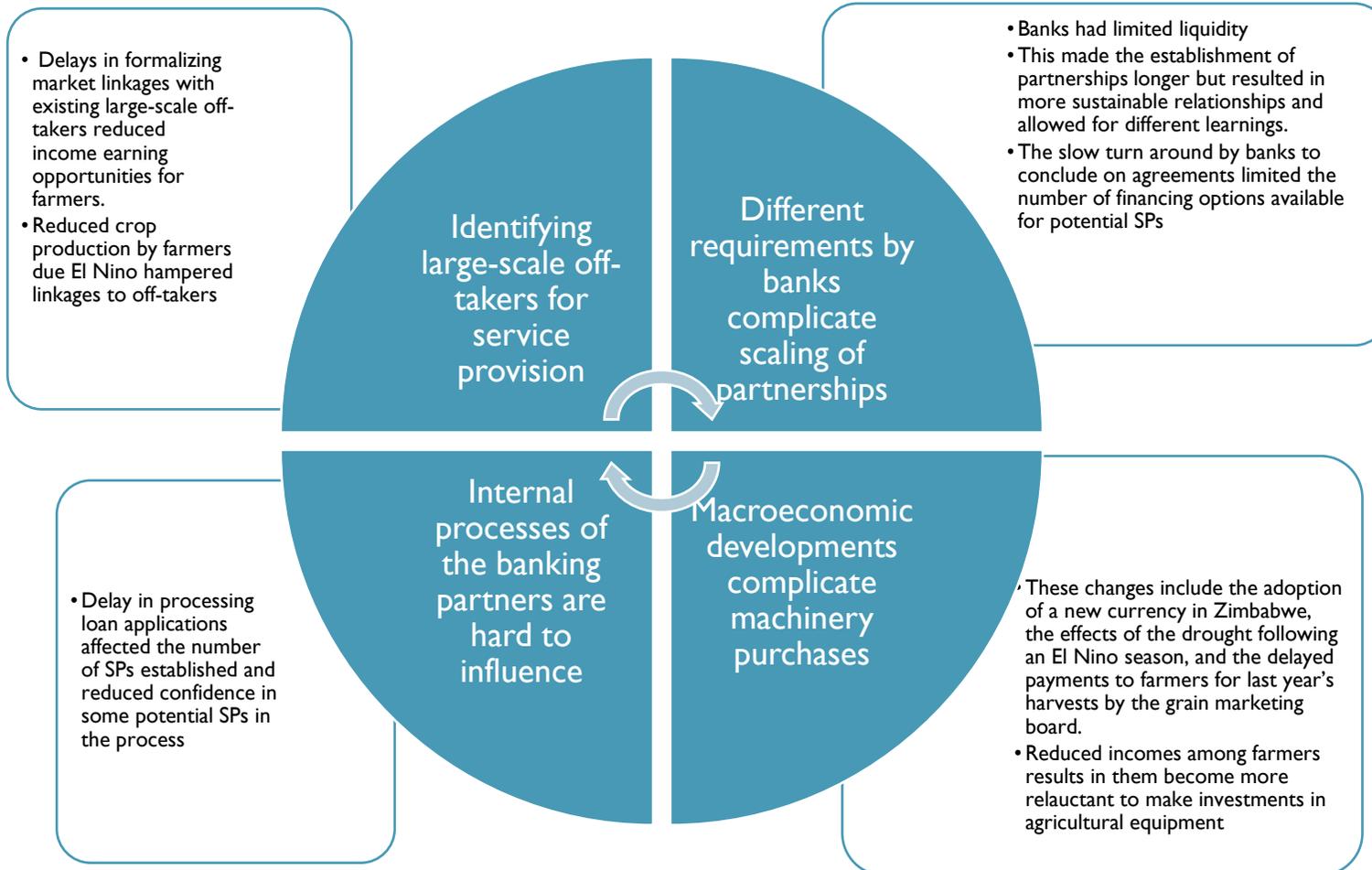
**High Operating Costs for Petrol-Powered Pumps:** Service providers using petrol-driven irrigation pumps faced financial challenges due to high operational costs, making it difficult to sustain irrigation service provision. Solar-powered pumps, with no fuel costs, were found to be more

profitable. For instance, a Chiredzi service provider using solar pumps made more profit than another service provider using petrol pumps, despite starting irrigation service provision later.

**Preference for Low-Cost, Quick Return Machinery:** Service providers preferred low-cost machinery like basin diggers, peanut butter makers, and threshers due to their quick returns on investment and lower costs and financial risks, compared to more expensive machinery like two-wheel tractors and rippers.

**Impact of Drought on Machinery Demand:** During the extreme El Niño – induced droughts in the 2023/2024 season, farmers prioritized essential needs like food over machinery, leading to a decline in demand for mechanization solutions.

# V. CHALLENGES



## VI. SUMMARY OF ACHIEVEMENTS AGAINST TARGETS

**Table 10:** Summary of Achievement against Targets at the end of FY2

No.	Indicators	Source	Targets for the first 2 years ending September 2024	Achieved
1	Number of hectares under improved management practices or technologies with USG assistance.	EG.3.2-25	400	413.69
2	Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance	EG.3.2-24	22,500	13,923
3	Number of individuals participating in USG food security programs	EG.3-2	22,500	20,075
4	Value of agriculture-related financing accessed as a result of USG assistance	EG.3.2-27	US\$1,000,000	US\$227,490
5	Percentage of participants in USG-assisted programs designed to increase access to productive economic resources who are youth (15-29)	Youth-3	15%	12%
6	Percentage of female participants in USG-assisted programs designed to increase their access to productive economic resources	GNDR-2	30%	62%
7	Number of private sector enterprises that engaged with the USG to support U.S. Foreign Assistance objectives	PSE-2	10	15
8	Number of times the SPs are hired to provide a mechanization service	CI-1	New Indicator	2,997
9	Number of machinery dealers/spare parts retailer/manufacturer established at district levels.	CI-2	10	32
10	Number of service providers established as a result of USG assistance	CI-3	150	159
11	Value of services provided by the SPs receiving USG assistance	CI-4	US\$1,050,000	US\$15,914
12	Number of farmers accessing mechanization services	CI-5	New Indicator	1,527

## VII. ACTIVITY IMPACT STORIES

### Story 1: Columbus Manomano – youth entrepreneurship and mechanization in Buhera

*“I’m excited about the future of my farming business with the new machines I own,”* says Columbus Manomano, a 25-year-old from Ward I, Buhera district, Manicaland province who has taken a bold step toward transforming his farming operations. Columbus secured a BancABC loan to purchase a two-wheel tractor, trailer, and chopper grinder, worth US\$4,060, after making a US\$1,800 commitment fee deposit. Also, a trained local mechanic under the Mechanization activity, Columbus maintains the machinery himself, and his newfound role as a service provider allows him to support local farmers in his community while boosting his own income. The equipment will improve land preparation and fodder processing in Ward I, Buhera, where mechanization has often been out of reach for many smallholders. Supported by the Feed the Future Zimbabwe Mechanization and Extension activity, Columbus is an inspiring example of youth-led entrepreneur and showcasing the growing impact of mechanization in rural Zimbabwe.



*Columbus Manomano, a 25-year-old farmer and trained mechanic from Buhera, proudly stands with his two-wheel tractor, trailer, and chopper grinder, purchased through a BancABC loan. Supported by the Feed the Future Zimbabwe Mechanization and Extension Activity, Columbus now provides essential services to local farmers, improving land preparation and fodder processing while boosting his own income.*

## Story 2: Joyline Rumhungwe's multi-service approach to mechanization



*From oil pressing, to mobile irrigation hiring services and basin digging, Joyline Rumhungwe is a mechanization champion in Ward 18, Chimanimani district.*

Joyline Rumhungwe from Chimanimani district, Manicaland province is not only the district's first female irrigation service provider but a trailblazer in rural mechanization. With support from the Feed the Future Zimbabwe Mechanization and Extension activity, Joyline operates three distinct services: basin digging, mobile irrigation, and oil pressing. Her petrol-powered irrigation system serves up to three hectares of dryland farming, attracting 10 local farmers growing horticultural crops for market. *"I'm proud to offer services that help other farmers and create income for my family,"* she says. Beyond irrigation, Joyline also provides basin-digging services for conservation agriculture and owns an oil-pressing machine that processes sunflower seeds. At peak, she serves up to 40 clients daily, helping them extract sunflower oil while using the leftover residue as poultry feed. This innovative approach maximizes the value of sunflower crops, previously only used as poultry feed. Joyline's success in mechanization demonstrates the potential for women to lead in rural farming, transforming productivity and sustainability. Her affordable, practical solutions are breaking gender barriers and empowering women in agriculture, making her a true champion of mechanization in her community.

### Story 3: A cow named 'Chopper': mechanization transforms livestock feed services

"What does a cow named Chopper have to do with mechanization?" For Sarah Muzvuzvu and the Taziezano ISAL group, the answer is everything. After using their chopper grinder to process 700 kilograms of maize stover, Sarah and her group were paid in the form of livestock - a heifer they named 'Chopper'. Their chopper grinding service has become a lifeline for farmers struggling to process affordable livestock feed, especially during drought seasons. The all-female group has diversified its services to include maize meal and poultry feed processing, breaking gender barriers, and securing income for their families. The chopper grinder, purchased through the Mechanization and Extension activity, highlights the profound impact that affordable, labor-saving technology can have on both livelihoods and food security in rural Zimbabwe.



Meet "Chopper," the cow Sarah Muzvuzvu and the Taziezano ISAL group earned by processing 700 kg of maize stover with their chopper grinder. Purchased through the Feed the Future Zimbabwe Mechanization and Extension Activity, the grinder helps the all-female group provide essential livestock feed, boosting incomes and breaking gender barriers in rural Zimbabwe.

#### **Story 4: Retired headmaster turns mechanization into a profitable venture**

Chido Mugebe, a 66-year-old retired headmaster from Chimanimani District, has successfully transformed his livelihood through mechanization service provision. Before the Feed the Future Zimbabwe Mechanization and Extension activity was introduced in Ward 18 in April 2023, farmers depended on manual labor for threshing small grains and maize. After attending business development training organized by the Mechanization activity on behalf of his wife, a basin digger service provider, Chido recognized the potential in mechanized services. Initially planning to purchase a chopper grinder, the training convinced him to invest in a multi-crop thresher instead. With help from the Mechanization team, Chido bought the thresher from Gilvatech for US\$1,600, securing a discount for paying in cash. Despite a drought in his home ward, Chido found demand for his services in the high-rainfall area of Charleswood, where he earned US\$2,134 from June to August, after covering expenses of US\$701.50. His profit of US\$1,432 allowed him to hire two locals, creating jobs and supporting the local economy. Chido's success in mechanization also enabled him to reinvest in his welding business, where he is now fabricating a peanut roaster for sale to the community. The additional income has improved his family's food security and prepared him for the upcoming wheat threshing season, showing how mechanization is not only transforming individual lives but also uplifting rural communities.



*Chido Mugebe, a retired headmaster from Chimanimani, operates his new multi-crop thresher, purchased with support from the Feed the Future Zimbabwe Mechanization and Extension activity. The thresher has boosted his income and created job opportunities in Ward 18.*

## VIII. ACTIVITIES PLANNED

The following technical activities are planned for the coming Financial Year:

### **Component I: Identification of demand-driven farm machinery and building capacity of manufacturing companies to produce, repair, and import demand-driven small scale farm machinery for smallholder agricultural production systems**

- 1. Conduct participatory needs assessment to identify farm machinery and mechanization technologies that would be suitable for the smallholder farmers in the identified coverage areas.**

The participatory needs assessment was conducted in FY1 and was therefore not part of the activities that were planned for in FY2.

- 2. Develop a database of smallholder machinery suppliers and manufacturers, assess their capacity, current investment, weaknesses/challenges in the supply chain, and develop future investment plans to meet the demands of smallholder machinery in Zimbabwe (value chain analysis, supply chain and market survey).**

This activity was concluded in FY1 and is therefore not part of the planning in FY2.

- 3. Engage with the key suppliers and manufacturers of smallholder agricultural machinery that would be identified from the survey (under component 1.2.) to provide them with technical advisory services, capacity and business development training, AND link them to market / service providers through demand creation activities.**

A training needs assessment was conducted in FY1, and training of suppliers and manufacturers was conducted throughout FY2 and were formally registered as the activity's suppliers during the reporting period.

- 4. Engage with financial institution partners to explore increasing access to finance for the farm machinery businesses (at manufacturer, dealers, and customer levels).**

Throughout FY2, the Mechanization Activity focused on continuously assessing and monitoring access to finance options to support smallholder farmers. Building on partnerships established in FY1, the activity implemented the incentive-for-results fund, which facilitated loan disbursement to farmers. Additionally, new banks were engaged to scale up financial support once initial loans were disbursed.

Recognizing the need for diversified financing solutions, the activity explored alternative pathways such as Internal Savings and Lending (ISAL) groups, Microfinance Institutions (MFIs), remittances, and planned to collaborate with USAID's new Access to Finance (A2F) component which is yet to start implementation. These efforts aimed to strengthen farmers' ability to access machinery and improve agricultural productivity.

5. **Facilitate strengthening the machinery supply chain through improved linkage with machinery dealers, commission agents, and spare parts retailers at the activity districts/Hub areas.**

Throughout FY2, the Mechanization activity worked to strengthen the machinery supply chain by improving linkages between machinery dealers, commission agents, and spare parts retailers across activity districts and hub areas. A dealer engagement survey was conducted in 11 districts, including Chivhu, which has potential to serve Buhera District. Field officers identified and reached out to 40 dealers (18 existing and 22 potential) to discuss potential collaboration.

**Key Outcomes:**

**Dealers Engaged:** Of the 40 dealers engaged, 18 were already operational, with 1 also serving as a manufacturer. Among the 22 potential dealers, 3 were local manufacturers and 2 were mechanics. This indicates a strong network of local actors that can enhance machinery supply chains in their respective districts.

**Dealer Distribution by District:** Masvingo district had the highest number of dealers engaged, while Chivhu, Zaka, Bikita, Chipinge, and Chivi districts had lower outreach levels.

**Key Findings from the Survey:**

**Business Sustainability Perceptions:** Existing dealers expressed confidence in continuing their machinery supply operations, while potential dealers cited challenges such as lack of capital. Dealers supported two potential business models: the "Stockist on Commission" model for new dealers with limited capital, and the "Direct Order and Sell" model for existing businesses that can independently order and sell machinery. Combining both models could cater to different dealer needs.

**Willingness to Partner with CIMMYT:** All engaged dealers showed interest in partnering with CIMMYT for business training and information exchange on sales and demand forecasting. Two dealers, from Chimanimani and Bikita, are already collaborating with CIMMYT to conduct awareness meetings.

**Stocking Patterns:** Existing dealers mainly stocked spare parts, hardware, agrochemicals, and agricultural tools, while potential dealers focused on veterinary drugs, agrochemicals, and stock feed. High capital requirements were identified as a barrier to stocking complete machinery.

**Mechanization Activity's Role:**

The activity facilitated information exchange between local dealers and established suppliers of machinery and spare parts. This included sharing contact information, product catalogs, pricing, and inventory details to improve communication and efficiency in the supply chain. This effort aimed to strengthen the availability and distribution of machinery and spare parts, benefiting smallholder farmers in the activity areas.

**Component 2: Building the capacity of local service providers to purchase, operate, and maintain farm machinery to provide mechanized services to small scale agricultural value chain actors**

- 1. In collaboration with the machinery suppliers and manufacturers, activity partners, partner NGOs, and AGRITEX officers, the activity shall establish three Mechanization Hubs (two in Masvingo and one in Manicaland) covering those 10 districts mentioned.**

The hubs have been created as of end of Q1 of FY1 and therefore, this will not be an activity for FY2. Each hub is managed by a team of activity staff consisting of an agricultural engineer and a mechanic-cum-operator. These hubs are equipped with motor bikes for field monitoring/implementation and a set of farm machinery for training, and to offer interested service providers the opportunity to experience (or even to hire) the machinery before purchasing of machinery.

Each hub has received a set of eight machinery (2 WT + Trailer, multi-crop thresher, rippers, boom sprayers, chopper grinders, peanut butter machines, groundnut shellers, basin diggers) for conducting awareness meetings and training.

- 2. Procurement and delivery (lease-to-own basis) of 150 sets of mechanization starter packs for the first two years based on the need assessment's recommendation.**

After assessing the demand and receiving feedback from the service providers, partners and the government; the starter pack idea was altered to allow for demand of individual machinery due to affordability reasons and to allow for more pointed demand. Therefore, delivering of machinery throughout FY2 followed the decision that was agreed.

- 3. Capacity development of the 150 service providers (50 in year 1 and 100 in year 2) through technical (environmental compliance, safety, operation, repair, and maintenance) and business development (business planning and promotion, cost and income tracking, record keeping) training will be provided by the activity to prepare them for service provision businesses. They will also be provided with training manuals and technical brochures.**

Training manuals and technical brochures on the machinery were developed as well as a series of videos on the machinery functions for FY1. The in-depth trainings commenced in FY2 for the service providers, currently all SPs have received capacity development in various areas during the several training sessions conducted in FY2.

- 4. To create demand through awareness meetings, the activity will organize 60 field demonstrations (method demonstrations), 20 field days (result demonstrations), 10 fairs, 75 awareness meetings and other promotional activities under the three Hubs.**

During this financial year, the Activity conducted 164 demonstrations, organized 27 fairs, hosted 36 field days, held 156 technical days, trained 68 service providers, and facilitated 4 workshops

- 5. Train local mechanics and operators to support the service providers and establish spare parts manufacturers / dealers at the Hub or district levels.**

In FY1, 10 local mechanics have been trained, which is supposed to go to 30 by the end of FY2. Current 31 local mechanics and 25 manufacturers have been trained. As for spare part manufacturers and dealers, the value chain analysis has showcased that there already are a lot of spare part dealers in the region (55 retailers and 62 manufacturers/fabricators of local machinery), and the focus of the activity is to train them additionally in spare part manufacturing. Trainings for mechanics and spare part retailers that were scheduled for November 2023, December 2023, March 2024 conducted and for July 2024 the training is yet to be conducted as it is planned for the next quarter.

- 6. Collect feedback from the service providers and other stakeholders, and guide local manufacturers on fine-tuning machinery, designing new prototype machinery, improving the design of existing machinery, spare parts inventory, and manufacturing simple spare parts locally.**

In FY2 the fine-tuning of machinery was a continuous activity as machinery gets used more and more areas of improvement are identified. For new prototypes, multi-crop thresher and boom sprayers amendments according to feedback on new prototypes were done. Manufacturing of simple spare parts is described under 2.5.

- 7. The activity will also test (and improve as needed) a few other important machinery (power weeder, peanut sheller, solar dryer) in collaboration with the service providers, machinery companies, and local manufacturers to identify the possible areas of future investment by the private sector.**

Progress made in testing the seed cleaner, solar dryer and peanut sheller are described under 2.6 above.

- 8. Collect Data on an ex-ante and ex-post profitability analysis and productivity data collection**

The socioeconomics team conducted an ex-ante Profitability and Viability Analysis of various mechanization business models. This analysis used projected budgets to compute Gross Profit, cost-benefit analysis (CBA), and other financial indicators for each technology. Different scenarios were simulated based on assumptions regarding service providers and technology suppliers. The ongoing collection of ex-post data will complement these projections by comparing actual outcomes with ideal case scenarios.

These ideal scenarios assume optimal performance in terms of capacity utilization and consistent demand throughout the year.

Key indicators in the Profitability and Viability analysis include:

- Net Present Value (NPV)
- Benefit-Cost Ratio (BCR)
- Internal Rate of Return (IRR)
- Return on Investment (ROI)
- Payback period

The analysis is based on several assumptions:

- All costs and prices are in USD.
- Machine lifespan and salvage values will be determined by suppliers.
- Operational and maintenance costs will increase in proportion to demand.
- Fuel consumption per unit work output will be used to assess cost contributions.
- Bank loan interest rates will range between 12-15%.
- Depreciation will follow the straight-line method.

These assumptions and indicators will provide a comprehensive view of the profitability and viability of each mechanization model.

**Component 3: Coordinate and collaborate with other FTF activities to build capacity of interested local service providers to be agricultural extension agents to their customers during the cropping season, and to be aggregators of farm produces, linking the farmers to markets (Work Package 3)**

- 1. Provide agronomic, marketing, and farm management training to a minimum of the 150 interested mechanization service providers to capacitate them to serve as extension agents and market advisors to their customers.**

The Activity held 68 training sessions for service providers, attracting 875 participants, including 579 females and 128 youths. This group comprised 159 service providers, of whom 64 were female, representing 40% of the total, and 6% were youth. Additionally, the participants included farmers and potential service providers, totaling 716, with 515 females and 119 youths.

- 2. Guide the service providers to develop a joint crop production plan (crop, variety, acreage) together with their customers to aggregate produce, link them with the input and the produce markets / processors.**

Initial steps toward developing joint crop production plans were initiated through the pre-booking of services by potential service providers (SPs) clients, as detailed in Table 11 below. Additionally, the activity delivered training on aggregation, while market linkage efforts were consistently implemented throughout FY2 to strengthen connections between farmers and buyers.

**Table II: Service provision bookings**

District	Name of SP	Number of potential clients			Service required	Expected date of service
		F	M	Total		
Chimanimani	Marlon Jinga	8	10	18	holing	October
	Sekai Chiora	38	34	72	Threshing wheat	September and October
	Shylet Mugebe	17	6	23	holing	October and December
	Tsamwai Muusha	18	17	35	Holing	September to November
Chipinge	Elton Sienza	72	89	161	Land preparation	October to November
	Puzvai Mhlambo	248	244	492	Holing	October to November
	Perinatal Nkosa	33	29	62	Chopping of crop stover and holing	October to November
Mutare	Naboth Dhaure	11	8	19	Holing	October to November
	Ndanyafa	11	15	26	Holing	October to November
<b>Grand total</b>		<b>456</b>	<b>452</b>	<b>908</b>		

- 3. Identify areas of potential collaboration with other Feed the Future activities (e.g. the Feed the Future Zimbabwe Fostering Agribusiness for Resilient Markets activity, WFP/R4, Zambuko Livelihoods Initiative, etc.) and develop linkages for mutual benefits.**

In FY2, the Mechanization Activity collaborated with several USAID-funded initiatives across various areas. These collaborations included the development of a seed cleaner prototype, linking with ISAL groups from FARM and Resilience ANCHORS, and conducting joint activities. These partnerships aimed to enhance mechanization efforts and broaden the activity's impact. A detailed summary of these collaborations can be found in section 3.3 above.

- 4. Conduct round table meetings to link stakeholders, share learnings, identify gaps, and strengthen collaborative effort to advance smallholder mechanization.**

During the reporting period, a roundtable meeting was convened to discuss the scaling of the Mechanization activity. The activity also hosted two significant donor visits, including one by the USAID Zimbabwe Mission Director, and organized stakeholder visits to engage with the activity's beneficiaries, showcasing the impact of mechanization in the field and to share learnings.

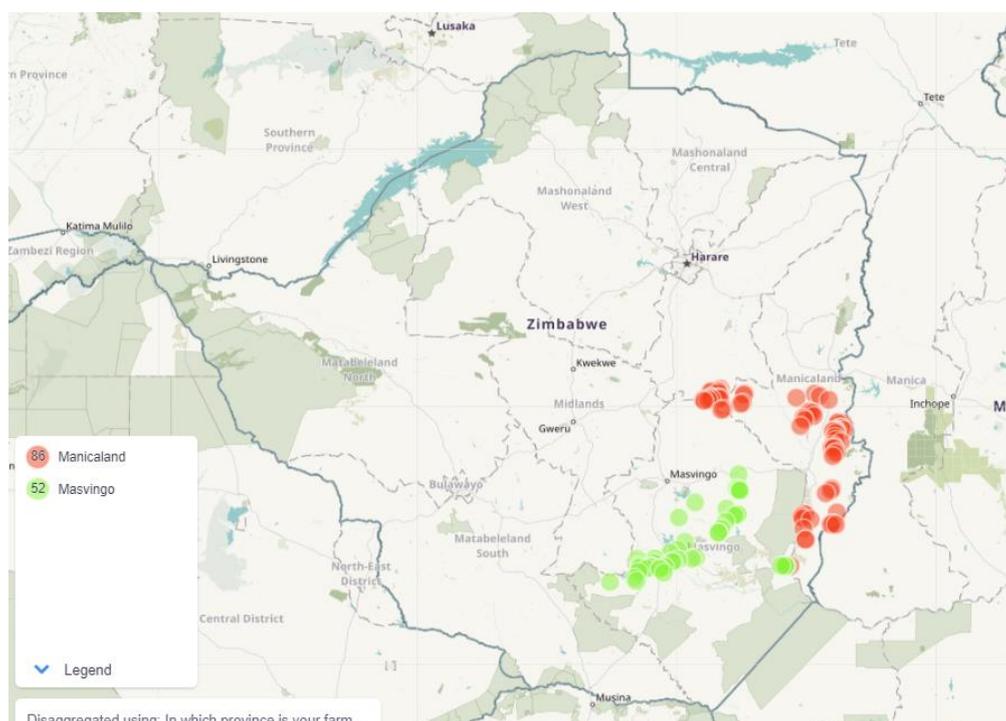
# IX. SERVICE PROVIDERS PROFILING

## Profiling of service providers

This study profiled 142 out of 159 service providers in Manicaland and Masvingo provinces. A quantitative survey was conducted to gather data from these providers.

## Study Area and Sampling

The interviews were conducted in ten districts across the two provinces. A purposive sampling method was used to select these districts and the target service providers. A total of 142 service providers were profiled, in areas shown on the map.



## Data Collection and Analysis

Data were collected through face-to-face interviews using a structured questionnaire programmed in Kobo toolbox. The survey was conducted in September and October 2024. Descriptive statistics, including mean, standard deviation, and frequency distributions, were calculated using Stata to analyze the data.

## Key Findings

**Demographics:** The population in Manicaland and Masvingo is relatively young, with an average age of 52 years. A significant portion (45%) of the population is under 15 years old.

**Household Characteristics:** The average household size in the provinces is 5.4 members. Agriculture is the primary economic activity, with 3.8 individuals per household involved in farm labor.

**Economic Situation:** The average primary income per household in Masvingo is USD695.79, while secondary income averages USD124.80. The average land size per household is 3.33 hectares.

## Conclusion

The service providers profiled in this study are a diverse group in terms of age, household size, involvement in farm labor, income sources, and land holdings. These characteristics likely influence their experiences and needs as service providers.