Inclusive Business Analyses

Enhancing agricultural productivity through the commercialisation of farmer service delivery and Marketing of rice, maize and sunflower in the Southern Highlands of Tanzania

Ruaha Milling Company Ltd | Tanzania

Public Report

July 2026



Disclaimer

This study examines the projected (financial) performance of Ruaha Milling Company (RMC)'s business model and explores and recommends potential improvements and opportunity pathways. The findings in this report have been used by IDH, RMC and involved value chain players to shape their strategy, project design, and future business models, but these organisations cannot be held accountable for meeting any targets included in the report.

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Introduction

Smallholder livelihoods

Agriculture plays a key role in the well-being of people and the planet. 70% of the rural poor rely on the sector for income and employment. Agriculture also contributes to and is affected by climate change, which threatens the long-term viability of global food supply. To earn adequate livelihoods without contributing to environmental degradation, farmers need access to affordable, high-quality goods, services, capital, and technologies.

Inclusive Business Models

Inclusive Businesses provide goods, services, and livelihoods on a commercially viable basis, either at scale or in a scalable manner, to people living at the base of the pyramid, making them part of the value chain as suppliers and/or customers. These business models can sustainably increase the performance of farm(er)s while providing a business opportunity for the company. Using IDH's data-driven Inclusive Business methodology, IDH analyses these models to develop a solid understanding of the relationship between impact on the farmer and on the company.

Insights & Innovations

Our data and insights enable businesses to formulate new strategies for operating and funding service delivery, making the model more sustainable, less dependent on external funding and more commercially viable. By further prototyping efficiency improvements in service delivery and gathering aggregate insights across sectors and geographies, IDH aims to inform the agricultural sector and catalyse innovations and investment in service delivery that positively impact people, planet, and profit.

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The Growing Together Program

- The Growing Together Program, led by IDH in partnership with civil society (Rikolto and EAGC) and research institutions (CIAT), aims to transform food systems in East Africa by enhancing food security, climate resilience, and inclusive economic growth.
- It focuses on increasing the **production of healthy, diverse foods by smallholder farmers, improving the sustainability of production landscapes, and optimising value chains for investment and trade.**
- The program targets **Tanzania and Ethiopia. It prioritises staple crops like maize, rice, wheat, legumes, oil crops, root crops, vegetables, and fruits to improve nutrition and climate resilience**. A key emphasis is empowering women and youth through commercial participation in food value chains.
- **Five strategic intervention pathways guide implementation:** convening coalitions for policy and sector reform, transforming value chains through inclusive business models, facilitating investment via Innovation and Investment Development Hubs, building climate-resilient landscapes, and generating data-driven insights for learning and decision-making.
- The program will co-invest with **18 food businesses, mobilise USD 13 million in financing, and directly benefit 120,000 farmers and 120,000 hectares of land. It also aims to create 30,000 jobs**, half of which will be for women and youth.
- The program's sustainability is ensured through local ownership, capacity building, and embedding interventions within SME business models to drive long-term change beyond its five-year timeline.

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Acronyms

BDS	Business Development Service
CIAT	International Centre for Tropical Agriculture
CSA	Climate Smart Agriculture
CEO	Chief Executive Officer
DIO	Days Inventory Outstanding
DPO	Days Purchases Outstanding
DSCR	Debt Service Coverage Ratio
EAGC	East Africa Grain Council
EBIT	Earnings Before Interest and Taxes
FMIS	Farmer Management Information System
FO	Farmer Organisation
FSP	Financial Service Provider
GAP	Good Agricultural Practices
GP	Gross Profit
HR	Human resources
IBA	Inclusive Business Analysis

ICT	Information and Communication Technology
M&E	Monitoring and Evaluation
MT	Metric Ton
NP	Net Profit
P&L	Proft and Loss
PHH	Post Harvest Handling
ROE	Return on Equity
RMC	Ruaha Milling Company
SHF	Smallholder Farmers
SOP	Standard Operating Procedure
ToT	Training of Trainers
TZS	Tanzania Shilling
USD	United States Dollar
VBA	Village Based Agent
WC	Working Capital

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Report outline

1 Executive summary

2 Business model

3 Business case

4 Impact case

5 Annex



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1

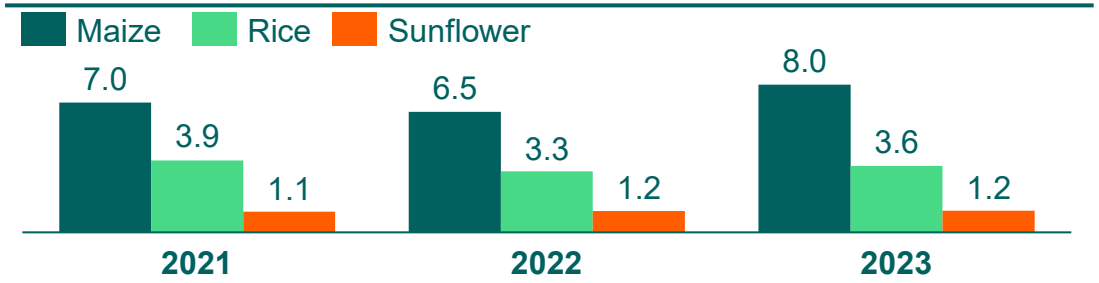
Executive summary

There are significant opportunities to expand regional maize and rice trade to meet rising demand, alongside scaling up sunflower processing for local consumption

Maize, rice, and sunflower value chains

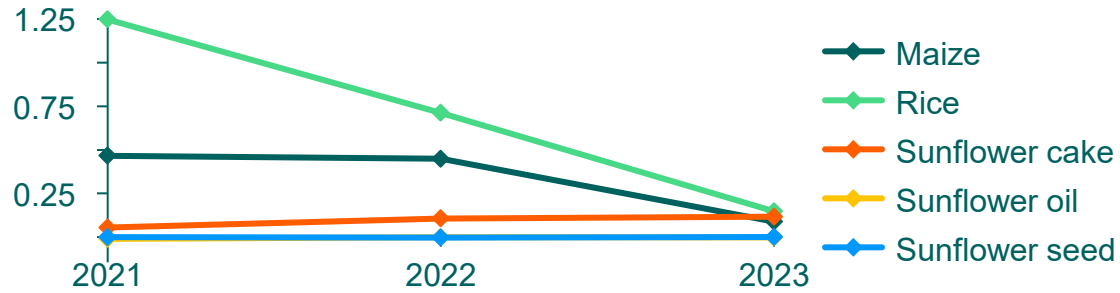
- **Maize** is the most grown staple in Tanzania with 8Mn MT production in 2023.[1] With annual consumption of ~5.4Mn MT,[2] ***the country is self sufficient***. However, productivity remains low with an average 1.7 MT/ha, against optimal yields of 5 MT/ha.[1] The government targets production of 15Mn MT by '25/26, driven by fertilizer subsidy initiatives.[3]
- ***Paddy rice is the second most cultivated crop***.[4] In the 22/23 season, ***production reached ~3.3Mn MT***,[5] making Tanzania one of the largest rice producers in East Africa, and the 21st largest rice exporter globally.[6] In 2023, it exported rice worth ~$140Mn, mainly to neighbouring countries.[6] Current yield (~2.7 MT/ha) is higher than the African average (~2.1 MT/ha), but lower than the global average (~4.7 MT/ha), despite improved irrigation infrastructure and better rice varieties.[7] Tanzania aims to increase yields to 4 MT/ha by 2030.[8]
- Annual domestic demand for edible oil is estimated at 500,000+ MT, with ***sunflower oil being the most locally produced variant***. Tanzania still imports significant volumes due to production and processing limitations. **Sunflower** production reached 1.2Mn MT in 2023[1] with average productivity of 1.1 MT/ha.[1] Optimal yield is 3 MT/ha.[9]

Production overview million MT[1]



- Tanzania is a ***net exporter of maize and rice*** with opportunities in regional markets in East and Southern Africa. Volumes exported fell in 2022 and 2023 largely due to tightening of export regulations that affected trade with key markets.[10] On the contrary, *it is a net importer of sunflower seed and oil but a net exporter of sunflower cake*.

Net exports overview million MT[1]



Sources: 1) FAOSTAT (n.d.); 2) USDA (2023); 3) AgriInsite (2025); 4) USDA; 5) NBS Tanzania (2023); 6) OEC (2023); 7) FAO; 8) Rice For Africa (2024); 9) Farm Africa 2022); 10) Tanzania Investment Centre

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Ruaha Milling Company is a Tanzanian agroprocessor of maize flour, rice, and sunflower oil, aiming to expand its operations and market reach

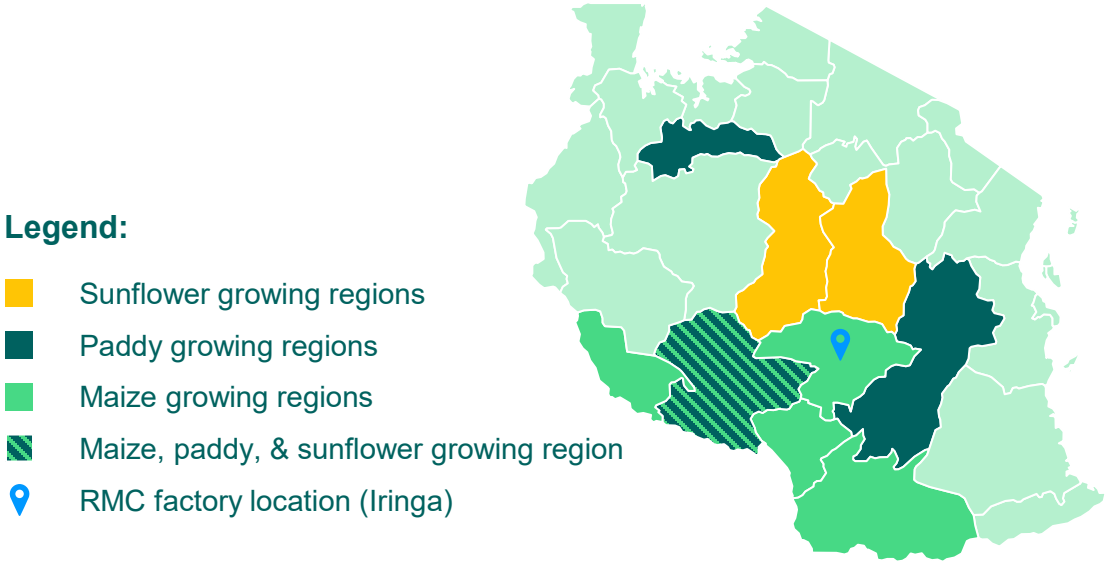
Ruaha Milling Company Ltd. (RMC)

- **Overview:** RMC is an agribusiness headquartered in Iringa Region, established in 2015 as a grain aggregator and later upgraded to an agroprocessor. Strategically located at the heart of Tanzania's agricultural zone, RMC specializes in the manufacturing of maize flour, paddy rice, and sunflower oil.[1]
- RMC's processing plant started operations in 2018.[2] It has a processing capacity of 11,000 MT/y of maize, 18,000 MT/y of paddy, and 1,260 MT/y of sunflower. Its overall utilisation has been below 5% due to inefficient business practices, insufficient working capital, changing market dynamics, and raw material shortages. RMC sourcing model combines 3,100 SHFs, FOs, and a VBA network.[1,2]
- **Growth ambitions:** RMC aims to scale its maize, rice, and sunflower production. The company plans to unlock access to capital and engage 6,000 SHFs to secure the required raw materials for its processing plant. Through this boosted production, the company seeks to expand into regional markets such as the Democratic Republic of Congo, Malawi, and Sudan within five years.[1,2]
- **Markets:** RMC' diverse clientele include urban consumers, retailers, supermarkets, prisons, and both private and public schools across Iringa, Njombe, and Dodoma.[1,2]

Services: RMC facilitates access to services provided through VBAs and FOs including GAP, financial training, on-credit input facilitation, and mechanisation. Though RMC doesn't charge the services, it experiences indirect revenues through higher sourced volumes.[2]

Challenges: RMC's main challenge is a reduced sourcing potential due to limited working capital and unavailability of raw materials (especially sunflower and paddy rice). Other challenges include low farmer productivity, informal relationships with SHFs, inefficiencies at sourcing, processing and marketing levels, and inadequate storage facilities.[1,2]

RMC's operating regions

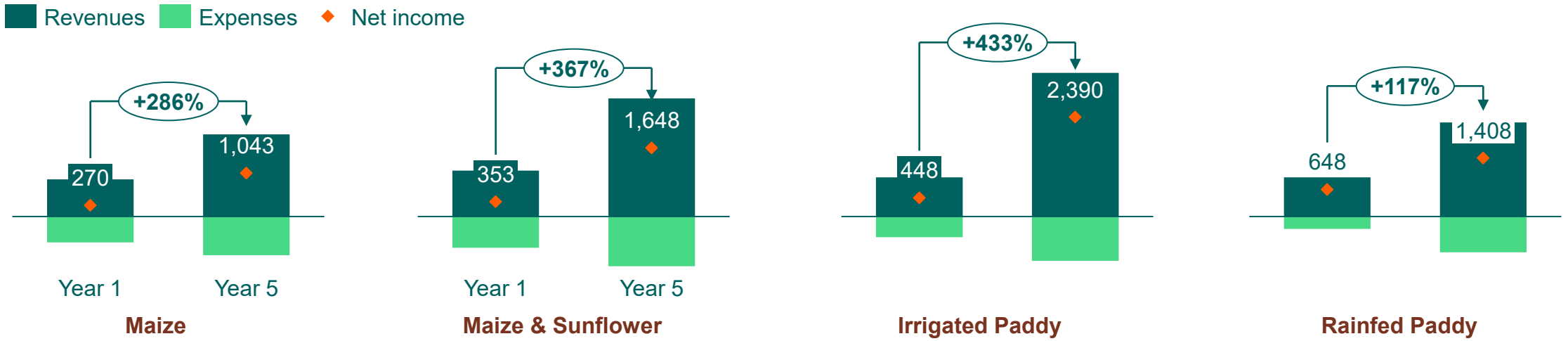


Sources: 1) TA project proposal; 2) Company interviews

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Addressing systemic supply, financing and organisational gaps can enable RMC to drive major farmer income gains per segment, stabilise sourcing and slowly expand processing

Projected Farm Income (USD)



- RMC's interventions have the potential to increase productivity, reduce PHL, and raise incomes across the focus crops. The largest gains accrue to irrigated paddy farmers (+433%) and maize–sunflower farmers (+367%), driven by improved access to inputs and better agronomic practices
- Achieving these outcomes requires addressing systemic constraints inherent in RMC's sourcing model, including weak seed systems, inconsistent water supply in irrigation schemes, limited mechanisation, poor agronomic practices and informal sourcing relationships
- Price volatility remains a significant vulnerability, with crop prices fluctuating between 40–75% seasonally. Strengthening contracting and financing mechanisms will be key to stabilising incomes and ensuring farmer commitment
- This analysis demonstrates that with the proposed organisational strengthening, financing, and service delivery improvements, RMC can substantially enhance farmer livelihoods while securing the raw material volumes required to increase its processing capacity utilisation and long-term commercial viability

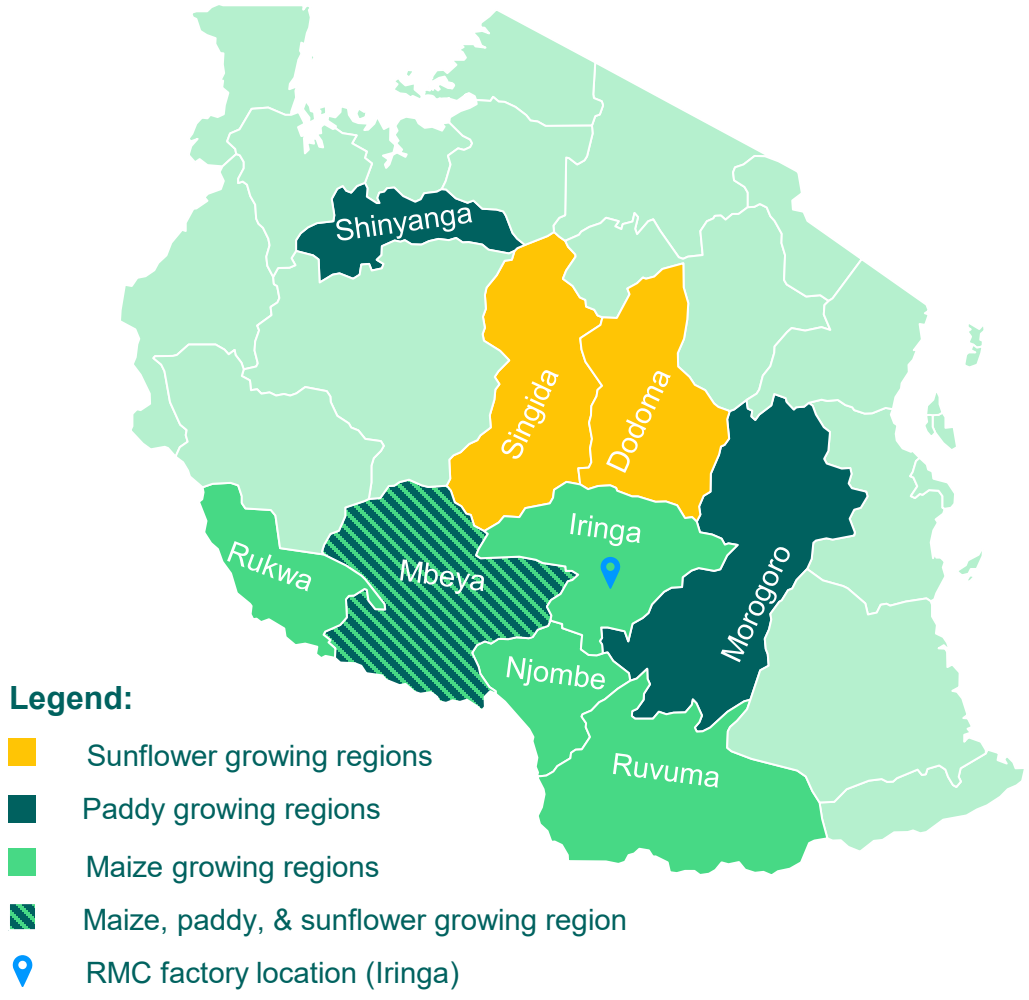
Notes: Rice farms are on average 2 acres, maize-only farms are 3 acres and maize and sunflower farms are 4.5 acres.

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Business model

Location | RMC is centrally located in Iringa city in the Southern Highland Zone, with strategic access to the primary sourcing regions for maize, paddy and sunflower seed

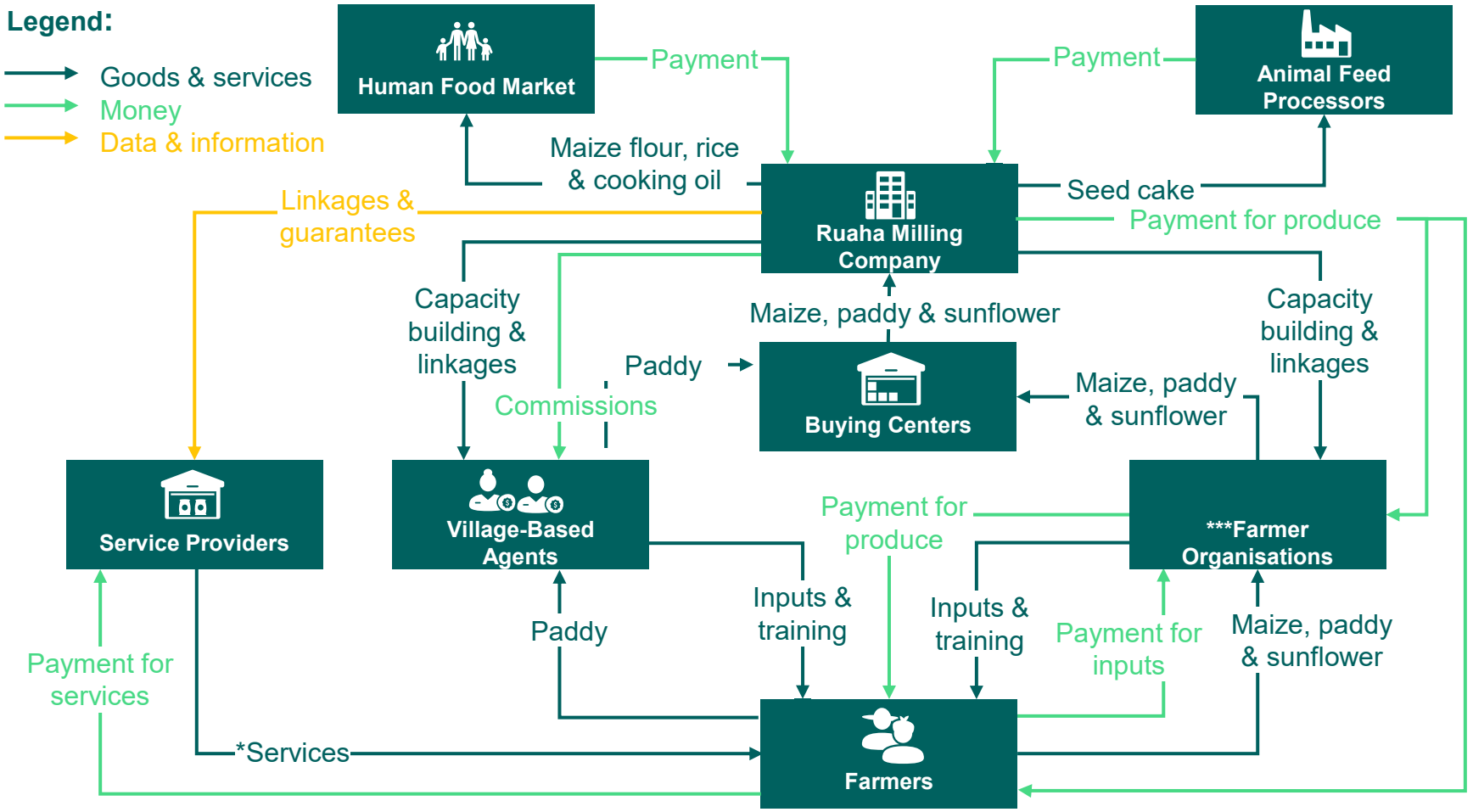


- RMC is based in Iringa, a city in Tanzania's Southern Highlands. The company's location is ideal, providing access to key sourcing regions for maize, paddy, and sunflower
- The Southern Highland Zone is among the most agriculturally productive areas in the country, with agro-ecological conditions that support year-round crop production
- Key crops grown in the zone include cereals (maize, wheat, rice), legumes (beans, soybeans, groundnuts), oilseeds (sunflower), roots and tubers (Irish potatoes, sweet potatoes), and cash crops (tea, coffee, pyrethrum)
- Paddy is mainly cultivated in the lowland irrigated areas of Morogoro, Mbeya, and Shinyanga, while maize is primarily cultivated in the highland areas of Iringa, Ruvuma, Njombe, Mbeya and Rukwa (Sumbawanga).
- Sunflower, on the other hand, is cultivated in the drier parts of Mbeya and in the Northern zone regions of Dodoma and Singida
- RMC primarily sources from the Iringa and Njombe regions, with the option of sourcing from neighbouring regions in the event of inadequate supply in the primary sourcing area

Sources: 1) RMC Strategic Business Plan 2024-2029; 2) Kilimo Kwanza (2023); 3) Uyole Agricultural Research Institute (2016); 4) Farm Africa (2022)

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Business model overview | RMC sources raw materials from SHFs mainly through VBAs with processed products (rice, maize flour and sunflower oil) sold to primarily to the local markets

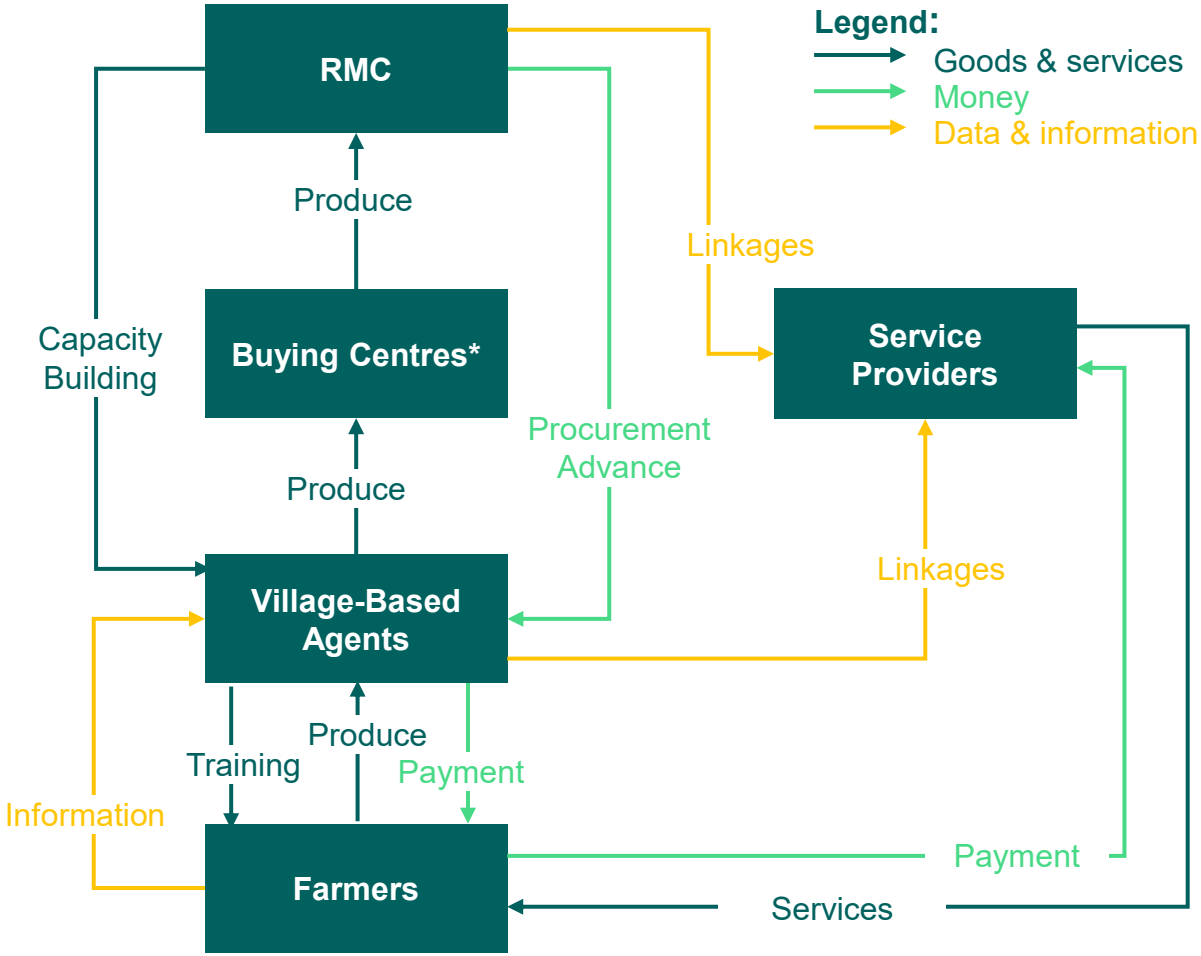


- Maize, paddy, and sunflower seeds are the company's key raw materials. These are primarily sourced from farmers through Village Based Agents (VBAs), with a small proportion sourced (mainly sunflower) from Farmer Organisations (FOs)
- The paddy business accounts for an estimated 86% of the company's total revenue. Market dynamics have led the company to scale back maize processing, with plans to focus on maize aggregation for the World Food Programme (WFP) market and minimal processing for institutional clients such as schools
- RMC's key products are primarily distributed through retailers and wholesalers

*Notes: * Services provided include financial services and post-harvest services. **RMC has previously facilitated access to fertilisers through the subsidy programme ***Farmer organisations include farmer associations, cooperatives and collective irrigation schemes, RMC seeks to further enhance their engagement with FOs through this project.*
Sources: 1) Growing Together Project Proposal (2025) 2) Ruaha Milling Company Strategic Business Plan 2024-2029 3) Discussions with company

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Sourcing Strategy – VBAs | This model facilitates the last mile delivery of services and grain aggregation. Scalability is hinged on improving monitoring systems and incentivization

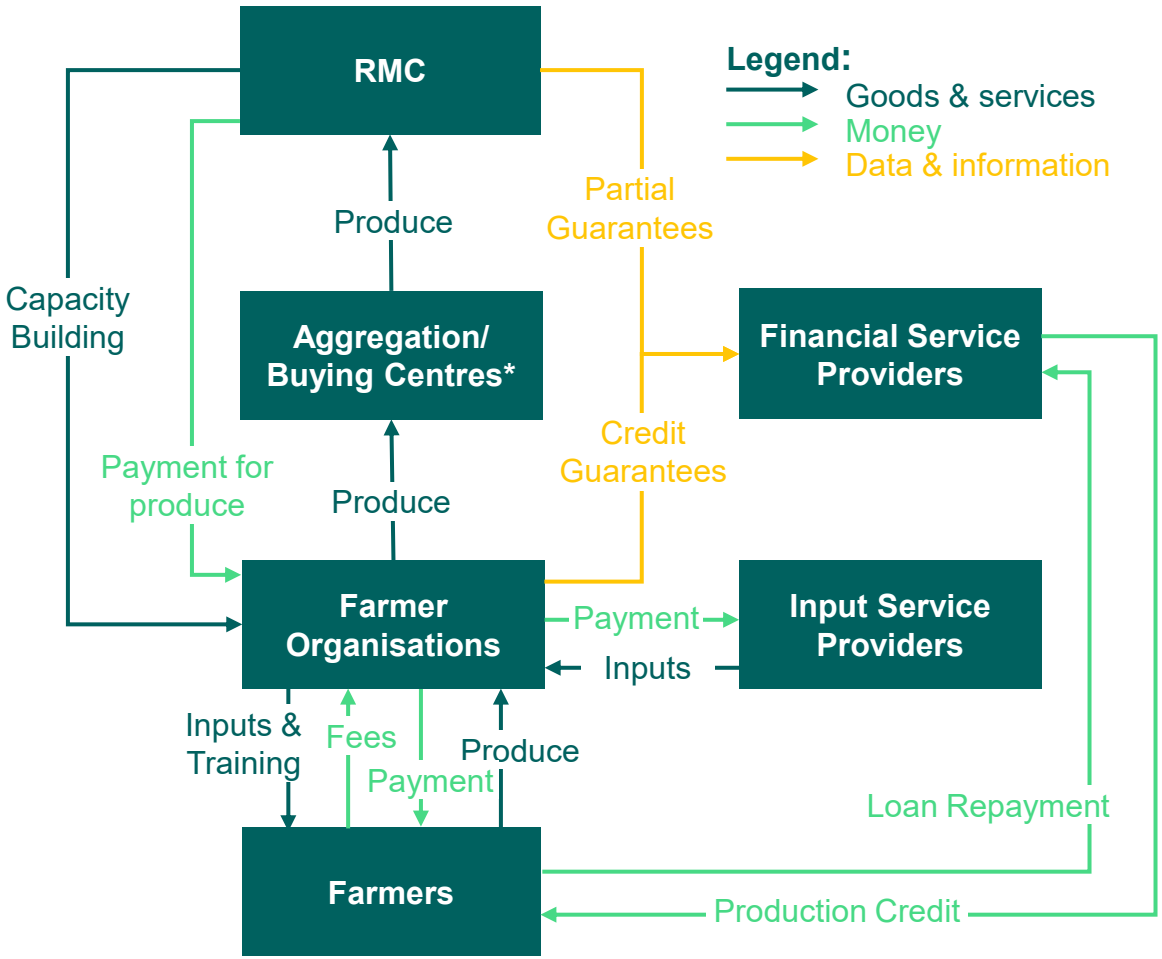


- The VBA model is a decentralised system that supports RMC in both delivering services and sourcing produce. Mainly leveraged for the purchase of paddy. VBAs have the following key functions;
  - *Act as last-mile aggregators and input distributors,*
  - *Support farmer training through the ToT model, extension services and mechanisation linkages,*
  - *Facilitate data collection, contracting and credit access, and*
  - *Operate the buying centres* – currently 5 buying centres are operational with plans to grow to 10.*
- There are 24 VBAs (10 women) in total. VBAs earn a commission from grain aggregation and input distribution. About 50% of the VBAs receive procurement advances that support their working capital needs. Key challenges of this model include;
  - *VBAs engage multiple players, which can lead to loyalty issues,*
  - *Observed delays in produce delivery and inconsistencies in quality,*
  - *Limited digital capacity, and*
  - *Weak governance and monitoring systems.*
- Enhancing VBAs' capacity through training and investment in digital capabilities, the adoption of advanced FMIS, and incentivization will be pivotal to sustainably scale the model

**Buying centres are usually open spaces/government and FO warehouses established to aggregate and purchase produce on a cash and carry basis, they need to be registered by the government and operated by an agent/FO representative. Sources: 1) Company Interviews and Documents (2026)*

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Sourcing Strategy – FOs | This model provides a strategy for RMC to effectively organise farmers, deliver services efficiently and unlock access to finance



- The FO model complements the VBA model, creating a dual strategy for RMC to achieve its sourcing targets. RMC has however, not worked with FOs in the last 2 years and intends to build the relationship going forward. FOs play the following key functions;
  - *Act as grain aggregation hubs,*
  - *They are the primary vehicle for contract farming,*
  - *Facilitate training and extension through farmer field days and management of demonstration plots,*
  - *Facilitate bulk input distribution, and*
  - *Facilitate access to finance by acting as guarantors in financing agreements between farmers, FSPs and RMC.*
- Key challenges of this sourcing strategy include;
  - *Limited FO reach compared to VBAs,*
  - *Weak structures, governance and internal management,*
  - *Inadequate working capital to aggregate produce from farmers,*
  - *Inadequate physical infrastructure and reliance on paper-based record-keeping systems, and*
  - *Inadequate capacity to enforce contractual terms creates a high risk of side-selling.*
- Formalising FOs, developing their capacity, and addressing governance issues is key for scaling this model

**FOs either operate their own aggregation centres (own warehouses) or link their farmers to a buying centre*
Sources: 1) Company Interviews and Documents (2026)

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Stakeholders | RMC works closely with multiple stakeholders within its business model to achieve shared objectives

Actor	Legal status	Function (within this model)	Revenue model (within this model)	Incentive to participate (Within this model)
Financial Service Providers (FSPs)	Financial Institution	Provide loans to SHFs and RMC for working capital	Interest income from loans	Wider customer base
Village Based Agents	Individuals	Last-mile service delivery and produce aggregation	Commission on volumes	Income generation
Farmer Organisations	Cooperatives	Last-mile service delivery, loan guarantees and produce aggregation	Membership fees and margins/commissions on produce	Access to markets and services for members, income generation
Business Development Service (BDS) Providers	Private companies	Strengthen internal controls, governance and HR for both the SME and FOs.	Fees for services	Increased revenues
Local Governments	Government	Provide access to infrastructure and support extension services	None	Agricultural and rural development
Service Providers	Private companies	Provide mechanisation and input services	Payment for services and inputs	Wider customer base
IDH	Non-Profit	Provide technical assistance	None	Value chain transformation

Sources: 1) Growing Together Project Proposal (2025)

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Services | Services are mainly provided through VBAs and FOs with RMC playing a facilitation role and hence no direct revenue generated from services

Category	Service	Impact	Implementation	Revenue model	Status
Training & information	**GAP, PHH, CSA training**	Improve productivity and quality of produce and reduces PHL	Conducted through VBAs & FOs (ToTs) supervised by agronomists. RMC supports set up of demo farms	Indirect through more volumes	Ongoing
	Financial literacy training	Improve access to credit, enabling farmers to invest in inputs and technologies	RMC facilitates linkages with FSPs who provide training. VBAs/FOs leaders are trained to support farmers	Indirect through more volumes	Ongoing
	FO management & governance	Professionalise FOs to improve their ability to manage farmers & aggregate produce	Provided through BDS providers, supported by RMC staff	Indirect through more volumes	Ongoing (part of project)
Inputs	**Fertilizer provision**	Increase crop productivity and quality	RMC facilitates the provision of subsidised fertilisers, which are distributed by VBAs	Repayment in-kind (produce)	Halted*
	Seeds	Increase crop productivity and quality	Provided by seed companies for free/subsidised. Mainly supplied to VBAs and FOs for the demo farms	Indirect through more volumes	Ad hoc
Financial services	**Short-term loans**	Enable farmers to invest in inputs and technologies improving productivity	RMC facilitates access to input loans, by providing market contracts leveraged as collateral through FOs	Indirect through more volumes	Ongoing
Equipment	**Mechanisation (combines, planters)**	Reduce PHL, improve grain quality & planting efficiency	RMC links farmers to service providers	Indirect through more volumes	Ongoing

**Halted due to challenges with implementation of the fertiliser subsidy program*

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Farmer relationships | Farmer engagement is mainly through VBAs and FOs with contracting with FOs largely conducted for purposes of facilitating loan access for farmers

Outreach

- RMC has limited direct engagement with farmers. Outreach is primarily conducted through VBAs and FOs
- The company has adopted a trainer-of-trainers model in which an in-house agronomist and field officer support the VBAs and FOs, who then cascade training to farmers

Selection

- Selection and recruitment is mainly done through the VBAs and FOs. New farmers are onboarded by engaging new FOs, increasing the membership of current FOs, and enlisting farmers who have attended farmer field schools. RMC does not have a predetermined criterion for farmer selection

Contracting

- Contracting is ad hoc and is primarily conducted between RMC and the FOs to facilitate access to credit for individual FO members. RMC provides the market guarantee required by FSPs
- The initial pilot of contract sunflower farming failed due to inconsistent seed quality, resulting in crop losses

Segmentation

- While farmer-level data is disaggregated by location, gender and crop cultivated, RMC does not have an elaborate farmer segmentation strategy
- RMC can leverage existing data to refine its segmentation, improve service targeting, enhance sourcing reliability, and allocate resources efficiently

Graduation

- RMC does not graduate its farmers. Graduation can be adopted by the company to improve farmer loyalty (currently around 30%), manage risks, and incentivise farmers based on performance. Graduation also facilitates the tailoring of services to meet the specific needs of farmers

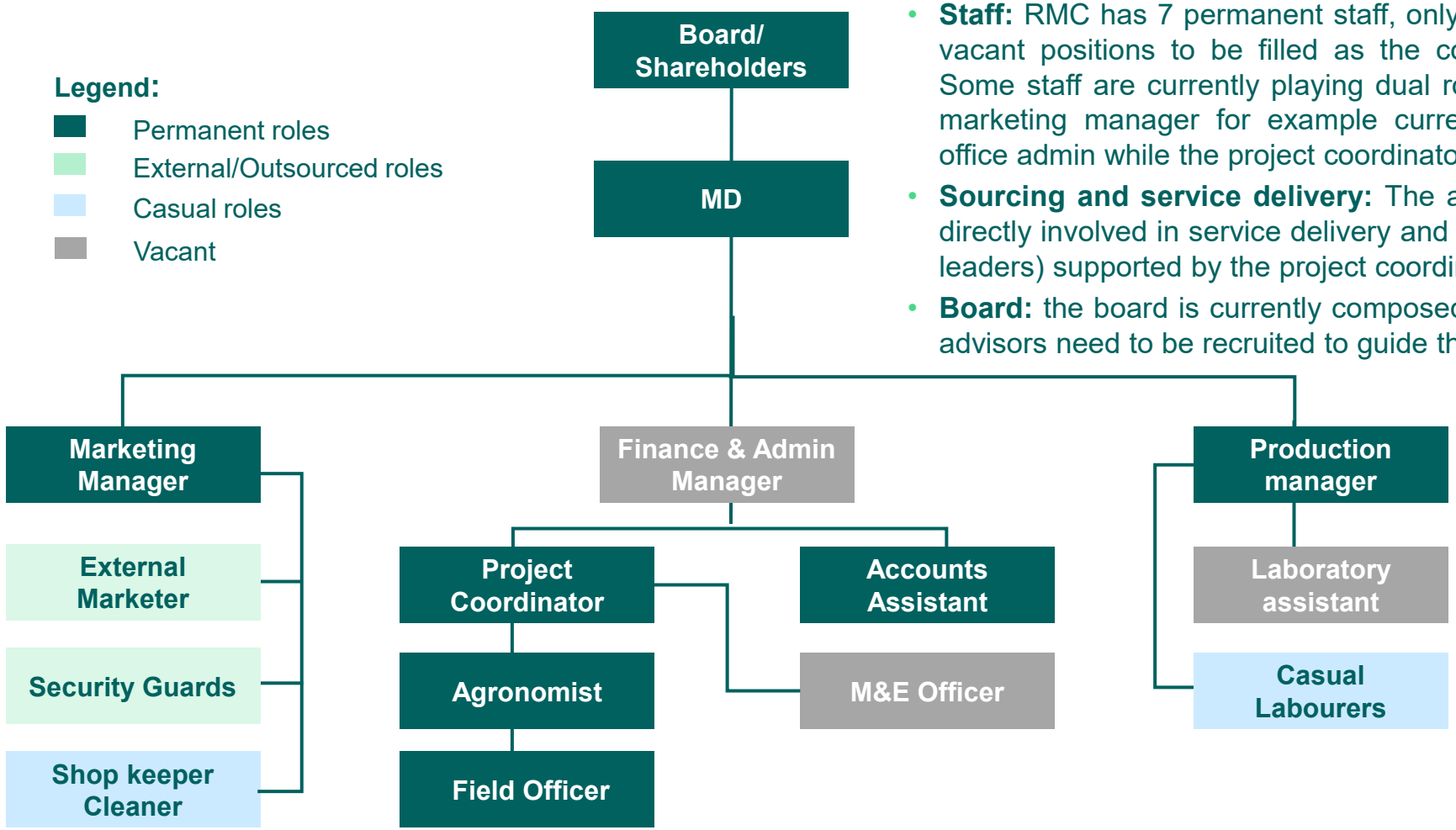
Data collection

- Farm-level data is primarily collected by the FOs and VBAs and then aggregated by RMC in an Excel file. The data only includes basic demographic characteristics such as age, gender, location, crop cultivated and phone number. Critical production data points are missing

Sources: 1) Company documents and Interviews (2026)

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Organisational structure | RMC has a lean organisational setup with MD-led oversight; and teams in key functions. Some staff play dual roles given vacant positions

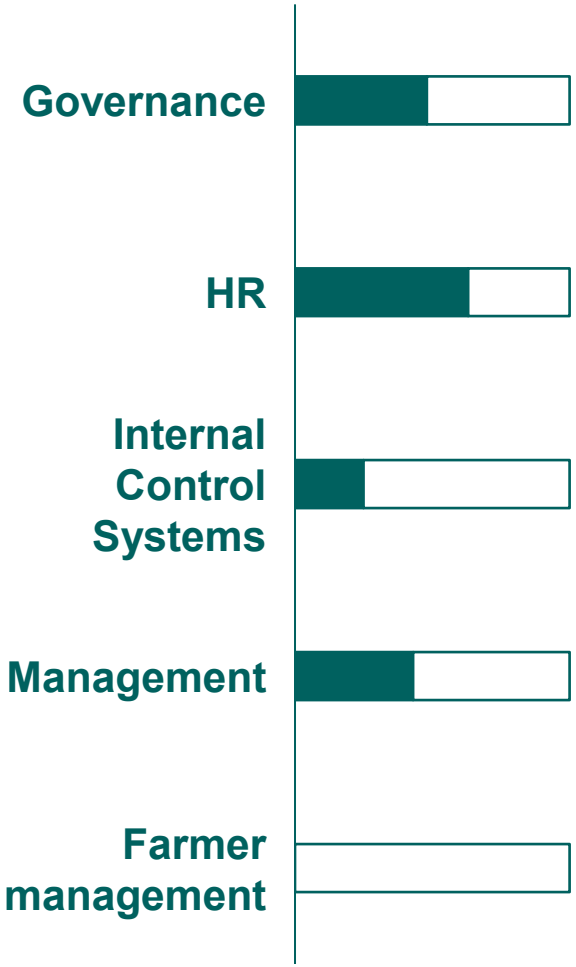


- **Staff:** RMC has 7 permanent staff, only 2 who are women* with some vacant positions to be filled as the company's operations expands. Some staff are currently playing dual roles to fill these positions. The marketing manager for example currently oversees production and office admin while the project coordinator oversees finance
- **Sourcing and service delivery:** The agronomist and field officer are directly involved in service delivery and sourcing (overseeing VBAs/FO leaders) supported by the project coordinator and marketing manager
- **Board:** the board is currently composed of 2 shareholders. A board of advisors need to be recruited to guide the company's growth ambitions

Sources: 1) Company Interviews and Documents (2026)
*Notes: * The marketing manager and accounts assistant positions are occupied by women. IT support is mainly outsourced*

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Organisational capacity | RMC demonstrates solid people policies but needs to strengthen its strategy, financial systems, business processes and farmer management to support growth



Strengths

- RMC has a documented vision and mission statement and a foundational strategic plan (2024-2029)
- Key HR policies are documented, and staff retention is high with an average of 5+ years tenure
- Adequate installed processing infrastructure to support growth and scaling ambitions

Areas of improvement

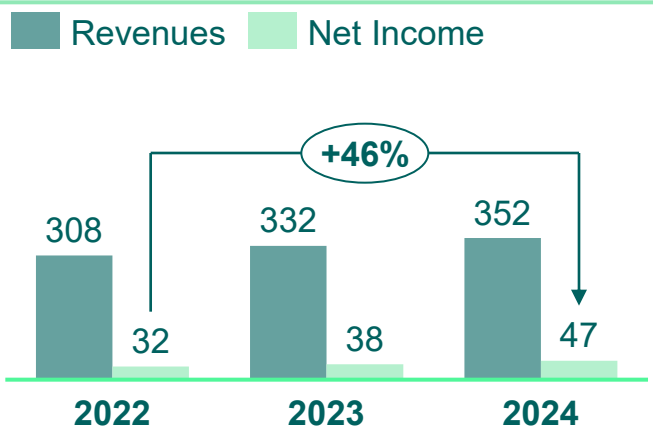
- Strategic plan is only partially adequate and needs updating to reflect the new ambitions; organogram needs to be updated to reflect new roles. RMC lacks a business continuity plan and a formally appointed deputy MD
- Weak governance and oversight structures, with only two shareholder directors and no independent board. Shareholder meetings are also held on ad hoc basis
- No business plan or annual master budget to guide decisions. Currently using excel for accounting purposes with plans to implement a more robust system
- Weak M&E and data systems, with data being primarily stored in excel files
- HR capacity planning and performance management are not institutionalised
- SOPs and quality management procedures are not fully documented
- Fragmented ICT infrastructure characterised by un-networked and inadequate computers, IT support is mainly outsourced
- Unstructured farmer management driven primarily by VBAs and FOs without formal guidelines for farmer recruitment and feedback collection
- Compliance gaps in key regulatory permits exist for sunflower and maize processing
- Limited logistic and warehousing infrastructure

Sources: 1) Company Interviews and documents (2026)

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Financial Performance | While RMC is profitable, its liquidity is weak, and DSCR is low. Its capacity for long-term debt is limited. Equity or working capital restructuring is needed

Revenue and Net Income ('000 USD)



Other Ratios

	2022	2023	2024
Current Ratio	0.5	0.6	0.7
Working Capital turnover ratio	-2.6	-2.7	-4.5
Cash conversion cycle	88	136	198

Return Ratios

	2022	2023	2024
Gross Profit Margin	37%	40%	37%
Net Profit Margin	10%	11%	13%
Return on Equity	9%	7%	8%

Leverage Ratios

	2022	2023	2024
Debt Service coverage ratio	0.4	0.4	0.4
Debt to Equity ratio	0.6	0.4	0.3
Interest coverage ratio	24.0	15.2	0

- The company's earnings are stable. Net income increased by ~46% between 2022 and 2024. NP margins are generally increasing, whereas GP margins are stable. The ROE is adequate
- The company's leverage is moderate and has been improving, primarily due to growth in equity, while debt has remained constant over the period
- The debt service coverage ratio (DSCR) is generally low. RMC depends on rolling over its short-term debt obligations rather than internal operating cash to meet annual debt service
- While liquidity is improving, it is generally low. The company has negative working capital, indicating that its operations are primarily financed by accounts payable and short-term debt
- The cash conversion cycle deteriorated over the period, reaching 198 days in 2024, driven by high days inventory outstanding (DIO; 235 days) and low days purchases outstanding (DPO, 37 days)

Sources: 1) Company financial statements (2022-2024)

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Investment history and needs | Past investment has mainly been through owners' equity, retained earnings, and bank loans issued at 10%; major need for financing is working capital

	Year	Purpose	Type of finance	Amount (USD)	Financier	Tenure
Investment History	2024/2025	Working capital	**Debt**	**~261k**	TADB & NMB	One year
	2025/2026	Working Capital	**Debt**	**~300k**	TADB & NMB	One year
		Warehouse, machinery, equipment and motor vehicles	**Equity + Grants**	**~270k**	Shareholders + IDH	Medium term

	Year	Purpose	Preferred Instrument	Amount (USD)	Tenure
Financing Needs	2026	Working capital	**Debt + Equity**	**~318k**	Short term
		Machinery & Equipment	**Equity**	**~60k**	Medium term
	2027	Working Capital	**Debt + Equity**	**~375k**	Medium term
		Motor vehicle and Equipment	**Equity**	**~65k**	Medium term
	2028	Working Capital	**Debt +Equity**	**~431k**	Medium term

Sources: 1) Growing Together Project Proposal (2025); 2) RMC financial statements (2022 - 2024); 3) Company Interviews (2026)

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Enabling environment (1 of 2) | Slow tech adoption and high mechanization costs threaten RMC's efficiency and digital rollout

Category	Situation	Impact on business model
Technology	• Low adoption of advanced Agri-tech among smallholders; reliance on manual labour persists[1] • Smallholder farmers struggle to access economically viable technology, adequate storage facilities, markets and credit[1] • Mechanization demand rising, but gaps in finance remain barriers[2]	• RMC's plan to expand mechanization and install modern milling machines[3] depends heavily on financing readiness • Delayed tech adoption slows efficiency gains and digital smallholder farmer management system rollout[4]
Natural environment	• Tanzania faces recurrent droughts and floods; Rufiji floods damaged 34,000 ha of crops in 2024[5] • Climate change increasing variability; adaptation costs projected at 2–3% of GDP annually[6] • Pest outbreaks (fall armyworm) and soil degradation reduce yields[7]	• RMC's reliance on rain-fed maize and paddy raises raw material risk; Climate Smart Agricultural (CSA) training critical[3] • Contract farming and GAP programs need to become essential to stabilize supply[4]
Infrastructure	• Rural roads are improving under AfDB Transport Sector Support Program, but gaps remain in feeder roads[8] • Storage and cold-chain facilities inadequate; post-harvest losses remain high[1] • Power reliability improving with Julius Nyerere Hydropower Plant doubling capacity in 2024[5]	• RMC's expansion plan for silos (5,000 MT maize, 7,000 MT paddy) and weighbridge is vital to mitigate storage/logistics bottlenecks[3] • Generator investment (TZS 60M) is needed to counter electricity disruptions[3]
Labor & workforce	• Agriculture employs 65–70% of Tanzania's workforce; mostly informal and low-skilled[1] • Youth unemployment rising; mechanization skills gap persists[2] • Women provide over 50% of farm labour but face limited access to resources[9]	• RMC must train machine operators and extension staff for modern milling and Climate Smart Agricultural (CSA) practices[3] • Gender inclusion targets (40% women suppliers, 70% women at aggregation centres) require capacity building[4]

Sources: 1) International Trade Administration (2022) 2) WorldBank (2025) 3) RMC Strategy Document 4) RMC Proposal 5) NASA (2024) 6) World Meteorological Organization (2023) 7) USDA (2023) 8) AFDB (2023) 9) United Nations

Opportunity | Neutral | Risk

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Enabling environment (2 of 2) | Climate variability and financing gaps risk RMC's raw material supply and expansion targets.

Category	Situation	Impact on business model
Inputs & Financing	• Only 14% of private credit goes to agriculture; SHFs struggle to access affordable loans[1] • The Ministry of Agriculture is building irrigation schemes for rice production and encourages efficient use of fertilizers via its 10-year National Rice Development Strategy Phase II[2]	• RMC's growth hinges on securing TZS 2B loan for expansion and linking 2,000 SHFs to input credit[3] • Delays in financing risk underutilization of installed capacity (<15% currently) and missed market opportunities[4]
Trading system	• Tanzania, an EAC Customs Union member, offers targeted duty exemptions and tax incentives to enhance agricultural productivity and regional agri-trade[5]. • Unpredictable trading environment sometimes sees the government impose export restrictions on food crops.	• Reliance on formal contracts with the World Food Program (WFP) and schools requires compliance with trade regulations[4] • RMC's regional market expansion (DRC, Malawi, Sudan) may be disrupted by export bans[3]
Pricing & competition	• Increased competition from cottage industries in both maize and sunflower processing. • High fertiliser costs affect production costs and competitiveness[2]	• RMC has pivoted its working capital utilisation to large focus on rice processing. • RMC's pricing strategy must balance cost recovery and affordability[3]
Institutional stability	• Tanzania maintains macroeconomic stability; GDP growth projected at 5.2% in 2023[7] • New Tanzania Investment Act (2022) improves investor protections and arbitration rights.[7]	• Positive investment climate supports RMC's TZS 2B loan request[3] • Delays in permits or policy shifts could slow expansion plans[4]
Land tenure	• 1995 Land Policy grants rights but implementation uneven; disputes common in high-density areas[8] • Women face systemic barriers to land ownership despite reforms[9]	• RMC's contract farming model mitigates tenure insecurity by guaranteeing markets[3] • Gender inclusion targets (40% women suppliers) require addressing land access gaps[4]
Social norms	• Women provide 50–60% of farm labor but lack equal access to credit and inputs[10]	• Failure to address norms could limit adoption of CSA and GAP among women farmers[3]

Sources; 1) TanzaniaInvest (2025) 2) International Trade Association (2022) 3) RMC Strategic Plan 4) RMC Proposal 5) PWC (2025) 6) USDA 7) US Department of State (2023) 8) African Development Bank 9) United Nations 10) World Bank Group

Opportunity | Neutral | Risk

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3

Business Case

For business sensitivity reasons we have excluded the business case chapter from the public report

4

Impact Case

Farmer segments | Four distinct segments were adopted for this analysis based on the crops and system adopted; maize only, maize & sunflower, paddy rainfed and paddy irrigated

Characteristics	Maize	Sunflower	Paddy - Irrigated	Paddy - Rainfed
Current yield	1.5 MT/acre	0.4 MT/acre	1.5 MT/acre	1.5 MT/acre
Maximum yield	2.8 MT/acre	1.2 MT/acre	4.5 MT/acre	3.0 MT/acre
Farm size	3 acres	1.5 acres	2 acres	2 acres
Farm gate price	0.26 USD/kg	0.56 USD/kg	0.44 USD/kg	0.44 USD/kg
Scale	Only maize - 32%, maize & sunflower 40% of farmers		28% of farmers	
Key Challenges				
Water Constraints in the Irrigation Schemes	N/A	N/A	🔴	N/A
High Post-Harvest Losses	🟡	🟡	🟢	🟡
Limited Access to inputs	🟡	🟡	🟡	🟡
Weak certified seed systems	🟢	🔴	🟡	🔴
Limited Access to finance	🔴	🔴	🟡	🔴
Insufficient mechanisation services	🟡	🟡	🟡	🔴
Climate variability risks	🔴	🔴	🟡	🔴

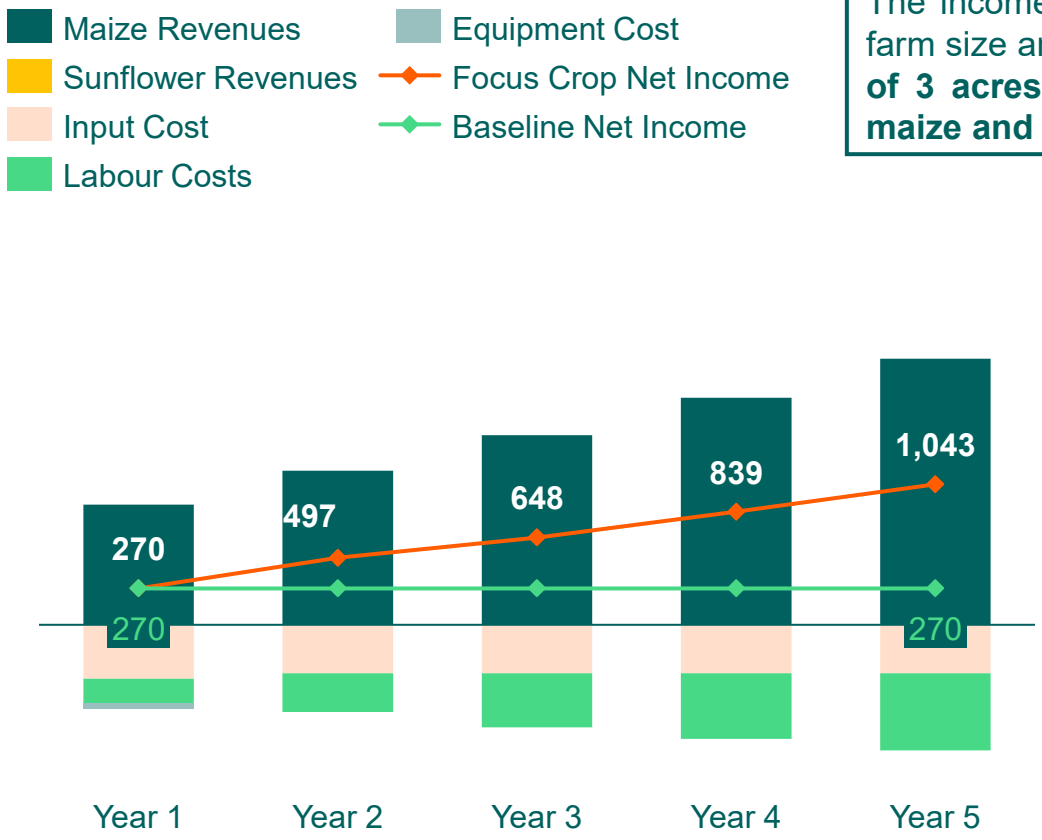
Legend: 🟢 Minor Challenge 🟡 Moderate Challenge 🔴 Major Challenge

Sources: 1) Farmer Survey Data (2025); 2) Field Visit Interviews (2026)
Notes: 1) Baseline farmers are assumed to have the same performance and challenges as RMC farmers at the inception of the project; 2)

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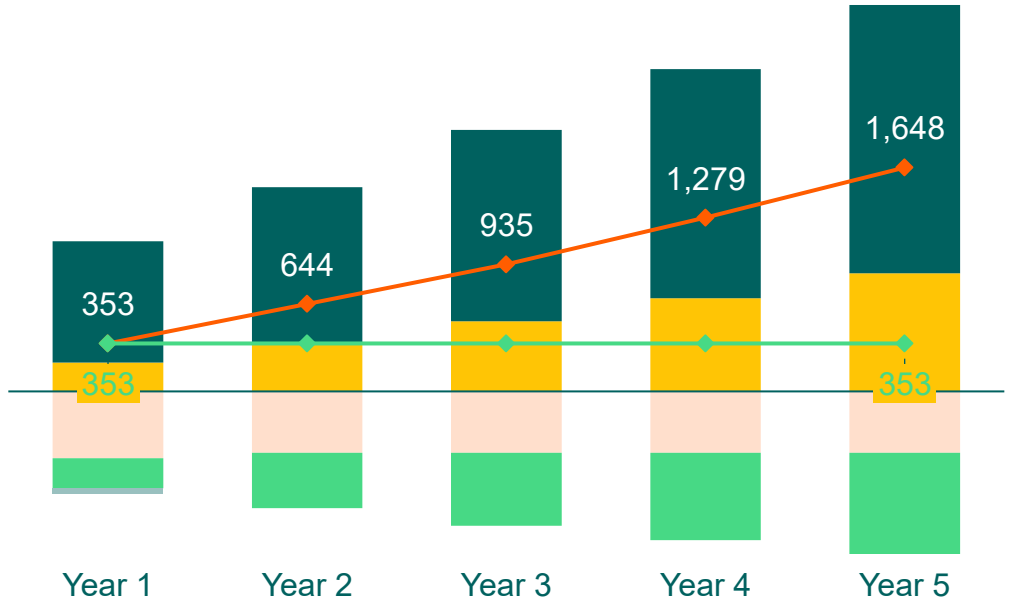
Farm P&L (1/2) | From outset, farmers growing both maize and sunflower earn 31% more than maize-only farmers, and this income advantage is projected to increase to 58% by Year 5

Maize Only Farmer Profit and Loss for a five-year period (USD/farm/year)



Maize & Sunflower Farmer Profit and Loss for a five-year period (USD/farm/year)

The income gap between the two farmer groups is largely explained by differences in farm size and the number of crops cultivated. **Maize-only farmers cultivate an average of 3 acres, while maize–sunflower farmers manage about 4.5 acres (3 acres of maize and 1.5 acres of sunflower)**



Notes: Baseline farmers are assumed to have the same performance as RMC farmers in Year 1

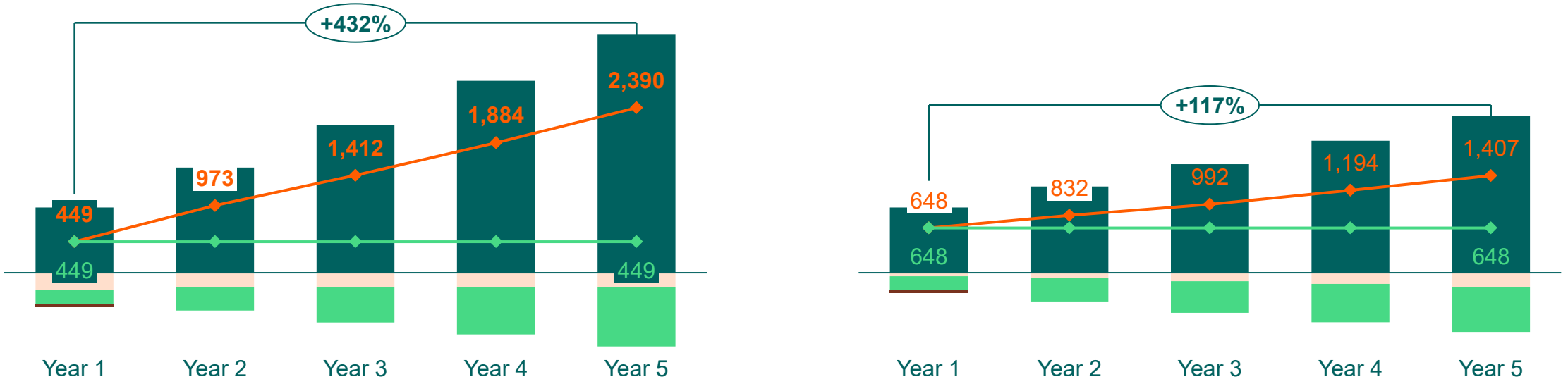
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Farm P&L (2/2) | Over the course of the project, farm income for irrigated paddy farmers is anticipated to rise by 432%, compared to a 117% increase for rainfed farmers

Irrigated Paddy Farmer Profit and Loss for a five-year period (USD/farm/year)

Rainfed Paddy Farmer Profit and Loss for a five-year period (USD/farm/year)

Productivity among **irrigated rice farmers is projected to triple, while rainfed farmers are expected to double** their output. Although adopting GAP will **raise production costs by 2.1 times for irrigated farmers and 2.9 times for rainfed farmers**, the resulting productivity gains more than offset these cost increases. The higher investment and low productivity gains envisaged for rainfed farmers compared to irrigated farmers can potentially discourage the adoption of GAP by the former.

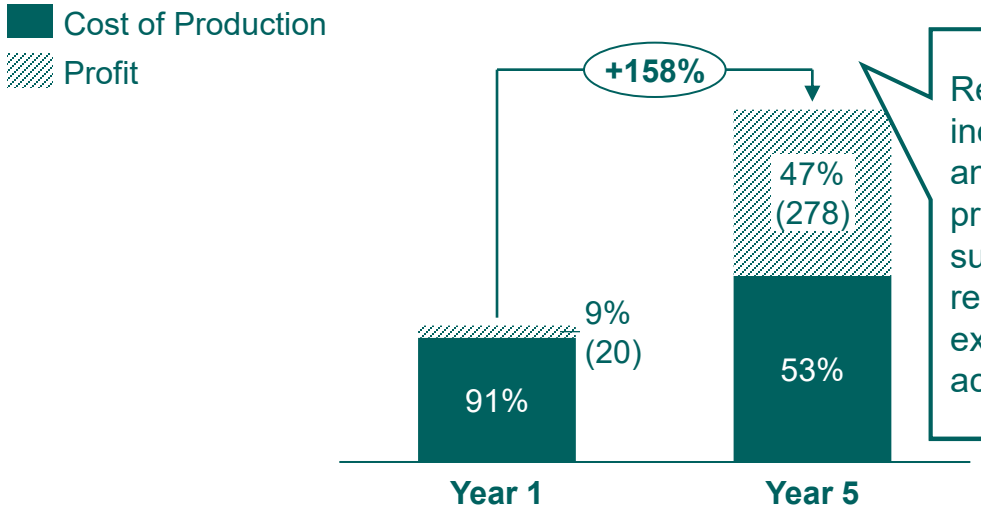


Notes: 1) Baseline farmers are assumed to have the same performance as RMC farmers in Year 1
2) The farm size for both farmer segments is 2 acres
3) At the outset, net incomes are lower for irrigated farmers compared to rainfed farmers due to a higher cost of production for the former while posting the same level of productivity.

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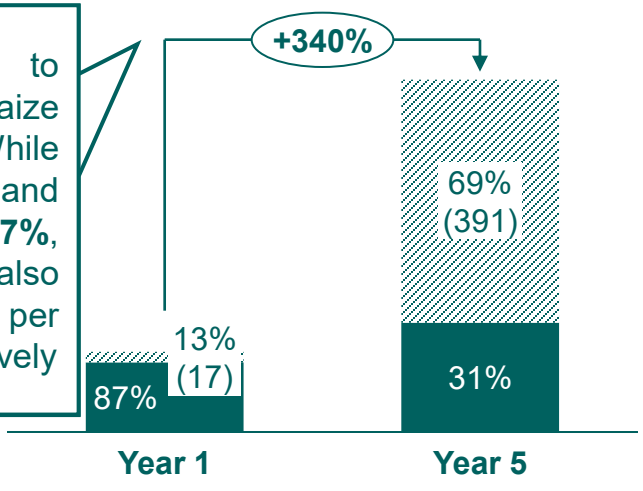
Profitability per acre (1/2) | Profitability for both maize and sunflower is expected to increase, driven by higher productivity

Maize Cost of production and profit (USD/acre)



Revenues per acre are projected to increase by **158%** and **340%** for maize and sunflower, respectively. While production costs per acre for maize and sunflower increase by **50%** and **57%**, respectively, Net profit margins are also expected to increase to **47%** and **69%** per acre for maize and sunflower, respectively

Sunflower Cost of production and profit (USD/acre)



Marketable surplus (Kg/acre)	**875**	**2,260**
Cost of Production (USD/MT)	**183**	**123**
Profit (USD/MT)	**79**	**138**

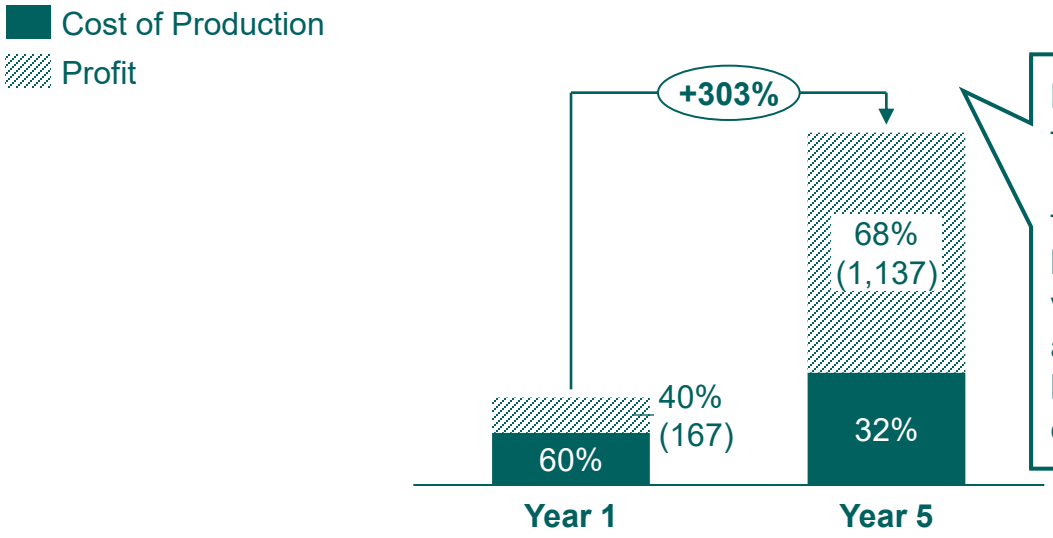
Marketable surplus (Kg/acre)	**230**	**1,010**
Cost of Production (USD/MT)	**443**	**171**
Profit (USD/MT)	**118**	**391**

Notes: Baseline farmers are assumed to have the same performance as RMC farmers in Year 1

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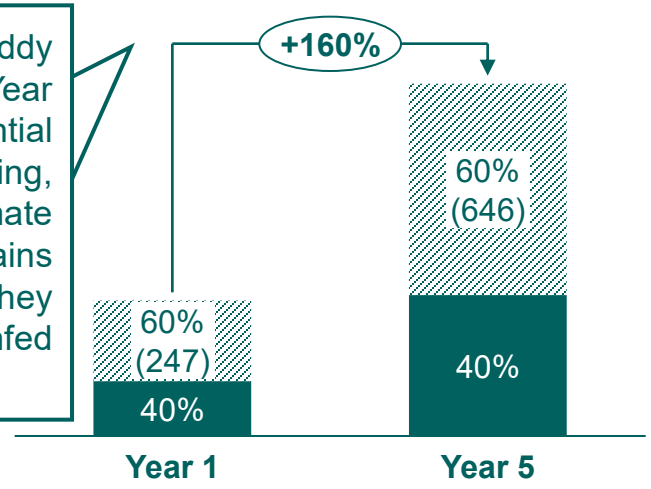
Profitability per acre | Rainfed paddy farming is currently more profitable, but irrigated paddy could double profits with GAP and reliable water

Irrigated Rice Cost of production and profit (USD/acre)



Marketable surplus (Kg/acre)	**940**	**3,790**
Cost of Production (USD/MT)	**231**	**136**
Profit (USD/MT)	**210**	**305**

Rainfed Rice Cost of production and profit (USD/acre)



Marketable surplus (Kg/acre)	**940**	**2,440**
Cost of Production (USD/MT)	**138**	**167**
Profit (USD/MT)	**303**	**274**

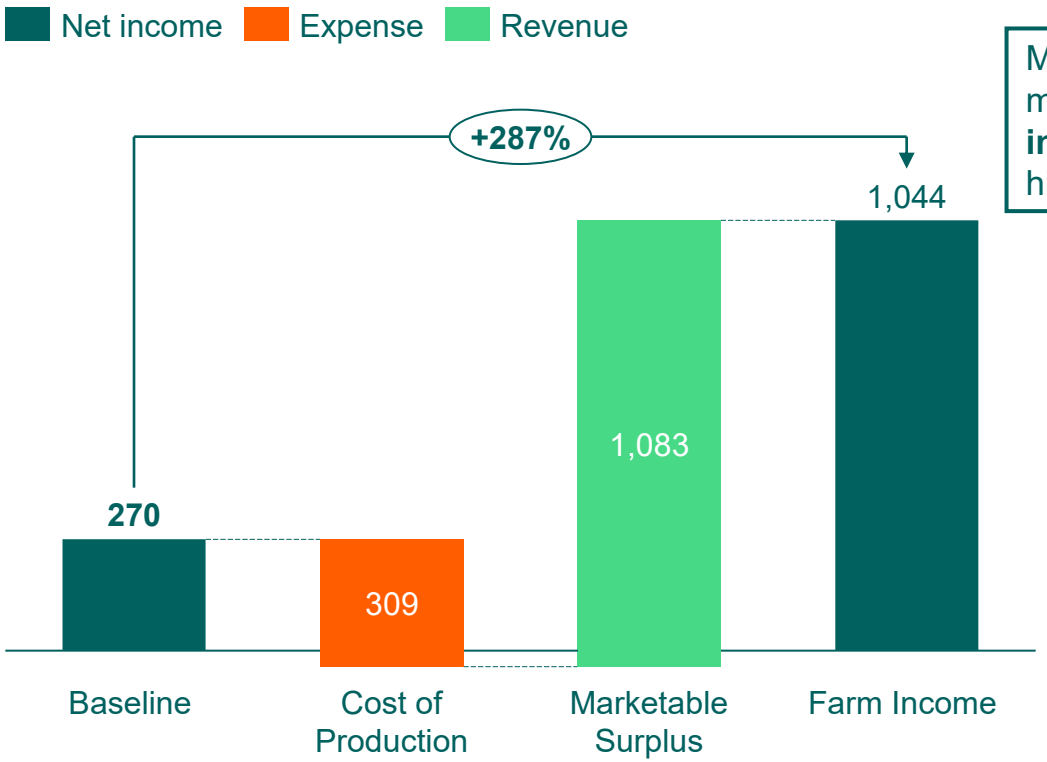
Lower production costs in rainfed paddy farming drive higher profit margins in Year 1 than in irrigated farming. The potential for yield improvement in rainfed farming, however, is constrained by climate variability. While water availability remains a challenge for scheme farmers, they have greater control than their rainfed counterparts

Notes: Baseline farmers are assumed to have the same performance as RMC farmers in Year 1

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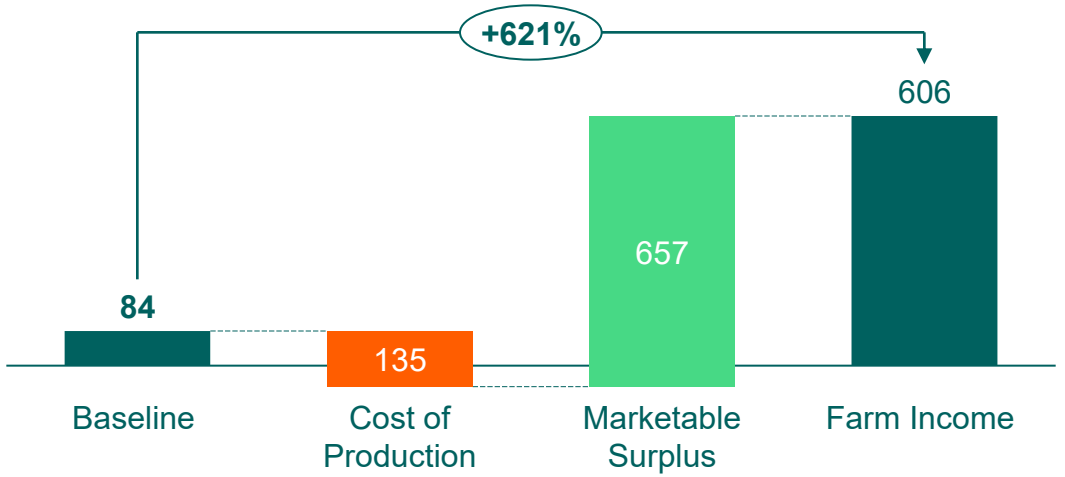
Income build-up | As a result of interventions, maize farmers have the potential to increase their earnings by 287%, with sunflower farmers projected to grow by 621%

Drivers of income improvement for Maize Farmers (USD/farm)



Drivers of income improvement for Sunflower Farmers (USD/farm)

Maize and sunflower farmers will see **marketable surplus grow 2.2x and 4x,** mainly due to lower post-harvest losses and improved productivity. The **cost increases of USD 309 and USD 135** are offset by the income gains from higher productivity

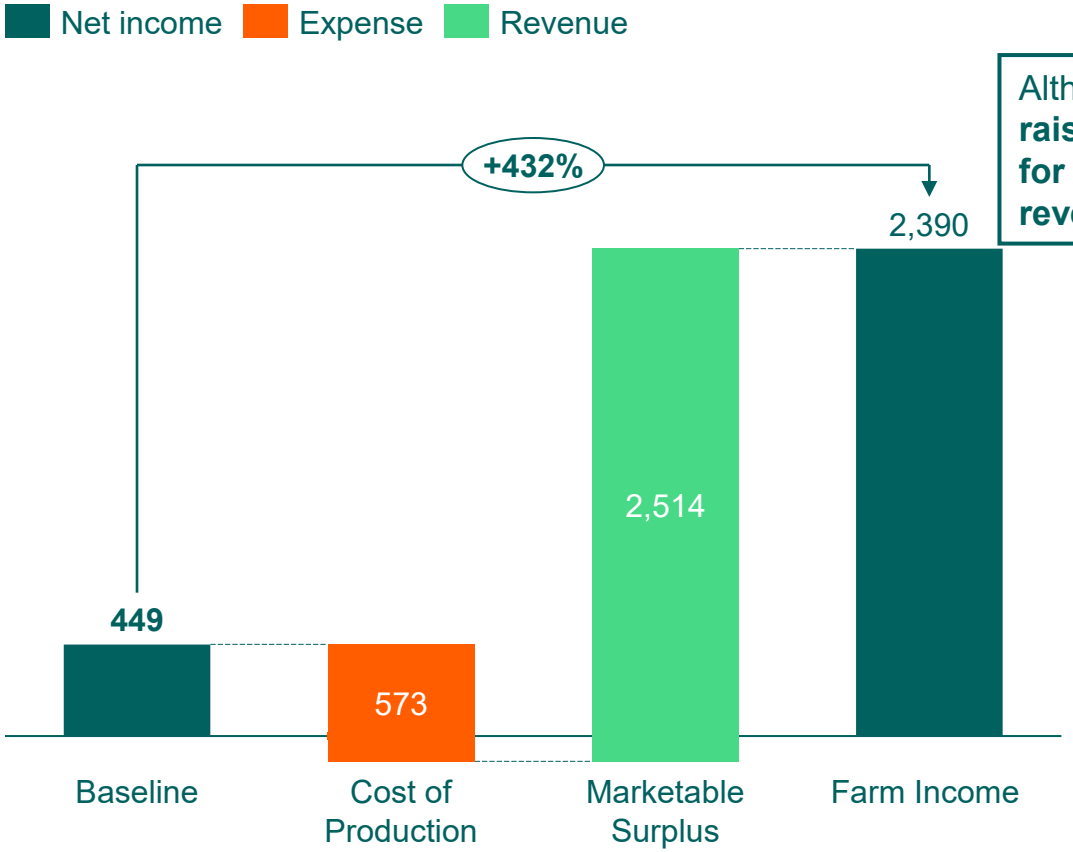


Notes: 1) Marketable surplus refers to the quantity of produce that is available for sale after accounting for post-harvest loss and household consumption.
2) PHL is estimated to decrease from the current 15% to 5% for maize and 25% to 10% for sunflower by the end of the project period.
3) Productivity is projected to increase from 1.5 MT/acre to 2.8MT/acre for maize farmers, with sunflower farmers seeing their productivity increase from 0.4 MT/acre to 1.2 MT/acre
4) Farmers typically cultivate maize as the main crop or both maize and sunflower. Farmers cultivating only maize have a farm size of 3 acres, whereas those cultivating both crops have a farm size of 4.5 acres.

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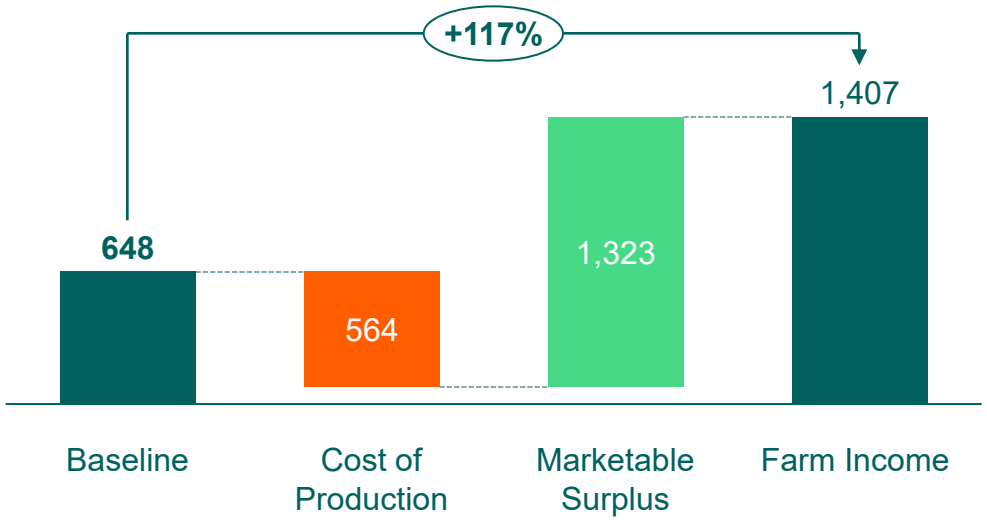
Income build-up | The primary driver of income improvement is the increase of marketable surplus; irrigated paddy farmers see a 3.7x gain, while rainfed farmers see a 2.4x increase

Drivers of income improvement, Irrigated Rice (USD/farm)



Drivers of income improvement, Rainfed Rice (USD/farm)

Although promotion of GAP and better post-harvest handling practices will **raise production costs by USD 573 for irrigated farmers and USD 564 for rainfed farmers**, these investments are expected **to yield substantial revenue gains of USD 2,514 and USD 1,323**, respectively



Notes: 1) Marketable surplus refers to the quantity of paddy that is available for sale after accounting for post-harvest loss and household consumption.
2) PHL is estimated to decrease from the current 20% to 10% by the end of the project period.
3) Productivity is projected to increase from 1.5 MT/acre to 4.5 MT/acre for irrigated farmers, with Rainfed farmers seeing their productivity increase from 1.5 MT/acre to 3.0 MT/acre

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Sensitivity analysis | Maize and sunflower prices are highly volatile, driven by seasonal supply swings, low productivity, and strong competition, but farmer incomes remain positive

Maize Production Farm Net Income Sensitivity to Farmgate Price and Yield/cre (Year 5)

Farm gate Price (USD/kg) →

Yield (Kg/acre) ↓

Yield (Kg/acre)	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.32
2,063	58	167	277	386	496	606	715	825
2,309	184	308	431	555	678	802	926	1049
2,554	310	448	586	723	861	998	1136	1274
2,800	437	588	740	892	1043	1195	1346	1498
2,940	509	669	828	988	1147	1307	1467	1626
3,081	581	749	917	1084	1252	1419	1587	1755
3,221	654	829	1005	1180	1356	1532	1707	1883
3,361	726	909	1093	1277	1460	1644	1827	2011

Sunflower Production Farm Net Income Sensitivity to Farmgate Price and Yield/Acre (Year 5)

Farm gate Price (USD/kg) →

Yield (Kg/acre) ↓

Yield (Kg/acre)	0.36	0.41	0.46	0.51	0.56	0.57	0.58	0.59
607	6	44	81	119	156	164	171	179
756	79	126	174	221	269	278	288	297
904	151	208	266	323	381	392	404	415
1,052	223	291	358	426	493	507	520	534
1,200	295	373	450	528	605	621	636	652
1,274	332	414	497	579	662	678	695	711
1,348	368	455	543	630	718	735	753	770
1,422	404	496	589	681	774	792	811	829

Current income

Seasonal price volatility is significant; maize prices shift by up to 40%, while sunflower farm-gate prices can vary by as much as 75% within a single season

Notes: 1) Net income values in the tables are presented in USD/farm with the farm size being 3 acres for maize production and 1.5 acres for sunflower production.
Sources: 1) Field Interviews (2026)

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Sensitivity analysis | Similarly, paddy prices are highly volatile due to supply side constraints, weak coordination, and rapidly expanding demand but farmer incomes remain positive

Irrigated Paddy Production Farm Net Income Sensitivity to Farmgate Price and Yield/Hectare (Year 5)

Farm gate Price (USD/kg) →

Yield (Kg/acre) ↓

Yield (Kg/acre)	0.28	0.32	0.36	0.40	0.44	0.45	0.46	0.47
2,944	348	550	751	953	1155	1205	1255	1306
3,333	545	775	1004	1234	1463	1521	1578	1636
3,722	742	999	1257	1515	1772	1837	1901	1965
4,111	938	1224	1510	1795	2081	2152	2224	2295
4,500	1135	1449	1762	2076	2390	2468	2546	2625
4,722	1248	1577	1907	2236	2566	2648	2731	2813
4,944	1360	1706	2051	2397	2742	2829	2915	3002
5,167	1472	1834	2196	2557	2919	3009	3100	3190

Rainfed Production Farm Net Income Sensitivity to Farmgate Price and Yield/Hectare (Year 5)

Farm gate Price (USD/kg) →

Yield (Kg/acre) ↓

Yield (Kg/acre)	0.28	0.32	0.36	0.40	0.44	0.45	0.46	0.47
2,583	374	550	725	901	1077	1120	1164	1208
2,722	444	630	816	1001	1187	1233	1280	1326
2,861	515	710	906	1101	1297	1346	1395	1444
3,000	585	790	996	1202	1407	1459	1510	1561
3,139	655	871	1086	1302	1518	1571	1625	1679
3,278	725	951	1177	1402	1628	1684	1741	1797
3,417	796	1031	1267	1502	1738	1797	1856	1915
3,556	866	1112	1357	1603	1848	1910	1971	2033

Current income

Paddy prices can swing by up to 60% in a season. Water availability in the irrigation schemes plays a critical role in determining aggregate supply. A weak relationship between RMC and farmers increases the likelihood of side selling.

Notes: 1) Net income values in the tables are presented in USD/farm with the farm size being 2 acres
2) Supply-side constraints include low productivity and an inconsistent water supply in the irrigation schemes and inadequate rainfall for rainfed farmers.
Sources: 1) Field Interviews (2026)

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IDH Annual Report (2024)



Farmfit Insights Hub

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Thanks

IDH would like to express its sincere thanks to Ruaha Milling Company for their openness and willingness to partner through this study. By providing insight into their model and critical feedback on our approach, Ruaha Milling Company is helping to pave the way for service delivery that is beneficial and sustainable for farmers and providers

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5

Annex

5.1

Underlying data & information

Farmer assumptions (1/2)

Maize

Inputs	TZS	Farm	TZS/farm	Unit costs YR 1	Unit costs YR 2 to YR 5
Seeds	TZS	Acre	TZS/acre	79,250	80,000
Nursery inputs	TZS	Acre	TZS/acre		
Fertilizer	TZS	Acre	TZS/acre	215,300	220,000
Agrochemicals	TZS	Acre	TZS/acre	37,660	

Hired labor/service fees	TZS	Farm	TZS/farm	Unit costs YR 1	Unit costs YR 2 to YR 5
Labour	TZS	Acre	TZS/acre	103,615	
Other Costs	TZS	Acre	TZS/acre	49,760	
Land Rent	TZS	Acre	TZS/acre		70,000
Land Preparation	TZS	Acre	TZS/acre		85,000
Planting	TZS	Acre	TZS/acre		30,000
Weeding	TZS	Acre	TZS/acre		65,000
Fertiliser Application	TZS	Acre	TZS/acre		60,000
Harvesting	TZS	Acre	TZS/acre		50,000
Threshing	TZS	Acre	TZS/acre		50,000
Bagging	TZS	Acre	TZS/acre		25,000
Transportation	TZS	Acre	TZS/acre		40,000

Rice

Inputs	TZS	Farm	TZS/farm	Unit costs YR 1	Unit costs YR 2 to YR 5
Seeds	TZS	Acre	TZS/acre	37,780	45,000
Nursery inputs	TZS	Acre	TZS/acre		10,000
Fertilizer	TZS	Acre	TZS/acre	228,380	210,000
Agrochemicals	TZS	Acre	TZS/acre	45,000	

Hired labor/service fees	TZS	Farm	TZS/farm	Unit costs YR 1	Unit costs YR 2 to YR 5
Labour	TZS	Acre	TZS/acre	214,300	
Other Costs	TZS	Acre	TZS/acre	43,500	
Land Rent	TZS	Acre			250,000
Land Preparation	TZS	Acre			262,000
Planting	TZS	Acre			100,000
Weeding	TZS	Acre			95,000
Fertiliser Application	TZS	Acre			30,000
Bird Control	TZS	Acre			70,000
Harvesting and Threshing	TZS	Acre	TZS/acre		150,000
Transport	TZS	Acre			45,000
Drying and Storage	TZS	Acre			45,000
Bagging	TZS	Acre	TZS/acre		30,000

Conversions

Variable	*Source*	*Unit*	*Value*
Local currency		LCU	**TZS**
USD to TZS	Oanda (13 Jan 2026)	TZS/USD	**2494.17**

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Farmer assumptions(2/2)

Sunflower						
					YR 1	YR 2 to YR 5
Inputs	**TZS**	**Farm**	**TZS/farm**		**Unit costs**	
Seeds	TZS	Acre	TZS/acre		45,090	50,000
Nursery inputs	TZS	Acre	TZS/acre			
Fertilizer	TZS	Acre	TZS/acre		98,600	100,000
Agrochemicals	TZS	Acre	TZS/acre		10,100	
Hired labor/service fees	**TZS**	**Farm**	**TZS/farm**		**Unit costs**	
Labour	TZS	Acre	TZS/acre		56,650	
Other Costs	TZS	Acre	TZS/acre		4,900	
Land Rent	TZS	Acre				50,000
Land Preparation	TZS	Acre				85,000
Planting	TZS	Acre				30,000
Weeding	TZS	Acre				30,000
Fertiliser Application	TZS	Acre				20,000
Harvesting and Threshing	TZS	Acre				32,000
Bagging	TZS	Acre	TZS/acre			8,000
Transport	TZS	Acre				20,000
Drying and Storage	TZS	Acre	TZS/acre			15,000

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