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POLICY ISSUES PAPER

Dynamics of Root and Tuber Crops Sector in Malawi

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Reporting Institution: Root and Tuber Crops Development Trust (RTCDT)

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Preface

The Root and Tuber Crops Development Trust (RTCDDT), in collaboration with the Civil Society Agriculture Network (CISANET), is pleased to present this issues paper. With generous support from the Embassy of Ireland through the the International Potato Center and TRADE Programme with funding from IFAD. We have compiled this document to shed light on critical challenges within the root and tuber crop (RTC) subsector. Our aim is to propose viable solutions and policy alternatives for the government's consideration.

The paper looks into the core challenges hindering the growth of the RTC subsector. These issues range from access to quality planting material to market opportunities and climate resilience. The paper further outlines potential solutions, emphasizing innovative approaches and policy adjustments. We believe that addressing these challenges will unlock the full potential of root and tuber crops in Malawi.

We recognize the multifaceted nature of these challenges and emphasize the need for collaboration across ministries. Agriculture, trade, transport, and energy intersect in the RTC subsector, necessitating joint efforts.

We extend our commitment to supporting the government's vision for an agriculturally vibrant and food-secure Malawi. Together, we can overcome these obstacles and foster sustainable growth in the RTC industry.

Acronyms

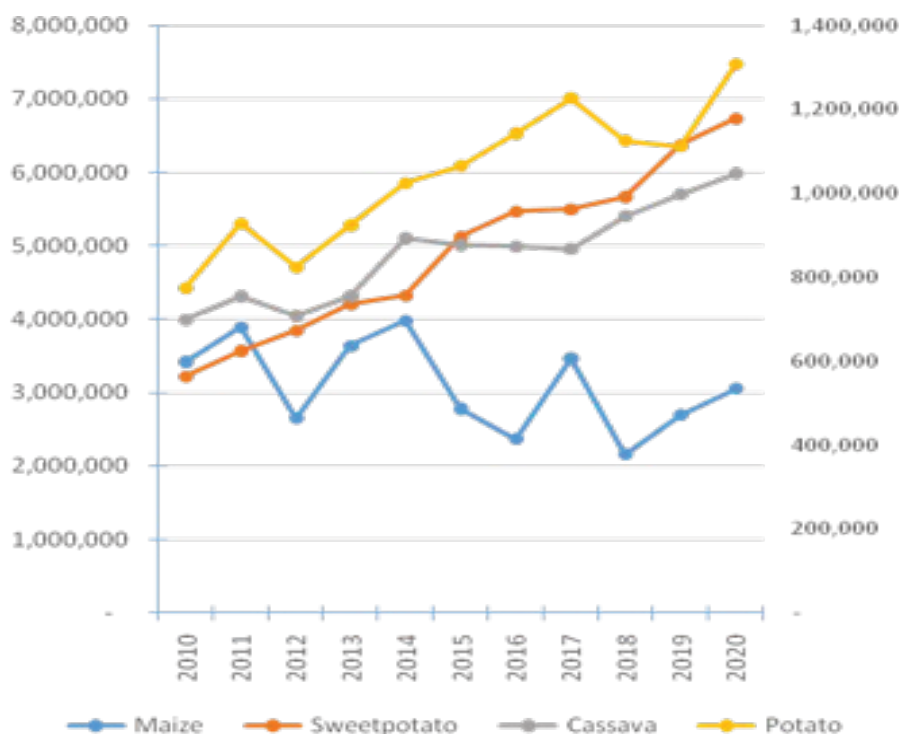
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|---------|---|
| ACE | Agricultural Commodity Exchange |
| APES | Agriculture Production Estimate Survey |
| CDI | Clinton Development Initiative |
| CISANET | Civil Society Agriculture Network |
| CSO | Civil Society Organisations |
| FAO | Food and Agriculture Organisation |
| FARMSE | Financial Access For Rural Markets, Smallholders And Enterprise Programmes |
| GoM | Government of Malawi |
| HQCF | High-Quality Cassava Flour |
| MITC | Malawi Institute of Trade and Commerce |
| RTCDDT | Roots and Tuber Crops Development Trust |
| RTCs | Roots and Tuber Crops |
| SMEs | Small and Medium Enterprises |
| TRADE | Transforming Agriculture Through Diversification and Entrepreneurship Programme |

1.0 Background

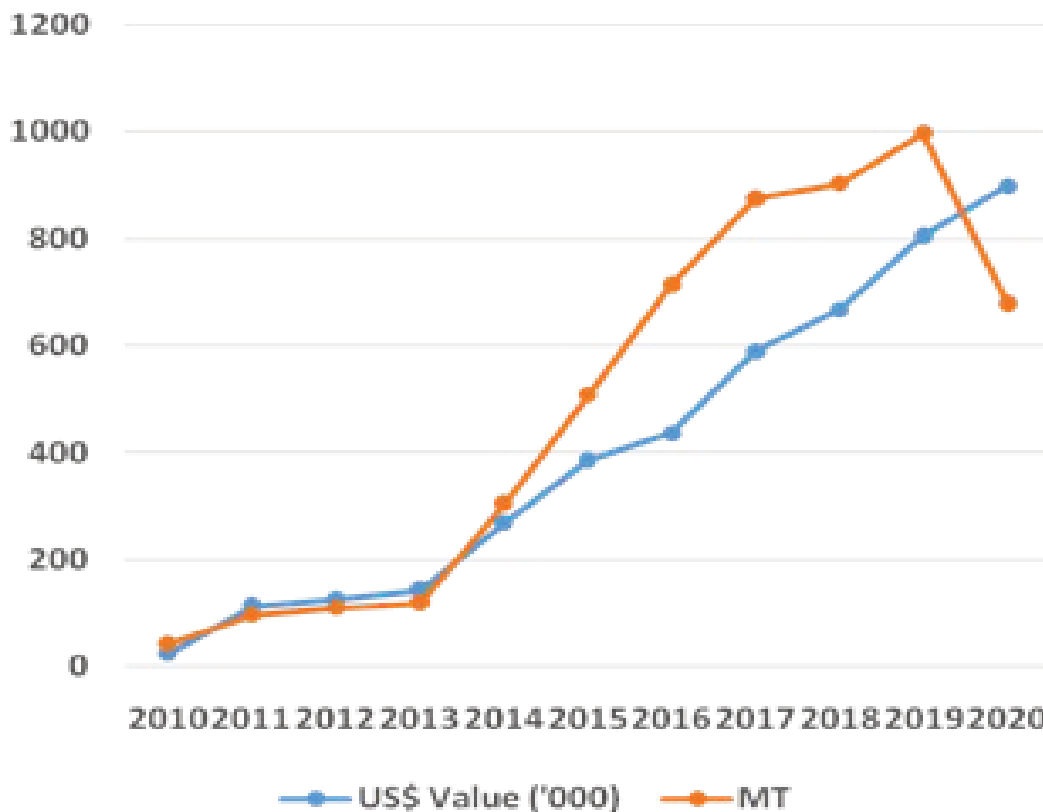
Despite Malawi's overall adequate food production, certain households continue to experience chronic food shortages and low incomes. These challenges stem from a complex interplay of factors affecting crop production, distribution, and utilization. Additionally, the policy environment and extension services significantly influence production and profitable utilization. In 2023, cereal production in Malawi fell to a below-average level of approximately 3.8 million tonnes, a 3 percent decrease from the previous five-year average. The yield downturns were attributed to the impacts of flooding from cyclone Freddy, high inflation and currency weakness which contributed to a record maize price of MK 1200 per kg in some parts of the country.

Roots and tubers crops play a significant role in supporting food security and livelihoods among the poorest and most vulnerable people in Malawi. RTCs are typically grown in 'backyard' plots for household consumption and large scale commercial purposes. Known for their ability to thrive in challenging conditions, RTCs continued to be substantial in the 2023/24 season. While maize remained the primary staple crop, roots and tubers like cassava and sweet potatoes proved important for Malawi's food security as they formed a good substitute for maize especially in areas that were heavily affected adverse weather conditions.

According to FAO statistics, the global production of roots and tubers rose by 1.9 percent between 2020 and 2021, mostly due to an increase in cassava and potatoes production. For Malawi specifically, roots and tubers production reached 15.8 million tonnes in 2022 representing a significant increase from 482,500 tonnes of 1973 and the trend continued to grow in 2023. This trend reflects the importance of the crops in the global agricultural sector and most importantly in the Malawi Agri-Food Systems. Figure below illustrates the growth trends of RTCs over the past decade.



RTC markets are not structured in Malawi. The traders often buy entire fields from farmers and transport the roots to the nearest retail market or sell by the roadsides. Small-scale bakeries, *mandasi* (a local snack), and *kanyenya* producers form the largest market for cassava-based products. There is also a growing market for processed products such as High-Quality Cassava Flour (HQCF) which is used in biscuits, packaging and breweries. Additionally, a report from 2018 indicated that roots and tubers exports from Malawi surged by a significant percentage compared to the previous year, continuing a trend of mild increases. Importation of roots and tubers in the lean season has also continued to grow mainly from Tanzania and South Africa. The figure below shows the import trends of RTCs in the previous decade.



This issues paper seeks to achieve three broad objectives as follows:

- **Identify and Address Policy Challenges:** To systematically identify and address critical policy challenges, gaps, and areas of opportunity within Malawi's RTC value chain. This will be achieved through targeted advocacy interventions led by the Root and Tuber Crops Development Trust (RTCDT), with a strategic focus on short-term, medium-term, and long-term national development goals.
- **Foster a Supportive Policy Environment:** To foster a supportive policy environment that promotes a balanced and diversified RTC sector. This includes enhancing the production, processing, and utilization of RTCs as both food and cash crops, aiming to fulfil the country's needs for food security, foreign exchange earnings, and the sustenance of rural livelihoods and incomes.
- **Advocate for Value Chain Productivity:** To advocate for the continuous improvement and maintenance of the productive potential of the RTC value chain. This involves lobbying for policies and practices that support the enhancement of the value chain's efficiency, sustainability, and responsiveness to market demands.

2.0 Vision of the Root and Tuber Crops Development Trust (RTCDT)

The Root and Tuber Crops Development Trust (RTCDT) envisions itself as the cornerstone of Malawi's root and tuber crops (RTC) value chains, promoting a collaborative ecosystem that thrives on the free flow of information and best practices among researchers, farmers, associations, and stakeholders at all levels. Our commitment is to spearhead sustainable economic growth and shared prosperity within these value chains, anchored in the principles of open dialogue, unwavering integrity, and exemplary service.

We recognize the challenges faced by Malawi's agricultural sector, where the finest potato produce often bypasses local industries and domestic markets. Our aim is to bridge the gap between primary producers and formal markets, eliminating the reliance on secondary produce and reducing the lengthy chain of intermediaries. By establishing direct connections between farmers and formal buyers, we strive to retain the value of our home grown produce within the country, ensuring that high-quality Malawian potatoes are celebrated both locally and in high-end markets, without the need for imports.

Through strategic partnerships and innovative solutions, RTCDT is dedicated to transforming the RTC landscape in Malawi, making it a model of efficiency, profitability, and sustainability.

3.0 Barriers to Making the Connection

1. *Low and inconsistent production due to stakeholders over emphasis on smallholder farmers*

In Malawi the production of roots and tubers, such as cassava, is a significant agricultural activity, with cassava being the second most important staple crop. However, the country faces challenges in meeting both domestic and international demand due to low and inconsistent production, which is often attributed to an over emphasis on smallholder farmers. Statistics indicate that in 2022, Malawi produced approximately 15.8 million tones of roots and tubers. Despite this seemingly large figure, the production was not enough to meet the growing demand. Programs have continued to focus on developing inclusive business models that primarily involve small scale farmers and SMEs. This approach, while beneficial in some respects, does not necessarily translate into meeting the larger scale demands of domestic and international markets.

To address these challenges, there is a need for a more balanced approach that includes supporting smallholder farmers with improved access to resources and training, while also developing strategies to scale up production to meet broader market demands. This could involve expanding the involvement of medium to large-scale commercial farming operations, which can leverage economies of scale and more advanced technologies to increase production efficiency and consistency. These could also act as anchor farms for the development of small-scale producers.

2. *Inadequate Support for Seed Development Programs*

There is often a lack of investment in research and development programs that focus on the breeding of high-yielding and disease-resistant varieties of roots and tubers. Without these programs, farmers are left with limited access to improved varieties that can enhance crop performance and resilience. Even though there are initiatives to address this concern for instance the RTC Action Malawi, the scale and reach of such programs is not sufficient to meet the needs of all farmers, especially considering the importance of RTCs in Malawi's agriculture.

3. *Insufficient Infrastructure for Seed Distribution*

The infrastructure required to store and distribute planting materials efficiently is underdeveloped in Malawi. This results in delays and increased costs, making it difficult for farmers to obtain the necessary materials at the right time and at an affordable price. There is a need to always put in place measures of ensuring availability of high-quality planting materials.

Models that involve communities in seed production and dissemination system have shown some level of success in other countries. This demonstrates that with the right strategies and support, it is possible to overcome the challenges posed by underdeveloped infrastructure for planting materials. By strengthening the capacities of local centers, building partnerships with stakeholders, and improving storage and marketing strategies, the availability of quality planting materials can be significantly enhanced, leading to better crop yields and improved livelihoods for farmers.

The anchor farm model also comes as another important approach where a large-scale farmer helps multiply high quality seedlings for use by small scale producers.

4. *Limited Extension Services*

Extension services play a vital role in disseminating knowledge about advanced agricultural practices and new varieties. However, these services are often inadequate, leaving farmers without the information needed to access and utilize quality planting materials effectively. According to the production survey (APES), the farmer extension worker ratio in Malawi is approximately 3,274 farmers to 1 extension agent. If we include non-government agents, the ratio improves slightly to 1,568 farmers to 1 extension agent. Ideally, the extension agent-to-farmers ratio should be much lower to provide effective support.

5. *Regulatory Hurdles*

Regulatory frameworks that ensure the quality and safety of planting materials are essential. However, poorly implemented regulations have created barriers that continually prevent the timely approval and distribution of new varieties. Enforcement mechanisms of seed regulations have also been a challenge as evidenced by the heavy presence of fake or diseased seeds on the markets, a development that has affected productivity of not only RTCs but also other essential crops.

The establishment of seed monitoring committees across all districts is essential to ensure we combat the prevalence of fake or uncertified seeds on the market. Such committees may comprise of all important stakeholders including the police, judiciary, civil society, agro-dealers and the media. There is also need to make the new seed act fully functional so that there is stiff punishments for those that violate the regulations.

6. *Market Dynamics*

The demand for specific varieties of roots and tubers for specific processed products have not aligned with the available supply in some cases, leading to a mismatch in the market. This is due to a lack of coordination between breeders, producers, and consumers, as well as insufficient market data to inform production decisions.

There is a need to facilitate better communication and collaboration among these stakeholders. There is also a need to regularly collect and analyze market data to understand consumer preferences, emerging trends, and demand patterns within institutions like ACE Africa and the MITC for international Markets.

7. *Access to Financial Services and Climate Risk Management*

Rural farmers lack adequate access to financial services, especially tailored to the RTCs sector and agriculture sector in general. Additionally, climate change poses risks. While programs such as FARMSE target ultra poor smallholder farmers and enterprises, the medium and large-scale

producers and processors are less prioritized. There is thus a need to facilitate financial inclusion and resilience among root and tuber crops farmers.

8. *Lack of inclusive business models that benefit all stakeholders*

The RTC sector lacks business models that facilitate linkages between farmer organizations, small and medium enterprises (SMEs), large scale operators and buyers of RTC products. The Anchor Farm model is a promising approach to address the challenges faced by the RTC sector in Malawi. The model aims to create a symbiotic relationship between large-scale commercial farms, processors (the “anchor”) and smallholder farmers/producers. The Clinton Development Initiative (CDI) has successfully implemented the Anchor Farm model in Malawi, Rwanda, and Tanzania. CDI partners with thousands of smallholder farmers, providing them with training, input, and market access. There is a need to replicate such approaches.

9. *Lack of improved post harvest/processing technologies*

In Malawi, a significant portion of RTCs, including cassava, sweet potatoes, and potatoes is sold unprocessed. This raw form of RTCs is often directly harvested from the fields and sold without undergoing any value addition or processing. The reasons for this include limited processing infrastructure, lack of awareness about value addition, and challenges related to quality standards and market access.

While efforts are being made to promote value addition and enhance the utilization of RTCs, the unprocessed sale of these crops remains prevalent. To fully unlock the economic potential of RTCs, investment in processing facilities, awareness campaigns, and supportive policies are crucial.

10. *Quality Standards*

Meeting quality standards for processed RTC products is essential for both the local and international market acceptance. Lack of knowledge and resources hampers adherence to these standards. Most smallholder farmers are illiterate, this means comprehension of standards and the technology associated with it becomes a challenge. Also, most of processing for root and tuber crops is done by small and medium enterprises with not enough resources to meet and uphold the stringent requirements/specifications by the national bureau of standards and end users.

There is need for investment in proper improved processing, storage and packaging technologies for improved quality of the value added products. The small and medium processors should be supported financially and also by provide enabling environment for business operations. The training or user manuals should be user friendly as possible to ease comprehension and also invest in audio/visual contents that explain quality standards and processing steps and distribute through community gatherings or mobile devices.

11. *Access to Markets*

Farmers face challenges in accessing markets for their RTC produce. Linkages between producers

and buyers need improvement. Products are often sold by the roadside or through informal markets. Middlemen take advantage, buy whole fields from farmers to sell to retail markets at higher prices with little or no profit for the farmer. Similarly, there is limited access to information about export markets and required standards. This limits volumes that could potentially make it in the export market.

It has also been established that potato farmers in Ntcheu and Dedza sell high quality potatoes to foreigners (Somalis) who buy their potatoes in bulk on cash basis leaving the lower grade quality potatoes for the local market and traders who supply to the urban market. Such trade is often informal and undocumented, and buyers use un-charted routes to get to their targeted destination and at the same time, do not use recommended standard measurements resulting in farmer selling their potatoes at low prices.

High end local RTC buyers in the hospitality industry, processing industry and up market retailers however reported that they prefer imported varieties to ensure consistency in quality and supply throughout the year.

There is a need to establish systems to disseminate real-time price information to farmers. Mobile apps, SMS alerts, or community notice boards can provide market prices. There is also a need to heavily involve the RTCDT and relevant key stakeholders in engagement meetings to set farm gate prices so that prices reflect the costs of production and that they are attractive to external buyers and processors.

12. Prohibitive industrial power access for smooth operations

The power problems in Malawi significantly impact the processing and value addition options for RTCs. Processing facilities, such as mills, grinders, and drying units, rely heavily on electricity. Frequent power outages disrupt processing operations, leading to delays, reduced efficiency, and increased costs. Without reliable electricity, value addition processes (such as drying, milling, and packaging) become challenging. For perishable RTC products, cold storage is essential to maintain freshness and extend shelf life. Power interruptions jeopardize cold storage facilities, leading to spoilage and wastage. Additionally, access to 3phase power supply is too expensive for small and medium enterprises and the process of getting the power takes too long for startup business or that want expand their operations.

4.0 Potential Government Roles

- **Inclusive Policies:** Develop policies that support both smallholder farmers and commercial farming operations. These policies should promote sustainable practices, market access, and value addition. Government should also facilitate linkages between smallholders and larger buyers, processors, and exporters encouraging public-private partnerships.
- **Support Commercial Farms:** Encourage medium to large-scale commercial farming operations to engage in RTC production. These can serve as models (anchor farms) for best practices, technology adoption, and market linkages.
- **Agricultural Research Institutes:** Invest in research on improved RTC varieties, climate-smart practices, and pest management and ensure that farmers have access to affordable credit for inputs, equipment, and technology adoption.
- **Roads and Transport:** Improve rural infrastructure to facilitate the movement of RTC products from farms to markets and invest in cold storage infrastructure to reduce post-harvest losses.
- **Trade Agreements:** Negotiate favorable trade agreements to enhance export opportunities for RTC products and Provide information on international market demand, quality standards/specifications, and certification requirements. Government should also consider creating formal local and export market for RTCs and formalise illegal RTC export markets so that the country benefits from the tax lost through informal trade.
- Government needs to make sure that seed act is fully functional ensuring stiff punishments are applying to violators of seed regulations.
- **Alternative Energy Sources:** Diversifying energy sources beyond hydropower is crucial. Exploring solar, wind, and biomass energy can provide reliable alternatives, especially in rural areas. There is also a need to facilitate Collaboration with private entities through PPPs which can accelerate energy infrastructure development and enhance efficiency and expand energy access.

4.1 The government should also consider the following:

- Support attainable statutory registration, licensing and formalisation of RTC cooperatives to become formal enterprises/businesses that can access high-end local and international markets while meeting minimum standards.
- Support formalised RTC businesses access and achieve conditions for accessing processing and storage equipment for value addition so that businesses can access high-end local and international markets while meeting minimum standards.

- GoM should include RTCs in the Agriculture (General Purposes) Act. [Ch6505s2] (1st June 1987)-*regulates Malawi Minimum Farm Gate Price Policy.*
- Fast track the organisation of RTCs producers to work and trade in groups as formal businesses and sustainably supply the growing potato international market.
- GoM should relax RTC conditions on The Malawi Control of Goods Act *regulating import and export policy* for it to realize the potential of being an import substitute.
- Include the RTCs in the mega farms as well as Shire Valley Transformation Project

5.0 Conclusion

Roots and tubers, play an important role in Malawi's agricultural landscape. It is evident that RTCs contribute significantly to food security by providing a reliable source of energy and essential nutrients for households. These crops are resilient, thriving even in challenging conditions, and their early harvest ensures a steady food supply. Additionally, roots and tubers contribute to resilient livelihoods, especially for smallholders, and hold promise for combating malnutrition.

Despite their importance, challenges persist as indicated in this issues paper. It is therefore crucial for the government to prioritize the RTCs subsector at all levels from production, processing, and Marketing. The Root and Tuber Crops Development Trust (RTCDT) and other Civil Society Organizations (CSOs) within CISANET pledge unwavering support. We will continue to advocate for policies, strengthen linkages, facilitate access to financial services, and promote inclusive business models. Together with the government, we envision a Malawi where roots and tubers thrive, ensuring food security and prosperity for all.



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