

IMPROVING FOOD SECURITY THROUGH PRODUCTION AND VALUE ADDITION OF QUALITY TOMATOES

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Specific Aims:

Rwanda is the net importer of tomatoes. Most of imported tomatoes are in the processed form. More tomatoes need to be produced to meet the country's demand. The current method of tomato production is inefficient in terms of seeds used and agricultural practices. There is a need to improve the tomato productivity through modern agricultural techniques. Though the production is still low, there is also a high level of tomato loss. More than 50% of produced tomatoes in the country are lost along the value chain. This is a big loss for the country and it hinders national development. Therefore, there is a need to reduce losses of tomato and increase value of tomatoes through processing which will also extend the shelf life.

In this context, the **University of Rwanda (UR)** has formed a partnership with **AFRINET Ltd** to develop and implement a research project on improvement of tomato production and value addition in Rwanda. The successful implementation of this project will contribute to the increase in production of tomatoes and income generation to tomato stakeholders. The **overall project aim** is to contribute to food security through production and value addition of tomato. The **specific objectives** are:

- i. To increase the productivity of quality tomato through modern agricultural techniques.
- ii. To optimize tomato paste production to a high quality and cost-effective product;
- iii. To evaluate of the contribution of tomato value chain on the livelihoods of Rwandans.
- iv. To evaluate the effectiveness of tomato-based bio-fertilizers on the plant growth and productivity.

Approach / Methods

In this project, modern technologies and quality seeds will be used to produce high quality tomatoes suitable for processing and for fresh tomatoes market. The projected will process tomatoes into tomato paste which is a more stable product and has a longer shelf life. In addition, by-products from tomatoes will be converted into biofertilizers. Response surface methodology will be used to optimize tomato paste production and obtained product will be subjected to sensory evaluation for consumer acceptability testing.

Expected outcome as well as budget and duration of the project: This research project will contribute to the development of a **cost-effective tomato production process**. Therefore, the optimized production process will facilitate in establishing tomato farms for local consumption, as well as businesses for income generation to communities in rural areas, especially for women. **Postharvest loss of tomatoes will be reduced** through processing into more stable products and this will contribute more jobs creation as well as increase in income for stakeholders and country's revenue. This research project will establish new technology related to the integration of bio-fertilizers and animal-derived manure from the local farming and this approach will **reduce farmers' dependence on chemical fertilizers and pesticides**; in return, it will lead to the reduction of farming costs and environmental hazards. The long term impact of the project is to reverse Rwandan importation of tomatoes and change into exporting country for tomato and tomato product. The total project budget is **ninety million (90,000,000) Rwandan francs**, for the duration of **18 months**.

Additional information

Investigators/Institutions

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