

Soko Letu in Tanzania: Evidence from the 2019 field research and system designs and implementation

Project report to SITS workshop

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Abstract

As a prerequisite of the SITS WORKSHOP our team choose the field of agriculture being the backbone of Tanzania economy and identified the social challenges on agriculture products from its pricing, markets and provided policies to facilitate markets. A field work was conducted from the resources of the Agriculture ministry, local people, local market coordinator and professional personnel to identify a resolute ICT solution. On the basis of input requirements identified a demo mobile app (Soko letu) was designed to foretell of its significance to the ongoing challenges. Further discussions and conclusion are drawn by the team to analyze of what will be needed to further the project.

Contents

1. Context: Agriculture products and Markets in Tanzania
2. Social challenge and Solutions proposed
3. Field research
4. Designs and implementation
5. Conclusions

References

ABBREVIATION AND TERMS:

SITS –Social IT solution workshop

DIT- Dar es salaam institute of technology

SUZA- State university of Zanzibar

SOKO LETU- Swahili meaning “Our market”

1. Context: Agriculture Products and markets in Tanzania

Having 70% of its inhabitant involved in the farming sector, Tanzania operate on free market where the prices for goods and services are determined by the open market and by consumers. The government work to implement policies and strategies to monitor the harmony of the free market and further provide necessary resource to the farmers and citizens from education and necessary tools to facilitate their activities.

The nine main food crops in Tanzania are maize, sorghum, millet, rice, wheat, beans, cassava, potatoes, and bananas while main cash crops Coffee, Sisal, Cashewnuts, Tea, cotton, Tobbaco. All these are produced in seasons and in different regions of the affecting the supply and demand in Markets. Warehaouses are built by the government and private sectors to help balance in the free market and other identified reasons accordingly. The Warehouse Receipts Regulatory (WRS) Board in Tanzania works to register and monitor licensing of the agricultural products warehouses.

Below is a map to highlight regions on major products produced in Tanzania.



Figure 1: Regional crops as produced in Tanzania

2. Social Challenge Observed

On the great agenda of agricultural products and markets the following were identified and thought to be solved by the Information and communication technology.

- i. Uncertainty of availability of a particular product on the local market. A consumer may enter the risk of money to enter a market, where there is no assurance of products (some product are seasonal or scarce).
- ii. Market price comparison. Since there is a lot of product and local markets there isn't a platform or means of one successfully being updated of the fluctuating price on product and the difference between markets to help in better choosing and budgeting
- iii. Most citizens are unaware or have less easy access on the Government policies and strategies on agriculture field and all its aspect hence making some strategies or rule hard to implement.
- iv. There is no centralized platform that enrolls all information on the agriculture fields collectively. Most information is so distributed making it hard to access fully details even highlights on ongoing issues

Solutions

The Team analyzed and quickly outlined the very possible ways of addressing the challenge in the ICT world and these were

- i. Creating Mobile app to provide information of the observed challenges.
- ii. Use and encourage day to day updates with radio and television programs.
- iii. The use of billboards to display local markets prices on products.
- iv. Website to inform of all requires resources and updates on products.

The carried solution for implementation was creating a **Mobile app** and encourage on use of **billboards**. Hence the objectives of the team.

The to be designed informative platform was named “**SOKO LETU**”

What the platform actually do.

- i. Informs on agriculture product prices as vary in local markets
- ii. The estimated quantity of products available.
- iii. Agricultural warehouse available with its stock quantity.
- iv. Statistics (i.e. Seasonal consumption, demand and supply).
- v. Export and imports report.
- vi. Government policies and resources on agriculture.
- vii. Connects on wholesales available.

3. Field work

To identify requirements that would be feasible on creating the platform different areas of research were observed.

- i. Reaching the Ministry of Agriculture.
- ii. Interviewing the Kariakoo Market Cooperation management.(Kariakoo Economic planner) in Dar es salaam
- iii. Discussions and questionnaire with local people on the platform and what would be their Solution.
- iv. Extensive literature review on reading and analyzing different articles, policies and resources from the government.

Findings

Kariakoo Market interview

The management directed us to its economic planner Mr. Henry who briefed us of their operation and the existed solutions to problems we are proposing to solve.

- i. There have been a NGO that worked with particularly kariakoo market in past years where they collected **only** the price of the products from the market and updated it manually on boards to famers.
They employed people for the job but later after they left the remaining crew couldn't handle operational cost hence failed to continue.

- ii. Vodacom (Telecommunication) launched a Program to update the prices from Kariakoo market through SMS subscription to its users. But couldn't continue as it received data from the NGO (i) whose program couldn't continue after they left which led to Vodacom missing data and seizing the program.
- iii. We identified that there is no uniform protocol in local markets on operation neither Digital platform for management.
- iv. A tally sheet that is used by the clerks of the local market for noting arriving products. Details like Quantity of the products and the address are identified.

Below later is a Photo of a clean tally sheet provided to us.

Mr. Henry really encouraged for the proposed solution (SOKO letu) as he more briefly analyzed the deep challenges facing free market.

"...do not give up. Many have come and many have not done any initiative
 ...If you focus on providing services to the people it will work... we really need a Solution"

"...they took the prices of the products from us **but never** information like the **quantity** of the products available..."

- *Mr. Henry Economic planner at Kariakoo market Cooperation.*

Figure 2 Kariakoo Clean tally sheet used for Arriving Products

More findings on Reading

Policies and articles read from multiple research and government resources on agriculture and markets; the following were brought to our attention.

- i. The government has a board that deals with licensing agriculture warehouses and it's through this data on the nations' present warehouse can be acquired for its brief and entails The products quantity and capacity it can hold. To which "Soko letu" may partner to update data on its platform.
- ii. The Bank of Tanzania (BOT) releases updates on Exports and Imports agriculture products statistics.

4. Design and implementation.

Analyzing the provided data on the field work four users of the proposed system.

System Administrator	Partners	Market Coordinator	Normal user
<ul style="list-style-type: none">-Manages the Database of the system.-Register all users of the system.	<ul style="list-style-type: none">-View reports-Request Special information.	<ul style="list-style-type: none">-View reports-Register updates on products price and quantity. And wholesales.	<ul style="list-style-type: none">-View reports-Contact for wholesales

Description

Partners – These are any institutions or companies that will either partner for raw data the app collects i.e. Warehouse board, Telecommunication companies for SMS updates to its clients etc.

Market coordinators- These are government agents on every local markets in every municipal in the country.

Normal user- This is the any person interested on the use of information provided by the platform.

System Administrator- This is a technical personnel that manages and monitors the Platform performance and requirements.

More on the design prototype, dataflow diagrams and implementation demo description on the GitHub link www.fakimakame.github.io/sokoletu/

5. Conclusion

There is a need for a centralized source of information/resources on the agricultural products in our markets. With “Soko Letu” (Or any further ICT solution) there will be increase transparency, easy reach of resources to almost anyone affected in the Agricultural Free market. Also further increase of awareness on the government’s efforts to harmonize and improve the agriculture fields in Tanzania.

The statistical reports presented will lead to an open discussion on the way policies and day to day individual decision in the society may affect the agriculture products in the Free market.

To further the project there is a need for more research on the fields concerned partners like the Warehouse resource board, interested institutions and Government entities and Telecommunication companies.