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ESTABLISHMENT OF A LESOTHO NATIONAL FARMER REGISTRY AND ELECTRONIC VOUCHER MANAGEMENT SYSTEM

April 2022

SDGs:



Country:

Lesotho

Project Code:

TCP/LES/3701

FAO Contribution:

USD 400 000

Duration:

1 January 2019 – 31 December 2021

Contact Info:

FAO Representation in Lesotho
FAO-LS@fao.org

Implementing Partner

European Union; Ministry of Agriculture and Food Security (MAFS); Ministry of Forestry, Range and Soil Conservation; Ministry of Small Business Development, Cooperatives and Marketing; Ministry of Social Development; United Nations Children's Fund (UNICEF); World Bank.

Beneficiaries

Smallholder farmers.

Country Programming Framework (CPF) Outputs

Priority Area 2: Enhancing agricultural productivity and strengthening agrifood value chains.

BACKGROUND

Agriculture is the primary source of income and employment in Lesotho, with 65.8 percent of the population living in rural regions as of 2016. However, in favorable crop years Lesotho can only meet 30 percent of its annual cereal requirement and recently its agricultural production has declined further. Floods, droughts, frost, fluctuating meteorological conditions, and a shortened growing season all contribute to lower agricultural output and yields. Soil erosion as well as falling agricultural investments aggravate this challenging situation. As a result, the country highly relies on importation to meet the food needs of its population.

The poor and most vulnerable households are significantly impacted by the declining agricultural productivity with their ability to recover from climate-related shocks also diminishing. These deplorable conditions were outlined when the country experienced one of the worst droughts in its history, affecting approximately 680 000 people in 2015 and 2016. Today, an estimated 57 percent of the population lives in poverty, earning less than USD 1 a day. Lesotho also has a high malnutrition rate, with 33 percent of children under the age of five being stunted.



For these reasons, agriculture, along with industry, tourism, and creative industries, was identified as a critical productive sector in the national strategic development plan 2019–2023. The Government of Lesotho, through the Ministry of Agriculture and Food Security (MAFS), has several programmes aimed at promoting agricultural production and commercialization. While substantial resources are going into these programmes, the MAFS faces a number of challenges in their effective implementation, such as a lack of harmonization and coordination, the absence of a common targeting framework and a limited capacity to timeously carry out monitoring and evaluation.

The main initiative for improving agriculture, the intensive crop production (ICP) programme, is an example of a programmes whose implementation has been impeded by structural obstacles. With only 8 percent of farmers receiving assistance under its agricultural input subsidy component, the programme faces significant exclusion issues. Under the input subsidy programme (ISP), selected beneficiaries are provided with seed and fertiliser at 50 percent of the retail price, however farmers are still required to contribute 50 percent of the cost of inputs, thus preventing the most vulnerable farmers from participating and benefiting from this programme. Complex procedures also result in late seed delivery to farmers and supply shortages at critical planting stages. Most farmers in rural areas are unable to access inputs due to insufficient stocks and seed varieties and a lack of private sector participation in sustaining a large agro-dealer network. At the operational level, the programme need a reliable information management system to enable programme implementation, monitoring, and evaluation. In addition to operational and coordination obstacles, the MAFS requires a structuration and digitalization of its reporting mechanism.

To overcome these challenges, FAO and the MAFS suggested to develop a national farmer registry as well as a framework for the implementation of an electronic voucher (e-voucher) modality. A national farmer registry that includes agriculture-related information and is linked to other national registries has the potential to address the mentioned challenges, as well as serve as a platform for targeting and supporting beneficiaries in various agricultural-related programmes, and improve overall programme coordination, efficiency, and effectiveness.



IMPACT

This FAO project contributed to ensure that the government and other stakeholders enhanced allocation of resources for the agriculture sector effectively and efficiently, targeting the most deserving farmers with services. Thanks to the improvement of the agricultural productivity and incomes of small-scale food producers through the provision of productive resources and inputs, this project contributes to the second Sustainable Development Goal (SDG 2), which aims at ending hunger by 2030. By developing and disseminating new technologies, this project contributes also to SDG 17 that aims at strengthening partnerships to attain sustainable development.

ACHIEVEMENT OF RESULTS

This project's main focus was to help the MAFS and other stakeholders to improve planning, targeting and monitoring of all agriculture interventions. It addressed key gaps in the agriculture sector and introduced and piloted a new initiative, the Lesotho integrated agriculture management information system (LIAMIS), in the districts of Mafeteng and Berea. To achieve that goal, a database of all farmers and a registry of agrodealers in Lesotho were created. Then, the project developed and piloted an e-voucher management system in order to automate the implementation of the input subsidy component of the ICP programme. This project also established partnerships with the private sector, such as banks, mobile companies, agrodealers and suppliers throughout the entire agrifood value chain. The mobile companies provided mobile money transfer services (M-Pesa) and also offered the flexibility for farmers to be identified through their mobile phones.

With the help of the inter-ministerial technical committee, a national farmer registry was established to serve as a central repository for all data on farmers, including data on various farming activities, ownership of productive assets, livestock, agricultural projects and poverty status of the farmers. A web-based farmer registration module was developed for that aim, capturing all relevant farmer data that are critical in understanding farmer dynamics and categorization. In the districts of Berea and Mafeteng, the farmer registration module and related data gathering applications were tested. A total of 11 349 farmers were registered in two districts.



Agrodealers were included in a registry after their identification from a variety of sources, including the United Nations Global Market (UNGM) and the MAFS's list of agrodealers who participate in the input subsidy programme. These lists were also verified by a team of FAO experts, who evaluated and streamlined the list based on a set of criteria. After that, they were entered into the LIAMIS system.

Finally, an e-voucher management system was successfully developed and piloted in the districts of Berea, Maseru and Mafeteng. The e-voucher system is a digital technology that sends e-vouchers to farmers' phones via SMS, which they can use to purchase agricultural inputs at a set price from agrodealers. In that purpose, an Android-based application was created, points of sale were selected and agrodealers were trained on the functionality of the application. The e-voucher redeeming was tested in late 2021 and a total of 3 076 farmer households (15 380 individuals) redeemed seeds (maize and beans) and fertilizer. This exercise was facilitated by agriculture extensionists to ensure that farmers have better access to productive inputs.

The project was coordinated by a strong inter-ministerial technical committee led by the MAFS, thus ensuring full government's ownership and guaranteeing sustainability of the results. The project, design, and implementation were overseen by FAO technical units at the country, regional and headquarters levels.

IMPLEMENTATION OF WORK PLAN AND BUDGET

As planned, the establishment of a LIAMIS was completed within the first year of the project's duration, and data collection for the national farmer registry began shortly after. The COVID-19 restrictive measures hindered the project's progress, forcing field data collection activities to be halted and causing severe delays in the start and completion of this phase. As a result, the project's deadline was postponed by one year. This enabled the activities to be completed, comprising three data collection sessions to populate the national farmer registry, as well as the creation and piloting of the e-voucher management system.

FAO have monitored potential risks throughout the project's implementation in collaboration with the government-chaired multi-stakeholder national taskforce. All of the activities were accomplished within the initial planned budget. However, additional resources from other projects are required to continue data collection and analysis in the other districts where the pilot was not carried out.

FOLLOW-UP FOR GOVERNMENT ATTENTION

To achieve national coverage and fully realize the goal of this intervention, data collection must be expanded to other districts, particularly the farmer registration process. To ensure this extension, the costs associated with system upgrades, addition of new farmers, and creation of reports shall be included in the next national budget.

In addition, the registration system requires to be linked to the national database system.

After categorizing farmers and determining their vulnerability levels, the farmers database may now be leveraged for a better targeting in social protection programmes. This will allow for a better harmonization of the programmes within the MAFS.

The involvement of external stakeholders will benefit the sustainability of the project, as some of them, such as the African Development Bank (AfDB), the International Fund for Agricultural Development (IFAD) and World Bank have expressed interest in the project, implying a high probability of obtaining additional funding for its expansion to other districts.

SUSTAINABILITY

1. Capacity development

The inter-ministerial technical committee and key IT personnel of the MAFS, which is responsible for maintaining and updating the system, were trained on data collection for the national farmer registry and on the e-voucher system management. In addition, targeted farmers were sensitized on the benefits of their participation in the programme and trained on the use of the electronic cards and redeeming procedures.

2. Gender equality

Thanks to the LIAMIS, the MAFS was provided with gender-disaggregated data on farmers that can be used to improve targeting of women and their enrolment. A total of 11 349 households were registered, of which 60 percent were male-headed and 40 percent were female-headed households.

3. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

By supporting an improved planning and a proper targeting of farmers in order to help them gain access to agricultural inputs, this project ensures a sustainable improvement of the food production and livelihoods of the farmers and therefore contributes to their Right to Food.

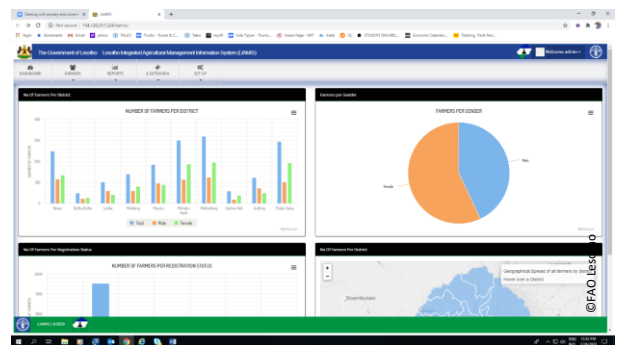
4. Technological sustainability

The LIAMIS was modelled on the Zambia integrated agriculture management information system and customized for Lesotho's needs. Since the technology was adapted from an existing FAO system, the customization costs and potential bugs associated with the development of a new software were considerably avoided. The technology was installed on secure cloud-based platforms to ensure long-term cost-effectiveness and minimum maintenance. Thanks to the trainings received, the inter-ministerial technical committee can now manage the system and expand data collection with minimal technical assistance.

During the design, implementation, and maintenance of the LIAMIS, cost and affordability were prioritized. While certain initial costs for system development, data collection tools, and enumerators training were necessary, the majority of the costs were avoided thanks to the MAFS extensionists' participation in data collection and monitoring.

5. Economic sustainability

A successful implementation of the ICP means that farmers have greater access to agricultural inputs, which will help them improve their livelihoods and incomes and generate economic stability in the long term.



DOCUMENTS AND OUTREACH PRODUCTS

Documents

- ❑ **FAO.** 2019. *Lesotho integrated agriculture management information system business case*. 15 pp.
- ❑ **FAO.** 2020. *Assessment of capacity of hosting environment for the LIAMIS*. 8 pp.
- ❑ **FAO.** 2020. *National farmer registration manual*. 28 pp.

Outreach Products

- ❑ **FAO.** 2021. *Developing Lesotho's first ever electronic farmer registry*. <https://bit.ly/36WgCFu>
- ❑ **FAO.** 2021. *Electronic voucher management system redeeming*. PowerPoint presentation. 20 slides.
- ❑ **FAO.** 2021. *FAO pilots electronic voucher system in agricultural inputs distribution in Lesotho*. <https://bit.ly/3OGWQyU>

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Government and other stakeholders allocate agriculture resources effectively and efficiently, targeting the most deserving farmers with services		
Outcome	A functional national farmer registry and e-voucher system that enables proper targeting and allocation of resources within the agricultural sector		
	Indicator	Number of farmers accessing agricultural services through the system.	
	Baseline	0	
	End Target	75 000	
	Comments and follow-up action to be taken	The project managed to register 11 349 farmers, who can now be targeted and supported as their information are available in the system. However, by the end of this pilot project no targeting or selection of farmers had been done using the data from the system. In addition to a database of farmers, an application for rolling the data collection was implemented and a team of data collectors was set up. Data can now be utilized for decision making.	
Output 1	Farmer registry produced and maintained		
	Indicator	Target	Achieved
	Number of districts that have introduced the national farmer registration and e-voucher system.	2	Yes
Baseline	0		
Comments	The LIAMIS which hosts the national farmer registry and the e-voucher management system was developed, deployed and piloted in the districts of Mafeteng and Berea, while the e-voucher management system was also piloted in Maseru district. The MAFS officials at national and district levels have now access to farmer information to support planning and programming. The expansion of data collection to other districts to achieve a full national coverage is required in order to realise the full impact of this intervention.		
Activity 1.1	Registration system in place		
	Achieved	Yes	
	Comments	The LIAMIS was developed through and with the coordination of an inter-ministerial technical committee. The major component of the LIAMIS is the national farmer registry which is a central repository for all farmer data, including data on various farming activities, ownership of productive assets, livestock and agriculture programmes. The farmer registration module and associated data collection applications were piloted in the districts of Berea and Mafeteng. A total of 11 349 farmers were registered in these two districts.	
Activity 1.2	Requisite hardware		
	Achieved	Partially	
	Comments	The project was able to procure 50 android tablets for data collection. The server was not procured as the project finally opted for cloud services.	
Activity 1.3	Pre-testing system functionality		
	Achieved	Yes	
	Comments	The national farmer registry functionality was pretested in the two districts of Berea and Mafeteng over a period of two weeks from 6 to 18 September 2021.	
Activity 1.4	Roll out of Farmer registration		
	Achieved	Yes	
	Comments	The farmer registration was rolled out within the two districts and a total of 11 349 farmers were registered. The farmer registration process will now need to be completed in the two districts and also cascaded to other districts.	

Output 2	E-voucher System set up and piloted		
	Indicator	Target	Achieved
	Number of districts that have rolled out the electronic voucher system.	2	Yes
Baseline	0		
Comments	FAO successfully developed and piloted an e-voucher management system in Maseru and Mafeteng districts.		
Activity 2.1	Process evaluation of the input subsidy programme		
	Achieved	No	
	Comments	This activity was not formally conducted. Instead the ISP process was used to determine the prices, the commodities and agrodealers that participated in the programme. The project focused on an enhanced involvement of the agrodealers and an increased registration and participation of the farmers in the e-voucher system.	
Activity 2.2	Voucher management platform		
	Achieved	Yes	
	Comments	The e-voucher management platform was developed and deployed. This was also accompanied by Android-based applications. Although the project initially planned to use windows applications, it was later decided to customize offline Android-based farmer registration applications due to connectivity issues previously experienced in other countries where it was implemented. The offline farmer registration tool will allow specific individuals (such as extension officers and partners) to register farmers offline and upload the data once the internet connectivity is available. The tool will run on android tablets.	
Activity 2.3	Point of sale and MasterCard applications		
	Achieved	Yes	
	Comments	Android-based voucher redeeming applications were produced, agrodealers were trained on the functionality of the application. The application was also uploaded onto Google playstore. Initially envisaged, the use of smart cards were dropped after it was established that it is more cost effective to use mobile phones and android-based applications. The coverage of the mobile service provision is good in Lesotho and most farmers have mobile phones and were therefore able to receive SMS messages.	
Activity 2.4	Piloting of the voucher management system		
	Achieved	Yes	
	Comments	Thanks to the use of mobile telephone (with SIM cards) beneficiaries can redeem their electronic vouchers to purchase agricultural commodities. This solution proved to be cost effective and with a wide coverage. The e-voucher redeeming exercise was conducted from 25 November 2021 to December 2021. A total of 3 076 farming households were assisted with seeds (maize and beans) and fertilizer. This exercise was facilitated by agriculture extensionists to ensure that farmers have better access to productive inputs.	

Output 3	Agrodealer Registry Produced		
	Indicator	Target	Achieved
Indicator	Number of districts that have established and are maintaining a functional agro-dealers registration linked to the national database system	2	Yes
Baseline	0		
Comments	Through this project, the agrodealer registration was conducted in two districts. The agrodealer module was developed to create a database containing crucial information about the agrodealers' registration status, compliance with other laws, main products the agrodealers trade as well as their location. The LIAMIS agrodealer submodule allows for adding new agrodealers, editing agrodealers' information, approving and activating agrodealers to participate in the e-voucher distribution. The registration has not yet been linked to the national database system. This is expected to build up as more districts are covered.		
Activity 3.1	Identification and registration of agrodealers		
	Achieved	Yes	
	Comments	The agrodealers were identified from different sources, including the UNGRM, the MAFS's list of agrodealers who are participating in the input subsidy programme. These lists were also subjected to verification by a team of officials from FAO which assessed and streamlined the list based on set criteria. These were then registered into the LIAMIS.	

Partnerships and Outreach

For more information, please contact: Reporting@fao.org

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla

00153 Rome, Italy