

Sustainable Agricultural Livelihood Restoration, Rehabilitation and Resilience in Kenya Training Manual

4.1.2 SUB-MODULE 2: ICT TOOLS THAT SUPPORT DECISION MAKING IN AGRICULTURE

Lives and livelihoods of the world's most vulnerable communities rise and fall with fluctuations of agricultural production. As such, promoting the ability of smallscale farmers to access necessary knowledge, useful networks and support institutions through eLearning platforms can help improve agricultural productivity, safeguard food security, and create employment opportunities. It is for this reason that this sub-module highlights a few ICT tools that farmers and other agricultural stakeholders can leverage on to make informed decisions on value-chain selection, production, value-addition and marketing.

KAMIS

Kenya Agricultural Market Information System (KAMIS) is a web platform that was developed to provide farmers and agricultural value chain stakeholders with improved early warning marketing and trade information. KAMIS makes transactions between food surplus and deficit regions more efficient and competitive. It specifically provides farmers/stakeholders with advisories on Livestock and Crops Markets in terms of:

- Prices of commodity at different markets
- Commodity supply volumes,
- Wholesale and retailing prices
- Major markets by County
- Cross border market information: trade volumes, commodity source and destination

KAOP

Kenya Agricultural Advisory Platform (KAOP) is an integrated online platform that uses geo-data from satellites to generate real-time and location specific agro-weather advisories to farmers and other stakeholders.

DigiFarm

DigiFarm is a FREE Safaricom service that offers farmers convenient, one-stop access to quality farm inputs at discounted prices, input loans, learning content on farming as well as access to market. Other value-add services provided through DigiFarm include insurance yield cover and extension services through remote agronomists located at the DigiFarm call centre or on ground DigiFarm Village Advisors (DVA).

eLocust3m

eLocust3m is an application for smart phones that captures data about Desert Locust presence, bioecology and control operations. The information is used by agricultural stakeholders in real-time reporting and spatiotemporal mapping to support situation analysis and forecasts of future development for early warning and appropriate response. The rollout of eLocust3m app supports the Ministry of Agriculture and Livestock Development (MoALD) with timely information that covers the entire country.



Ministry of Agriculture and Livestock Development
State Department for Crop Development
P.O. Box 30028, Nairobi



Emergency Locust Response Program
P.O. Box 30028,
Nairobi



Kenya Agricultural & Livestock Research Organisation
P.O. Box 57811-00200,
Nairobi



The World Bank
P.O. Box 30577-00100
Nairobi

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M-Farm

This is one of the most familiar apps among farmers in Kenya. M-Farm links farmers with local buyers across the country. It also offers important information by providing price trends to determine the best time to plant various crops. Once the produce is ready, M-Farm connects the farmers with thousands of ready buyers for the most ideal price.

iCow

iCow application offers permanent access to highly credible and verified agricultural information and data in a reliable, cost-effective and simple design accessible through an SMS alerts subscription or access to specific farming needs on a 24-hour basis. From an evaluation study, iCow promoters have found that large trove of information was capable of enhancing yields and boosting incomes from crops, milk production, egg and poultry farming as well as lowering livestock mortality and improving soil fertility from as short as 90 days.

Agrobase

Agrobase application is made with agronomist and farmers in mind. The Application provides a database with agronomic information on weeds, diseases and pests, including diverse pesticides, herbicides and pesticides details from the selected countries. It allows farmers to identify pests and diseases early enough to guarantee crop production and protection. The app has been used widely by livestock, horticultural, nut, fruit and vegetable farmers to protect their investment and accomplish higher returns. Constantly updated database offers links to solutions of identified problems, including detailed descriptions of the issues with accompanying photos.

VetAfrica

VetAfrica application was made for Android and Windows smartphones. It allows any farmer to record their livestock data in the process obtaining diagnostic guidance and advice on the most ideal treatment. The application offers a support system not just for livestock farmers but veterinary experts and animal health professionals. Information on various diseases is provided, such as Schistosomiasis, anaplasmosis, theileriosis, gastroenteritis and trypanosomiasis amongst others.

Urban farming App

Urban Farming application shows people living in urban centres and thinking about farming, how to grow vegetables with ease through constant interactive reminders. A smartphone will constantly remind the user when the plants need some type of input such as fertilizer or water and how to solve the issue of crop diseases and common crop pests. Apart from information on growing organic and natural food from an urban home, delicious recipes are provided to prepare organic delicacies.

Dairy live

Dairy Live is a software for dairy farmers and professionals in the dairy industry around the world with a Kenyan reseller. The management application software allows farmers to work smart. Once they have put in information of all livestock and events such as pregnancy check,



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vaccinations, semen inventories and breeding. It allows farmers to instantly access livestock information wherever they are on a computer or smartphone. It also enables the farmer to create an event protocol that helps to track each animal's progress, track herd costs and computing returns. The app also comes with a server where the farmer can back up critical data. Standard charts will help the farmer see how his/ her herd compares with others regionally and nationally.

Breeding wheel

The Breeding Wheel app allows farmers to access individual animal data from a dairy herd in form of a wheel. It also produces images of individual animals. One of the most critical details on a herd is identification of cattle with reproductive problems, service schedule, identifying animals with shorter lactation periods, cow drying date management, and calves' distribution, among others.

Digitization apps

Data is a critical asset in decision making process. There are therefore several tools that are available for data collection, organization and basic processing and visualization. Kobo Collect and Open Data Kit (ODK) are two of the most popular freely accessible data collection applications. These are open-source platforms for the collection of data using Android Smartphones. Using the platforms, it is possible to collect structured questionnaires with rich data types including photographs, videos, numeric, textual and geographic information. They can be used for the collection of baseline data as well as real-time and periodic monitoring.

Further reading

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