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Playing an important part in disease control

"The pen appeared to be an almost revolutionary way to overcome a big problem with gathering data from the field and making timely decisions in case quarantine needed to be imposed..."

Fred Musisi, *FAO's Regional Emergency Livestock Officer*

Replacing frustration with success

Too little, too late. That has long been the frustrating effect of the United Nations' drought and infectious disease programs in Sub-Saharan Africa. But all that is history now. Due to a new technical application, information is transmitted in real-time, which means that the UN can actually prevent outbreaks of diseases and the dramatic effects of sudden droughts or floods. This is of key importance, as severe drought since 2000 has led to limited grazing and water points.

Behind the successful turn of events, lies the South African IT-company Xcallibre. The company has developed a unique application based on Anoto Digital Pen and Paper technology.

"We are thrilled to see that our solutions have really improved conditions in the region.

It is really fantastic", says Laven Pillay, Managing Director of Xcallibre.

Previously, local veterinary assistants and staff at the UN Food and Agriculture Organization (FAO) gathered hand-written information through field missions. Since the majority of these missions take place in remote countries with weak tele-communication networks, or none at all, most information was stored for weeks or months before it reached District Veterinary Offices and/or FAO analysts in Rome, Italy. The result was frustration at all levels, since by the time FAO headquarters had made their analyses, outbreaks of animal diseases had already swiped out livestock. This is particularly devastating, as a big part of the rural population in Africa depends on livestock for sustenance and the average annual consumption of meat and milk is expected to more than double over the next 10 to 15 years.

A chronic shortage of resources, land disputes and a crippling HIV/AIDS epidemic has led to a reduced capacity for communities to cope with the outbreak of transboundary animal diseases (TADs), for example Foot-and-Mouth Disease (a highly contagious viral infection that affects for example water buffaloes, pigs and sheep). The outbreak of TADs is the most important factor impeding market access for livestock and livestock products.

FACTS

Customer: The United Nations organization Food and Agriculture Organization (FAO), which leads international efforts to defeat hunger.

Challenge: A lack of timely information from the various collecting sources, particularly those in remote areas (due to electricity constraints and lack of computer access), to enable appropriate decision-making in the form of efficient and well-timed actions.

Solution: A digital pen and paper solution developed by South African company Xcallibre, incorporating Anoto technology.

Benefits: Practically eliminates need for data entry. Easy to use – almost no training required. Provides nearly instant reports to clients.

Anoto

Europe

Anoto Group AB
Phone: +46 46-540 12 00

US

Anoto Incorporated
Phone: +1-508 983 9550

Japan

Anoto-Maxell K.K.
Phone: +81 (0)3-5774 1212

"The pen appeared to be an almost revolutionary way to overcome a big problem with gathering data from the field and making timely decisions in case quarantine needed to be imposed. If there is a case of rabies or an outbreak of a deadly disease, a field worker can send the detailed surveillance data immediately only using a mobile. Worst case, if there is no mobile network nearby, the field worker has to move to a location with network or must find the nearest Internet connection. But no longer do they have to drive hours back to a capital city before the information can be confirmed", says Fred Musisi, FAO's Regional Emergency Livestock Officer.

Fast information transfer despite electricity constraints

Today, Digital Pen and Paper technology is being employed by regional and national authorities in Namibia, Zambia, Mozambique, Malawi, Tanzania and Zimbabwe. In short, the application means that field agents register data with Anoto's Digital Pen into a specialized form, created by Xcallibre. Then, the information is saved in the pen's memory, awaiting transmission using GPRS or Internet. Next, the data is processed and sent by e-mail to the relevant actors (District Veterinary Office, FAO headquarters), which can return instructions to field staff on what steps to take.

PDA's were considered as an alternative information tool at first, but the idea was discarded for a number of reasons: the need for batteries, the length of the questionnaires and a legal requirement of signatures on the forms. With the help of Anoto Digital Pen and Paper technology, information transfer is accelerated and all the users and offices can simultaneously receive secure and controlled access to the information collected. The solution has also improved the information management capacity, since the data collection methods now can be standardized throughout the region.

FAO are now thinking of using Xcallibre's application as standard procedure in its field missions in Asia and Latin America as well. They are also pondering over new areas of application, for example as a tool for combat against HIV/AIDS. Xcallibre, in turn, are aiming to create a proactive epidemio-surveillance network, where data can be produced to assess the risks and impact of TADs. Digital

pen and paper can be a helpful tool in this project.

"The main aim is to create a simple, yet effective functioning early warning system which would require a reliable application that will be able to work without electricity for several days", says Laven Pillay, MD of Xcallibre.

Partner profile:

The South African company Xcallibre is a new-age global technology services company, which sets out to deliver end-to-end business solutions to its clients. It comprises highly-skilled people and a network of strategic partners, all specialists in their respective fields. Xcallibre brings together a unique combination of mobility technologies and highly advanced service infrastructure, to create a forms/document processing solution with the ability to transfer hand-written and/or digital notes and forms to your back-office, as graphical images and fully loadable data files. Xcallibre delivers a wide portfolio of innovative business process systems to its clients in a number of sectors, including: insurance & banking, healthcare, manufacturing, public service, communication, research & development and transport.

www.xcallibre.com

Customer profile:

The Food and Agriculture Organization (FAO) is a United Nations organization that leads international efforts to defeat hunger. FAO also helps developing countries and countries in transition to modernize and improve agriculture, forestry and fishery practices and to ensure good nutrition for all. Since the founding in 1945, FAO has focused special attention on developing rural areas.

www.fao.org