

SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Tools and Technology in Support of Integrated Applications (1)

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HOW TO USE MAGRICULTURE WHICH EXPLOITS SPACE BASED TECHNOLOGY TO SOLVE
THE PROBLEM OF FOOD AND WATER INSECURITY IN GLOBAL SOUTH AND HOW DATA
DISTRIBUTION TECHNOLOGY GIVES BIRTH TO E-GOVERNMENT FOR CAPACITY BUILDING.

Abstract

We propose implementing a mobile communication platform to serve the needs of subsistence farmers. To accomplish this, there must be a dual focus. Firstly, any system for communicating agricultural data must serve the needs of the farmers. This would be done by collecting agricultural data at a central location, processing it into usable information, and sending the information to subsistence farmers via SMS. Secondly, the system by which data is distributed should be forward-thinking, and should plan to incorporate wider internet access and availability of higher-quality mobile communication devices across the next ten years.

Agricultural data would be collected at a central station, where it can be analysed by agronomists. The data would be converted into information that a farmer could understand and act on to safeguard the health of their crops, and sent to the farmer via SMS. For example, they may be informed that soil moisture levels in their region are above average for a particular time of year, which would encourage them to plant more crops to either store or sell at market to increase their earnings.

This platform should also allow for a farmer to contact the information distribution center and request specific pieces of information. A particular farmer might receive a daily SMS message informing them of the probability of coming drought so that they can adjust their irrigation strategies and protect their crops. However, on market days, the farmer might send a request for information to ascertain the price of wheat in the region, so that they can get a fair price at market. It may also be possible for the farmer to telephone the distribution station and either speak to an expert about a particular problem or participate in a forum to share information with other farmers.

Another possibility would be for farmers to upload information to a central location, which would allow governments to collect up to date agricultural data across a country. For example, if each farmer uploads how much surplus maize they have individually produced, the government would be able to correctly prepare in the event of a potential food shortage or similar crisis.

Finally, this type of communications platform has potential as a disaster early warning system. SMS messages containing the nature and location of the disaster can be sent to a broad segment of the population, and potentially help coordinate first responders in the aftermath of an emergency.