



Mobile Phones Help Farmers Feed Their Fields

Agriculture extension program in the Philippines will soon deliver fertilizer advice by text message

Steve Baragona | Washington, DC 28 July 2010



Fertilizer is an essential but expensive ingredient to maximize yield. Here, an IRRI technician checks leaf color to effectively manage the nitrogen levels of rice plants.

Researchers in the Philippines will soon use mobile phones to help farmers use just the right amount of fertilizer, maximizing their harvests, saving them money and protecting the environment.

Photo: International Rice Research Institute

It's a novel way to deliver important information to remote farmers who don't otherwise have access to expert advice.

For farmers looking to get the most out of their fields, fertilizer is an essential but expensive ingredient.

"Fertilizers represent about 20 percent of the input costs in rice production for farmers," says soil scientist Roland Buresh at the International Rice Research Institute. "So it's really quite important."

Getting it just right

Buresh has spent years researching optimal fertilizer conditions. Too little means lower yields and lower profits. Too much wastes money and causes pollution. But because every farmer's field is different, figuring out exactly how much to use is complicated.



What farmers do with rice straw after harvest -- burn it or return it to the field -- affects how much fertilizer to use.

Buresh and his colleagues have come up with a set of key questions that will help farmers make that decision. **Photo: VOA - S. Baragona**

"The unique thing about some of these decision tools is really how simple they are," he says. "The questions we're asking are really readily answerable."

Dial 'M' for manure

And to make it even simpler, farmers will soon be able to answer those questions using their mobile phones.

When the program launches in the Philippines in a few weeks, a farmer can call a toll-free number and hear a recording in his or her language that will ask questions about the size of the field, how much rice it produced last season, sources of natural fertilizers such as rice straw or sediment from river flooding, and so on.

The farmer answers the questions using the keypad on their mobile phones. A computer does the calculations and sends a text message with the amount and type of fertilizer to apply.



Photo International Rice Research Institute

Farmers apply fertilizer to an experimental rice field.

Making money, protecting the environment

Buresh says the impact on farmers' incomes could be substantial.

"Just a back-of-the-envelope calculation shows that in the Philippines, if we in a year can be reaching just five thousand farmers and their fields can be increasing the yield by half a ton per hectare, we could be looking at profitabilities for those farmers in the range of half a million dollars."

In addition to the financial benefits, it could also help farmers reduce fertilizer pollution.

"In the Philippines and all over Asia, fertilizer has been overused and misused because no one explains to them how much they need or how to use it," says Danielle Nierenberg `begin_of_the_skype_highlighting` `end_of_the_skype_highlighting`, a senior researcher with the environmental research organization the Worldwatch Institute.

Nearly everyone has one

Nierenberg says the potential for the technology goes far beyond Asia. She's been traveling across sub-Saharan Africa for the last eight months, and everywhere she goes, from remote villages in Uganda to poor farmers in Niger, nearly everyone has a mobile phone.

"Because it's easy and cheap and every farmer can basically get their own [mobile] phone or borrow someone's down the road, I think it's increasingly a way for them to gain access to things they didn't have before," she says.

In Zambia, for example, farmers without bank accounts can use their cell phones to buy seeds and fertilizers. They can also find out how much their crop is selling for in the city markets.

"They can decide whether they want to travel all the way from their village to the city," she adds, "because sometimes farmers get there and prices are too low." Their mobile phones could save them a trip.

So, while it may not be good for plowing a field or harvesting vegetables, the mobile phone is becoming one of a farmer's most valuable tools.