TECHNOLOGY JOURNAL

Jakarta turns to cellphones for bird-flu reporting

U.S. firm develops system to accelerate flow of information

By Nicholas Zamiska

In Indonesia it often takes days, if not weeks, for reports of bird flu to find their way to health authorities in Jakarta.

The delay can prove deadly. Earlier this year, the killer H5N1 virus spread among several members of a single family, likely originating with sick chickens that slipped under health officials' radar.

Now Voxiva Inc., a small, Washington, D.C., company, has developed a cellphone-based technology that aims to speed up and improve the reporting of flu cases in birds. Training is set to begin in October for field workers using the technology, which is expected to shave days off a reporting process often done with paper and pencil in the developing world, Voxiva says.

Using what is essentially a souped-up version of the short messaging service—the so-called text messaging technology that is common on digital cellphones—Indonesian workers checking birds at quarantine stations can punch in predetermined codes to send along information about actual and suspected flu cases.

For instance, if a quarantine worker at a checkpoint spots a truck with 50 chickens that died overnight on the road, he could enter "1*50*1" indicating that he saw a single truck carrying 50 dead chickens, the company says. In that hypotheti-

cal scenario, the second "1" could indicate that the birds had died; if the chickens had only fallen ill, that detail might be coded as a different number.

For more sophisticated phones, there are more advanced versions of the bird-tracking software. A phone enabled with Sun Microsystems Inc.'s Java platform allows a quar-

antine worker to enter the information about the suspected cases directly into a Web-based entry form on the phone's screen.

Indonesia's wireless network—like that of many developing countries whose residents have flocked to mobile phones where land lines may have never existed—covers a surprisingly vast swath of territory.

PT Telekomunikasi Selular, Indonesia's largest mobile-phone provider, says its network reaches 90% of the country's population, Indonesia, the world's fourth most populous country, with some 220 million people.

"We realize that the cellphone is going to be the computer that many people will never own," says Jonathan Kushner of Microsoft

Corp., which is helping to develop software for the project.

The program is being funded for about $500,000 by Microsoft, the U.S. Agency for International Development and the GSM Association, a trade group representing cellphone-service providers and manufacturers. Voxiva has worked with governments in Rwanda and Peru on similar cellphone systems that allow health-care workers to report outbreaks.

In Indonesia, where the H5N1 virus was first detected in people last year, concerns about spreading bird flu are particularly high because of the rate at which the virus has killed humans. Since 2003, the World Health Organization has confirmed 238 human cases of bird flu around the world, mostly in Asia, with 139 of them proving fatal. Since last year, Indonesia has led countries in bird flu deaths with at least 44, recently surpassing Vietnam's 42.

In much of Indonesia, agriculture officials today still report the number of birds that die in each district on a monthly basis, filling out forms and faxing them to Jakarta, according to Elly Sudiana, coordinator of the Ministry of Agriculture's avian-influenza control program.

Voxiva plans to begin training for about 150 agriculture workers in three provinces in October. Although the current project is limited to agriculture workers, Voxiva Chairman Paul Meyer says that the Indonesian project may eventually be expanded to include surveillance of the disease in humans.

"People are concerned about bird flu right now," says Mr. Meyer. "But you need to implement systems that are broadly applicable."

Paul Watson