SMS in the GMS: a novel approach to data collection in Southeast Asia

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Collection of timely, accurate data is always problematic for decision makers. This paper reviews the improvements in the process over recent times and describes the use of the short message system (SMS) to capture data in 'real-time' in the Greater Mekong Subregion (GMS) as part of a decision making system.

The development of large scale programs over large areas has created a need for large scale networks to collect, collate and submit data to a central authority. Typically, the data is collected by a field team, returned to the local office, recorded into a results book or computer interface and then summary data is produced and forwarded to the next level for further analysis, originally by mail, which could be slow.

Since the introduction of the telegraph, the time taken for data transmission has dropped enormously, further improved with telephony. Ironically, the improvement in timeliness of the data was to some extent offset by the need to 're-write' the data at the end, coupled with potentially poor clarity of information. The development of computer networks allowed the direct entry of data by field users that removed data transcription errors - although not necessarily data entry errors!

For our work in the GMS (initially in Cambodia and Lao PDR), we needed to be able to capture information on market prices of livestock at a provincial level to input into a regional livestock movements model. We created a web interface to a database to facilitate this, however internet access is limited in provincial areas. We have tried having data faxed, sent by mail or sent on 'memory sticks', but these methods all suffer from various limitations as discussed above.

Even though the internet is not readily available, coverage of the mobile telephone network is widespread, and many people have a mobile phone. Although call costs are high, the cost of sending a text message is relatively cheap, at around three US cents per sms within the country. By the use of a receiver in each country, networked via the internet to a central server, we can validate the message, store the data and return a message to the sender confirming receipt and/or notifying them of any errors. Messages are tallied and a new phone credit card is sent out to recompense the submitter as appropriate.

To overcome differences between handsets and language issues, we adopted a coding system. This allows the submission of a number of price categories in a single text message.

We are now able to produce price surfaces and compare prices by region to support our predictive movement model. This data can also be used for economic analyses by other parts of our project.