ETHIOPIA

RAPID-SMS
'LESSONS LEARNT'
March 2009

What is Rapid SMS?

The RapidSMS system allows for mass-scale monitoring, data collection and information sharing from monitors using mobile telephones in the field. The system can also be used to send out SMS messages to multiple users in the field.

Any trusted partner with an internet connection can watch the data come in and see a real time report (as opposed to waiting for monitors to return from the field).

User applications include (but not limited to):

- Rapid collection of data for reporting purposes
- Transferring messages to large groups quickly
- Identifying gaps, such as needed medical supplies in the field
- Sharing qualitative information about the situation in the field

When and why was RapidSMS used in Ethiopia?

For a brief outline of the Ethiopian trial please refer Annex A.

Considerations

Ethiopia was a test trial for the new RapidSMS system and as such RapidSMS was used in tandem with existing monitoring procedures i.e. hard copy reports received from the field on a biweekly basis.

Ethiopia RapidSMS Lessons Learnt

Benefits

- Flexible system that can be used for a variety of reporting applications.
- Real time reporting and immediate access to information as opposed to waiting for monitors to return from the field.
- A link to the RapidSMS homepage can be set up on any computer linked to the internet whereby an authorized staff member can view the relevant data – refer Annex B.
- Alerts such as 'No Stock' were immediately acted upon by nutrition staff (on 5 occasions) and replenishment Plumpy'nut was sent to the required distribution centre/s immediately, as opposed to waiting two weeks for a monitor to return.
- Amounts of Plumpy'nut to be distributed were prearranged – however, RapidSMS did allow for adjustments if/when required.

- Favorable feedback from Programme staff re RapidSMS - e.g. "*SMS report is very promising and I am already dreaming of having this system to get the TFP monthly statistics to monitor the performance from each site that I am not getting at the moment*" - Sylvie Chamois - Nutrition Specialist.

- Relatively short learning curve and training required for monitors i.e. in the case of Addis Ababa a two hour group lesson for monitors on a Saturday morning.

- Minimal equipment required i.e. an operational mobile telephone and a telecommunications carrier.

- RapidSMS has the capability of collecting large amounts of data and covering extensive geographical areas all in real time.

- Low cost capital expenditure, i.e. cheap to operate.

Problematics

- Codes have to be initially entered by a RapidSMS IT consultant into the system - e.g. in the case of Ethiopia 1,852 codes were entered, i.e. representing each distribution center. The names of monitors and Woredas[1] also had to entered.

- An initial homepage template had to be formulated – after two months and innumerable tweaks the homepage template was still being adjusted.

- Two IT consultants from New York stayed in Addis Ababa for an additional two weeks (beyond anticipated) fine tuning the system and entering relevant codes – DSA, etc.

- Extraction of information from RapidSMS into an Excel format proved challenging due the large amount of data. Response actions were invariably based on the homepage report in real time as opposed to data analysis of an Excel.

- Some of the system home page buttons were not functional hence it was not possible to correct or edit errors, e.g. the misspelling or addition of a Woreda.

- On at least four occasions the link from Addis Ababa to New York failed thus immobilizing the system and the ability in Addis Ababa to analyze reporting data.

- Disruption of RapidSMS if telecommunications carrier service is intermittent.

- A designated staff member needs to be allocated to monitor alerts and any other problems that may arise with the system. During the test period the designee left for annual holidays…….

- Data entry mistakes can be (and were) made by monitors in the field – e.g. the accidental addition of a 'zero' multiplies a supply level by a factor of ten i.e. providing a false and misleading balance.

- Unreliability of initial data, i.e. teething and learning curve for field monitors.

- Ownership – it was never really clear whether IT (NY), Addis Ababa IT or logistic designee was responsible for following up problems.

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[1] Woreda - an administrative division of Ethiopia (managed by a local government), equivalent to a district.

Conclusions and recommendations

RapidSMS was successfully trialed in Ethiopia and one of the immediate benefits noted was real time reports that enabled the Nutrition Programme to react immediately to a problem as opposed to the old system of waiting for monitors to return from the field.

As to be expected there were initially learning and teething problems from monitors reporting from the field and consequently the first two weeks of data received was treated with some skepticism as in some instances mistakes were clearly apparent. During the Ethiopian trial the first two weeks of reporting data was treated as test data only as opposed to accurate and reliable information. After one month 64% of the monitors were providing accurate data inputs and by the time the trial had been completed all monitors were conversant with RapidSMS. Lessons Leant has shown that in order to rectify this problem, i.e. initially only 64% accuracy, training needs to be thorough and practical trial tests made before monitors are dispatched to the field.

Bearing in mind that the RapidSMS system was a trial test the overall consensus at the completion of the trial was that RapidSMS enabled monitoring to be conducted at a degree and level previously not available to UNICEF staff.

That said, and despite the benefits which were clearly apparent, Lessons Learnt has shown that there is room for improvement in the RapidSMS system.

For example:

- Minimize reporting parameters, i.e. keep reporting simple.
- Spend time to initially develop the final software design and coding for the specific application, i.e. don't make changes during operations.
- Simplify data extracted to Excel.
- Platform ideally should incorporate Thuraya.
- A decision should be made whether to use Pre or Post paid Sims prior to the monitors departing to the field. This will avoid haggling at a later date.
- No monitor should be allowed in the field without receiving adequate training and a trial test before departing.
- Ownership of system should be clarified, i.e. IT (NY) or country of implementation.
- IT (NY) Help Desk response ideally within 24 hours.

Annex A

RapidSMS Ethiopia

With the onset of acute food shortages, UNICEF launched a massive food distribution programme in June 2008 to supply Plumpy'nut, a ready-to-use high protein and energy peanut-based paste, for under-nourished children in the southern regions of Ethiopia. Given the size of the operation, one of the key challenges was monitoring distribution which required innovative methods. To deal with this, the country office recently piloted RapidSMS, a new technology that compiles mobile text message data into a real-time correlated report. During a one month trial period, a total of 939 mobile text message reports were received from 1,852 distribution centres representing a 44% monitoring coverage (includes multiple calls from some distribution centres).

The scenario: The Country Office distributed 193,130 cartons of Plumpy'nut using 1,852 distribution centres. However, applying existing reporting and monitoring systems, i.e. field monitors reported on Plumpy'nut distribution and stock levels on a fortnightly basis over the phone and/or by fax which was then complied into a regional fortnightly report, did not allow UNICEF to quickly respond to the increased needs or low supply levels in remote areas.

Opportunity for innovation: The aforementioned provided an ideal opportunity to test the RapidSMS reporting system in tandem with the existing reporting and monitoring procedures.

After an initial one-day Rapid SMS training session, thirty-three monitors, each with a mobile phone, were dispatched to the field. Monitors were provided with a dial-in number and six pre-designated codes which they would enter into their phones followed by their monitoring data. Having sent the text data to UNICEF, the data was then automatically correlated by the RapidSMS computer programme into a real time report (as opposed to the existing system of waiting two weeks for monitors to return from the field).

The new RapidSMS system enabled the collection of data on stock balance, new admissions, location of distribution centres, and the quantity of Plumpy'nut received and consumed in pilot districts.

Due to the large number of distribution centres it was decided to implement RapidSMS in randomly selected Woredas, administrative divisions of Ethiopia equivalent to districts, each fortnight, whereby the data was collected and the exercise repeated two weeks later at new Woredas.

Challenges and the way forward: As was expected, the team confronted the usual teething and 'user problems' related with codes, etc. However, midway through the testing period, 64% of the monitors had mastered the system and were providing accurate input. By the end of the testing period, all monitors were conversant with the system.

Field monitors also became familiar with some of the more advanced functions of RapidSMS. For example - sending alerts advising 'there is no stock'. These alerts, received in real time, enabled the nutrition section to dispatch immediate replenishments (rather than waiting for up to two weeks for a monitor to return from the field with the information).

At the conclusion of the test period, all participants agreed that the trial had been successful and that RapidSMS had proved to be an ideal tool to conduct real time monitoring. Given successful implementation of the pilot, UNICEF Ethiopia will explore the application of the RapidSMS system for additional monitoring activities.

Annex B

Rapid SMS Home Page