



a decade in communicable disease control and child health

Malaria Consortium's Experiences on mHealth in Cambodia

Pengby Ngor

JITMM Conference, Bangkok, 11-13 Dec 2013



PREVENTION



DIAGNOSIS



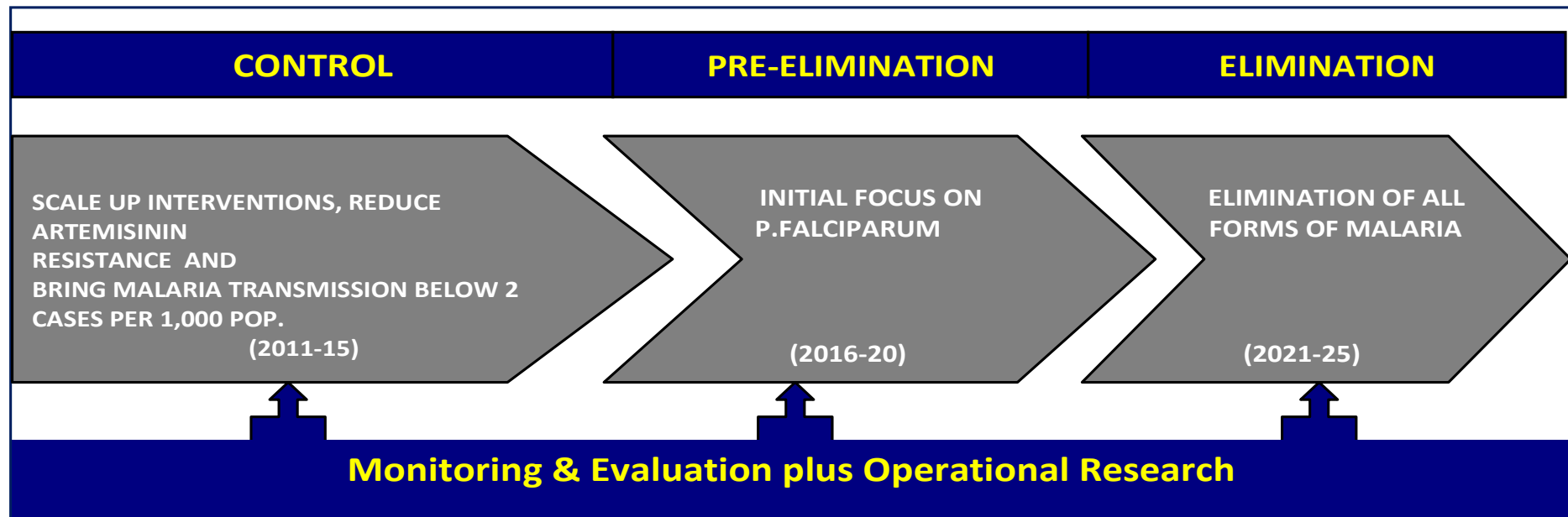
TREATMENT



RESEARCH

Background

- Cambodia has set a goal of eliminating malaria by 2025. Malaria Consortium has played an important role in supporting the surveillance system to National Malaria Centre of Cambodia since 2009.



- To move towards pre elimination and eventually elimination there is a need not only for case based reporting but case based reporting in real time to allow for direct response to each case as it is detected rather than waiting until the end of a particular 'reporting period'.

Surveillance System

- Malaria Information System (MIS)
- Day 3 positive alert system
- Malaria Alert System (Day 0)
- Referral System
- Stock Out Alert System

Cambodia Day 0 Malaria Alert System

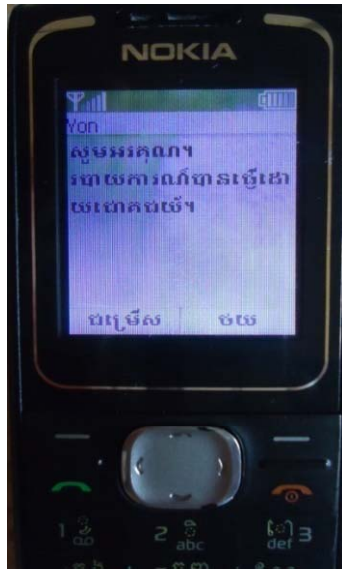
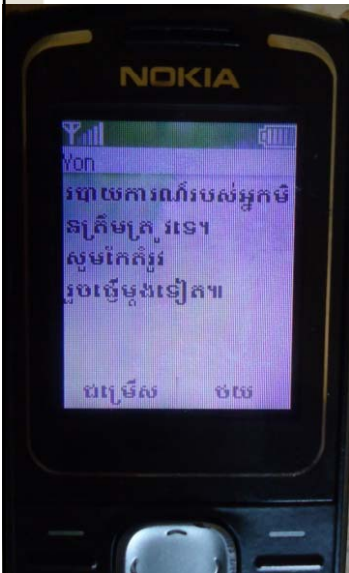
- Uses the model piloted by the Day 3 positive system
- Web based system – more robust than FrontlineSMS
- Malaria cases reported using very simple code
- Simple SMS (5 digit) are sent by VMWs and HC staff.

| VMW | | | | HC | |
|----------------------|-----|--------------|-------------------|--------|----------------------------------|
| Species (F,M,V,N) | Age | Sex (F,M) | Day (RDT Test) | Mobile | Village code for current address |
| _ | _ | _ | _ | . | _ _ _ _ _ _ _ |



- Ex: F23M0
- Implemented in 5 ods with 298 vmws and 23 HC staff provided with basic phones

Day 0 – A unique public / private partnership between CNM, InSTEDD and Mobitel





N° 190/11

ក្រុមហ៊ុន ម៉ូបែល ភី ខេមបូឌី លីមីតធីត
 ៩៩ មហាវិថី ព្រះសីហនុ
 ក្រុងភ្នំពេញ ២៤៦ ភ្នំពេញ ៣ កម្ពុជា
 ក្រុមហ៊ុនម៉ូបែលភីខេមបូឌី

Date: Mar 10, 2011

CamGSM Co., Ltd.
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 P.O. Box 2468 Phnom Penh 3,
 Phnom Penh, Kingdom of Cambodia
 Tel: (855-12) 801 800
 Fax: (855-12) 801 801
 E-mail: helpdesk@mobitel.com.kh
 Website: http://www.mobitel.com.kh

InSTEDD
 Mr. Khoy Long, Operations Manager
 InSTEDD Innovation Lab
 Phnom Penh Center, 4th Floor,
 Tonle Basac, Phnom Penh

Ref: Proposal for SMS with Mobitel

Dear Mr Khoy Long:

As per your request on the proposal for SMS with Mobitel, we are pleased to offer InSTEDD in corporation with the Ministry of Health and the National Center for Parasitology, Entomology and Malaria Control ("CNM") our support to its efforts in the elimination of Malaria by providing the Ministry and CNM access to our network services.

Included in the service we will provide the following:

- Free SIM cards to health workers, provided that they submit to CNM to certify and return to CamGSM the complete registration forms
- One shortcode accessible within the Mobitel network
- Free on-net messaging between the group

The above offer is subject to terms and conditions set out in a separate Agreement.

In order to facilitate this project, we will be more than pleased to collaborate with the InSTEDD and/or any representative thereof for the technical processes related to setting up the above services.

Through this partnership, we hope that our contribution would be significant enough to help accomplish the InSTEDD and CNM's task at hand, and ultimately lead to a common goal of providing meaningful services to the Cambodian people.

Sincerely,

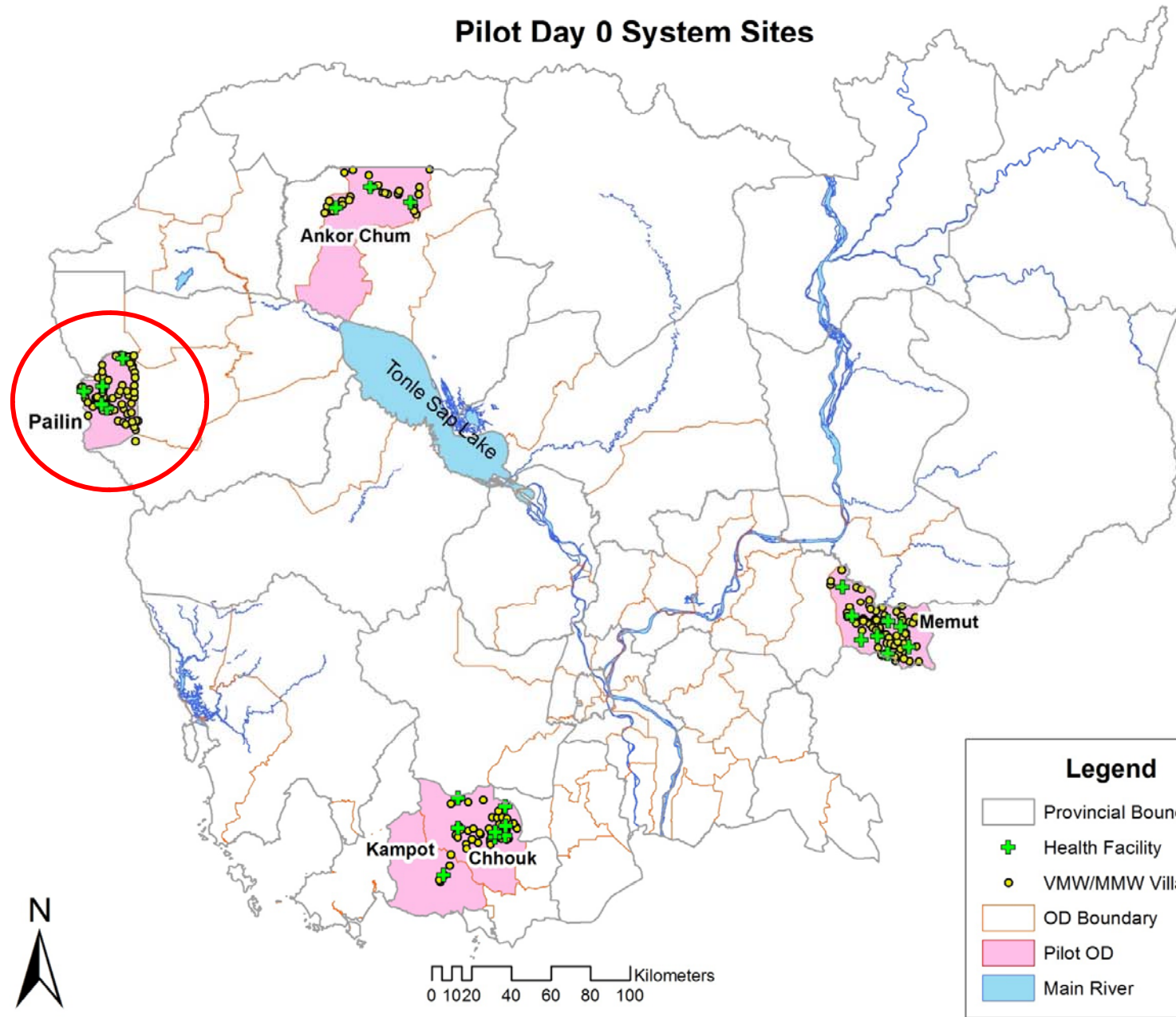

 KAY LOU, Director, CamGSM Co, Ltd

CC: His Excellency Duong Socheat - CNM Director






Pilot Day 0 System Sites



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Day 0 reporting by SMS from Village Malaria Worker and Health Center



HC



Receiver

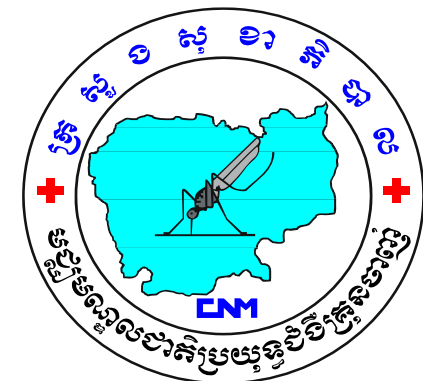
PHD/OD



**MDo
System**



VMW



Receiver

CNM

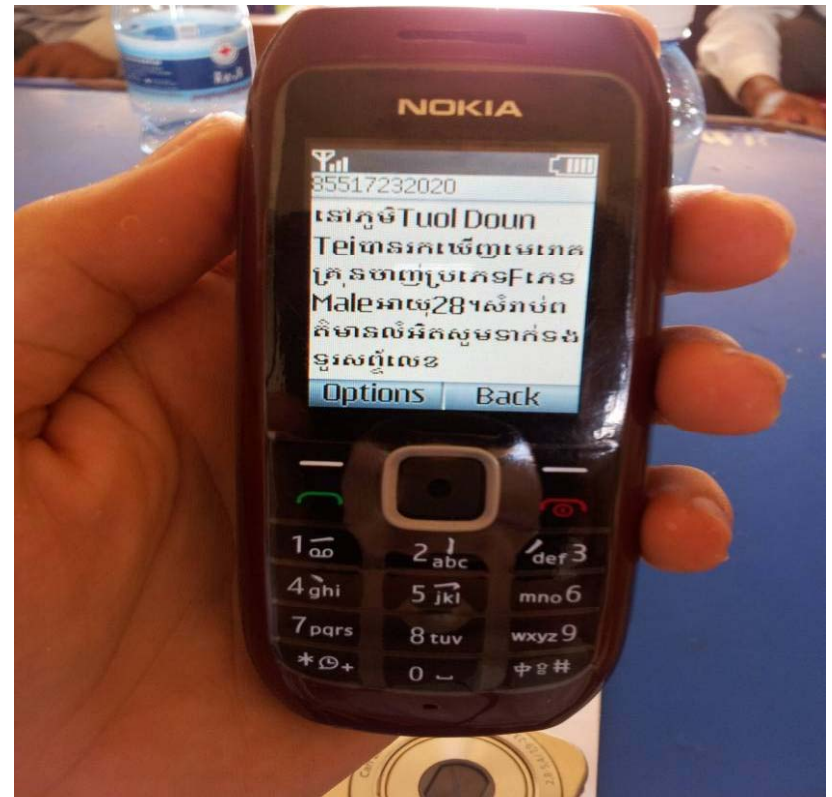
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VMWs being trained in the day 0 alert system in Koh Sla HC in Kampot



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Dav 0 web based interface – message centre



malaria consortium
disease control. better health.



admin@md0.com | [Home](#) | [Users](#) | [The](#)

You are here: **National**

[All messages](#) | [Error messages](#) | [Last error message per sender per day](#) | [Duplicated me](#)

- Provinces**
- 01 Banteay Meanchey
 - 02 Battambang
 - 03 Kampong Cham
 - 04 Kampong Chhnang
 - 05 Kampong Speu
 - 06 Kampong Thom
 - 07 Kampot
 - 23 Kep
 - 09 Koh Kong
 - 10 Kratie
 - 11 Mondul Kiri
 - 22 Oddar Meanchey
 - 24 Pailin
 - 13 Preah Vihear
 - 15 Pursat
 - 16 Ratanak Kiri
 - 17 Siem Reap
 - 18 Sihanoukville
 - 19 Stung Treng
 - 21 Takeo

- Users**
- Province users (0)
 - OD users (5)
 - HealthCenter users (8)
 - Village users (191)
-
-

Displaying messages 1 - 20 of 1477 in total

← Previous **1** 2 3 4 5 6 7 8 9 ... 73 74 Next →

| Date | Sender | Sender number | Text | Type | Age | Sex | Mobile? | Reported at | Health Center | Village |
|------------------|---------------------------------|---------------|-------|------------------|-----|--------|---------|-------------|-------------------|--------------------------|
| 3 minutes ago | Damrei Phong | 85595705662 | m23 | invalid sex edit | | | No | | 070414 Steung Keo | 07071509 Damrei Phong |
| 3 minutes ago | Anlong Makprang | 85595705661 | M300m | M | 300 | Male | No | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| 5 minutes ago | Damrei Phong | 85595705662 | M36f | M | 36 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 8 minutes ago | Anlong Makprang | 85595705661 | M30m. | M | 30 | Male | Yes | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| 13 minutes ago | Damrei Phong | 85595705662 | M25f | M | 25 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 16 minutes ago | Damrei Phong | 85595705662 | M35f. | M | 35 | Female | Yes | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 20 minutes ago | Damrei Phong | 85595705662 | M32f. | M | 32 | Female | Yes | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 25 minutes ago | Damrei Phong | 85595705662 | F65m. | F | 65 | Male | Yes | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 27 minutes ago | Damrei Phong | 85595705662 | M32f | M | 32 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 30 minutes ago | Damrei Phong | 85595705662 | F44f | F | 44 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 36 minutes ago | Damrei Phong | 85595705662 | M36m | M | 36 | Male | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 39 minutes ago | Damrei Phong | 85595705662 | F23f | F | 23 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 39 minutes ago | Anlong Makprang | 85595705661 | M360f | M | 360 | Female | No | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| 39 minutes ago | Damrei Phong | 85595705662 | F23f | F | 23 | Female | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| 39 minutes ago | Anlong Makprang | 85595705661 | M30m | M | 30 | Male | No | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| 39 minutes ago | Anlong Makprang | 85595705661 | M30m | M | 30 | Male | No | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| 42 minutes ago | Anlong Makprang | 85595705661 | M30m | M | 30 | Male | No | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| about 1 hour ago | Anlong Makprang | 85595705661 | F25m. | F | 25 | Male | Yes | village | 070414 Steung Keo | 07071505 Anlong Makprang |
| about 1 hour ago | Damrei Phong | 85595705662 | F45m | F | 45 | Male | No | village | 070414 Steung Keo | 07071509 Damrei Phong |
| about 1 hour ago | Anlong Makprang | 85595705661 | F25f. | F | 25 | Female | Yes | village | 070414 Steung Keo | 07071505 Anlong Makprang |

← Previous **1** 2 3 4 5 6 7 8 9 ... 73 74 Next →

Use this to send a free SMS message to VMWs in Khmer

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Day 0 web based interface – mapping of cases

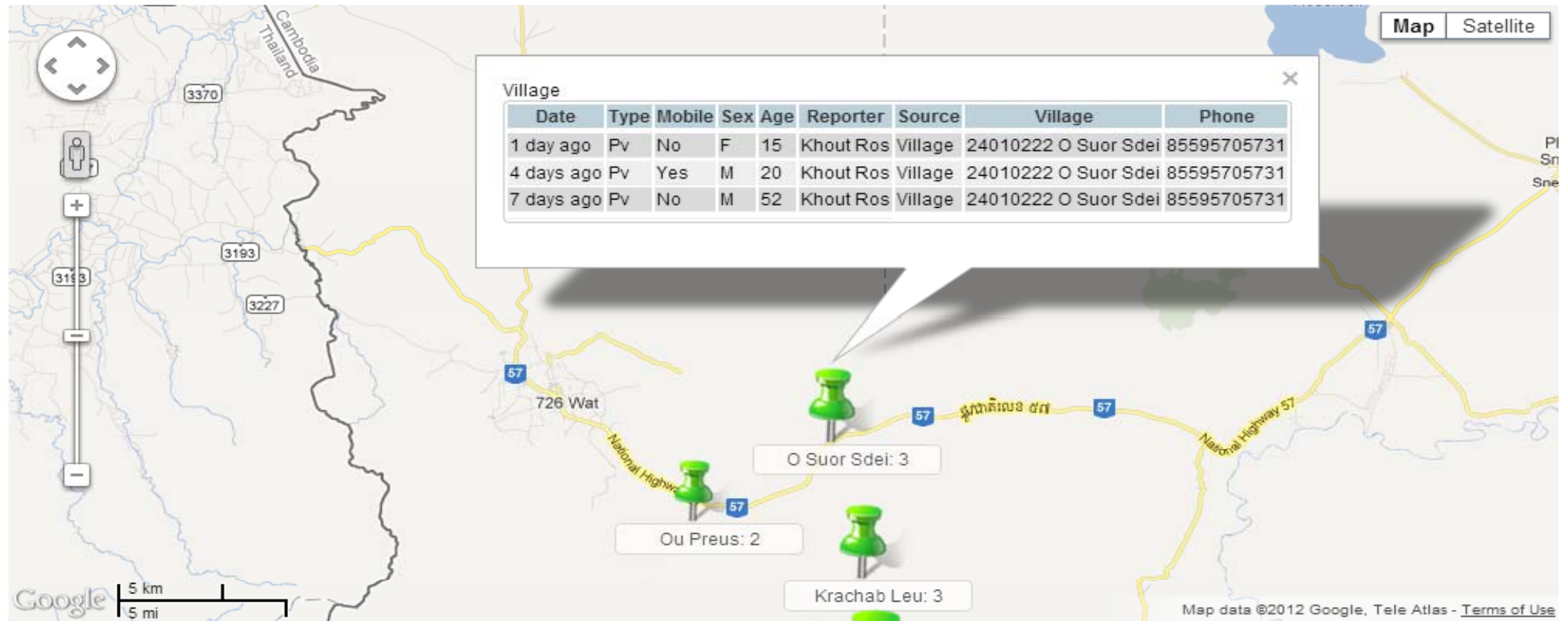
All messages

Error messages

Last error message per sender per day

Duplicated messages

Places reporting and not reporting



2012-08-05

2012-10-04

2012-10-04

Day
 Week
 Month
 Year
 Custom

Malaria type: All Show

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Challenges and Next Step

•Challenges

- Difficult for training them on how to use the phone
- Some phones are broken or lost
- The coverage area network of mobile company that we are collaborating is limited.

•Next Step

- Deals with other mobile operators
- National Malaria Control Program will implement this system in other Operational Districts in next year.
- Day zero software would require some minor modification
- Replace basic phone with smart phone?

Lessons learned

- Introduce the new technology to community level
- Get information from remote area in real time with low cost
- Effective low cost communication system linking all VMWs and health centres with national and district staff
- Cost effective (\$100 per user setup costs) uses simple phones with minimal ongoing costs
- Deal signed with Mobitel to provide free SIM cards to all VMWs with no restrictions and free messaging within the group
- Deal signed with SMART and MOBITEL to provide free short and long code SMS
- Phones use Khmer script and software can send SMS to all, or defined groups of users (such as health information messages to all VMWs in a province) for free.



Thanks

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