

# Mobile Agricultural Information Services (MAIS): *where we are and what next?*

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*What can telecommunications do for agriculture?*

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# What do we know about farmers' information needs?

- They have various information needs throughout their crop cycle
- These information needs vary across the different stages of a crop cycle
- These information needs vary from country to country

Given varying information needs  
what is the role being played by  
MAIS?

# But first meet H.M.M.G. Dissanayake Banda, a smallholder in Sri Lanka

- Owns & cultivates 0.6ha
- Farmland is 10-15km from the main market
- Knows how to grow onions, cabbage, eggplants, rice, sweet potatoes and tomatoes
- Has recently become interested in green chili cultivation but lacks the knowledge
- Has a bank account, yet depends on cash to pay for inputs as well as other livelihood costs. Obtains credit from time to time from family as well as the main trader that he sells his produce to.



# There are many MAIS solutions in the region

	IKSL, India	RML, India	Tradenet , Sri Lanka
<b>Services Provided</b>	<ul style="list-style-type: none"> <li>•Market price information</li> <li>•Crop advisory service</li> <li>•Weather forecasts</li> </ul>	<ul style="list-style-type: none"> <li>•Market price information</li> <li>•Crop advisory service</li> <li>•Weather forecasts</li> </ul>	<ul style="list-style-type: none"> <li>•Market price information</li> <li>•Trading platform matching buyers and sellers</li> </ul>
<b>Partners</b>	Bharti Airtel + Indian Farmers Fertiliser Cooperative Limited (IFFCO)	None	Dialog Axiata PLC + GGS
<b>Languages</b>	~10 regional languages including Hindi	Multiple local languages	All three languages (English, Sinhalese, Tamil)
<b>Mode of delivery</b>	Voice message, IVR	SMS	SMS, USSD, Internet/WAP, Call Center
<b>Price</b>	Free Voice messages Helpline service: INR 1/ min	Maharashtra: INR 175 for 3 months INR 350 for 6 months INR 650 for 12 months	Free for the moment except for Call center (LKR 3+Taxes per min)
<b>Subscriber numbers</b>	1.08 million (Mar 2011)	~1 million (2012)	~10,000 (includes non-agricultural subscribers)
<b>How is data collected</b>	Through the auctioneers in the mandis	Price through RML data collectors; other data (weather, crop advisory) through partnerships with Govt/NGO/ Private stakeholders	Through dedicated price collectors employed by GGS at the markets they cover

# What do we know about such MAIS services

- Existing MAIS services often only meet a sub-set of farmers' information needs:
  - Market prices
  - Weather
  - Some crop advice and best practices
- The most impactful are those provide information that is timely, accurate and relevant
- Local language availability is imperative
- Voice is still king especially in low literacy countries

Some issues to keep in mind...

# Data collection: Why should I trust them and who is accountable?

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- Trust takes time to develop
  - Farmers often try out services in parallel to their traditional activities before building trust.
- Accountability is a bigger issue
  - Market price information could be considered a public good so ideally should be collected by government or government agent
  - But problems with government data forced RML and GGS/Tradenet to deploy their own price collectors.



# How should price data be collected?

- Ideal solution:
  - Transaction Generated Information captured through the use of electronic exchange at markets
  - Difficult to compel people to use it
- 2<sup>nd</sup> best solution
  - Government employs data collectors in all the major markets
  - Government also establishes a quality assurance scheme
- Another solution
  - Establish an online trading platform such as Tradenet, in conjunction with e-payments
  - However, difficult to compel people to use it (though if it becomes heavily used like mPesa, less of a problem)

# Will access to timely & accurate spot market information significantly reduce wastage in agricultural markets?

- Not necessarily, so long as there is limited warehousing and cold storage accessible to smallholders

# Post harvest wastage in Sri Lanka

11<sup>th</sup> March 2012: [http://www.sundaytimes.lk/120311/News/nws\\_21.html](http://www.sundaytimes.lk/120311/News/nws_21.html)

Produce from the North creates surplus in veggies

http://www.sundaytimes.lk/120311/News/nws\_21.html

Apple Wikipedia News (506) Popular Mac OS X ke...d shortcuts


## Prices plummet as consumers have a field day while farmers destroy stocks not worth selling at a loss

**By Hansani Bandara**


Prices of vegetables have come down drastically, to consumers' relief, while farmers have been hit by low prices. According to a statistical officer at the Hector Kobbekaduwa Agrarian Research & Training Institute (HARTI), Ajith Ratnasiri, the prevalent favourable weather conditions for cultivation the supply of quality seeds to the farmers and the production in the Northern and Eastern areas contributing towards enhancing the national supply, have resulted in the surplus.

Mr. Ratnanasiri added that this issue has mainly occurred with crops that have a comparatively low production cost such as carrots, tomatoes and beans. He further said to overcome over-cultivation and wastage, crop diversification among farmers should be practised, because, if all the farmers are engaged in the production of one crop, it will create an excess, resulting in the reduction of prices.

Farmers should also be advised to grow vegetables according to consumer needs, and there should be Government intervention in controlling the production. "Unless there are systematic solutions to manage the surplus in vegetables, the time spent on cultivation and the money spent on fertiliser will be a waste. Therefore, relevant authorities should come up with plans to



Destination garbage bins: Excess vegetables being thrown away at the Narahenpita Economic Centre. Pix by Indika Handuwala and Susantha Liyanawatte



- ▶ Price control on medicinal drugs
- ▶ Sweeping reforms, including Sena
- ▶ Coast Line railway ploughs through
- ▶ News in brief
- ▶ Police yet to make breakthrough, e
- ▶ no complaints received against pr
- ▶ Police brutality mindless, indiscrim
- ▶ excessive: Petitioners
- ▶ Thorough clean-up at Mahamodera
- ▶ after twin deaths
- ▶ Poor man's luxury transport is by
- ▶ When English-speaking Tamils me
- ▶ LTTE cadres
- ▶ St. Anthony facilitates Indo-Lanka
- ▶ Kachchativu
- ▶ Crocodile in Dehiwala sea does no
- ▶ mile swim
- ▶ Illegal land sales undermine Mutur
- ▶ Cesspit poison gas suspected in K
- ▶ death during world record bid
- ▶ Kahawatte double murder: Charge
- ▶ cover-ups lead to suspects' trail
- ▶ Driver Improvement Points
- ▶ Jayasuriya sworn in as President'
- ▶ Properties liable to seizure and sa
- ▶ rates: Mayor
- ▶ Problems at the Peak
- ▶ Produce from the North creates su
- ▶ Fishermen keep afloat the old-fast
- ▶ Kataragama gem find: Villagers sa
- ▶ their share
- ▶ 25-year journey amid turbulent we
- ▶ crossroads

# Despite this, MAIS-es are having livelihood benefits for farmers:

## *Livelihood impacts of Tradenet*



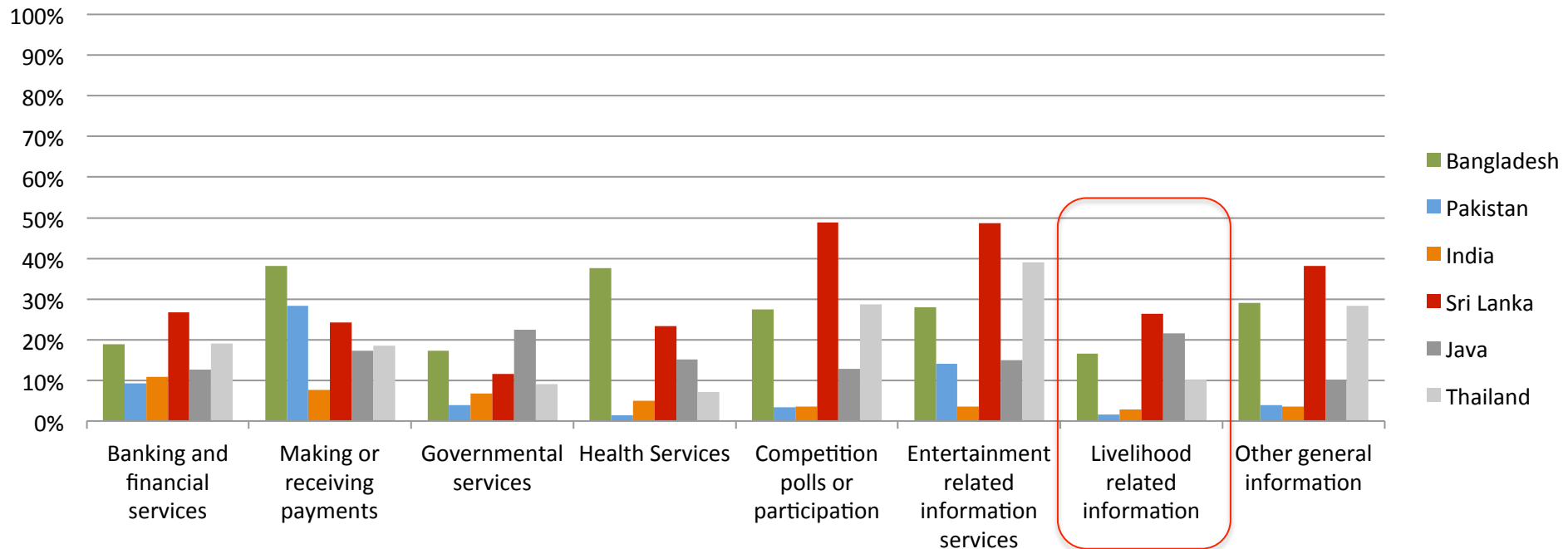
- Farmers are figuring out the right time to enter the market
  - Study group on average obtained a premium of 6.4% on daily average market prices when selling their crops; control group had a loss of 2.3%
  - Works when there is high intra and inter day volatility and can get to market quickly
- Farmers' trust in traders is improving
- Farmers are improving their hedging strategies
  - Tracking price trends to figure out high value crops
  - Looking for knowledge in crops outside their forte.
- Trading in agricultural produce on the system is minimal
  - Buyers unwilling to quote prices

# The challenge: moving from one-way to two-way information flows

- Market prices, weather amenable to a one way information flows
- But diagnosis of a farmer's problem with his/ her crop will probably require a dialogue
  - E.g. Ekgaon's oneFarm service in India
    - Customized crop nutrient system based on matching the geo-coordinates of a farmer's land to soil census maps, current crops, past yields, etc.
  - A better example from Thailand?
    - Customized fertilizer usage
    - Farmers find out soil quality using a low-cost kit (~USD 100)
    - Farmers enter soil information on-line or via SMS in order to obtain information about soil and type and then, optimal fertilizer mix (N-P-K).
    - [http://lirneasia.net/wp-content/uploads/2010/07/thai.vc\\_.pdf](http://lirneasia.net/wp-content/uploads/2010/07/thai.vc_.pdf)

# But let us look at the reality of the exposure of More Than Voice (MTV) services amongst the poor: *Low awareness...*

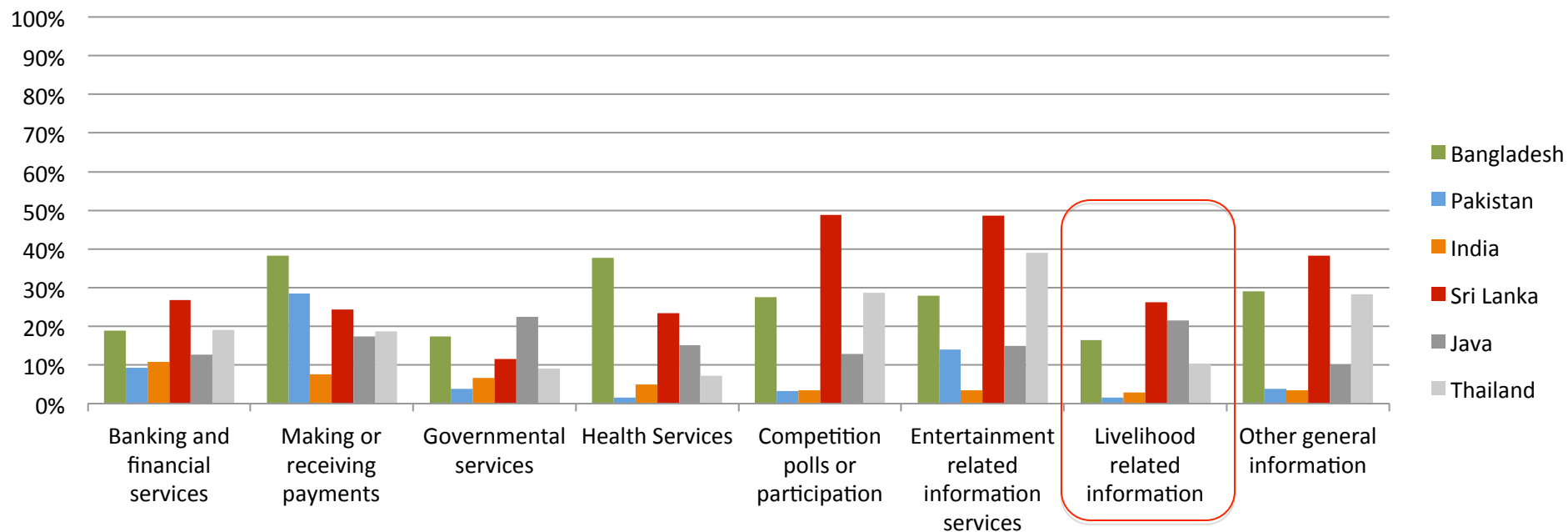
Awareness of MTV services that can be accessed through phone or computers (% of BOP teleusers)  
June 2011



Among BOP teleusers

# ....and even lower utilization

Awareness of MTV services that can be accessed through phone or computers (% of BOP teleusers)  
June 2011



Among BOP who are aware of MTV services

# In sum

- When it comes to MAIS
  - Farmers will see value only in those that provide actionable information (timely, accurate & relevant)
    - Ideal if MAIS was preceded by an assessment of farmers' information/ knowledge needs
  - Local languages essential
  - Voice is still king
  - Need to move from only one-way information flows to two-way information flows
- The role of state agricultural institutes?
  - A large amount of agricultural knowledge often resides in state institutions
  - Such information ideally needs to be codified and access made available via open access APIs to anyone, including MAIS service providers



# What happened to Mr. H.M.M.G.

## Dissanayake Banda after he started using Tradenet in early 2010?



- One day when his cabbage crop was ready for harvesting, he noticed prices at DDEC had risen from USD 0.18/Kg in the morning to USD 0.32/Kg by the late afternoon.
- Realizing the upward trend, he used friends and family to quickly harvest his crop
- By the time he sold his cabbage crop at the market he was able to obtain USD 0.41/Kg - *a premium of USD 0.11/Kg (35.2%) on the average market price* for his variety of cabbage that day.
- His Willingness to Pay (WTP) for each price alert: LKR 1.5; His WTP to be matched with buyer: LKR 3.5
- Video (<http://www.youtube.com/watch?v=JAsvP2avdc8>)

# Thank You

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More information:

<http://lirneasia.net/projects/agriculture/>