

# Mobiles for rural development

## *What can be learned from mobile based agriculture services in Sri Lanka and India*

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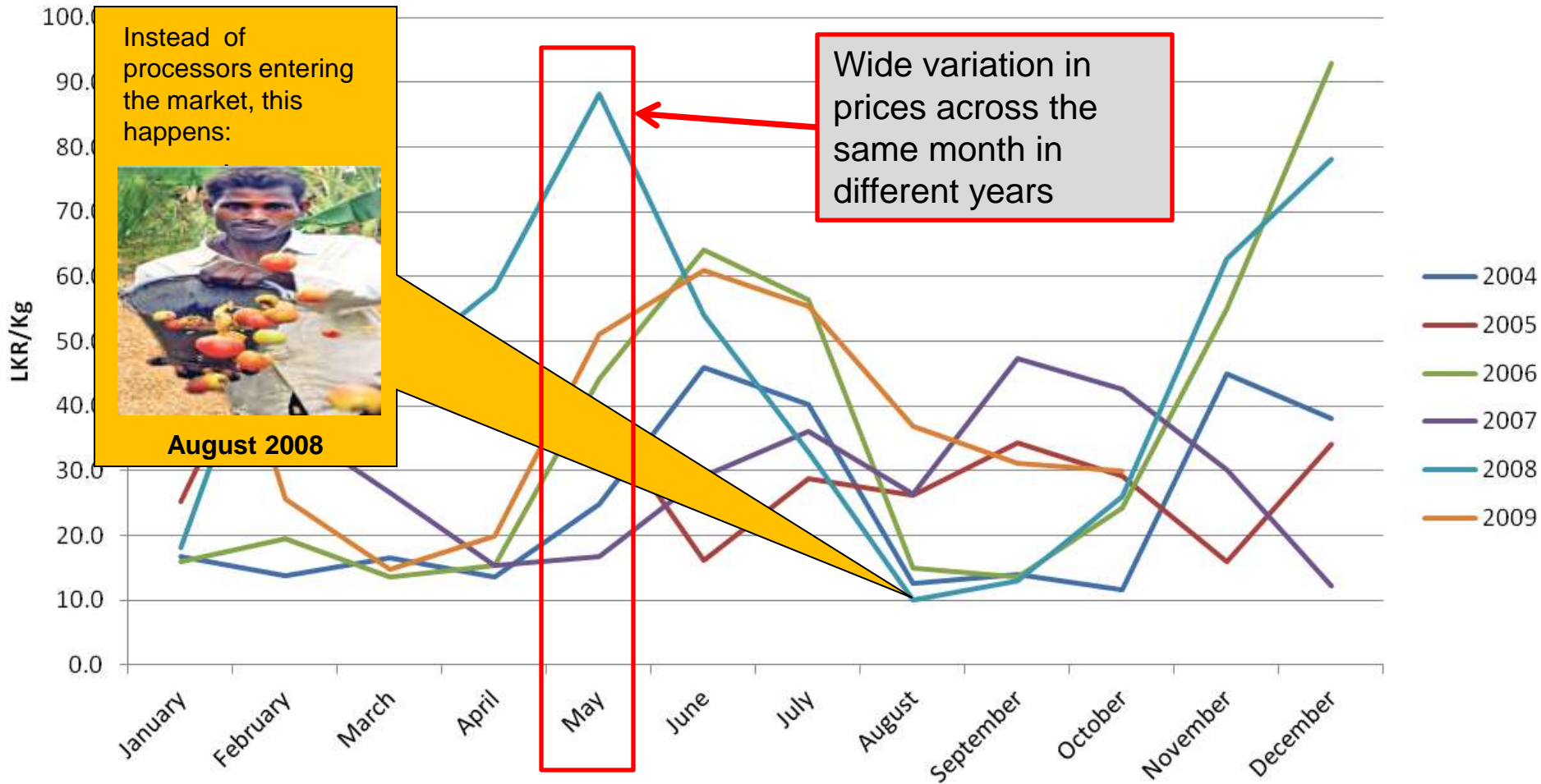
# Meet H.M.M.G. Dissanayake Banda, a smallholder in Sri Lanka

- Owns & cultivates 0.6ha
- Farmland is 10-15km from the main market
- Knows how to grow onions, cabbage, eggplants, rice, sweet potatoes and tomatoes



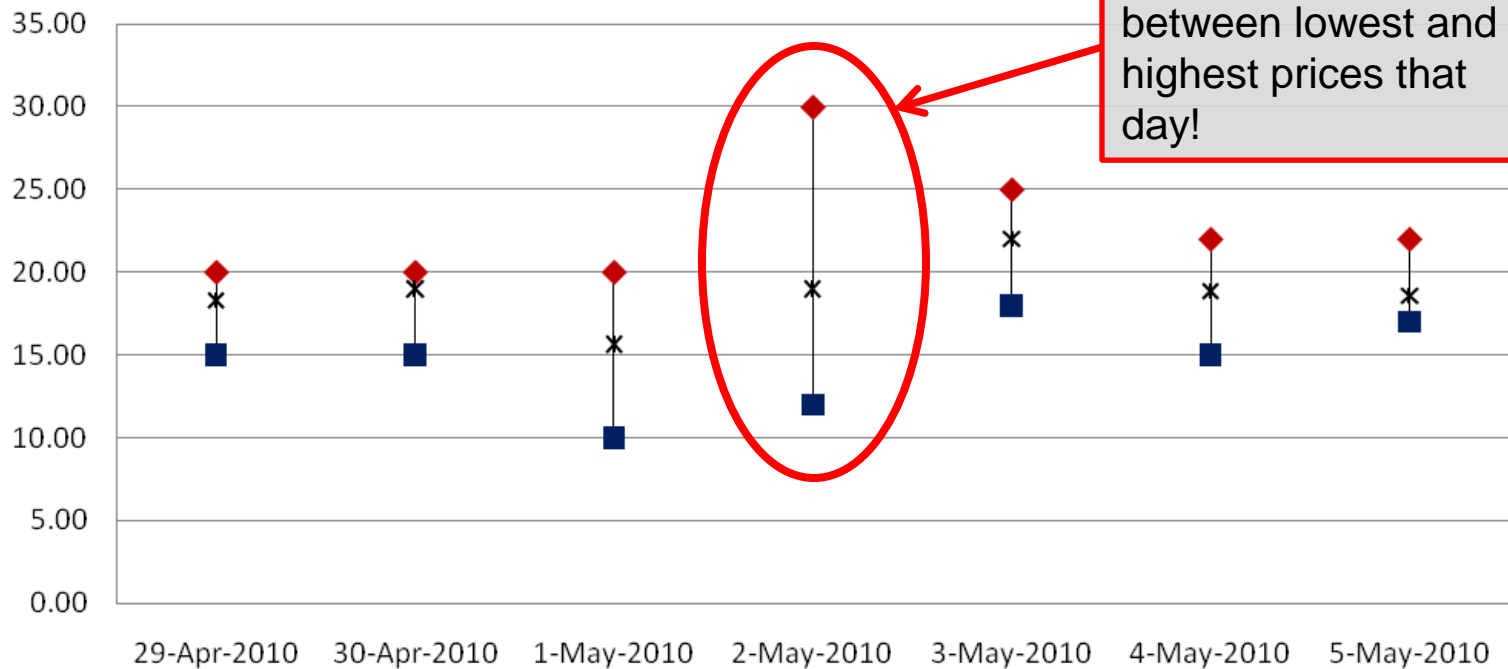
# What's happening with Sri Lankan agriculture?

## *Tomato prices at DDEC (2004 - 2009)*



# Even inter-day and intra-day volatilities are high

Daily Price Movements at DDEC  
Cabbage - Dambulla, Melsiripura



150% difference between lowest and highest prices that day!

	29-Apr-2010	30-Apr-2010	1-May-2010	2-May-2010	3-May-2010	4-May-2010	5-May-2010
◆ High	20.00	20.00	20.00	30.00	25.00	22.00	22.00
■ Low	15.00	15.00	10.00	12.00	18.00	15.00	17.00
* Average	18.29	19.00	15.67	19.00	22.00	18.83	18.60



- But the kicker is that high seasonal, inter and intra-day volatility is common amongst most fruits and vegetables grown in Sri Lanka

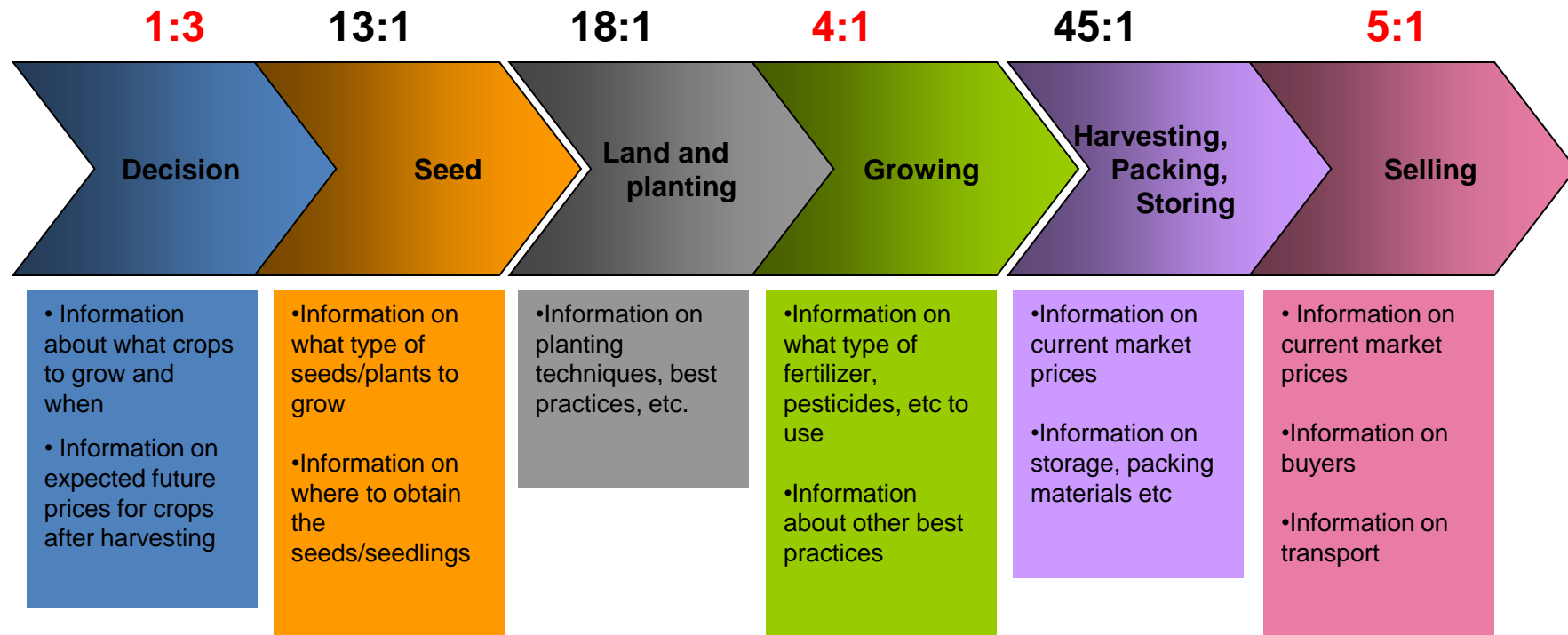
# Agriculture in South Asia exhibits low productivity

	Bangladesh	India	Pakistan	Sri Lanka
Share of GDP (2009)	18.7%	17.5%	20.8%	12.8%
Labor employed by sector (2009)	45%	52%	43%	32.7%

- 75% of the world's poor live in rural areas (WB, 2007) where farming is the main source of employment
- The sector is characterized by various problems:
  - Land related issues (ownership as well as use)
  - Large numbers of small poor farmers often not land owners
  - Low productivity
  - Inefficient markets
  - High information asymmetry

# Farmers need a multitude of information that is *accurate, timely & actionable*

Other costs : Information search cost



De Silva & Ratnadiwakara (2008) found that a 300 sample of farmers in Sri Lanka spent as much as 11% of their total production cost on information search

# So what can Information and Communication Technologies (ICTs) do for farmers?

- Assist farmers in searching for markets & trading partners
- Increase access to other livelihood related networks e.g. input suppliers, transport agents, finance, etc.
- Bridge information/knowledge gaps such as weather, seed selections, chemical use, cropping choice, etc.
- Improve farmers' ability to negotiate and bargain
- Facilitate relationship maintenance and trust



# Amongst ICTs, mobiles have the greatest reach

ICT per 100 inhabitants	India	Sri Lanka
Fixed Phones	2.86	17.1
Mobile SIMs	71.11	86.5

Figures as of June 2011; Source: Telecom Regulatory Authority of India (TRAI) & Telecommunications Regulatory Commission of Sri Lanka (TRCSL)

## What about access at the Bottom of the Pyramid (BOP)\*?

	India	Sri Lanka
Have used a phone in the last 3 months	89%	90%
Used the Internet	1%	9%
Own a fixed phone	2%	39%
Own their own mobile	37%	71%

\* Representative survey of SEC D & E (approximately equivalent to those living under USD 2/ day); Source: LIRNEasia, Teleuse@BOP4, June 2011

# Reducing information search costs related to market prices in Sri Lanka

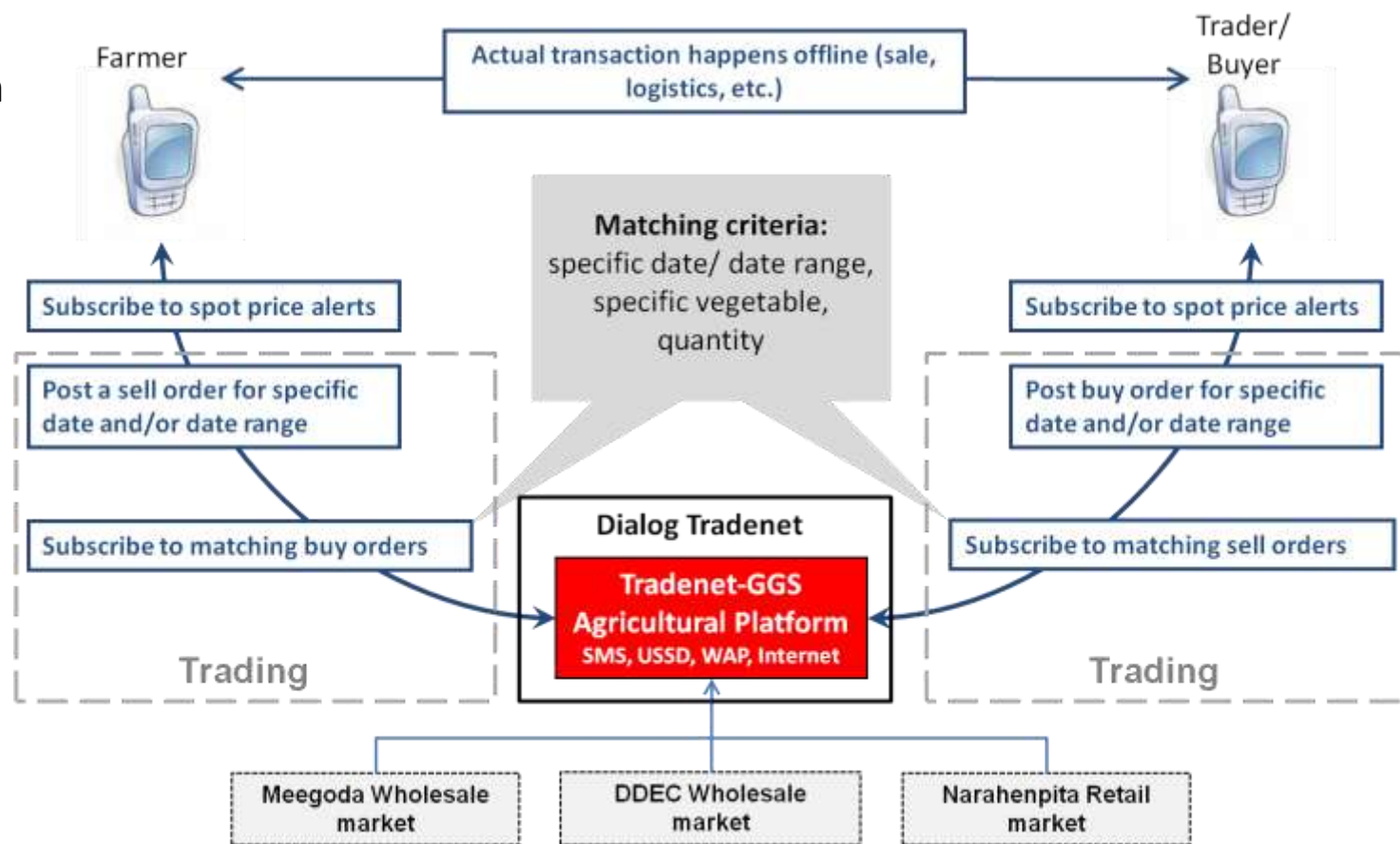
## *The case of Tradenet (tradenet.dialog.lk)*

### **Tradenet:**

Partnership between a not-for-profit company called Govi Gnana Seva (GGS) and Sri Lanka's largest mobile operator (Dialog Axiata PLC)

**Launched Dec 2009**

**GGS:** main source of wholesale agricultural price information in the country





## Livelihood impacts of Tradenet on small farmers in Sri Lanka

# How is Tradenet affecting farmer livelihoods?

- Farmers 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 improving.
- Farmers improving their hedging strategies
  - Tracked price trends to figure out high value crops
  - Looking for knowledge in crops outside their forte.
- Connecting farmers and sellers (a mobile “classifieds”)
- Actual trade on platform limited since buyers have no measure/ assurance of quality

# Sri Lanka is not unique; India has many more operational *agInfo* mobile based services

	IKSL, India	RML, India	Tradenet , Sri Lanka
<b>Start Date</b>	June 2007	October 2007	December 2009
<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>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	Maharastra: 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)	170,000 (Oct 2009)	~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

# Mobiles can act as powerful instruments of knowledge/ information transfer, **BUT** there are issues that need to be solved

- Problems in data collection for these services: why should I trust them?  
Who is accountable?

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- What is needed is for government/ agent of government to collect data in a much more comprehensive manner and make that data available to any service provider who wants to add value/deliver across multiple formats to farmers
- Poor quality determination during market transaction means:
  - Market price information is “noisy”
  - Farmers have low incentives to improve the quality of their produce
- Warehousing/ cold storage + commodity backed financing is needed so that sellers can make better use of spot market information

# South-South cooperation on ICTs and Agriculture

- Formal linkages are limited
- But ideas and knowledge are flowing:
  - Applications
    - E.g. Tradenet:
      - Similar to CellBazaar in Bangladesh (started in 2006)
      - LIRNEasia's regional research used as inputs in the design
  - Knowledge sharing
    - Organic South-South research linkages allow lessons and best practices to be shared.
    - E.g. Harsha de Silva, PhD
      - Sri Lankan economist with interest in markets; ICT researcher & practitioner; founded GGS
      - Last 2 years: Advisor to the IDRC sponsored eAgriculture Research Network for Africa (eARN africa)

# 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.
- He has also been following prices of green chilies on Tradenet which he thinks can get him higher prices but doesn't know how to grow them so is now **looking for crop advice** that can help him understand green chili cultivation.
  - There is a crop advisory service called Govi Sahana Sarana that he can avail of by dialing the short code 1920, but he was getting an engaged tone too often so gave up after a few tries.



**THANK YOU**

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