

Role of ICT in Linking Farmers to Markets

a transaction costs perspective from Sri Lanka

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Fundamental problem

- Farmers stuck in subsistence agriculture and **unable** to move towards commercial agriculture
 - Household needs vs. market needs



Basic economics

- For commercial agriculture to succeed **efficient markets** are a pre-requisite
- Information is critical for efficient functioning of markets
- But,
 - Costly information → High transaction costs → inefficient markets



Specific role of ICT

- Reduce information search costs → lower transaction costs → increase efficiencies in agricultural markets → increase welfare both for farmers and consumers



Many attempts to reduce information search costs

- Focus on information related to the Selling stage of the value chain [VC]
 - Reduce search cost of market prices [particularly for perishables]



The ICT example

GGIS pilot as hypothesis



[Back](#)

Before: Costly information search inside the market



Price capture at trader stalls



At the trader stall

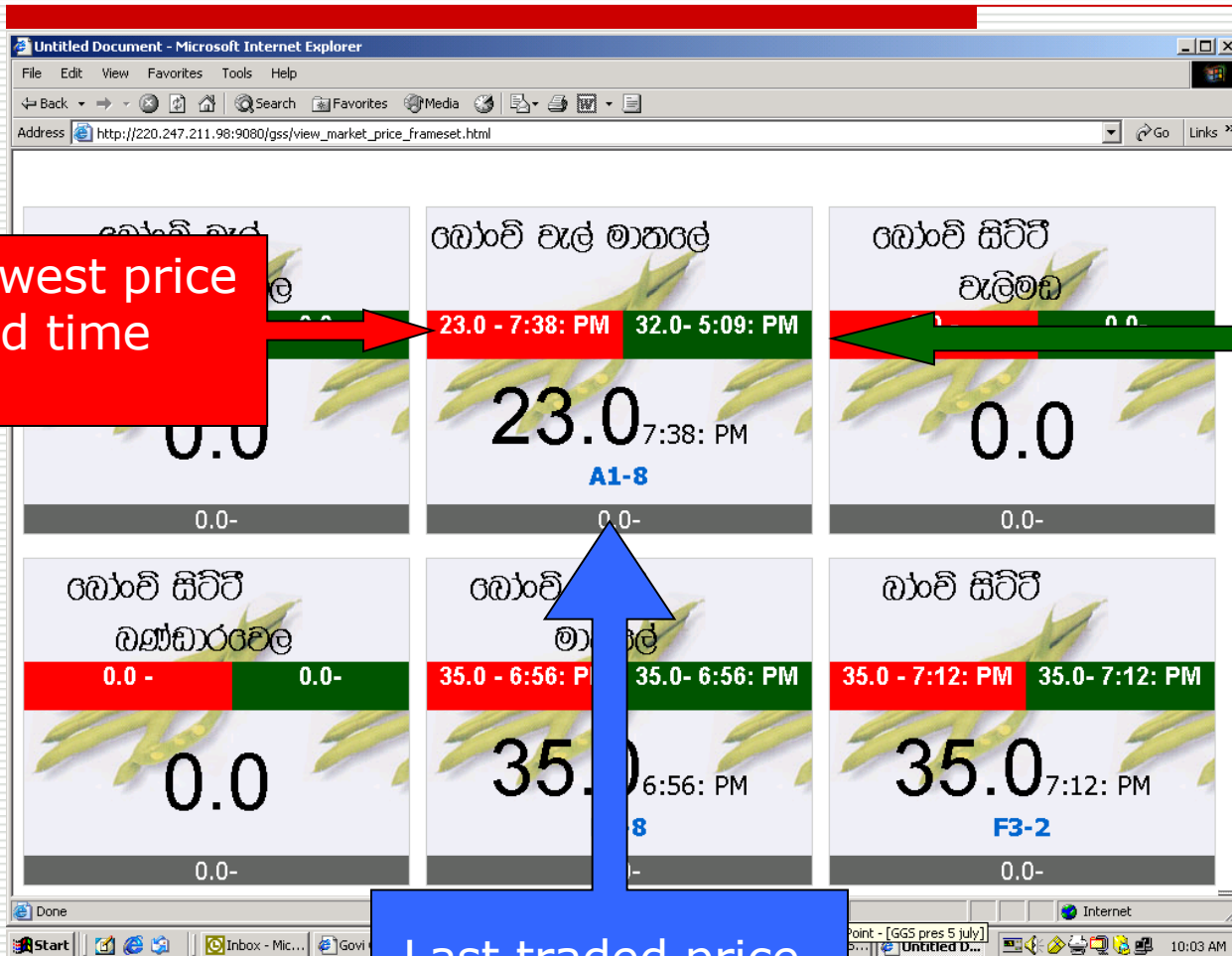


Walking data collectors

After: Spot price information disseminated at DDEC



GGs Price Boards at DDEC



Lowest price and time

Highest price and time

Last traded price, time and stall number



So, the question is...

- Has all this helped reduce information search costs → lower transaction costs → increase efficiencies in agricultural markets → increase welfare both for farmers and consumers
- Well...
 - Some benefit

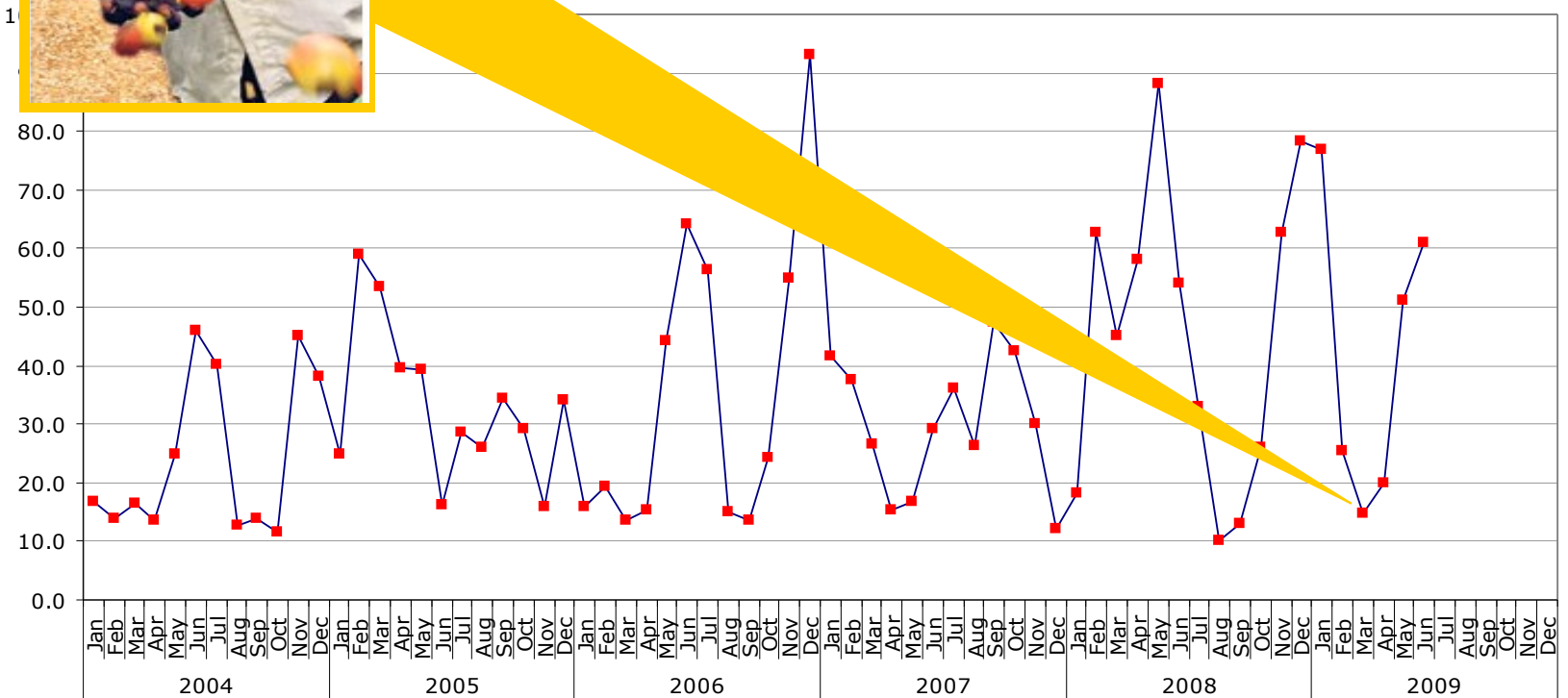


Tomato Prices at DDEC

– June 2009



Tomato Prices at DDEC
Monthly LKR/Kg 2004 Jan to Jun 2009 [Courtesy GGS]



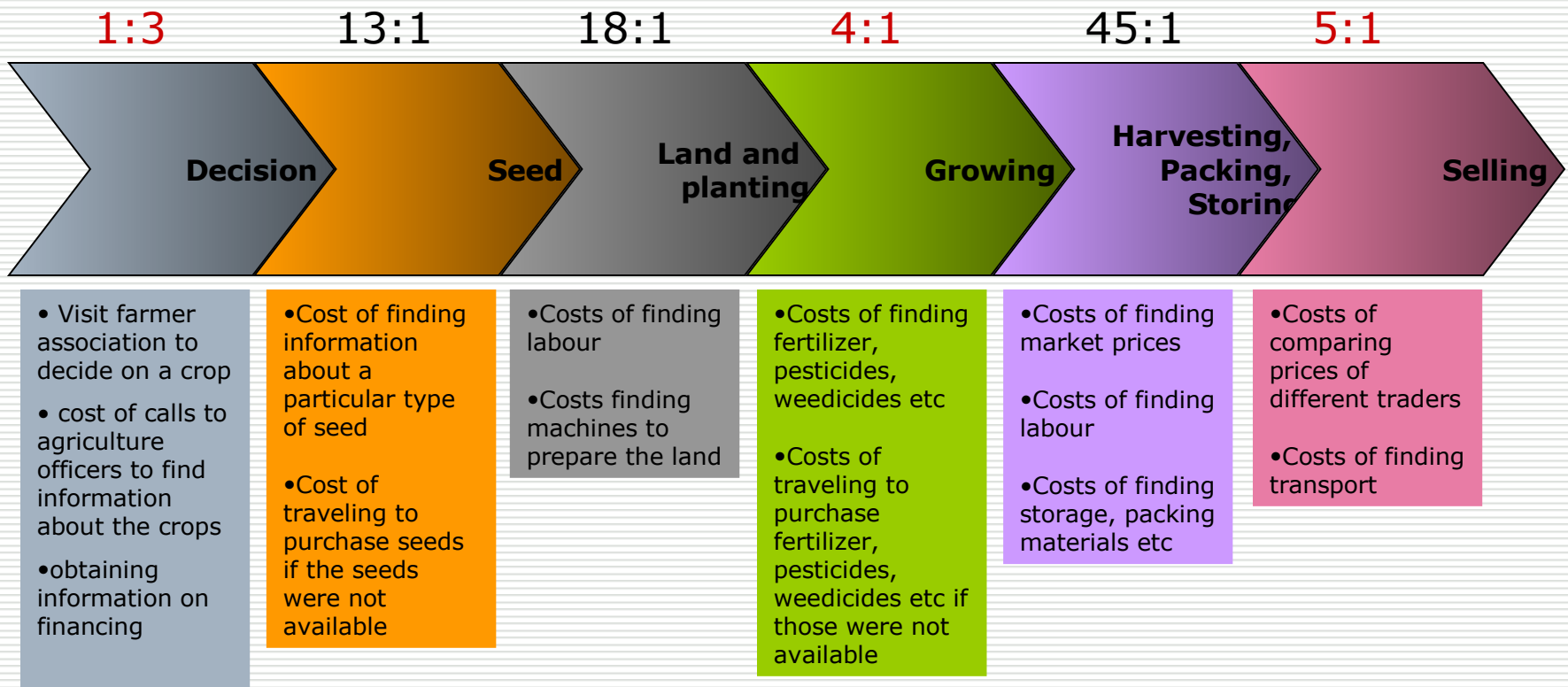
Selling price alone wont do

- Need to apply ICT to reduce information search costs along the value chain



Demand for information [small scale vegetable farmers around DDEC]

market driven; not centrally planned



De Silva, H., and Ratnadiwakara, D. (2008).

Using ICT to Reduce Transaction Costs in Agriculture through Better Communication, Working Paper, LIRNEasia



Decision 2*



GGs pilot objectives

If produce already brought to DDEC market
→ Help farmer get best possible price

If produce harvested, but not brought to DDEC
→ Help farmer decide whether to bring to DDEC or not

If produce just about to be harvested
→ Help farmer decide whether to harvest today or tomorrow or day after

If not planted, or many days to harvest
→ Help farmer enter into FSC

Source: Central Bank of Sri Lanka Forward Sales Contract Brochure



Crop Availability Within Farmers

Crop Availability Within Farmers

Farmer Database

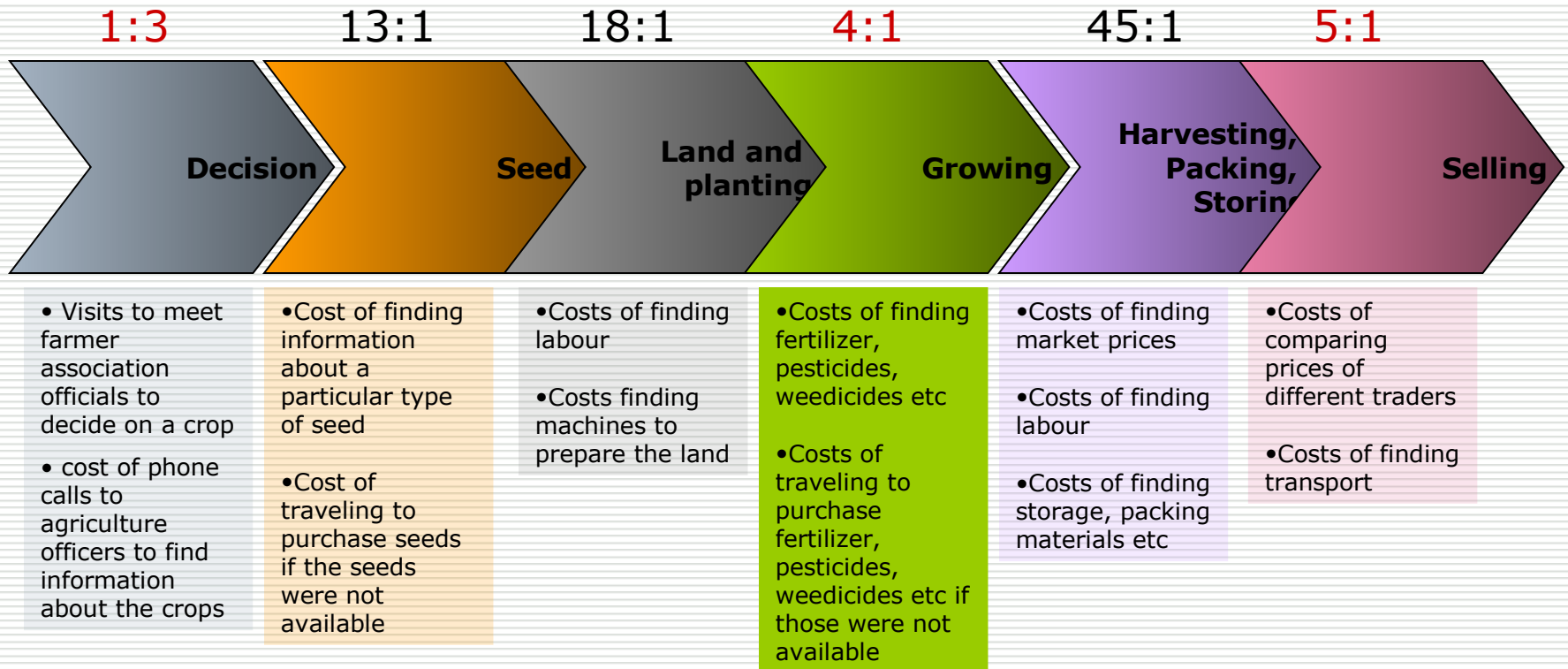
Banana

Farmer Name	Address	ARPA (Contact person)	Tpno	Quantity (kg)	Expected Harvesting Date
Ranjith	No. 28, Aluthwewa	00 Thapua Wiyawarathna	+ 0814921822	3000	02-10-2009

Only 5 had any information: Banana 1;
Guava 1; Paddy 2; Papaw 1; Tomato 17
43 had no entries

Growing

45% cost of production; 20% relative information cost



Growing 2*

- Main cost is on information search on (ineligible) fertilizer subsidy

THE SUNDAY
TIMES

Sunday April 05, 200



Gone to the cows: This picture taken last morning shows a mound of brinjals being thrown away by disheartened farmers.

"The vegetable growers were further hit because they are not entitled to the fertilizer subsidy which is only available for paddy cultivators.

cultivator and vegetable growers. At the end of the day we are all farmers making equal contribution towards the food line. So why is this double standard?" he asked.





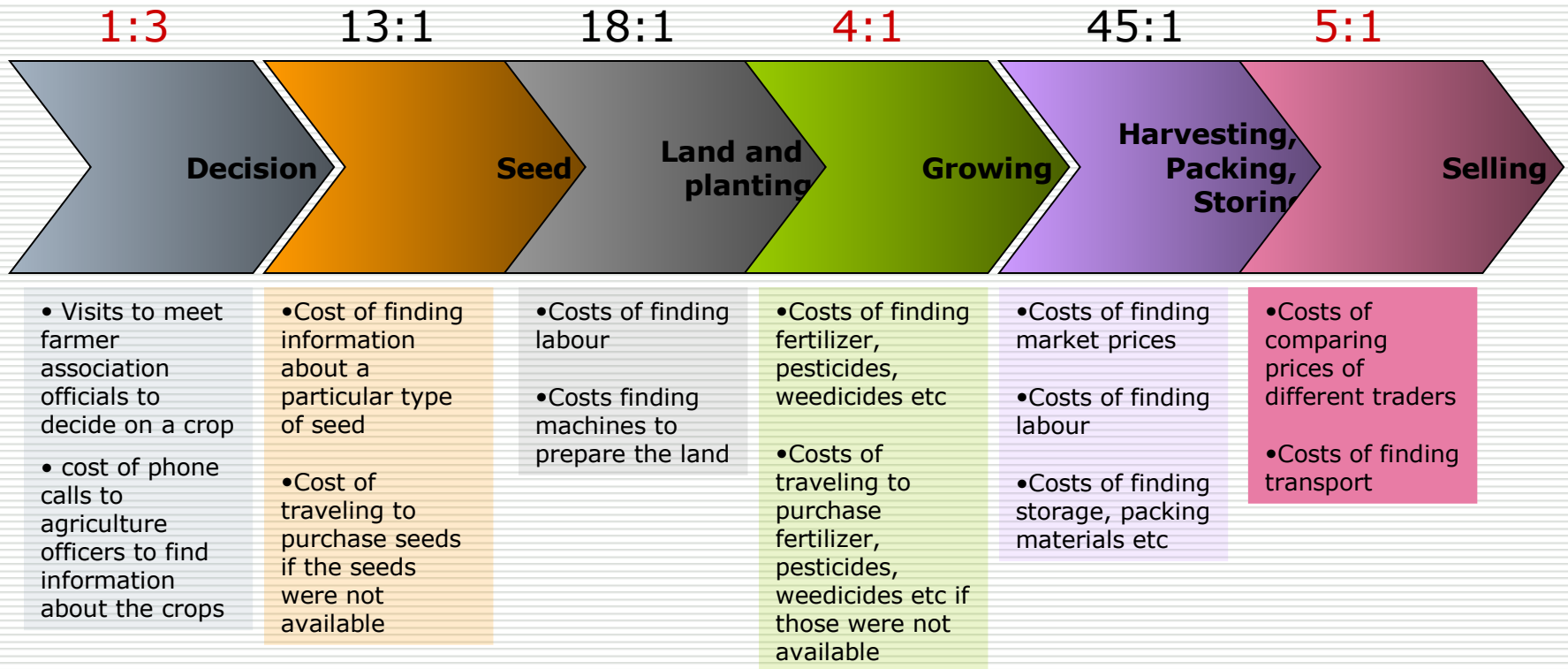
Growing 3*

- Department of Agriculture Audio Visual Centre
 - 30 Interactive Multimedia CD-ROMs (also helpful in other stages of the VC)
 - Toll-free (3 min) 1920 Govi Sarana
 - Demand-driven agriculture extension



Selling

8% cost of production; **17%** relative information cost



Selling 2

- If at market price boards, word of mouth
- If not arrived
 - Telephon
 - GGS IV



Where from here?

Vision for agriculture in Sri Lanka

- The 10 year policy framework
 - “To transform subsistence agriculture to a commercially oriented and highly productive sector”



Role of ICT in agriculture*

sufficient and relevant information

- Reduce information search costs → increase efficiencies in agricultural markets
 - Move from subsistence to commercial agriculture
 - Household demand → market demand
- Integrated systems that address individual information needs from Decision to Selling
 - **Closing the loop**: Decision ↔ Selling
 - Forward sales contracts (FSC)



A start was made...

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Role of ICT in agriculture 2**

accessible (and affordable) information

- Internet PC vs. mobile phone focus
- LIRNEasia 6-country study T@BOP3; Sri Lanka, September-October 2008
 - 77% used a phone in the 'previous week'
 - 73% had access to a phone in the home
 - Up from 41% in September 2006
 - 53% used sms regularly
 - But, only 3% had access to the internet



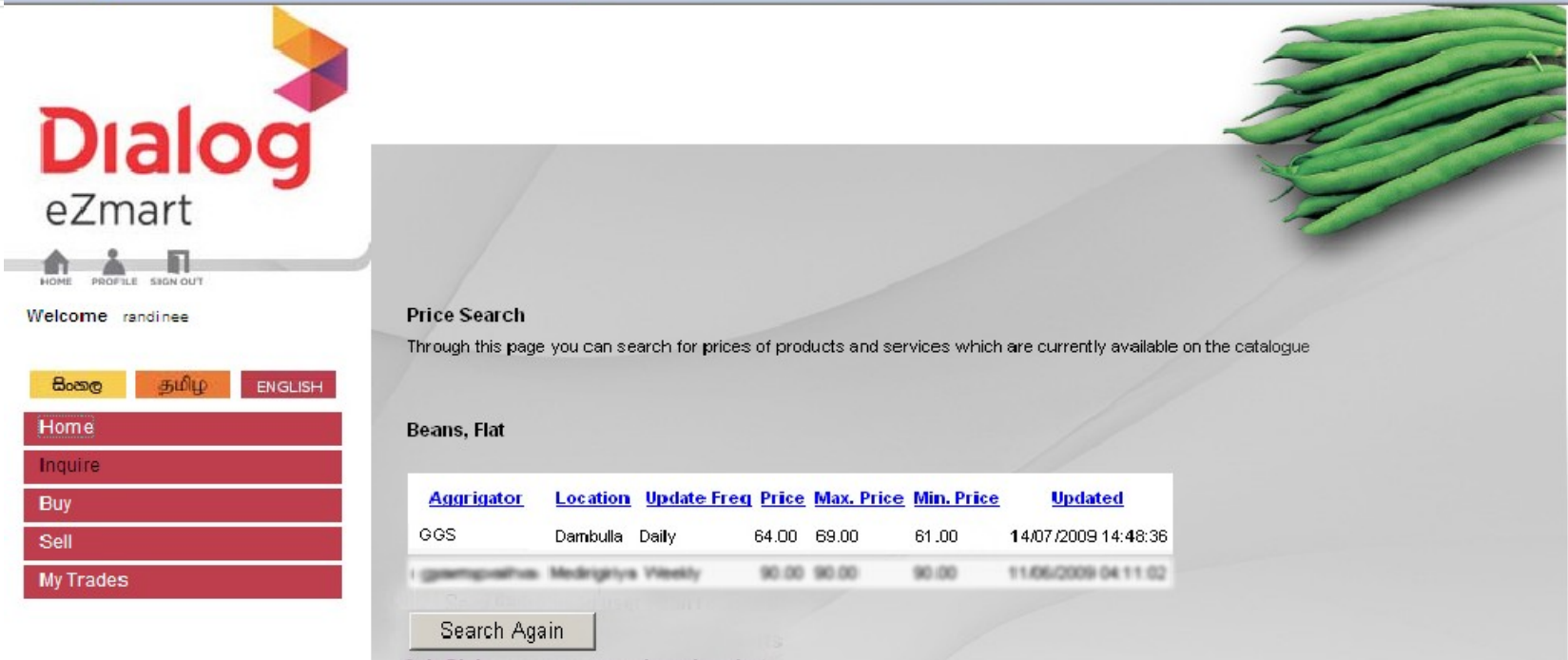
Future of ICT for agriculture will be mobile-centric

- PC as central interface was old paradigm
- New paradigm will have mobile or emerging 3G enabled devices
- Agriculture information on ubiquitous mobile devices
 - When and where user wants it at very low cost of use; no opening and closing hours



And that future will be here soon

GGG Dialog partnership



Dialog eZmart

HOME PROFILE SIGN OUT

Welcome randinee

සිංහල தமிழ் ENGLISH

Home
Inquire
Buy
Sell
My Trades

Price Search
Through this page you can search for prices of products and services which are currently available on the catalogue

Beans, Flat

<u>Aggrigator</u>	<u>Location</u>	<u>Update Freq</u>	<u>Price</u>	<u>Max. Price</u>	<u>Min. Price</u>	<u>Updated</u>
GGS	Dambulla	Daily	64.00	69.00	61.00	14/07/2009 14:48:36
ഗവേണമെന്റ്	Madhriya Weekly		90.00	90.00	90.00	11/06/2009 04:11:02

Search Again

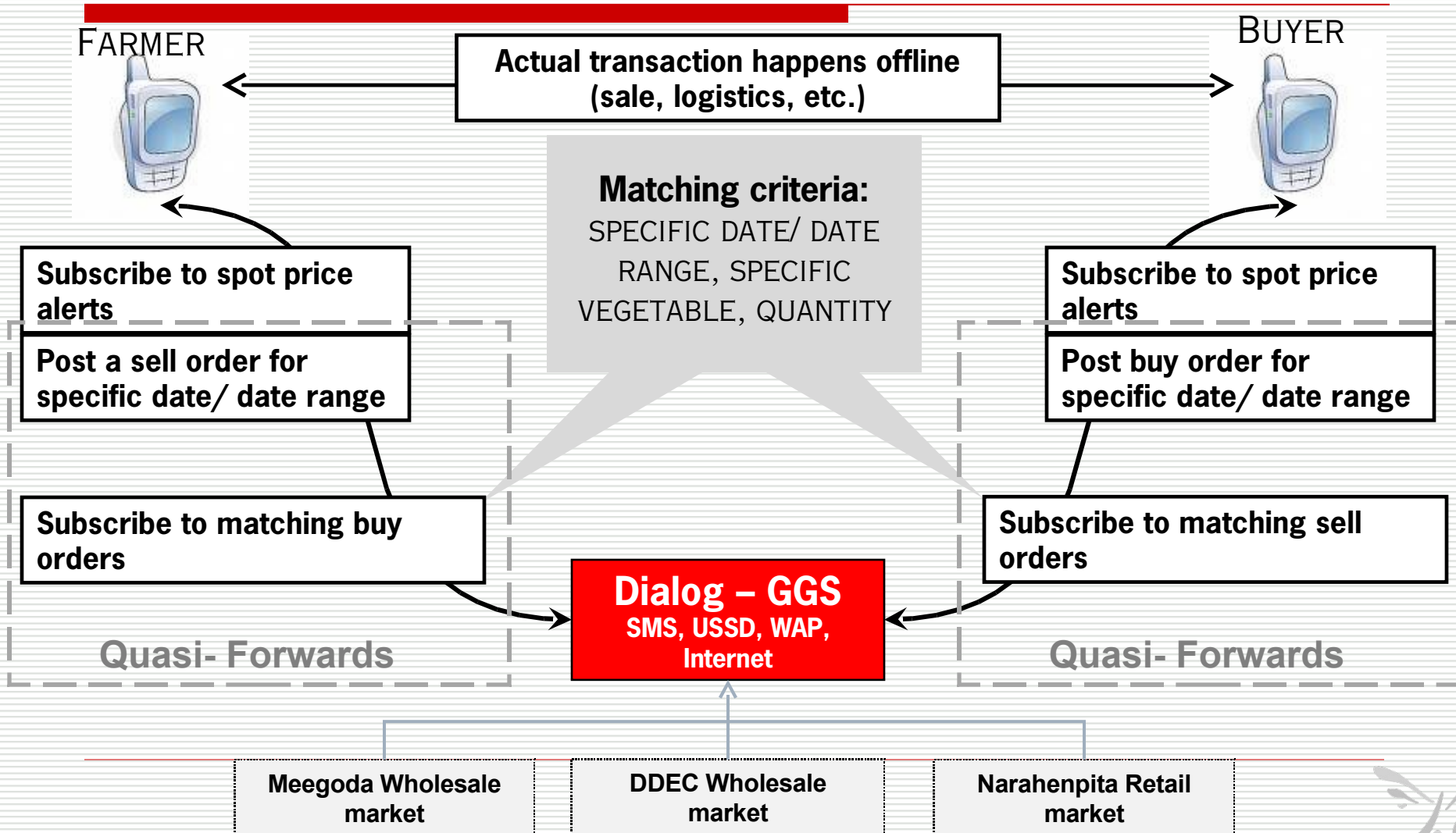
SPOT & FORWARD MARKET PRICES

Together with Govi Gnana Seva (GGS),
Dialog eZmart will provide market prices
Mobile users can receive market prices through SMS



GGG-Dialog

Quasi – forward market solution



End ICT objective

a joint **private-public-academic** partnership

- Use mobile-centric, demand-driven, value-chain based, accurate and timely information to
 - lower transaction costs
 - Which will increase efficiencies in agricultural markets
- So that farmers will move from subsistence to commercial agriculture, that will
- Increase welfare both for farmers and consumers



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