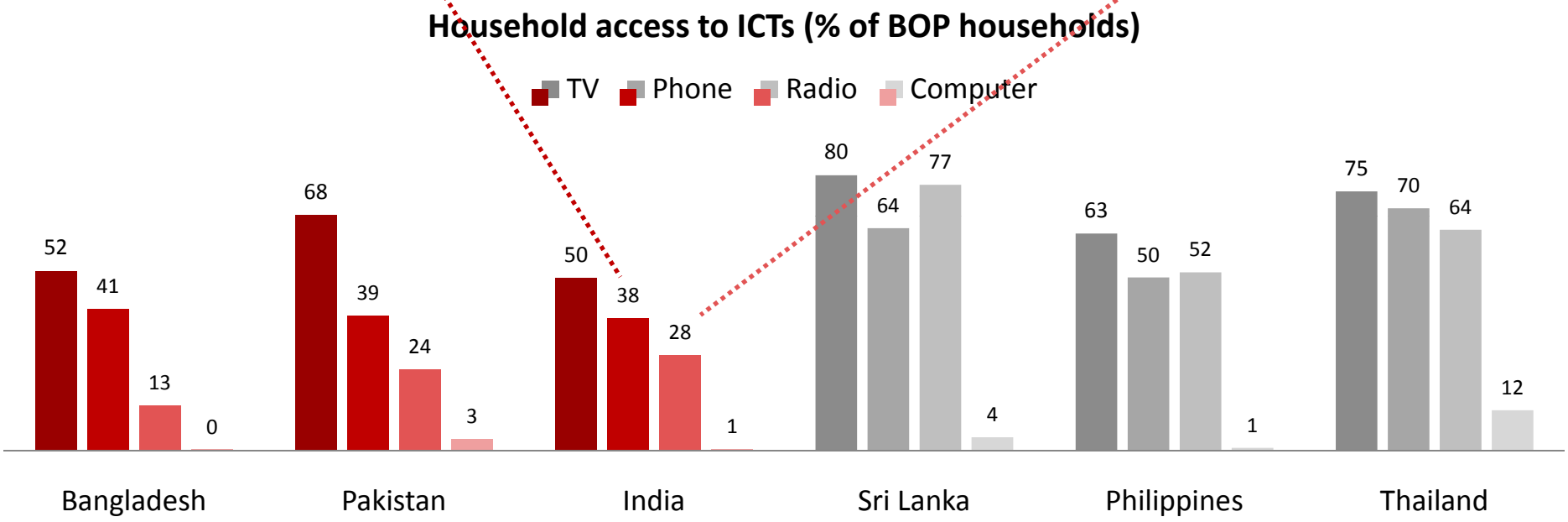
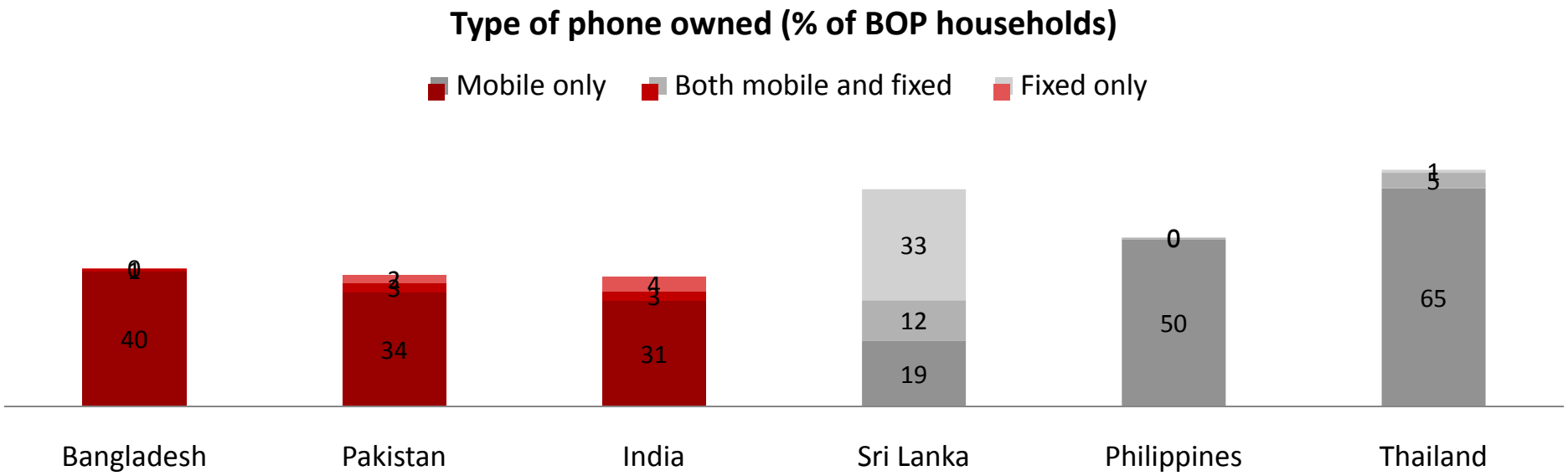
Be it resolved that mobiles have the potential to be the most transformative ICT for developing countries

More phones in BOP households than radios and computers; catching up with TVs



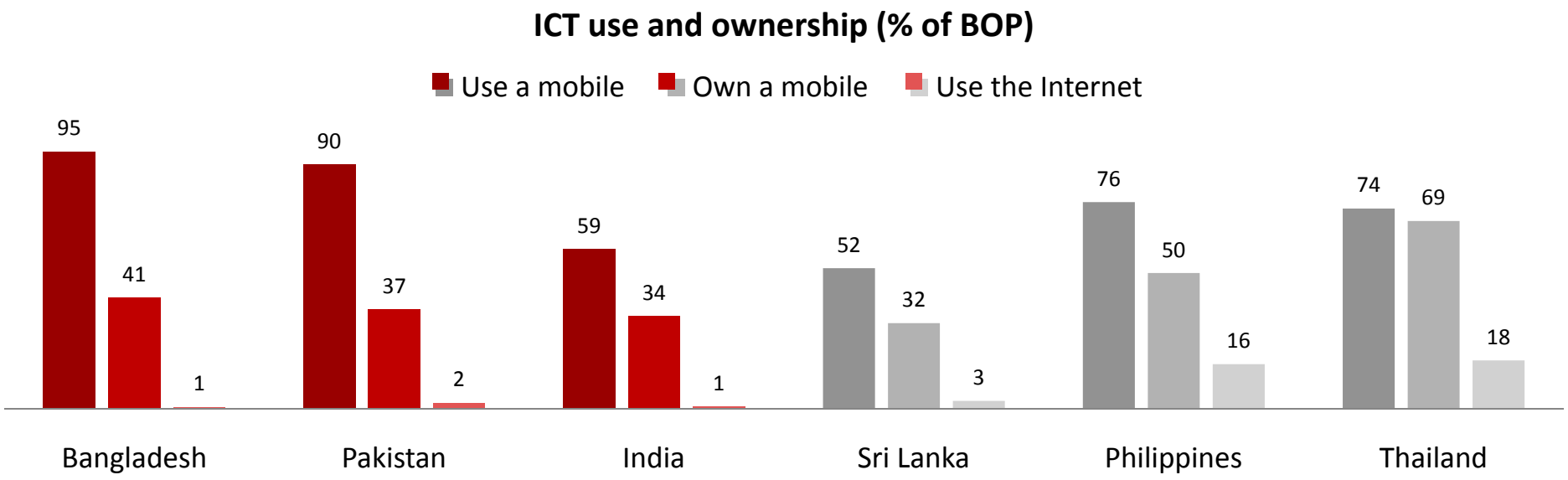
Source: ~10,000 sample, six-country Teleuse@BOP3 survey, October 2008

Most phones in BOP households are mobile



LIRNEasia
www.lirneasia.net

Only one reaching the poor



- > 50% of BOP “not even heard of the Internet” in BD, PK and IN

Most transformative

Ronnie | Shop helper / Barbecue vendor / e load seller

27 years | Manila, Philippines

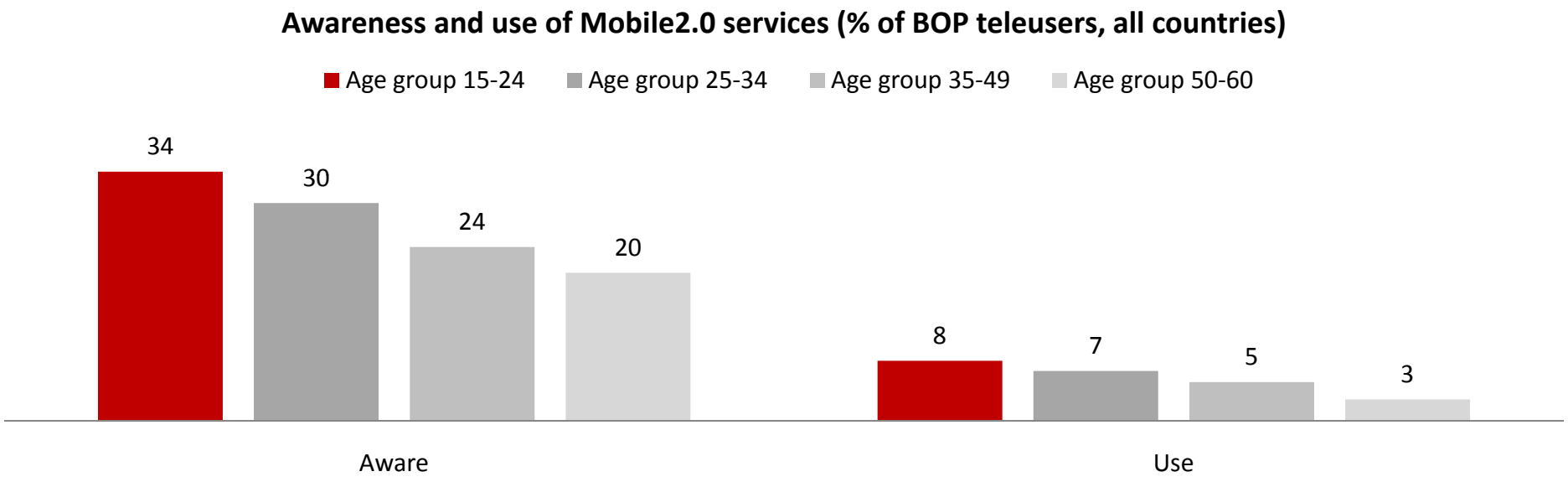
- Coordinates with shop owner and suppliers, places orders, checks prices and coordinates supply pick-up via text
- Prefers coordinating orders via text since it provides written records and confirmations, unlike voice communication
- Recently started e load business; earns PHP 100 for every PHP 1,000 sold
- Uses news service on her mobile to keep updated on current affairs

Zayed | Shopkeeper

21 years | Sonargaon, Bangladesh

- Sole reason for obtaining mobile was to expand business
- Mobile has helped him reduce travel time and cost, remotely coordinate matters at the shop, increase business and expand business network
- Previously traveled twice a month to Dhaka to order stocks, costing a min of BDT500 (USD7) + ~23 hours + two day's worth of lost business each month
- Now communicates with suppliers via mobile; stocks delivered to him. Net saving of BDT 460 (net) (USD 6.44) + ~23 hours per month
- Monetary + time savings allowed him to start new poultry business. Plans to start reload business too
- Once facilitated money "transfer" through mobile for the village "maulavi" while away in Dhaka; the maulavi sent BDT1,000 to Zayed's mobile, who then paid the same in cash to the maulavi's family in the village

With the most potential: younger cohorts more familiar with "more-than-voice"



Be it resolved that mobiles have the potential to be the most transformative ICT for developing countries

“Warana Wired Village Project”

Warana sugarcane processing plant

- Warana’s main cooperative:
  - 75 villages
  - 50,000 farmers
  - 25,000km^2
- 1998: Asia’s first project to “Bridge the Digital Divide”
- 54 PC kiosks in 54 villages
- Cost: Rs.2.5 crores (US$625,000)
  - 50% central gov’t
  - 40% state gov’t
  - 10% cooperative

Original Goals of WWVP

http://www.mah.nic.in/warana/#About Wired Villages

- Bring Warana Nagar on NICNET [and Internet]
- Create database of villagers on various socio-economic aspects
- Provide Tele-education to both Primary and Higher Educational Institutes
- Facilities such as remote health service (tele-medicine), public grievances and redressal will be provided through this booth
- Provide following facilities:
  - Computer based education
  - Open University access (IGNOU)

Were goals being met?

- Bring Warana Nagar on NICNET [and Internet]
- Create database of villagers on various socio-economic aspects
- Provide Tele-education to both Primary and Higher Educational Institutes
- Facilities such as remote health service (tele-medicine), public grievances and redressal will be provided through this booth
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Actual Use

Internal account MIS:

- Register land
- Issue harvesting permits
- Sell fertilizer through credit

- **Query quantity of sugarcane harvested**
  - 10 times a year for farmer
  - Small matrix of numerical data

WWVP village PC kiosk

Mounting Challenges

High maintenance cost
- At any time, a few in disrepair

Intermittent power

Network flakey
- Low-quality dial-up

PC not optimally used

Cooperative considering discontinuation of system

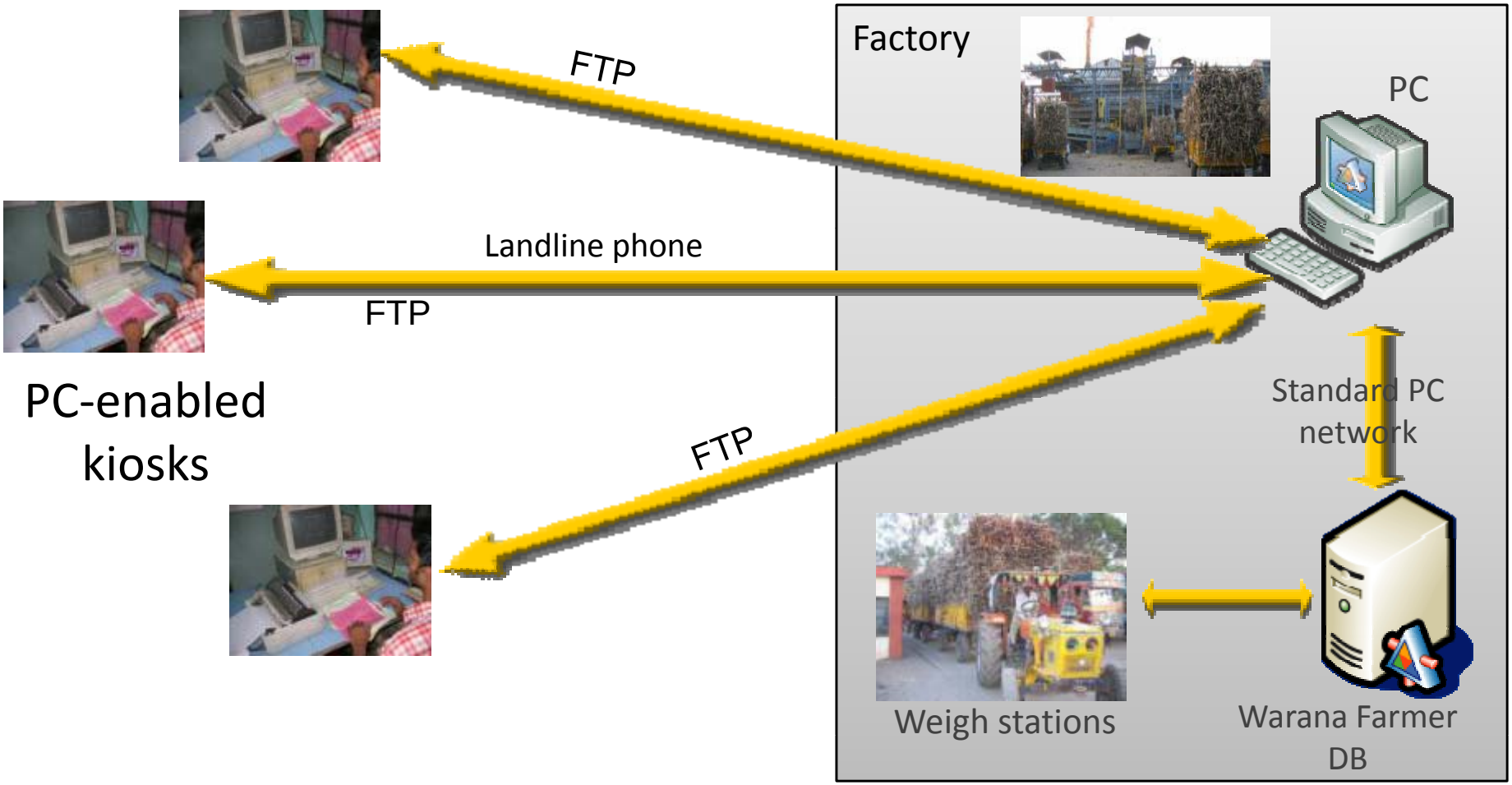
PCs not in best condition

Warana.*Unwired!*

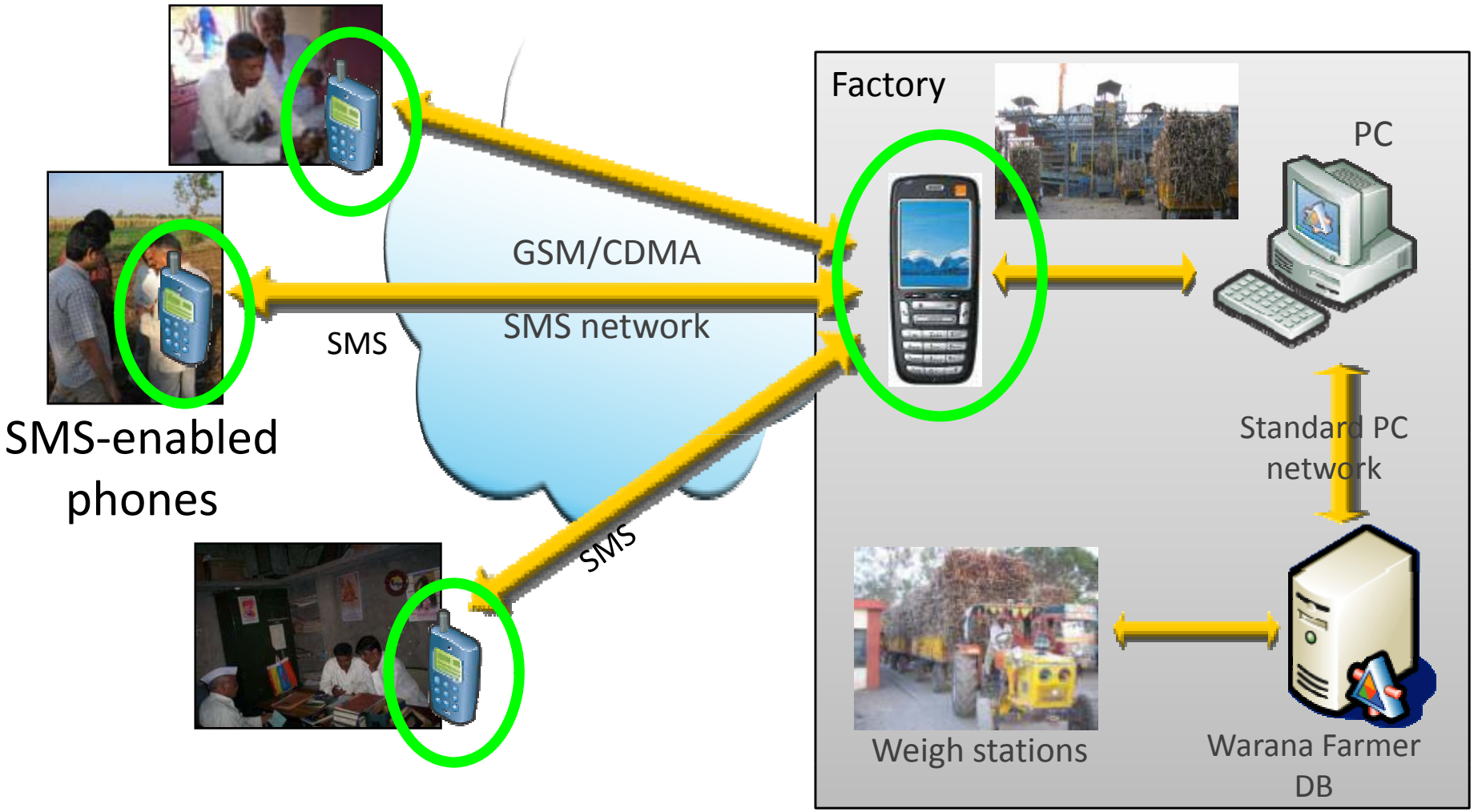
PC-based kiosks

SMS-enabled
mobile phones

Original PC-Based Set-Up



New Mobile-Based Set-Up



Warana Unwired– Estimated Cost Savings

System	Cost/Farmer/Year (INR)
New PC System	**394**
SMS Mobile (kiosks)	**159**
SMS Mobile (without kiosks)	**111**
GPRS (no kiosks / SMS discount)	**91**

Annual cost of PC system

Current system
Potential savings: 1 million Rupees per year, over 54 villages ($25,000)

Achievable with GPRS or with SMS discounts
($30,000 savings per year)

Other Issues

Good

- Advantage of mobiles
  - Mobility
  - Battery power
  - Fast, 24-hour access
  - Potential democratization of access

Bad

- SMS not suitable for all queries or data
  - Land registration not implemented via SMS
- Data-availability dependent on server
- Minor error rates (3.2%) due to SMS unavailability
  - In all cases, a repeat query solved the problem.
- Per-SMS cost accrues to farmer


MH 09 B 411

Farmer Responses

Farmer from Satve village (one of pilots)

Initial disbelief turns to excitement:

"The information is exact and it is very good."

Farmer from Angali village (not in pilot)

"I saw messages are coming on the mobile phone. There is no problem. So where is the question of success? Let us have it, also."

This work was carried out with the aid of a grant from the International Development Research Centre, Canada and the Department for International Development, UK, with contributions from Telenor Research & Development Centre Sdn. Bhd., Malaysia.

Photos by CKS Consulting Pvt. Ltd
Warana slides courtesy of Kentaro Toyama, Microsoft Research India