ICT Initiatives in Agriculture

Bangladesh Agricultural Research Council

Wais Kabir
Bangladesh Agricultural Research Council
**Crops contribute the major share in agriculture**

**Employment**

- Agriculture: 63%
- Services: 26%
- Industry: 11%

*International Seminar on ICT Applications in Agriculture/Rural Industry, 5-7 April 2004 Beijing, China*
National Goal

- Economic Development
- Poverty alleviation
- Food Security
- Public Health and Safety
- Higher standard of Living
- Protection of Natural Environment
**Background**

- First main frame computer introduced in 1964 in Research & later in financial sector
- Computers gained popularity in 1990s when PCs became user friendly & affordable
- Price drop due to exemption of import duties during 1998 & cost reduction in the global market.
- Introduction of Internet in 1996 with VSAT
- Bangladesh entering with submarine cable network - will facilitate ITC expansion
• Digital divide exists among rural & city, rich & poor

• Four private mobile companies & 1.6 million mobiles-Grameen (NGO) is one of them

  Internet user is about 500,000

• 155 Internet Service providers (ISPs)

• Highest Bandwidth available now 4 mbps

• There are 800,000 Land phones

• Government has waived the annual fees for ISPs operating in the rural areas
Tele-density is highest in the cities; 32 per 1000
IT Education and personnel

• Very few standard institutes with high quality education - 28 universities & 20 Polytechniques
• Producing 4500 graduates
• Costs are so high - barely within reach of general people
• Highly dense in Capital city
• Lack of proper syllabus
Role of NGOs in ICT

- Highest number of NGOs are operating—very few has nationwide network
- Mainly micro-credit with livelihood program including agriculture
- Early adapter ICT then the public sector
- Reaching the grass root through ICT
- Computerized the system of management
- Grameen mobile Phone is popular
Grameen (Rural) bank earned global reputation in providing micro-credit to the landless and poor woman (95 percent borrowers are women)

Loan recovery rate is 99 percent. Works in half of the total villages to reduce the poverty

Operates without collateral & guarantee for improving the livelihood

It has number of enterprises including rural energy & Telecommunication

Village Phone by Grameen Bank started in 1997

Innovative Program for expanded telecom infrastructure

International Seminar on ICT Applications in Agriculture/Rural Industry, 5-7 April 2004 Beijing, China
✓ Village based micro finance organization leased cellular mobile phone to members of the Grameen bank
✓ Promoting production, marketing and other economic activities
✓ Income generated through the earning of providing Phone service
✓ The average prices of agricultural commodities are higher in the village having village phone service compared to without phones
Success of Grameen (Rural) Bank in ICT

✓ Also communication during disaster, transmission of new ideas, mobility of people and health situation has improved and spoilage of perishable products has decreased

✓ The phone service provides higher income of agricultural products by significant amount compared to non-Phone area

✓ From December 2000 till today Village Phone reaches from 3 thousand to 50 thousand thru Grameen Bank loans to buy mobile phones and offer telecommunication services in nearly half of the villages

International Seminar on ICT Applications in Agriculture/Rural Industry, 5-7 April 2004 Beijing, China
Ten Institutes makes the NARS

Bangladesh Agricultural Research Council Coordinates the NARS

Institutes responsible for doing research on Rice, Jute, Sugarcane, vegetable, Fruits, Fisheries, Livestock, Tea, Forest

Networking among the institutes not yet developed
Agricultural Research and ICT Initiatives

ICT in agriculture is developing recently

Several ICT initiatives were undertaken for natural resource management

Land Resources Appraisal of Bangladesh
  - Landforms, soils, inundation and climate computerized (1980-86)

Utilization of Agroecological Zones Database and GIS

International Seminar on ICT Applications in Agriculture/Rural Industry, 5-7 April 2004 Beijing, China
• **Research Management Information System**
  - *Personnel Management System* -
  - *Human Resource Management System* -
  - *Research Project Management System* -
  - *Equipment Inventory Management System* -
Agricultural Research and ICT Initiatives

- **Bangladesh Country Almanac**
  - a joint BARC-CIMMYT activity
  - to enable the non-GIS users to readily get spatial and non-spatial information/data in CD

- **Poverty mapping and its implications on the agricultural R&D&E in Bangladesh**
  - a BARC-IRRI joint activity to plan for intervention
  - major biophysical resources combined with the socio-economic situation to delineate the vulnerability

*International Seminar on ICT Applications in Agriculture/Rural Industry, 5-7 April 2004 Beijing, China*
Agricultural Research and ICT Initiatives

- **Technology Database**
  - Agricultural Information Center (AIC) of BARC- well equipped The Essential Electronic Agricultural Library (TEEAL) in CD ROMs

- **Soil Profile Database**

- **Website** - NARS institutes have been developed
  - BARC website will be linked with web-enabled databases

- **South Asian Association of Regional Cooperation (SAARC) Agricultural Information Center (SAIC)**
• There are several agencies in the country, which provide agricultural extension service to the farmers

• Government agencies –
  • Uses both electronic & print media for extension
  • Developing ICT at all levels down to district offices
• NGOs, commercial enterprises and
• input manufacturers/ wholesalers/ dealers
Agricultural Marketing

• Little market information reaches farmers or not up-to-date

• Delays in data processing prior to dissemination often make the price information obsolete

• Recent initiative in web based Agricultural Market Information Improvement Project (AMII) started functioning in limited scale

• Help to more accurate and faster knowledge of price movements of agricultural commodities

www.dambd.org
Recommendations

- Digital divide in urban-rural and national-international should be narrowed down
- ICT policy should be implemented to its full extent
- ICT should be utilized in agro-based industries
- All data related to agriculture should be made available through ‘one window’
- Agricultural Marketing system should be upgraded with ICT facilities and skilled manpower
- Bureau of Statistics databases could be made available on the web.
Recommendations

- Awareness among the policy makers on the potential of ICT is a critical element of its development
- An intranet (network) should be established among the NARS organizations, DAE, and other relevant organizations
- Scientists/researchers and extension personnel should have opportunity of free access to Internet
- Government should take steps to build three basic infrastructures in the rural areas: electricity, telephone, and Internet connectivity
Conclusion

- ICT bridges gap between developed and developing country, between rich and poor, between city & village, between male & female etc.

- Lack of mass awareness on the potential of the ICT lags its expansion. Policy makers should be aware of its potential

- The opportunities offered by ICTs should be utilized to its fullest extent to make an informed society & improve the life