

Agricultural technology transfer

An overview of ICT application in agriculture research for development in Papua New Guinea



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Country Background



- Some 800 km north of Australia
- Shares land boarder with Indonesia
- Land area 462,840 km²
- Population of 7.464 million (2014)
- 800 languages/tribes
- Independent since 1975

Background

- Agriculture is the mainstay of the PNG economy
- Over 80% of the people are dependent on agricultural for their livelihoods
- Export crops: coffee, oil palm, cocoa, and copra
- Self-sufficient in bird (meat/egg) and pork, others imported
- Rural farmers are faced with many challenges: changing climate, demographic changes, declining natural resources, market forces, etc
- Farming community scattered over rug terrains, islands and atolls

Agricultural research and development

- research formally started in the 1920s
- agricultural technologies generated by R&D institutions, universities, private sector, NGOs, innovative farmers
- technology transfer is through conventional approach
- extension system non-existence (due to decentralization to provinces in the 1987)
- Current approach: mass media, in-house media (publications, website, social media), resource centre concept, agricultural innovations shows, national events, networking, on-farm trials (though isolated)

ICT tools

- Potential in all development fronts
- In agriculture: opportunity to provide information on improved farming practices, climate update, market information, and other much needed information
- Health sector has made significant progress in ICT application in PNG, especially the use of mobile phone technology

Potential of mobile phone

- Mobile competition introduced in March 2007 by bringing in two mobile service providers
- State monopoly of mobile phone market prior to 2007
- 3% coverage in 2006 to almost 80% in 2015
- Massive jump bypassing several generation of technologies
- Communicate with outside
- Social use than functional use

An example of a success story

- Mobile Market Information Service (MMIS)
- Mobile SMS
- Initiative of the Fresh Produce Development Agency in collaboration with Digicel PNG (mobile service provider)
- Funding support of the DFAT-Australia (formerly AusAID)
- Launched in October 2009
- Information major urban centre markets
- A breakthrough for the horticulture industry which is an informal market

Benefits of MMIS

- Provides accurate market information in a timely manner to all player along the value chain
- Provides some ideas on prices, status of supply and quality of produce
- Useful to guide farmers and consumers to make informed production and marketing decisions
- Reduces cheating by middlemen

Steps required

Codes assigned to crops

Crop	Code
Avocado	AVO
Broccoli	BROC
Cabbage	GAR
Carrot	CAR
Garlic	GAC
Onion	ONN
Potato	POT
Tomato	TOM

Steps in creating SMS

Step	Required Input
1	Create SMS
2	Enter Code
3	Enter Variable
4	Sent SMS to 4636
5	Return SMS

Variables

- Price
- Supply
- Quality

Requested information received in return SMS



Policies relevant to ICT application

- National ICT policy 2008 (bridging the digital divide)
- PNG Vision 2050
- National Agriculture Development Plan
- National Food Security Policy
- ICT application in AR4D briefly mentioned in these existing policies
- e-agriculture strategy – DAL/FAO
- institutional ICT strategies – work in progress

Some efforts made

- Development of e-agriculture strategy – Department of Agriculture and Livestock/FAO
- Capacity development in developing mobile apps (ComCare software)
- Early warning system – National Weather Service – Office of Climate Change – National Disaster and Emergencies Services – Mobile Service Provide
- Institutional ICT strategies – more practical within given resources, expertise

Challenges

- Cost
- Infrastructure (i.e. electricity)
- User awareness and education
- Investment in AR4D
- Sustainability of current projects – such as the MMIS

Way forward



- Institutional ICT strategies
- Networking
- Capacity building
- User awareness and training
- Infrastructure development
- Investment in AR&D



Thank you