

**添付資料－４　中間報告会(2012年1月30日)発表資料**

Japan International Cooperation Agency (JICA)

**THE SURVEY ON  
AGRICULTURAL INFORMATION  
SUPPORT SYSTEM  
WITH THE USE OF ICT**  
(Information and Communication Technology)

**Project Formulation Workshop for  
ICT Application in Agriculture**

30 January 2012  
JICA ICT SURVEY TEAM

**Objectives of the Survey**

The Survey aims to collect information for the future direction of JICA's assistance for the agricultural development in the Philippines, through the application of ICT in agricultural sector.

The Survey is made by the confirmation and analysis on present situation, policy, investment plans, undertakings under donor countries and intentions of private sector for the ICT utilization.

The Survey will make concepts of possible ICT application, and consolidate project proposals for the agricultural sector in the Philippines, including possibilities of the participation of private sectors both in Japan and in the Philippines.

**Major Target Fields of the Survey**

**(1) ICT Application**

- ★Agricultural Extension and Marketing
- ★Irrigation

**(2) Agricultural Insurance**

- ★Weather Index Based Insurance  
(not limited in ICT application)

**Structure of the Survey**

**(1) Survey Team**

- ★Five (5) JICA Experts
  - Team Leader/Rural Development
  - Co-Team Leader/Irrigation Water Management
  - Agricultural Extension
  - ICT
  - Index Type Insurance/Micro-financing
- ★Four (4) National Consultants
  - Irrigation, Agriculture, ICT and Insurance

**(2) Survey Period**

First Work Period in Japan : November 17-21, 2011  
 First Work Period in the Philippines: November 22 – December 24, 2011  
 Second Work Period in Japan: December 25, 2011 – January 9, 2012  
 Second Work Period in the Philippines: January 10 – February 23, 2012  
 Third Work Period in Japan : 24 February - 4 March, 2012 (Tentative)

**What have been done so far.....**

- ★Works in Japan (Nov. 2011)
  - Inception Report
  - Interviews w/ private sector in Japan
- ★1st Work in the Phil. (Nov. – Dec. 2011)
  - Interviews and discussions w/ concerned people
  - Field Survey
  - Interim Report
- ★2nd Work in the Phil. (Jan. 2012)
  - Interviews and discussions/Field Survey (cont.)
  - Conceptualization of project proposals
  - Project Formulation Workshop

**What to be done.....**

- Finalization of project proposals
- Draft Final Report
- ★Works in Japan (Mar. 2012)
  - Final Report

**Today's Objectives**

- Share the project concepts proposed by the JICA Survey Team
- Improve the project proposal through discussions

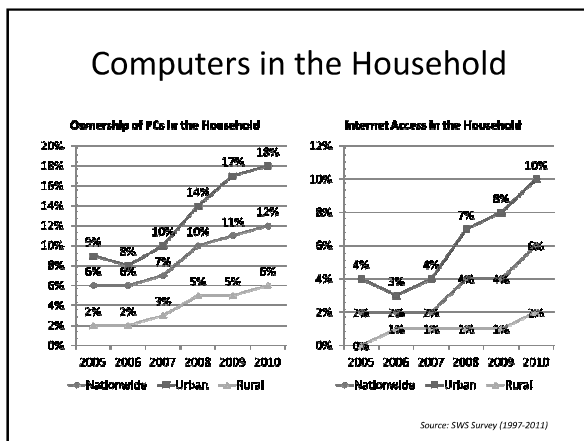
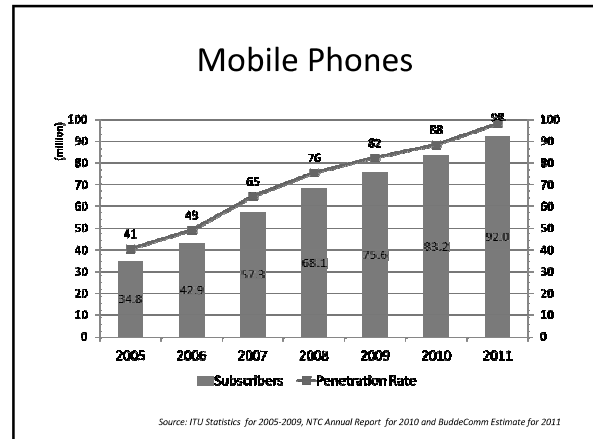
**Today's Menu**

- ★INTRODUCTION
  - Introduction on the Survey
  - ICT Situation in the Philippines
- ★AM SESSION
  - Agricultural Extension and Marketing
- ★DELICIOUS LUNCH
- ★PM SESSION(1)    ★PM SESSION(2)
  - Irrigation                      - Agricultural Insurance
- ★SYNTHESIS

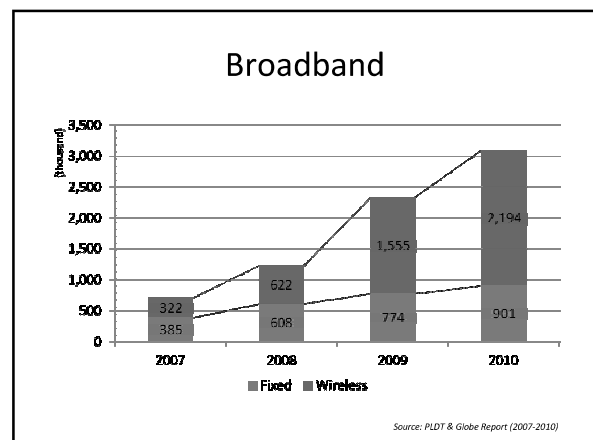
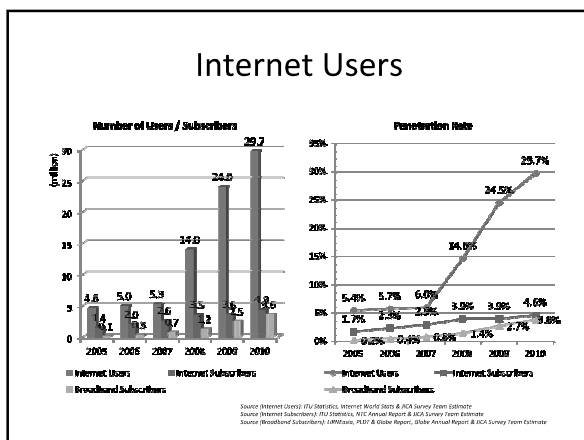
## Project Formulation Workshop on ICT Application in Agriculture

# ICT Situation in the Philippines

Seminar Room, NAPI, BPI Compound  
Diliman, Quezon City  
30 January 2012



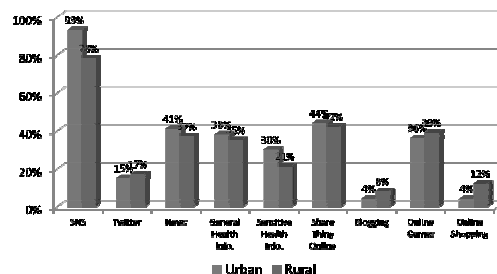
- ### Mobile Phones and Computers
- ✓ The number of mobile phone subscribers is still increasing and its penetration rate reached 98% in 2011.
  - ✓ Area coverage by mobile phone network: 94.7%
  - ✓ Population coverage by mobile phone network: 99%
  - ✓ While the computer ownership rate in the urban area household is 18%, in the rural area, it still remains at low level 6%. Regarding the internet access in the rural area, only 2% of the household has the internet connection compared to 10% in the urban area.



## Internet Access

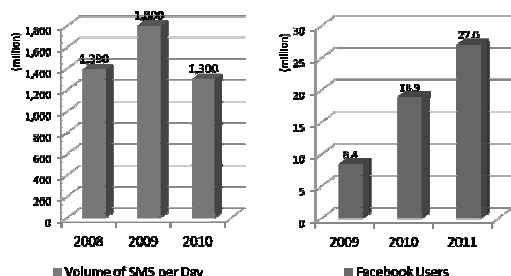
- ✓ The number of internet users is increasing rapidly compared to the number of internet subscribers.
- ✓ Another report says that 74% of school children have experiences of using the internet.
- ✓ Broadband users are also rapidly increasing.
- ✓ Wireless broadband services contribute to the widespread of broadband users; currently at 71% of total broadband users

## Internet Activities



SNS: Social Networking Service  
Source: SWS Survey (2006-2011)

## SMS vs SNS



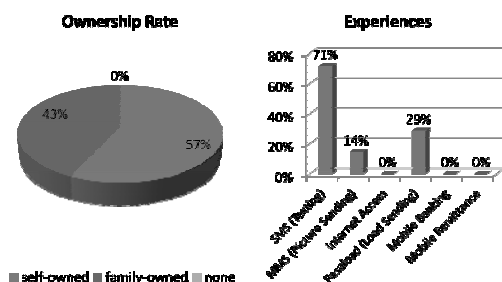
Source: Research and Markets for 2008, 2009  
ABS-CBN news for 2010

Source: Facebook  
SMS: Short Messaging Service  
SNS: Social Networking Service

## ICT Services

- ✓ While the traffic volume of SMS is declining from 1.8 billion/day in 2009 to 1.3 billion/day in 2010, SNS is becoming more popular in the Philippines. The number of Facebook users is recorded at 21.7 million in 2010 compared to 8.4 million in 2009. (in reference, Japan has 3.1 million users in 2010)
- ✓ The activity rate of online shopping in rural areas is three times higher than in urban areas. This fact indicates the potential demand to overcome the distance disadvantage by using ICT.

## Mobile Phones and Farmers



Source: JICA ICT Survey (2012)  
SMS: Short Messaging Service  
VMS: Multimedia Messaging Service

## Mobile Phones and Farmers

- ✓ Almost all farmers have mobile phones in their household.
- ✓ 6 out of 10 farmers have their own mobile phone.
- ✓ Many of them can use text messaging. Furthermore, some of them can send pictures via a mobile phone.
- ✓ No one have experienced mobile banking and mobile remittance, however, some of them have experience airtime load sharing. This means that farmers may have basic skills and knowledge in mobile money transactions.
- ✓ Young generations have important roles for wide-spreading ICT gadgets among farmers.

Project Formulation Workshop for ICT Application in Agriculture

## Agriculture Extension and Marketing Sector



NPAL, Bureau of Plant Industry  
January 30, 2012

### Proposed Projects

1. Improvement of Marketing System for Small Farmers (60min)
2. Online Marketing System Development (30min)
3. Pest and Disease Information System Development (30min)

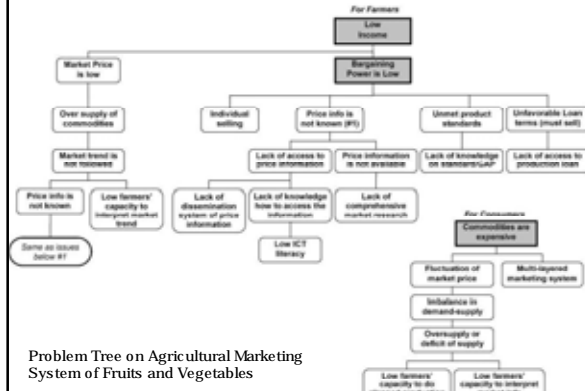
### Proposed Projects

#### 1. Improvement of Marketing System for Small Farmers

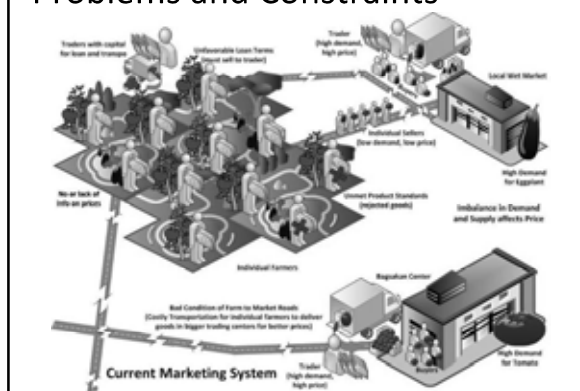
### Outline

- **Title:** Improvement of Marketing System for Small Farmers
- **Implementing Agency:** AMAS
- **Participating Agencies:** ATI, LGUs
- **Objective:** Improve marketing of vegetables and fruits of small farmers in target areas.
- **Target Areas:** Three (3) provinces: Quezon, Nueva Ecija, and Occidental Mindoro (3 municipalities per province)

### Problems and Constraints

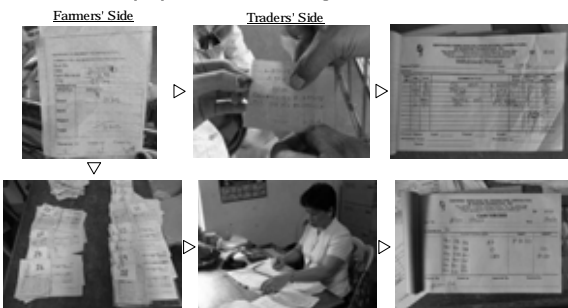


### Problems and Constraints

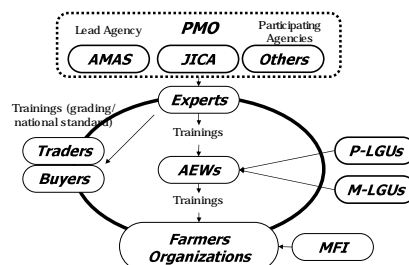


## Institutionalized Trading Center

- A lot of paper works along the transaction



## Institutional Arrangement

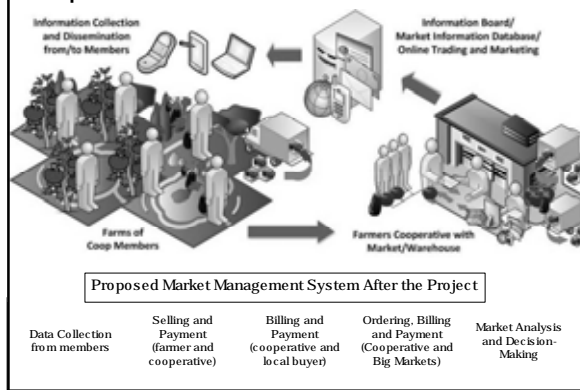


Summary: Strengthen farmers' organizations through linkages and capacity building on production programming, group trading, and agribusiness-related ICT applications to fetch higher prices based on the market trend.

## Activities

- Market information assessment
- Database development of market information system (AFMIS)
- Development of farmer cooperatives
  - Institutional strengthening
  - Production planning and commodity clustering (supply-demand analysis, pricing information)
  - Production Technologies (crop management, post-harvest handling, trading standards, GAPs)
  - Installation of ICT-related equipments
  - ICT trainings (use of equipment, access and dissemination of information)

## Expected Outcomes



## ICT Application

### Market Management System

- Data collection and info dissemination
  - Market information (production technologies, price)
  - Crop programming and harvest information
  - Situation reporting and info blasting
- Trading center transactions
  - Ordering and billing
  - Stock management
  - Inventory allocation/reservation
  - Trade management (buying and selling)
  - Standardized coding/tagging

## Expected Outcomes (ICT)

- By introducing ICT
  - Reduce transaction costs through digitizing trading center activities
  - Reduce multilayer transactions to avoid handling losses
  - Access market and pricing information for better production programming
  - Facilitate group selling, thereby increasing the bargaining power of farmers
- Then
  - Increase the income of farmers/producers
  - Provide consumers with commodities at fair price

## Way forward

- Market operation systems can be introduced, as a package, from Japan
- The system can be further introduced to the existing “Barangay/Municipal Food Terminals” and planned Provincial/Regional “AgriPinoy Trading Centers” as Phase II
- Food Terminals: 786 Barangay, 138 Municipal
- Trading Centers: Benguet under construction, 11 other centers already identified

## Proposed Projects

### 2. Online Marketing System Development Project

## Outline

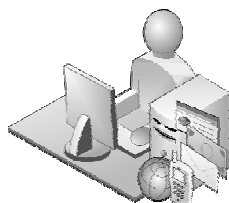
- **Title:** Online Marketing System Development Project
- **Implementing Agency:** AMAS/ATI
- **Participating Agencies:** ITCAF, Telecom company
- **Objective:** Develop a market matching mechanism on the web for agri-related commodities (inputs, machinery, insurance, etc.) and services
- **Target Areas:** Nationwide (system): Pilot Project in three provinces in three main islands.

## Problems

- **High Searching cost**
  - Limited or no networking opportunity for producers and buyers
  - Limited or no knowledge on the existence of goods/services (new equipment, seeds, technologies, etc.)
  - Gap between the buyers and producers on price information and trading/quality standards
- **Existing activities by government and private entities or platforms**
  - Incomplete and not unified
  - Not focused on agriculture-related commodities and services

## Existing Platforms

- **Government**
  - AMAS - AFMIS (Agriculture and Fisheries Market Information System)
  - PhilRice – DBMP Rice Data Information Portal and Pinoy Rice Knowledge Bank
- **Private (sample)**
  - Multiply
  - Sulit.com
  - AyoDito.ph



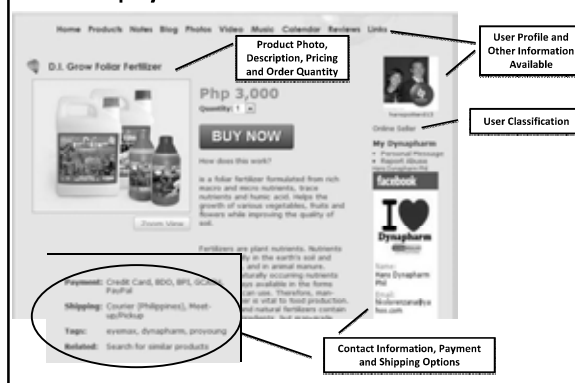
## Platforms

- **AFMIS**
  - <http://afmis.da.gov.ph>
  - Launched in June 2010
  - Uses Internet and SMS to strengthen delivery of market information services
  - **Features:** Agriculture News and Updates, Price Bulletin, e-Trading, Directory of Buyers/Sellers, Market Information (production, trade, prices, etc.)

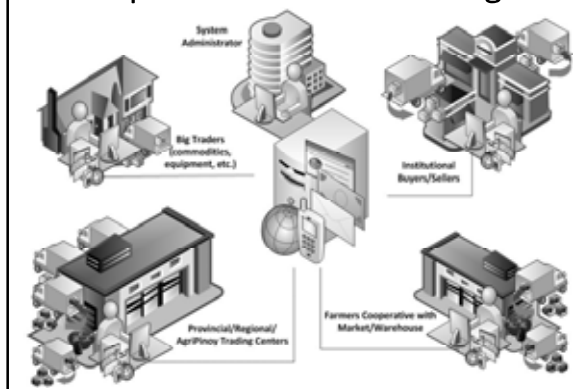
## Platforms

- Philippine Rice Research Institute
  - <http://dbmp.philrice.gov.ph> – Rice Data Information Portal
    - Features:** Real-time Seed Stocks for Sale Information System; Real-time Seed Preference Survey; GIS-aided Seed Grower's Directory
  - <http://pinoyrkb.com> – Pinoy Rice Knowledge Bank – PhilRice Machines
    - Features:** Real-time Seed Stocks for Sale Information System; Real-time Seed Preference Survey; GIS-aided Seed Grower's Directory

## Multiply.com



## Concept for Online Marketing



## ICT Application

- Web-based market matching mechanism**
  - Buy-and-sell forum (user participation, registration and accreditation)
  - GIS-aided mapping for registered agricultural cooperatives, wholesalers and traders
  - Demand-supply profiling of stakeholders
  - Geographic supply-demand modeling
  - Ordering and billing forms and options (e-money, bank-to-bank transactions, PayPal, etc.)

## Activities

- Needs assessment
  - Contents and information
- Management planning
- Platform designing
- Integration with other resources/platforms
- Promotion and capacity building/training

## Expected Outcomes and Issues

### Outcomes

- Reduced search cost
- Increased access to the market both for producers and buyers
- Reduced transaction cost

### Issues

- Participation of users (including requirements for joining such as accreditation and validation to avoid scam and/or abuse)
- IT literacy of users
- System and communication cost



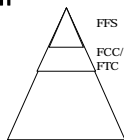
### 3. Pest and Disease Information System Development Project

#### Outline

- **Title:** Pest and Disease Information System Development Project
- **Implementing Agency:** ATI/PhilRice
- **Participating Agencies:** ITCAF/Telecom company/LGUs
- **Objective:** Develop a more efficient and effective pest and disease prevention and control mechanism through prioritizing the experts' intervention by the information system
- **Target Areas:** Three (3) provinces in major islands (Luzon, Visayas, and Mindanao)

#### Problems

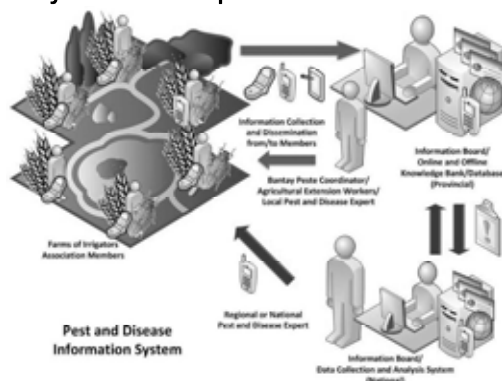
- **Only a limited number of farmers can access the advisory services on pest and disease**
  - It is a protocol to actually see the problems on the sites
  - Lack of human resources at each level
- **Pests and diseases (P&D) are one of the biggest causes of production losses**
  - When epidemic/pandemic happens, scale of loss becomes far larger
  - P&D shares almost a half portion of payout from crop insurance in Mindanao (preventable)



#### Approaches

- **Step-wise approach in P&D diagnosis and response**
  - Level-1: Provincial level
  - Level-2: Regional/National level
- **Information board to collect incidence reports and broadcast information/announcements**
  - P&D watch and reporting
  - Database development on real time reporting
- **Pre-screening of incidences through prioritizing the location where experts should visit first**
  - Number of incidences in one area
  - Number of days since incident happened/was reported
  - Knowledge bank encyclopedia (handheld devise)
  - Automatic recognition system (if applicable)

#### Project Concept



#### Activities

- Expert pooling (rice P&D experts/SMS)
- Protocol designing (to be digitized)
- Database and system development (web-based data collection and analysis system)
- Development and trial of the Image recognition system
- Trainings on how to use the database system and how the system works
- Pilot use and promotion of the services

## Expected Outcomes

- Efficient provision of advisory services by the experts
- Planning of trainings for P&D depending on the actual occurrences
- Support service programming (seed positioning)  
Area with high Tungro virus incidence → position resistant seeds for farmers
- Projection of harvest and/or crop failure  
(ARBY insurance/market stabilization through NFA)
- P&D trends to serve as the basis of research

**End of Presentation**  
**Thank you very much!**

NPAL, Bureau of Plant  
Industry  
January 30, 2012

