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# INDONESIA EXPERIENCE IN TECHNOLOGY TRANSFER AND ADOPTION: INCENTIVE AND POLICY







# Kasdi Subagyono Indonesian Agency for Agricultural Research and Development (IAARD)

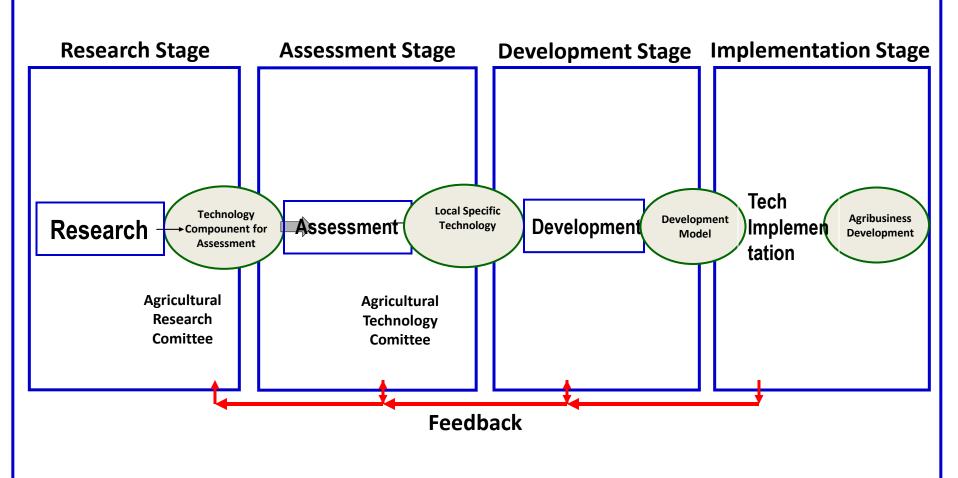
OECD Conference on AKS, Paris, 17 June 2011







### Agricultural Technologies Research and Implementation (Ministerial Decree 03/2005)

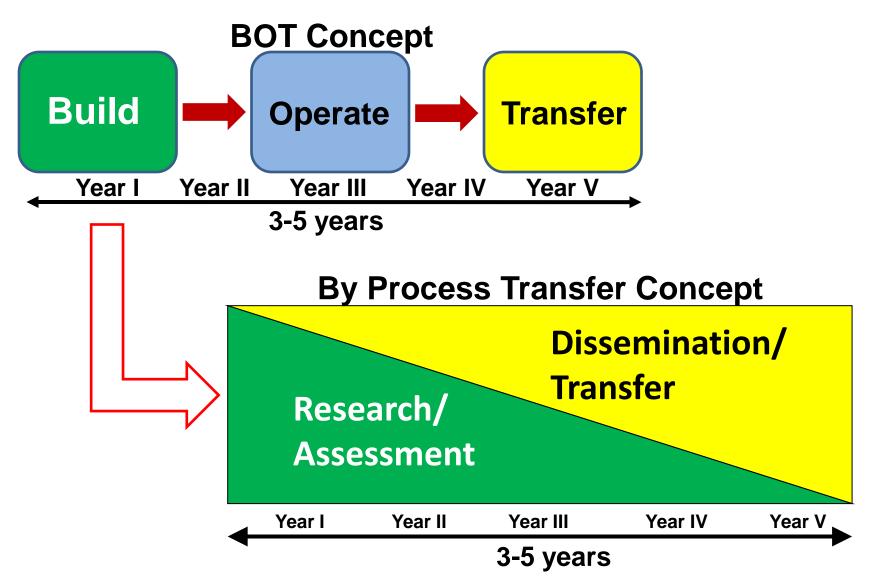








#### **BOT vs By Process Technology Transfer**

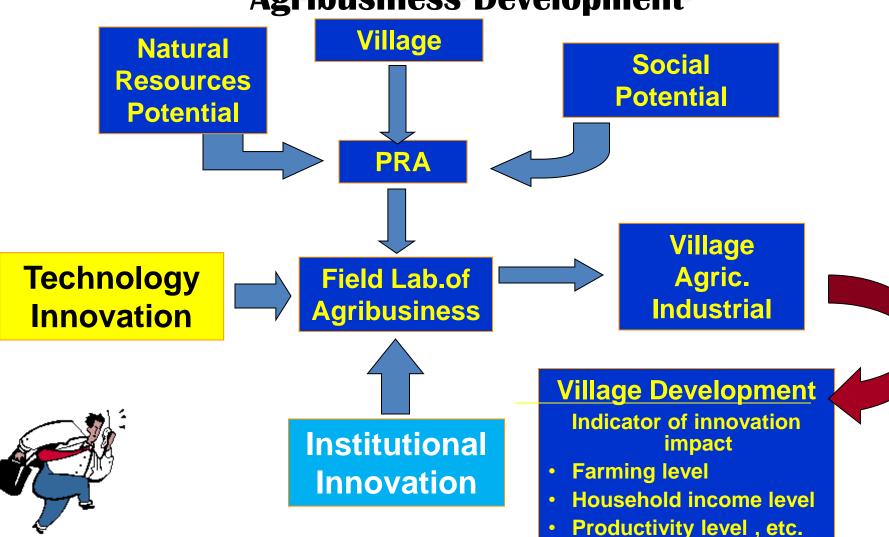








#### Technology Transfer and Adoption for Agribusiness Development

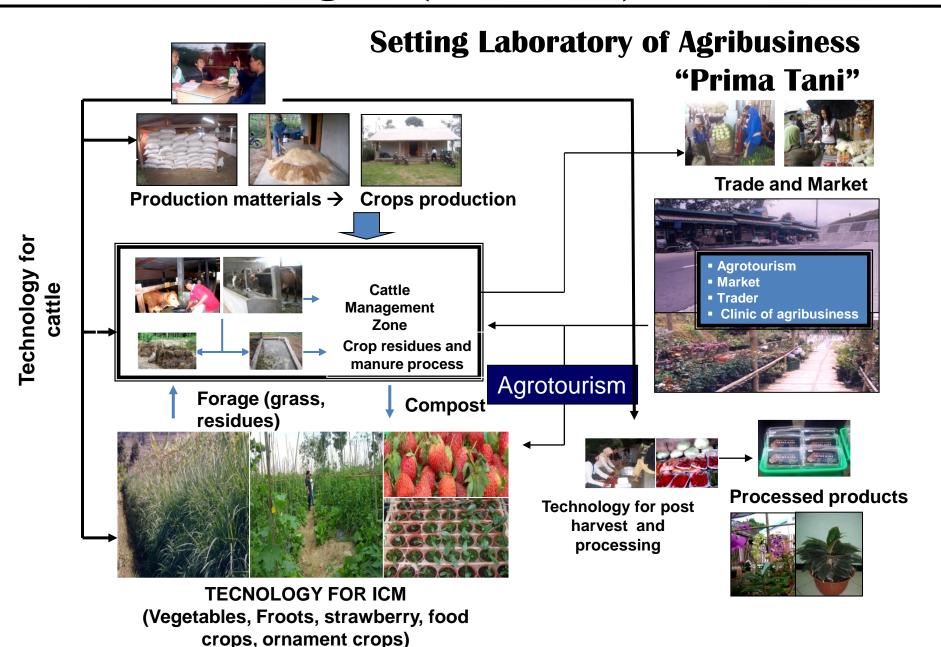


#### "Prima Tani" Program (2004-2009)















#### **Integrated Cattle Management**

- ☐ Technology for Integrated Cattle Management
- Integrated Cattle Management Model
- Business diversification of cattle: cattle fattening, cattle sharing prod system, consultation service and biogass production











#### **Farming of Strawberry**

- □ Technology for organic farming of strawberry, as a major business and agrotourism
- □ Technology for product diversification: seedling, fresh fruit, fruit processing and tourist service
- Innovation of market inatitution











#### **Farming of Ornament Crops**

- ☐ Technology for orchard, anthurium, caladium, begonia, violtjes etc.
- □ Development of new business units: ornament crops, crop media and organic fertilizer by individual or group of farmer
- ☐ Creating new ornament crops business at village level
- □ Increase farmer income (± 5 million rupiahs per year











#### Farming of Vegetables and Food Crops

- ☐ Technology for vegetables and food crops
- Introducing High Yielding Crops Varieties (HYV)
- Technology transfer and diffusion





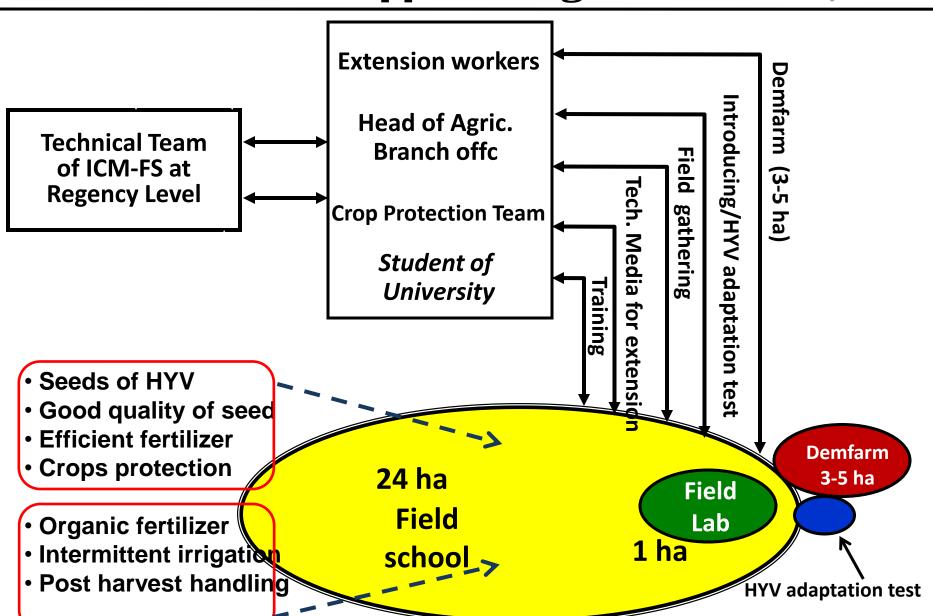




#### ICM-Field School Support Programs IAARD





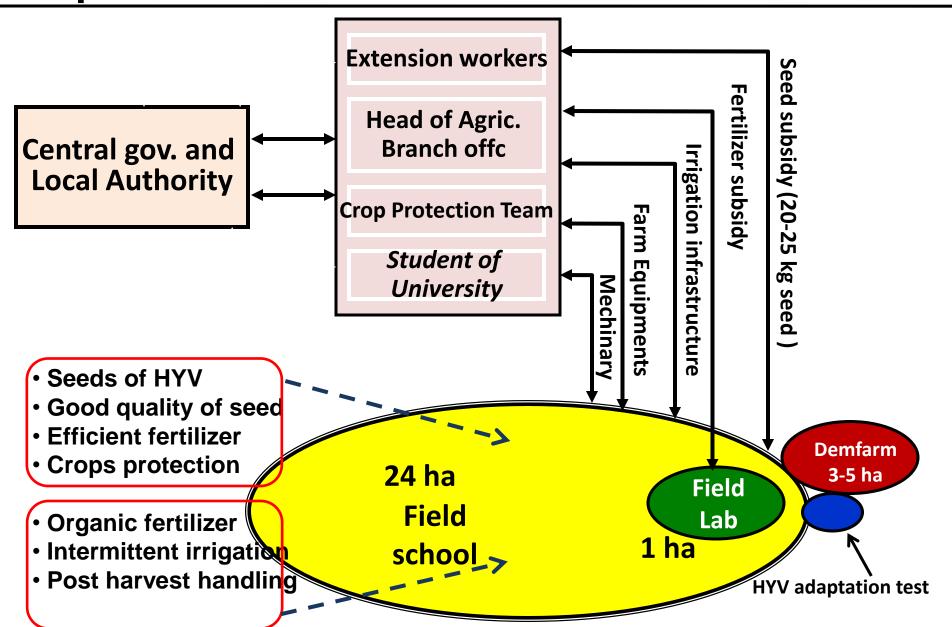


### Incentives of Technology Transfer and Adoption in ICM-Field School















### **Sharing System to Accelerate Technology Transfer**

### LOCAL AUTHORITY/ FARMERS/AGRIBUSINESS ACTORS

**AARD** 

**Role and responsibili** 

- Supports/participation
- Model of acceleration of technology transfer
- Budget
  - Program planning
- Model of village agribusiness

- Coordination and communication amongs stakeholder
- Source of innovation technology
  - Facilitating technology transfer
    - Incentive of technology tranfer

Year I Year II

ear II Year III

r III Y

Year IV

Year V

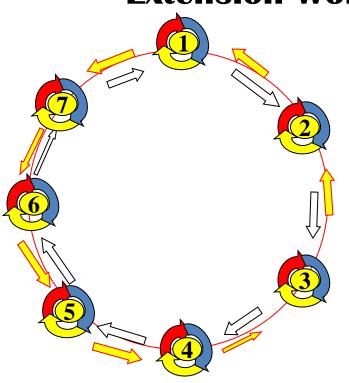
**Process of Technology Transfer** 







#### Increasing Collaboration between Researchers-Extension Workers-Farmers



- 1. Problems Identification
- 2. Technology, Instituions, and disseminationsneeds
- 3. Participatory programs formulation
- 4. Assessment and dissemination planning
- 5. Assessment and dissemination execution
- 6. Evaluation on technology, institution, and dissemination methods performance
- 7. Upscalling

Communication processe of researchers, extension workers and farmers

Utilizing outputs for program input

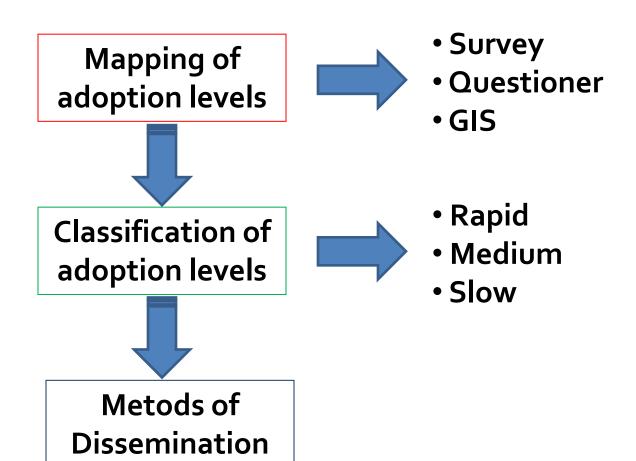








#### Improving Methods of Technology Transfer and Adoption









### Development of Technology Transfer Information System (TTIS)



- Technology Information Center (AIAT/Board of Extension Coordinator)
- Board of ExtensionExecuting
- Extension Board/BPP
- Village ExtensionCenter



Dev. of Tech Transfer Information System

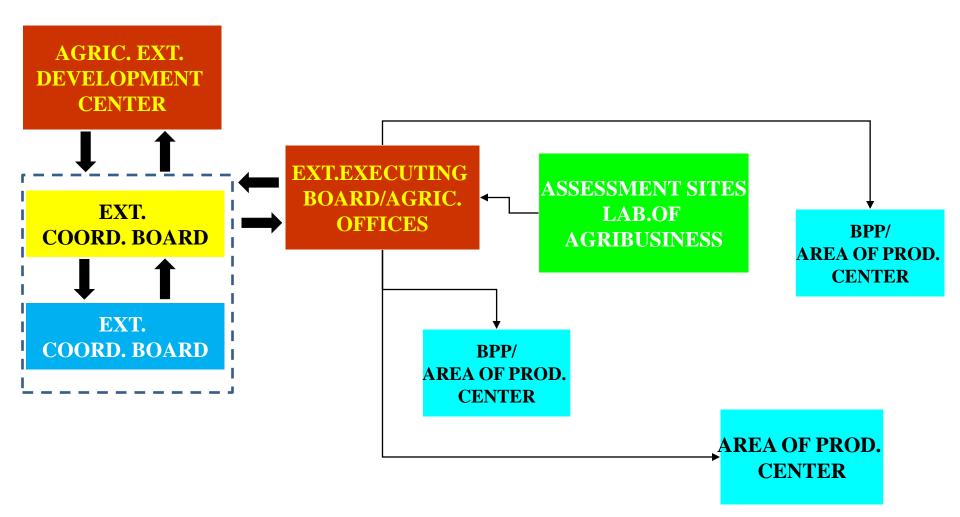
- > Database
- > Information Technology (IT)
  - Hardware/Software



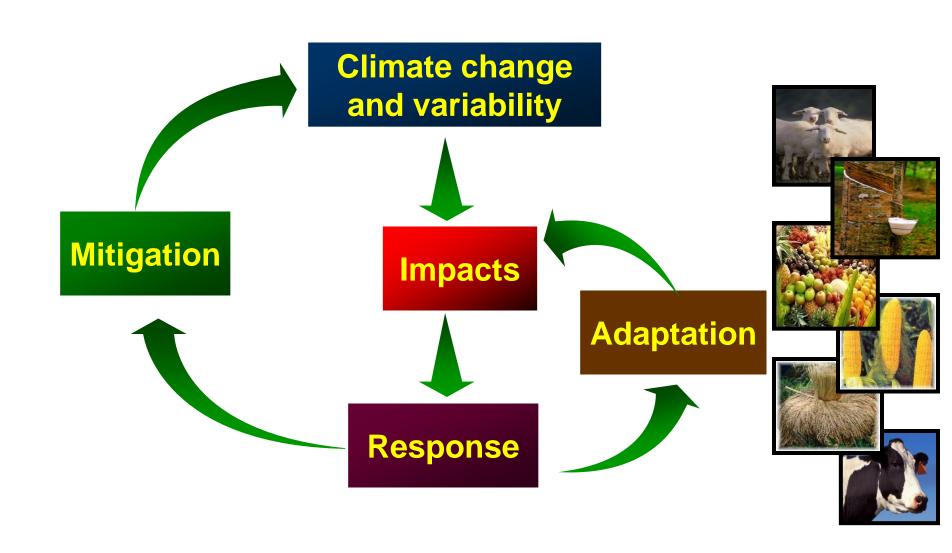




#### Development of Information Networks for Technology Transfer and Adoption



#### Strategy for Coping Climate Change



Rice/Horticulture







### Adaptation Technology

- a. Crops tolerant to drought and flood
- b. Early mature crops varieties
- c. Cropping calendar
- d. Water harvesting
- e. Efficient irrigation

#### Mitigation Technology

- a. Low emission crops varieties
- b. Appropriate fertilizing
- c. No tillage
- d. Intermittent irrigation

#### Livestock

Adaptation	Mitigation
Technology	Technology
a. Adaptable cattle to dry and wet	a. Composting manure
climate	b. Biogas
b. Communal livestock sheltering	production

#### Technology for Climate Change Adaptation and Mitigation

#### **Perennial crops**

Adaptation	
Technology	

- a. Crops tolerant to drought and flood
- b. Early mature crops varieties
- c. Cropping calendar
- d. Water harvesting
- e. Efficient irrigation

#### Mitigation Technology

- a. Low emission crops varieties
- b. Appropriate fertilizing
- c. No tillage
- d. Intermittent irrigation

Source: Subagyono et al. (2009)

## Global Policy for Climate Change Adaptation and Mitigation

- □ Climate change adaptation is focused for food crops (priority), because its vulnerability
- Climate change mitigation is targeted for estate crops through land burning control and sustainable peat management for reducing greenhouse gas emmision
- Adaptation and mitigation are executed complementary and sinergy

## Special Policy for Climate Change Adaptation and Mitigation

- Development of Climate Information System Network → Working group, Early Warning System, and Climate Field School (CFS)
- 2. Preparing Tools and Guidelines
  - Blue Print of flood and drought (2007-2008)
  - Ministerial decree NO.47/2006 (Guidelines of farming system development in sloping areas)
  - Ministerial decree No.14/2009 (Guidelines of Utilizing Peat Land for Estate crops)
  - Atlas of Cropping Calender (2007-2010)
- 3. Re-arrange Land Utilization and Land Allocation
- 4. Development of infrastructure especially for irrigation

