COUNTRY REPORT
INDONESIA

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The Fifth Session of the Technical Committee (TC) of UNAPCAEM and Expert Group Meeting
Los Banos, the Philippines
14-16 October 2009

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INTRODUCTION

OBJECTIVES OF FARM MECHANIZATION IN Indonesia

- INCREASE PRODUCTIVITY
- REDUCE POST HARVEST LOSSES
- INCREASE ADDED VALUE
- QUALITY PRESERVATION

ADDITTION TO THAT OBJECTIVES

- INCREASE THE WELFARE OF FARMER HOUSE HOLDS
- CREATE EMPLOYMENT OPPORTUNITY AT THE RURAL

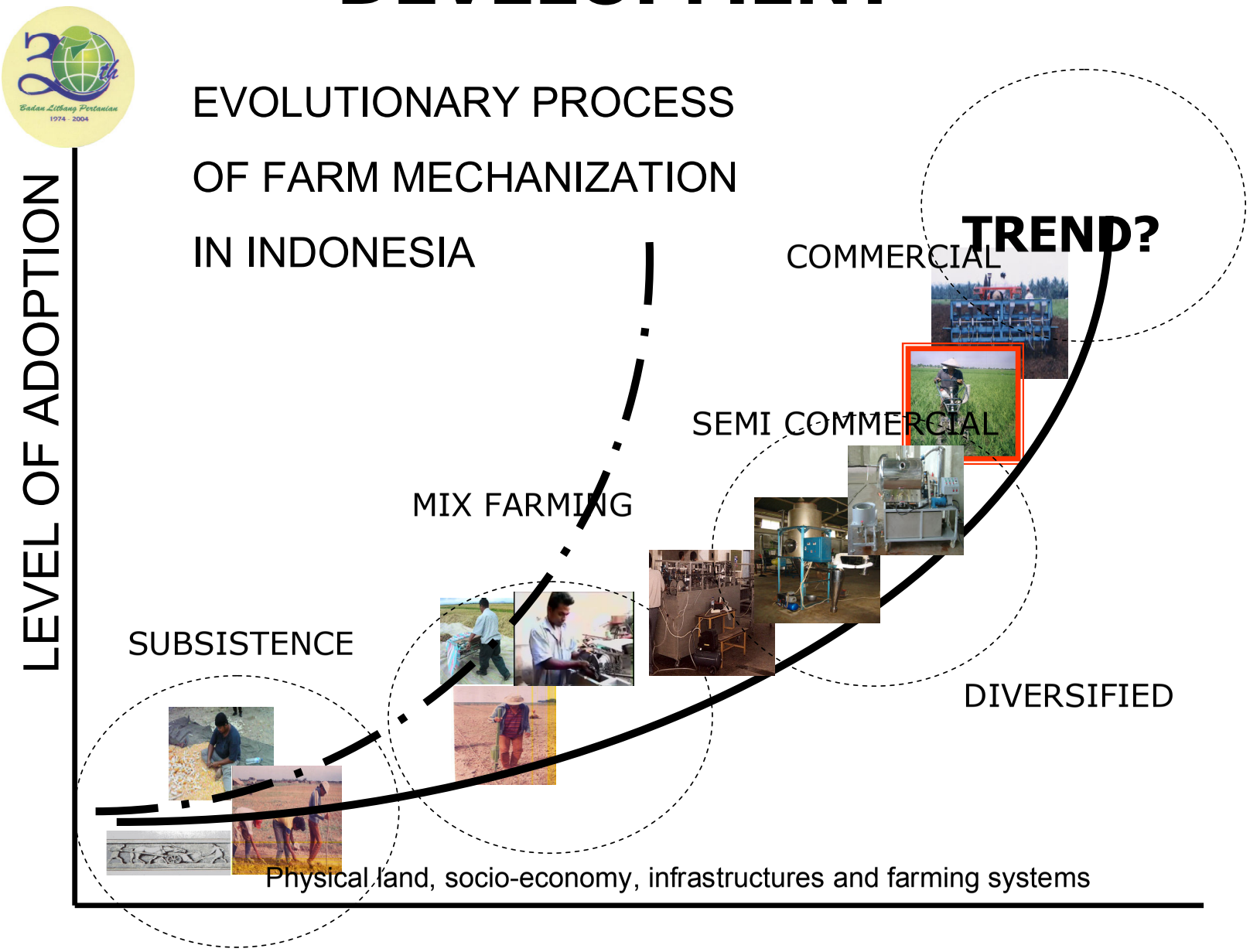
→NEED COMPREHENSIVE STRATEGIES of **AM DEVELOPMENT**

Farm Mechanization started with:

- material transfer -----→ 1950-1970
- design transfer -----→ 1970-1980
- capacity transfer ---→ 1980-1990

Re orientation -------→ 1990- 2000

AGRICULTURAL MACHINERY DEVELOPMENT



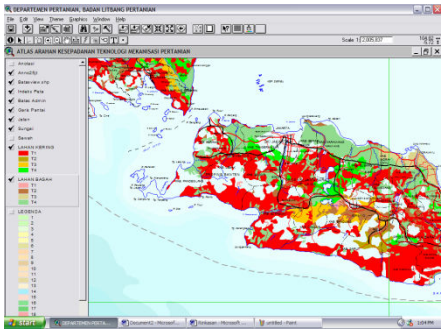
Development Policy and Strategy for Agricultural Mechanization

Policy for agricultural mechanization development in Indonesia have been setup are directed to be able to create :

1. Increase of productivity and efficiency of agricultural resources
2. Increase of quality and added value of the agricultural products and its by products
3. Opportunity of local agricultural machinery industry to produce better quality of the machines which are suitable to local conditions and purchase ability of farmers
4. Opportunity collaboration among small, medium and big sclae industry

Strategy

Currently, appropriate strategy has been established in promoting agricultural mechanization development:



selective (*suited to the local or region conditions: Physical land, socio-economic, infrastructures and farming systems aspects)*

Progressive (*levels of technology implemented are always gradually improved from low into higher level*)

Participative (*involving the active participation of agribusiness society, including consumers/farmers, related industry and producers and financial institutions*)

CONSTRAINTS AND CHALENGES

Constraints

- Socio Economic Constraints
  - Small and fragmented, high investment, low purchasing ability, low productivity
- Technical Constraints
  - Poor after sales, lack of training, poor extension service, less farm infrastructures (workshops and farm road)
- Institutional Constraints
  - Limited facility for credit, farmers association, dealership at the remote area, less accommodate farmer's need, less cooperation among AE institutions

Challenges

There are possibilities to increase agriculture area through extensification program in which agricultural mechanization will play an important role

There are possibilities to increase cropping intensity through intensification program. Mechanization will help in achieving the goals of the program

High losses, low quality and low added value of agricultural products

Prospect in the development of renewable bio-energy

Application of agricultural mechanization in the concept of crop livestock systems it may help to achieve their economic feasibility.

DEVELOPMENT OF AGRICULTURAL MACHINERY TESTING INSTITUTION/LABORATORY

National Legislations and Standardization of Agricultural Machinery

Objectives of testing and evaluation:

Protect the consumers need (farmers and other users)

Guarantee quality agricultural machinery used by the farmers/other users to meet the requirement of global trade

Strengthen research and development agricultural machinery more systematic and leads to what the national needs.

Strengthen the growth of local agricultural machinery industry which refer to the Indonesian National Standard of the testing procedures, test methods and minimum technical requirements for certification

National Regulations

GOI Decree no 81/2001 (PP 81/2001) stated that:

All agricultural machinery (locally made or imported) used in Indonesia must be tested before release to the market, and the test should be conducted by competent institutions/testing laboratory which have been accredited.

In order to fulfill the implementation of the decree, Testing Laboratory of ICAERD as National Testing Center since October 2003 has been accredited as competent testing laboratory based on ISO/IEC 17025: 1999.

National Standards of Agricultural Machinery have also been developed for references in conducting testing and evaluation (Test Codes-Procedures-Methods, and Minimum Technical Performance Requirement) Currently, those standards are available and used for almost food crops and horticultures machinery.

Agricultural Machinery Testing Laboratory of ICAERD

Capacity and Status of Testing laboratory of ICAERD

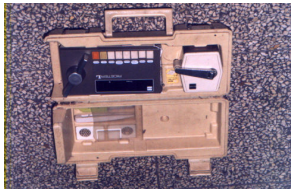
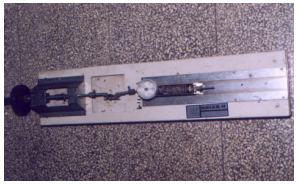
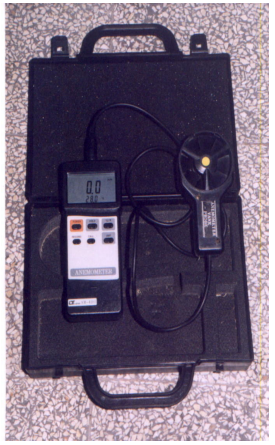
No	Testing Laboratory	Capacity	Status
1	Testing Laboratory for 4 Wheels and 2 Wheels Tractors	Max 100 kW	Accredited
2	Testing Laboratory for Irrigation Centrifugal Pumps	Max 250 mm discharge pipe	Accredited
3	Outdoor Testing Laboratory for grain post harvest machineries	Var.	Accredited
4	Testing Facilities for sprikler irrigation and hand sprayer	Var.	Under process

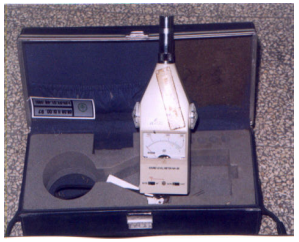
TESTING FACILITIES

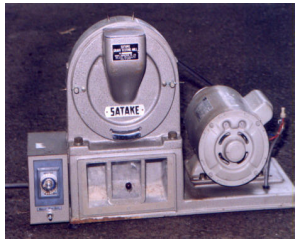
Four wheels and two wheels (hand tractor) tractor testing laboratory

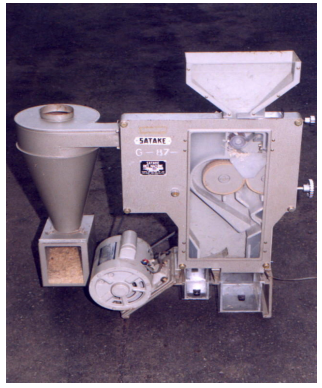
Irrigation pumps testing laboratory

Testing Facilities for Grain Post harvest Machineries



PRIORITY AREAS:
TECHNICAL COOPERATION and ASSISTANCE FOR CAPACITY BUILDING

Based on the constraints and challenges in agricultural mechanization development, priority areas proposed among APCAEM member countries are:

Strengthening **collaboration** among agricultural mechanization institutions in the field of **research and development**, especially in the areas of agricultural machinery for **food crops**, **horticultures** and utilization of agricultural mechanization for **crop livestock systems**.

Establishing **testing network** in terms of the development of **methods, procedures and standardization** of agricultural machinery leads to establish Mutual Recognition Aggreement (MRA) of agricultural machinery standard of testing methods and certification among APCAEM member countries.

Strengthening **Collaboration on dissemination and technology transfer.**

Strengthening **capacity building (facilities and human resource)** of agricultural mechanization institutions for research and testing of agricultural machinery.

RECOMMENDATIONS AND WAYS TO PROMOTE AND ADDRESSS CHALLENGES FOR AGRICULTURAL MECHANIZATION

Program Direction

Based on the challenges and experiences in the development of agricultural mechanization in Indonesia, agricultural mechanization development programs should be directed to

1. Develop a **model/systems technology transfer** (adoption) from research institutions to local industries and end users
2. Strenghten **collaboration among agricultural engineering institutions** which includes national and international levels.
3. Strenghten and focus **research and development** program networks and cooperation for the priority commodities and current issues in agricultural mechanization development.
4. Provide adequate **technical knowledge and number of human resource** working for agricultural mechanization, especially for extension services.
5. Develop **financial support systems** which are accesible by the farmers.

CONCLUSIONS

For the next five to ten years (2010-2015) Mechanization in Indonesia will still be dominated by small to medium mechanization. Agricultural machinery development should be directed to increase productivity and efficiency, preserving product quality and creating added value product and its waste, and developing renewable bio-energy.

In order to guarantee quality of agricultural machinery (local and import machinery), testing and evaluation become important aspect in development of agricultural mechanization in Indonesia.

Some priority areas need to be taken into action in the frame of APCAEM is strengthening collaboration among agricultural mechanization institutions for (1) research development and testing of agricultural machinery, (2) dissemination and transfer technology, and (3) improving capacity building.


THANK YOU