Situation of Agricultural Engineering in Thailand

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OUTLINE OF PRESENTATION

General Background
Status and Trends of Agri. Machinery
Government Policies
Government Organizations
Agricultural Engineering R&D
THAI LAND

- Total Population: ~ 64 millions
- Farming Population: ~ 58 %
- Total Area: ~ 51.3 mha.
- Cultivated Area: ~ 21.0 mha.
- Farm Size: ~ 3.7 ha.
- Irrigated Area: ~ 24.9 %

Total Cultivated Area
- Major Crops: Rice, Maize, Sugarcane, Soybean, Cassava, Rubber, Fruits, Oil Palm
- 50.5 % Total Cultivated Land
Economic Performance 2005 and 2006

The economy expanded

4.7% (2005)

The account deficit was

5.0% (2006)

1.8% of GDP (2005)

Unemployment rate was 1.6%

GDP (2006)

The inflation was

4.5% (2005),

4.7% (2006)
PRESENT
AGRICULTURAL MECHANIZATION STATUS
LAND PREPARATION
PLANTING
Water Pump

Sprayer
THRESHING
HARVESTING
RICE COMBINE HARVESTING
DRYING
Fluidized Bed Dryer
THAI GOVERNMENT POLICY

Thailand started its first Economic and Social Development Plan in 1961.

The current plan is the Tenth Plan (2007 – 2011). The Plan will focus on ‘human’ as center of development efforts. Three main elements are accentuated: sufficiency economic, sustainable development, long-term planning vision spanning the next 20 years to provide ‘change management’.
The Government policies and strategies relate to agricultural engineering

Promote agricultural development based on the “New Theory” as an important alternative for small farmers; at the same time, expand opportunities for product development and improve product quality through the use of technology, management and access to markets;
Local Community Products will be supported so that they are recognized by consumers as quality products in line with their market potential, whether at the regional, national or export levels; this can be accomplished through the establishment of an integrated project management system that will improve technology and management as well as provide market support;
Small and Medium Enterprises (SMEs): make use of the public-private sector alliance to increase the effectiveness of, and thereby strengthen, all SMEs through science and technology and management; in addition, special importance will be given to those SMEs that make use of intellectual property;
Promote energy efficiency, energy saving, the
development and use of alternative energy, the
survey and development of domestic and
international sources of energy-including the
joint development areas with neighboring
countries-the use clean energy, and appropriate
price structure for energy and restructuring of
the management of energy affairs by ensuring
that there is a clear division between energy
policy-making and regulation, and promoting
long-term competition in the energy business as
well as research and development of alternative
energy.
Governmental Organizations

1. Agricultural Engineering Research Institute, Department of Agriculture, Ministry of Agriculture and Cooperatives is responsible for research and development on agricultural machinery, agricultural process and providing technologies as well as services to government and private agencies involves.
2. Post-harvest and Products Processing
Research and Development Office, Department of Agriculture
is responsible for conduct research, study and develop technology on post-harvest, processing, extraction of natural substances, and packaging and analysis, test and inspection of agricultural produce and products.
3. The National Bureau of Agricultural Commodity and Food Standards (ACFS), Ministry of Agriculture and Cooperatives

1. To set standards for primary agricultural, processed agricultural, and food products

2. To supervise, enforce, and monitor food safety program.

3. To permit certificate and accredit Certification Body.

4. To coordinate and co-negotiate on non-tariff trade barrier issues as well as on international standardizations.

5. To serve as a key information center for primary agricultural, processed agricultural and food products.

6. To serve as a secretariat to the Board of National Agricultural Commodity and Food Standards.

7. To serve in other capacities as requested by law or the cabinet, or the minister.
4. Office of Agricultural Economics, Ministry of Agriculture and Cooperatives is responsible for collect data of agriculture and agricultural economic. Then, analyze data and report to government and public.

5. Farm Mechanization Sub-Division, Department of Agricultural Extension is undertaking about extension activities.

6. Thai Industrial Standard Institute (TISI), Ministry of Industry is responsible for standardization of agricultural machinery.

7. Thai International Cooperation Program (TICP), Ministry of Foreign Affairs

TICP, formerly DTEC, has been responsible for the technical cooperation which Thailand provides to other developing countries, as well as mutual assistance programs organized among developing countries. Many of these activities are funded entirely by the Thai government. However, some are paid for by foreign governments.
8. Bank of Agriculture and Agricultural Cooperatives, Ministry of Finance is responsible for loan extension to agricultural cooperatives and farmer.

9. Universities and colleges of Agriculture are research organization of agricultural.

Private Sector

Thai manufacturers and distributors have been the major force behind the rapid mechanization development.
RESEARCH AND DEVELOPMENT
Immature Durian Fruit Grading Machine

Signal Analyzer
A PROTOTYPE OF DEHYDRATED LONGAN FRUIT MOISTURE METER

Needle type sensor

Display
Tray Dryer
ท่อส่งอากาศ
ท่อส่งเชื้อเพลิง
ถังแก๊ส
นํ้าเสีย
แช่ย่อย
ชุดควบคุมระบบการทำางาน
R&D aims

1. Collaboration among researchers from government sectors, educational institutes and manufacturers are important aspects to ensure that the research works will be continuously implemented to marketing production.
2. Cost reduction in manufacturing by using standard part among different manufacturers. Standard parts will be benefit to not only cost reduction for manufactures but also more convenient for farmers to buy spare parts.

3. Production value-added by improving machinery for post-harvest technology and processing.
4. Researches under government fund are grouped into project. Each project must be evaluated by the National Research Council and researchers must propose the project concerning government policy.
สวัสดี
Thank you