General Background
Government Policies
Government Organization
Private Sector
Areas of collaboration
THAILAND

- 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, SUGAR CANE, SOYBEAN, CASSAVA, RUBBER, FRUITS, OIL PALM
In 2005 the Thai economy was affected by surged oil prices and negative domestic factors including drought, tsunami, avian influenza and unrest in the southern provinces. The economy expand 4.7 per cent. The account deficit 3.2 billion USD, unemployment rate 1.9 percent of GDP. The inflation 4.5 per cent.
Economic Outlook 2006

Economic growth is projected at 4.7-5.7 per cent with 3.5-4.5 per cent inflation rate. Current account deficit approximately 2.2-2.7 per cent of GDP.
THAI GOVERNMENT POLICY
ON AGRICULTURAL MECHANIZATION

Government policy is framed to limit public intervention in the productive and marketing sector and to leave ample prerogative to private individuals to express their views.
THAILAND

No existing explicit national mechanization development policy

Five-Year National Economic and Social Development Plan
1st Plan 1962 - 1966

No mechanization policies and strategies were stated in the early Plans.

IN 1979, with the support and encouragement of RNAM, Thai Government established National Committee for Agricultural Mechanization (NCAM) to formulate mechanization policy and strategy.

The cabinet approved the national mechanization policy and strategy prepared by NCAM in 1985.
MECHANIZATION POLICY

THE MAIN FEATURES OF THE POLICY, WHICH IS LAID DOWN BY THE NATIONAL COMMITTEE FOR AGRICULTURAL MECHANIZATION CAN BE OUTLINED AS.FOLLOWS:

a) MECHANIZATION SHALL SUPPORT THE DEVELOPMENT OF THE AGRICULTURAL SECTOR BY INCREASING PRODUCTIVITY.

b) FARM MACHINERY SHALL BE OF GOOD QUALITY, OF LOW PRICE AND SUITABLE FOR THE COUNTRY’S VARYING CONDITIONS.

c) STANDARDIZATION WILL BE PROMOTED AND ORGANIZED.
POLICY

The improvement in productivity of mechanization system has been achieved through the following strategies:

1. **Promote and Enhance the Collaboration** between the public and private sector in R&D of agricultural machinery to suit the local conditions and women operators.

2. ** Expedite the Standardization and Services** for certification.

3. **Strengthen Training for Officials and Farmers** in selection of appropriate machines or technology, proper operation, repair, and maintenance.

4. **Promote Long Term Credit** for manufacturers and farmers for the productive production and purchase.
Mechanization development plan

Firstly included in the Sixth Five-Year National Economic and Social Development Plan

Seventh Plan (1992 - 1996) → significant role of mechanization → promotion of local agricultural machinery and extension

NCAM: incapable to generate any explicit implementing plan for the support from the government

Coordinating board: No authority to administer internal implementing plan

Supporting plans: Formulated base on main responsibility and interest. Each agency rather than NCAM policy and strategy
THE STRATEGY STATEMENTS WERE CLASSIFIED INTO FIVE MAJOR AREAS AS FOLLOW:

1) GENERAL POLICY DIRECTIONS;
2) RESEARCH AND DEVELOPMENT;
3) MANUFACTURING, SUPPLY AND MARKETING
4) FINANCING AND CREDIT
SEVENTH NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT PLAN 1992 / 1996
AGRICULTURAL MACHINERY ONE OF NECESSARY INPUTS

1. IMPROVEMENT OF THE PRODUCTIVITY OF LOCAL MANUFACTURE
   a) PROMOTE R & D
   b) RENDER TECHNICAL ASSISTANCE AND STRENGTHEN COLLABORATION
2. STRENGTHEN OF RESEARCH AND EXTENSION INCREASE AGRICULTURAL PRODUCTIVITY AND FARMERS INCOME

a) PROMOTE TRAINING TO EXTENSION OFFICERS AND FARMERS
b) PROMOTE LONG TERM CREDIT
c) PROMOTE CUSTOM HIRE SERVICE
AGRICULTURAL DEVELOPMENT POLICY

a) PROMOTE THE AGRICULTURAL SECTOR TO GROW EQUALLY AS OTHER ECONOMIC SECTOR BY PROMOTING THE MORE EFFICIENT USE OF APPROPRIATE AGRICULTURAL MACHINERY AND TOOLS. THIS WILL BE ENCOURAGED BY MEAN OF REDUCTION IN IMPORT TARIFF AND PROMOTE RESEARCH AND DEVELOPMENT FOR THE IMPROVEMENT IN PRODUCTS QUALITY AS WELL AS THE PRODUCTIVITY.

b) ENCOURAGE AND PROMOTE THE COLLABORATION OF PRIVATE SECTOR IN INVESTMENT OF ALL AGRICULTURAL...
8th NESDP (1997 - 2001)

NCAM mission Approved by the cabinet in 1990

Explicit statement about agricultural mechanization development Policies and Strategies

Mechanization still rolling forward to Higher technology Advance sophisticated machine

Agricultural Production System
LONG TERM NATIONAL DEVELOPMENT VISION

Alleviation of Poverty  Upgrading Quality of life
Sustainable Development  Increase Well-being of Thai People

Key Development Directions

9th NESDP (2002 - 2006)

Economic
1. Stabilize Economy
2. Strengthen Economic Foundation: Increase Purchasing Power
3. Improve Communities
4. Better Access to Public Service
5. Develop Social Protection Networks

Social
1. Alleviation of Poverty
2. Improve Communities
3. Better Access to Public Service
4. Develop Social Protection Networks

Good Governance
1. Public Sector Reform
2. Pro-Poor Public Management
National Development Plan

No Mechanization Development Policy

Present Government Policies & Strategies

Agricultural Engineering and Machinery

Government Targets Achievement
Related Policies and Strategies

**Agriculture**
- OTOP - ONE TAM BON - ONE PRODUCT
- U.S. $25,000 Revolving Fund / village
- Promote Barn and Drying Facilities
- Increase Production Efficiency
- Improve Quality Controls, Standards, and Safety of Agricultural Products

**Industry**
- Development of Products and Technology
  - Public + Private Collaboration
  - Promote the Role of Financial Institutions

**Science & Technology**
- Promote R&D by providing Support to Agencies
  - Development and Protect Intellectual Property Rights

**Trade in Goods and Services**
- Promote Consumer Protection and an Effective Process of Informing and Servicing the Public
  - Ensure Better Quality of Services and Products
The Value Creation of Agricultural Products Under The Development of Zero Waste Industry
1.1 Objectives

The objectives of this study – increasing the value added to agricultural products by using the concept of Zero Waste Industry – are as follows:

1) To evaluate the utilization of agricultural raw materials or agricultural products, the methods of adding value to the products and to evaluate losses occurring in the process of producing and manufacturing selected agricultural products.

2) To draw lessons from the experience and “Best Practices” in agricultural processing and commercialization of other countries that manufacture agricultural products and determine the possibilities for applying the concept of Zero Waste Industry in the similar products of Thailand.

3) To recommend certain guidelines and measures that would enable the government to 1) support stakeholders involved in agricultural processing to reduce losses and 2) to support the application of Zero Waste Industry concept in agricultural processing.
Policy Statement
Of the Council of Ministers

Delivered by General Surayud Chulanont,
Prime Minister of the Kingdom of Thailand
To the National Legislative Assembly
On Friday, 3 November 2006
2. Economic Policy

The Government’s economic policy will be based on the philosophy of “Sufficiency Economy.” Among other things, this means making use of moral principles to lead economic development under the free market system. This is so as to drive the grassroots economy, which can be likened to the taproot of the nation, the market economy and the overall economy so that all sectors contribute to economic expansion in an adequate and sustainable manner. The emphasis will be on the leading role of the private sector and the latter’s synergy with the public and civil sectors. All of this will help strengthen the three economic sectors mentioned above, with the main policies being as follows:
2.1 The Grassroots Economic Sector is an important foundation of the Thai economic system. It, therefore, needs to be strengthened in the following ways:

2.1.1 Agriculture: 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;
2.1.2 Local Community Products will be supported so that they are recognised 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;
2.1.3 The labour force is another important foundation of the grassroots economy; the Government will strengthen cooperation among labour, the public and private sectors; this cooperation will include developing the quality and skills of the labour force at all levels so as to ensure that the labour force is more productive and receives higher incomes in line with skill standards; this cooperation is also to ensure that all categories of labour have jobs and supplementary occupations, are protected and provided with safe and sanitary working conditions, and have their security and welfare provided for in a comprehensive and just manner;
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, Ministry of Agriculture and Cooperatives 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.
Immature Durian Fruit Grading Machine

type of apparatus with signal analyzer program control and circuit analysis switching and triggering
Longan Dryer

Batch type
A PROTOTYPE OF DEHYDRATED LONGAN FRUIT MOISTURE METER
Tray Dryer
Tunnel Dryer
RICE MILLING MACHINE

VACCUUM FRY
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.
Activities performed under the TICP banner include development projects, missions, awarding of fellowships and other forms of training, and the dispatch of experts and equipment. Projects focus mainly on priority sectors (agriculture, education and public health).

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.
PROFILE OF THE AGRICULTURAL MACHINERY INDUSTRY

- MORE THAN 200 MANUFACTURES
- RANGING FROM SMALL : 4 - 5 WORKERS (50 sq.m.)
- LARGE : > 100 WORKERS (3000 sq.m.)
- SMALL : UP TO 10 EMPLOYEES : 46 %
- MEDIUM : 10 - 30 EMPLOYEES : 34 %
- LARGE : MORE THAN 30 EMPLOYEES : 20 %
COMBINE HARVESTER WITH GRAIN TANK
Fluidized Bed Dryer
MANUFACTURING AND MARKETING PROBLEMS

- Lack of certainty about market demand
- Lack of proper policies on tariff of imported agricultural machinery and spare parts
- Shortage of skilled labour
Trend of Mechanization

1. Animal power will be in declining trend and will consequently disappear from the crop production system of the country in the near future.
2. Role of manual power
3. More sophisticated and high capacity machines will mostly replace the existing indigenous ones. Therefore, competent operators for the utilization of sophisticated machinery are essential for an appropriate
Areas of collaborations

- Advance post-harvest technology especially for food processing from crop commodity in both technologies and machinery.
Technology and methodology for food safety control, inspection and certification.
- Soil, water and environmental conservation technology and machinery development.
Technology and machinery development for precision farming.
THANK YOU
SAWAS DEE