



**United Nations Asian and Pacific Centre for  
Agricultural Engineering and Machinery  
(UNAPCAEM)**



# **Int'l Seminar on Restructuring and Strengthening Research and Development (R&D) for Agricultural Engineering**

## **An Introduction**

**CHANG Ping (Prof.)  
Senior Expert  
APCAEM  
Beijing, 27-28 April 2007**

# Background

- **Why this Seminar**
  - **Situation of R&D for Agricultural Engineering (AE) in Asian Developing countries**
  - **The Case of China**
  - **Impact of S&T developments**
  - **The Role of AE**
- **Launching a project**
- **Objectives of the Seminar**

# The Situation of R&D for AE

- **Investment in R&D for new plant varieties and agronomy**  
high pay-offs
- **R&D for agricultural machinery:**
  - an input from a variety of professional disciplines
  - a more complex holistic approach
  - lack of sufficient budget for concurrent costs
  - lack of funding for R&D

*(Cont'd)*

# The Situation of R&D for AE

- Public sector funded R&D on AE: a poor record of success
- In general, machinery innovations were developed by commercial enterprises in response to a ready demand.
- R&D institutions for AE more commercially oriented in industrialized countries

# The Case of China

- A reform for an outward-looking R&D approach, catering to rural demands.
- Implementation of several programmes, the most important ones: the “Spark” and the “Torch” programmes.

# The Case of China

- **The Spark programme:** to disseminate appropriate technology to rural areas to boost the development of township enterprises and to help farmers reduce rural poverty.
- **The Torch programme:** to promote industrialization of advanced technology in science parks and to incubate small emerging enterprises and entrepreneurs.

# The Case of China

- **Inherent policy:**  
market-oriented, enterprise-oriented
- **The case of Legend Group Company:**  
a well known example of the success of this policy
- **Government policies on incentives:**  
tax holidays and fiscal incentives

# Impact of S&T Developments

- The Evolution of AE professions
- A shift from traditional Mechanical Engineering to Agricultural and Biological Engineering
- Reduced attention to power and machinery
- More programmes for biological and food engineering, and pollution control



# The Role of AE

- **The lowly position of AE in the int'l donor community and the developing world.**
  - FAO: gone
  - IRRI: gone
  - Silsoe: gone (S. Justice)
- **Agriculture in developing countries: still labor-intensive.**
- **A leadership role in correcting the unfortunate position and backstopping AE R&D. (*Bill Stout*)**

# Launching a Project

- **A project profile on Restructuring and Strengthening R&D for Agricultural Engineering proposed by APCAEEM**
- **Main Contents of the project:**
  - 4 commissioned study reports (*Stout, Wang, Soni, Sun & Luo*)
  - An Int'l Seminar (9 country papers)
  - Follow-up activities

# Objectives of the Seminar

- **Analyze the impact of China's policy reform for R&D, assess its contribution to agricultural development and poverty reduction, and summarize the lessons;**
- **Overview of the status of R&D for AE in select member countries, assess its contribution to agricultural development and poverty reduction;           *(Cont'd)***

# Objectives of the Seminar

- **Review and appraise the R&D of AE and its role in the new situation ;**
- **Identify Priorities of R&D for AE;**
- **Recommendations on formulating policies, strategies and programmes.**

# Programme Schedule

- **Keynote presentations**

- Current situation of AE in some key member countries of APCAEM in Asia and the Pacific (Dr. Peeyush SONI, AIT)
- Restructuring R&D of AE in China (Prof. WANG Maohua, CAU)
- Case study on China's restructuring in Science and Technology system (Mr. SUN Mengxin)

- **Country presentations**

- Participating countries (9): Bangladesh, India, Indonesia, Pakistan, Philippines, China, ROK, Sri Lanka, Thailand
- Overview report

- **Conclusion and recommendations**

# May the Seminar be a Success

All participants are encouraged to make contributions through proactive and productive discussion and interaction

**Thank you !**

