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# **A Value Chain Approach in Large Scale Farming to Improve Income of Small Farmers in the Globalization Age**

**Prof. Vo-Tong Xuan (D.Agr., Kyushu U.)**

**Tan Tao University**

**Long An, Vietnam**

# Outline

1. Importance of large-scale agricultural development scheme for developing countries,
2. Differences of impacts from large and small scale development practices,
3. Negative opinions against large-scale agricultural development,
4. Ways to overcome the side-effects of large-scale ag. development.

**IMPORTANCE OF LARGE-SCALE  
AGRICULTURAL DEVELOPMENT  
SCHEME FOR DEVELOPING  
COUNTRIES.**

# Farmers in developing countries



- Small landholders – majority having 0.1 to 1 ha/household, hence, fragmented cultivators;
- Low education; mostly inappropriate technical ability which usually leads to indisciplinary farm operations;

# Farmers in developing countries



- Anti-cooperative individualistic farm owners;
- Financially poor – unable to invest sufficiently in production.
- Poor market accessibility.
- Preys to middlemen at all levels.





# Small farmer's production



- Too many varieties of crops;
- Small quantities from fragmented parcels;
- Spread out harvests;
- Poor, non-uniform quality:
  - Mixed varieties;
  - Inferior varieties;
  - Unwanted chemical residues;
  - Unwanted insect or disease incidences.
- High cost of production.
- Low sale price.



Where  
we  
began...

↑  
Most Africa  
2009

→  
Most Asia  
1975



# Today's competitive market

## Products must possess:

- High quality (food safety, taste to order)
- Large quantity (from one large-scale area or hundreds of fragmented areas of uniform variety and GAP);
- Timely delivery;
- Optimal price

**Therefore, no individual small farmer can meet those conditions.**



# So far, governments can mostly provide extension services.

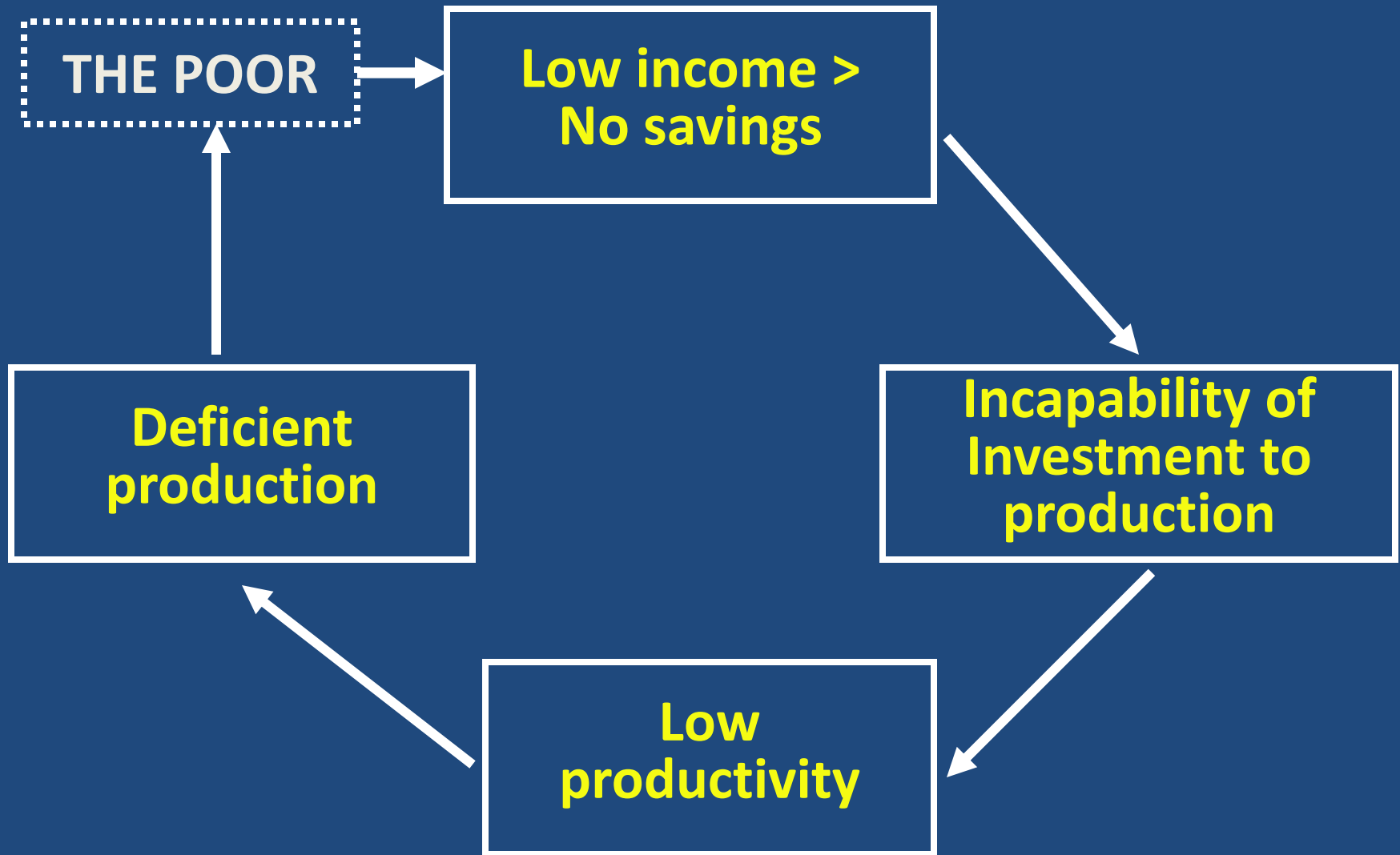
- Using many traditional tools – mostly gear to individual small scale farmers:
  - from family visits, use of the media, demonstration...
  - This is a way to prolong the state of small subsistence.
- Recent improved farmer-most-friendly tool has been applied: **the value chain approach**.
  - Interdisciplinary teamwork to diagnose problems, analyse agroecosystem;
  - Selection of solution
  - Research to determine new solution;
  - Farmer skill training –very crucial step.

## A case study:

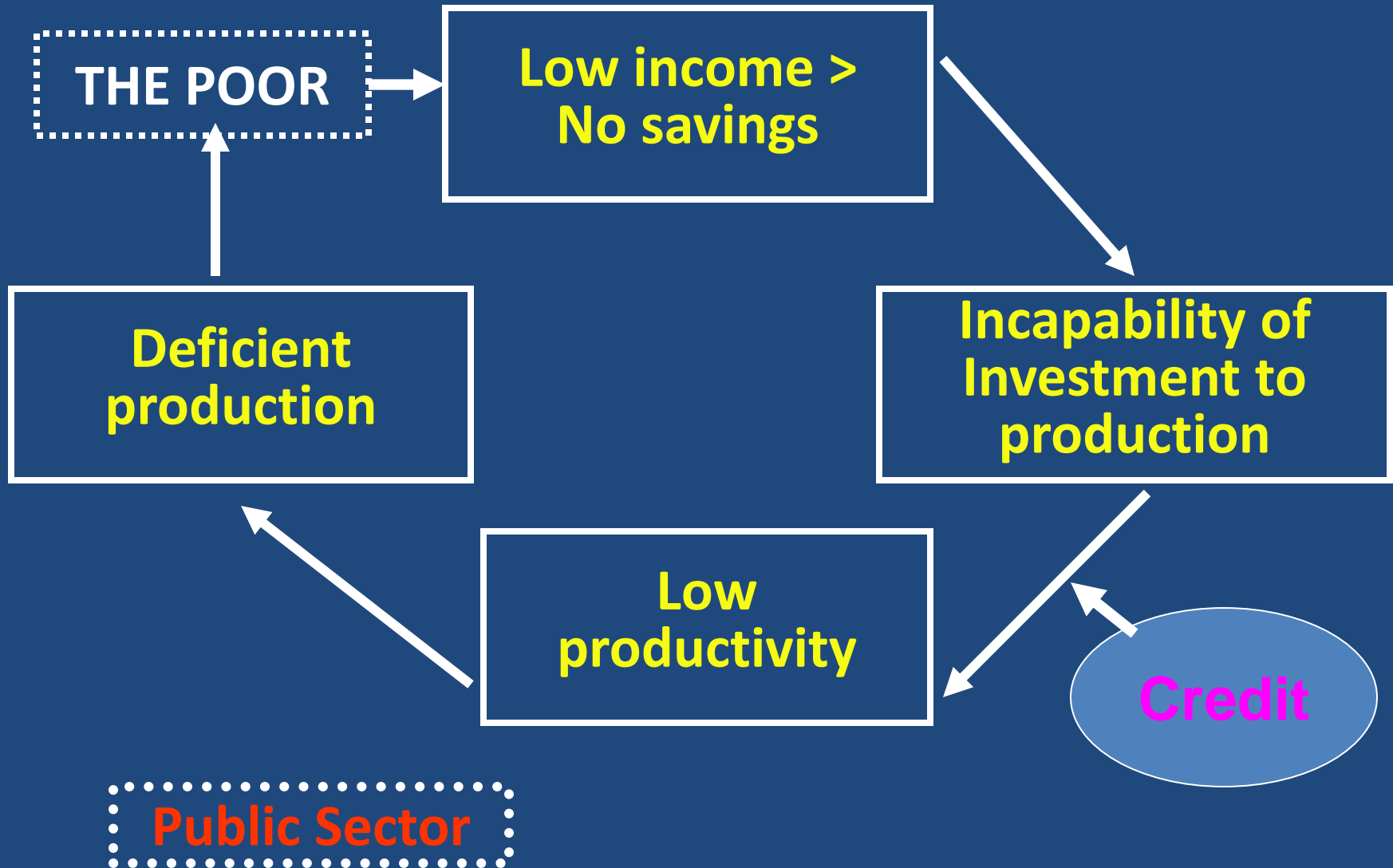
### Paradox of Vietnamese Rice Farmers

- In 1789, the very first export: 211 MT milled rice to Thailand.
- Since 1989, Vietnam became world second largest rice exporting country;
- In 2012, Vietnam moved to the position of the world largest rice exporting country, at 7.7 MMT of milled rice.
- But rice farmers' income continues to remain lowest among producers and workers.

# The vicious cycle of poverty

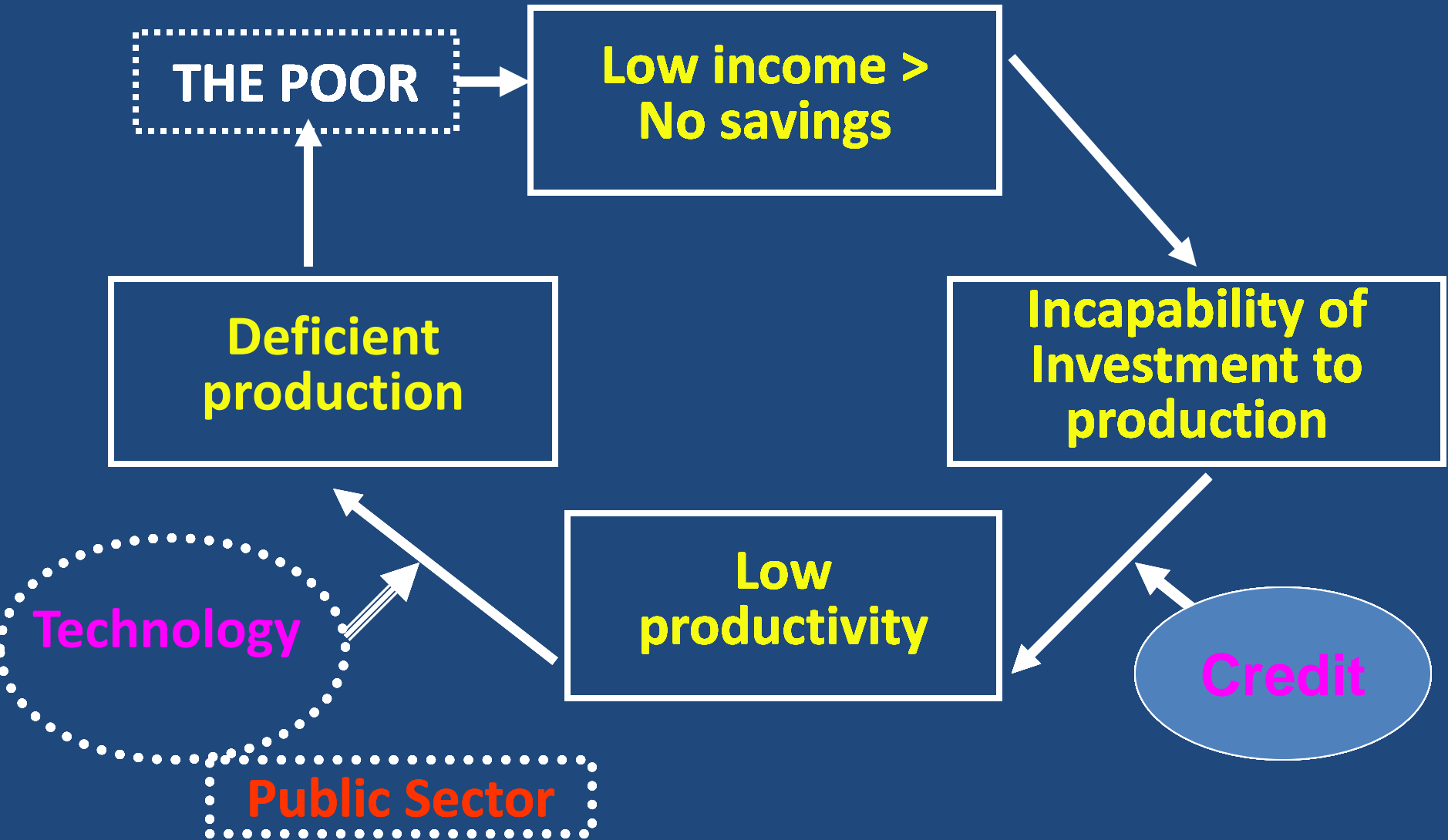


# General approach to break The vicious cycle of poverty

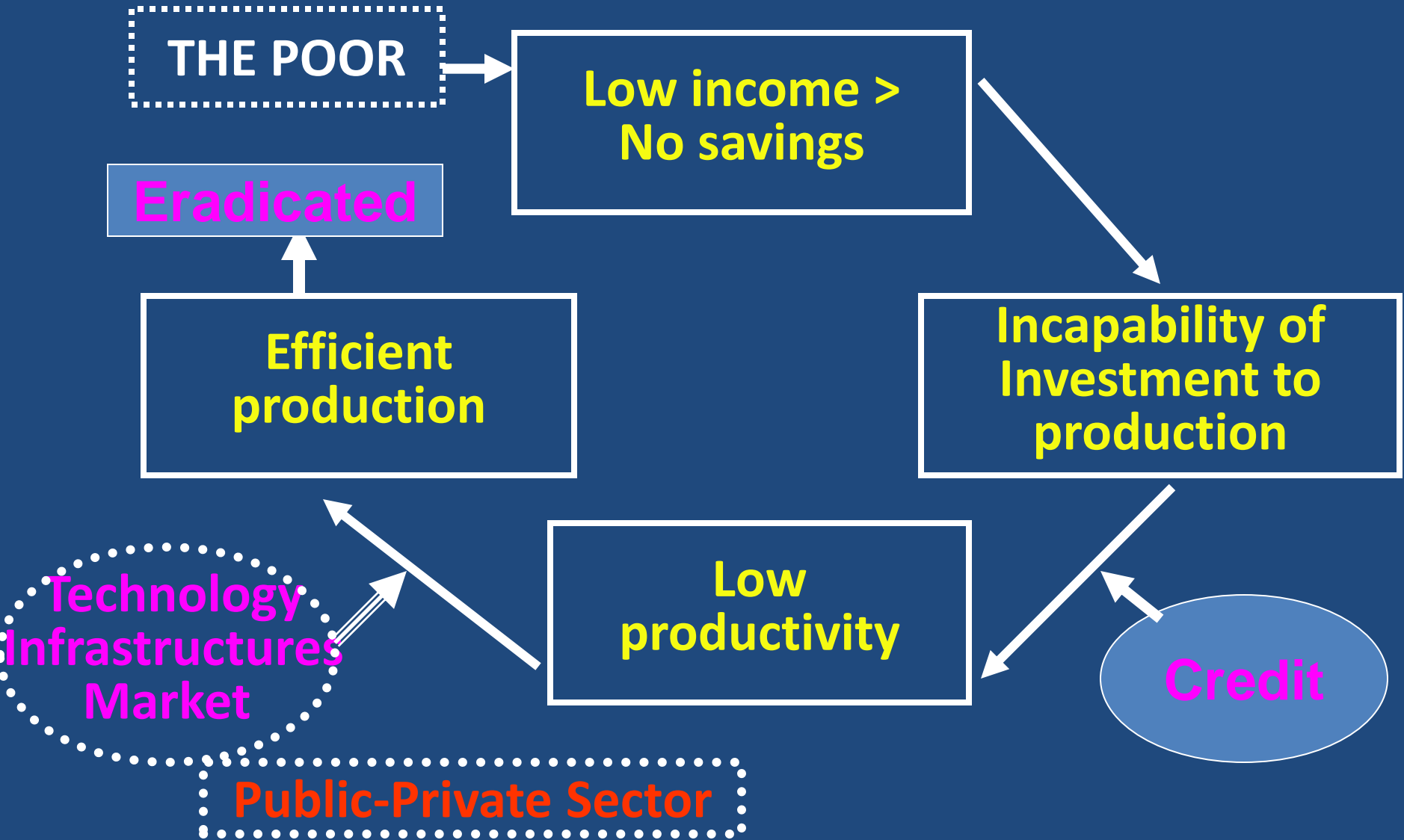




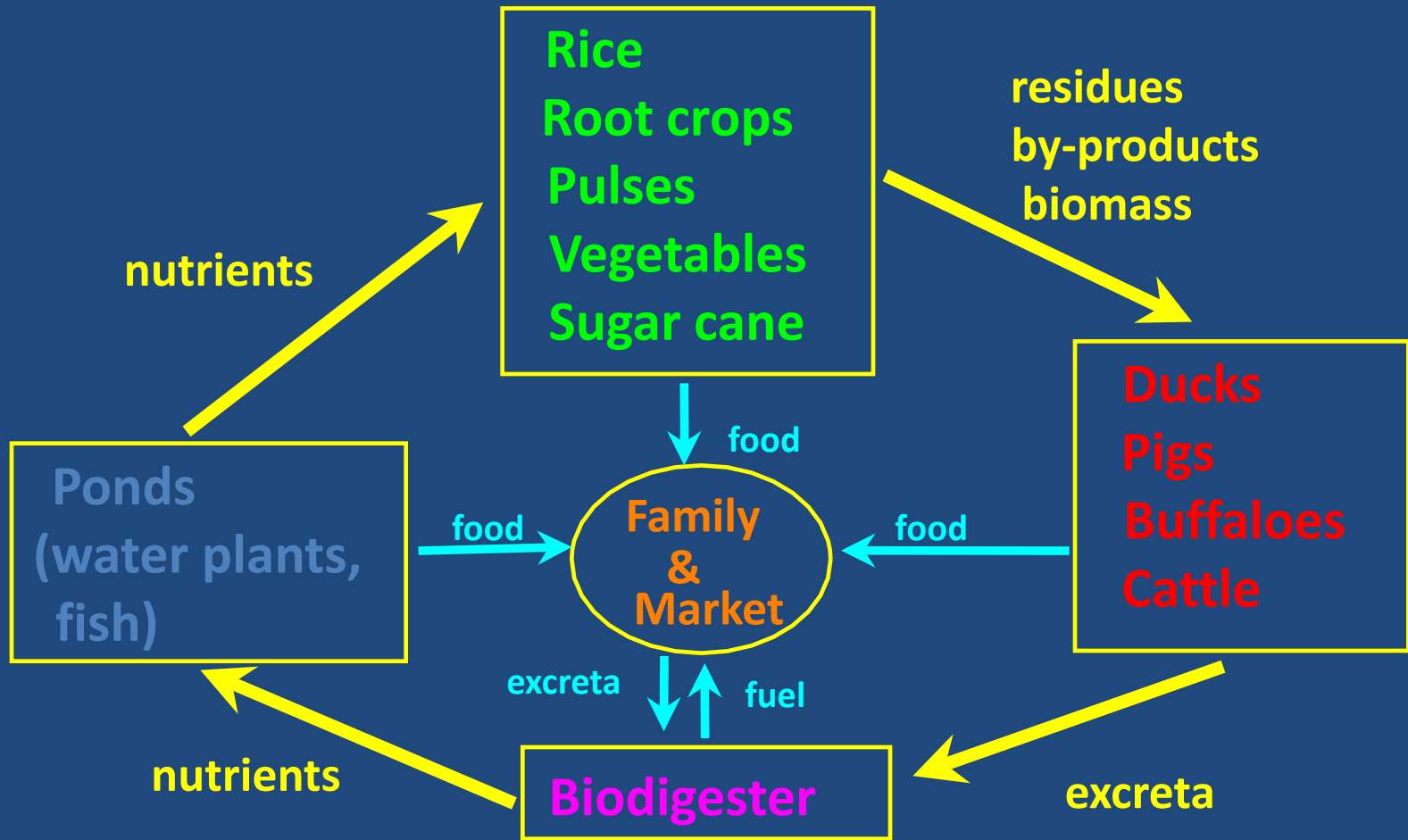
# General approach to break The vicious cycle of poverty



# General approach to break The vicious cycle of poverty



# The integrated farming system approach

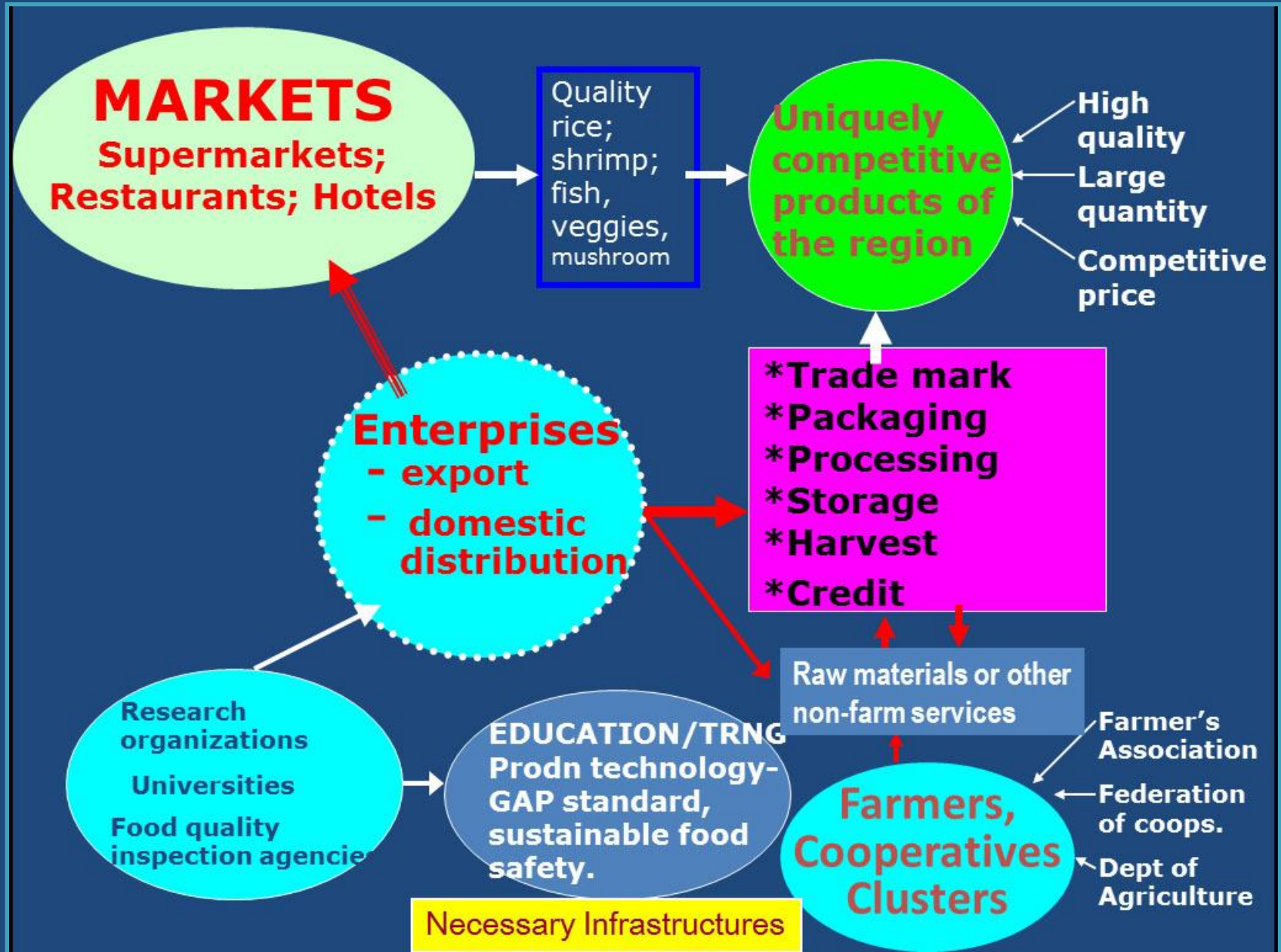


# For market oriented farmers

- Extension approaches should go **beyond the individual households**.
- Must produce raw materials which are:
  - **Large quantity**: should be on large and uniform area, not on hundreds of small un-uniform parcels.
  - **Best quality**: should apply GAP (good agricultural practices) by all growers.
  - **Timely delivered**: should be organized according to delivery plan.
  - **Competitive price**.
- The introduction of the value chain approach.



# The Value Chain Approach in agricultural production



# Main requirements

- **Well trained interdisciplinary team:** to be able to determine appropriate agricultural development system that fits market demand.
- **Well select enterprises:** to participate throughout the value chain;
- **Well trained farmers in GAP:** appropriate for the production of the primary materials.
- **Incentive policies:** for farmers and the enterprises to join the value chain (formation of cooperatives, low interest loan, exemption from taxes...)

# Organizing the chain (1)



1. Grouping small farmers farming on designated area into **agri-cooperatives** or **production teams** to form large area of production of a uniform raw material needed by the enterprise.





# Organizing the chain (2)



2. Consultation of scientists to design a **GAP procedure** from seeding to harvest, then use this procedure **to train all participating farmers.**





# Organizing the chain (3)

3. Field operation of GAP  
(Good Agricultural Practices)  
to be monitored by technicians  
or extension workers, from  
choosing seed until harvest  
time.









# Organizing the chain (4)

4. **Large-scale, technically qualified** harvesting, drying, storage and processing to produce branded products.



# Results of first crop - dry season 2012

Duc Hue large-scale rice project in Long An

**Total area: 86.6 ha**

**Total number of participating farmers: 82**

**Rice variety: OM4900** (duration 95 days – can be grown 3 crops/year)

## BEFORE PROJECT

- Ave. rice yield: 5.5 t/ha
- Production cost: VND 3,600/kg
- Paddy price: VND 4,800/kg
- Profit: VND 6.6 million/ha (300 USD/ha)

## AFTER FIRST CROP OF PROJECT

- Ave. rice yield: 6.8 t/ha
- Production cost: VND 2,800/kg
- Paddy price: VND 5,200/kg
- Profit: VND 16.32 million/ha (816 USD/ha)



# Main aim: to produce quality rice with brand name for Đức Huệ, Long An



Using the value chain approach following GlobalGAP procedure strictly, quality rice branded Hương Lúa has been produced successfully.

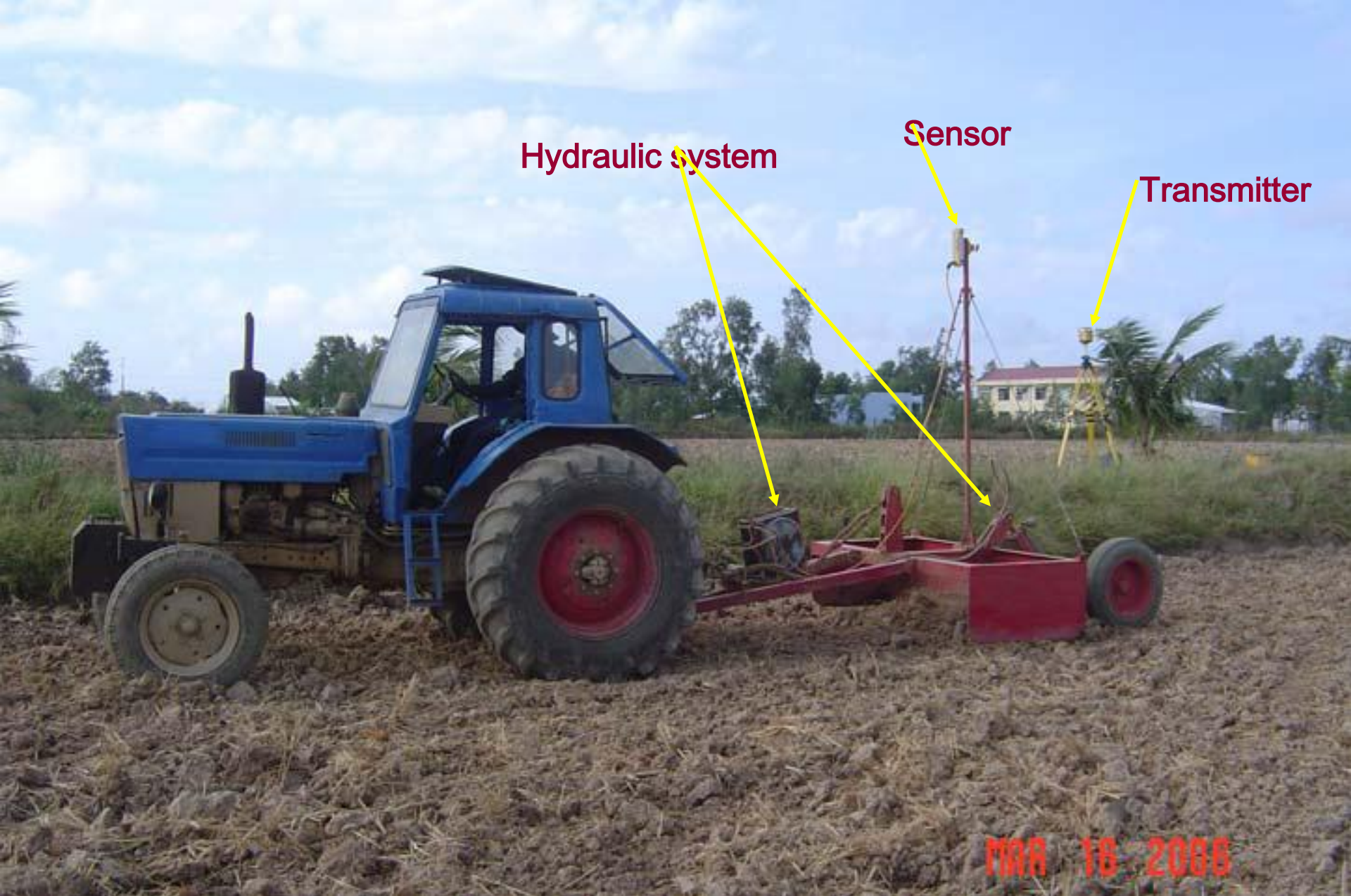
# Applications of Value Chain Approach in rice production in the mekong Delta

- ADC Co. and Mỹ Thành Cooperative, Cai Lậy District, Tiền Giang Prov. using GlobalGAP → Quality rice, Brand “Tứ Quý.”
- Joint-stock An Giang Plant Protection Services Co. and a number of other PP companies → Large-scale model rice farms.
- AGIFISH Co. and Catfish Cooperatives.
- ITA Rice Co. and rice farmers of Mỹ Thạnh Đông Village, Đức Huệ Dist., Long An.



Mr Sau Duc – a skill manager of a 120 ha rice farm.





Hydraulic system

Sensor

Transmitter

MAR 16 2006

Laser leveler on Mr. Sau Duc's 120 ha farm.



Result of laser land leveling – Rice farm appearance.

**THE CASE ABOVE INVOLVES TOO MANY SMALL AND FRAGMENTED INDIVIDUAL FARMS IN ASIA.**

**ON THE CONTRARY, CASES INVOLVING VERY LARGE FARMS BUT VERY FEW CULTIVATORS SUCH AS IN MANY COUNTRIES IN AFRICA, LATIN AMERICA, AUSTRALASIA, THE VALUE CHAIN APPROACH SHOULD WORK WELL, TOO.**





**Bela Vista,  
Mozambique  
Dry season  
2009**



**Bela Vista,  
Mozambique  
Wet season  
2010**





Bela Vista,  
Mozambique Dry  
season 2009



Bela Vista,  
Mozambique Wet  
season 2010





**An example of large tracts of land in North Sudan.**



**Pumping station along the White Nile river in North Sudan to feed to irrigation scheme.**







**Individual pumping of irrigation water supplied by large station along the White Nile river in North Sudan.**





**Irrigation canal fed by station along the White Nile river in North Sudan.**





**Dried out irrigation canal along the White Nile river in North Sudan.**



**Large scale rice farm in Duwym along the White Nile river in North Sudan.**













**Visit of Prof. Vo-Tong Xuan with rice farmers  
in Duwym, White Nile, North Sudan. 2009.**









Rwanda  
2009



Enugu State,  
Nigeria 2009



Liberia  
2009





Delta State, Nigeria 2009







First screening for short duration, high yielding rice in Bela Vista, Mozambique (March 2010).





Vietnamese rice technology in Omega farm, near Monrovia, Liberia. 2009. Vietnamese technician guiding Liberian farmers.

It is possible to apply Vietnamese Mekong Delta rice technology by the value chain approach for developing agriculture to alleviate African farmers' poverty and food deficiency.

**DIFFERENCES OF IMPACTS FROM  
LARGE AND SMALL SCALE  
DEVELOPMENT PRACTICES.**



# Differences of impacts

## Large-scale production

- Large quantity of uniform product;
- Uniformly high quality;
- Low production cost;
- Timely delivery as planned;
- Assured market for participating farmers.
- High benefit.
- Suitable for large land

## Small-scale production

- Small quantities of homogenous product;
- Various quality, uncertified food safety;
- High production cost;
- Spread out deliveries;
- Uncertain market for each individual farmer.
- Low benefit.

**NEGATIVE OPINIONS AGAINST  
LARGE-SCALE AGRICULTURAL  
DEVELOPMENT.**

# From policy makers

- More technical manpower of good management skill is needed to organize the entire value chain – from agricultural zonation to farmer organization;
- More costs of providing infrastructures, mechanization, cheap credits, losses of taxes.



# From enterprises

- More management skill must be employed;
- More challenges in finding or opening markets;
- Financial outlays usually beyond the capacity of small enterprises;
- Chances of breach of contract with farmers when market fails.

# From farmers

- Loss of freedom to apply usual agricultural practices (seeding rate, fertilization, application of pesticides, post-harvest handlings);
- Must comply with all regulations established by GAP procedure.
- Fear of being taken over by mechanization.
- Cannot sell raw material to other enterprises or middlemen.

**WAYS TO OVERCOME THE SIDE-  
EFFECTS OF LARGE-SCALE  
AGRICULTURAL DEVELOPMENT.**

# Overall benefits of large-scale agricultural production

- Assured higher income for participating small farmers – effective approach to poverty alleviation compared to the costly treatment for individual farmers.
- Effective way to conduct farmers to accustom to GAP – stopping the backwardness in applying production practices harmful to human and environmental health, thus mitigation of climate change impacts.



# Essential conditions for success

- Political will of the government, with insight and good vision for the benefit to small farmers in the globalization age. Stop letting small farmers alone with their ignorance to GAP.
- Determination of small farmers to stick to GAP and to be in discipline with the value chain plan.
- Entrepreneurs with dynamic capability to explore new markets and with good vision for the small farmers as essential part of the firm.
- In large land tracts as in Africa, make sure that local farmers must be not displaced, but they must be the tillers of the land under guidance of experienced technicians.





TẬP ĐOÀN AN TẠO  
CÔNG TY ITA-RICE

**RUỘNG SẢN XUẤT LÚA  
THEO TIÊU CHUẨN  
GLOBAL G.A.P**

MÃ SỐ NÔNG NGHIỆP