

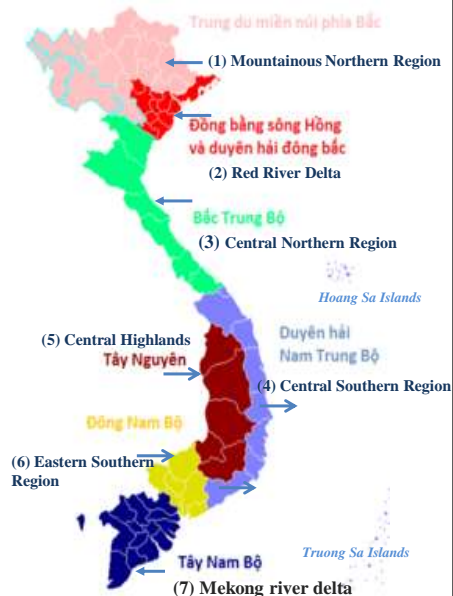
Current situation of seed multiplication and distribution in Vietnam

CARD Seminar via video conferencing
Seminar #1
September 19, 2012

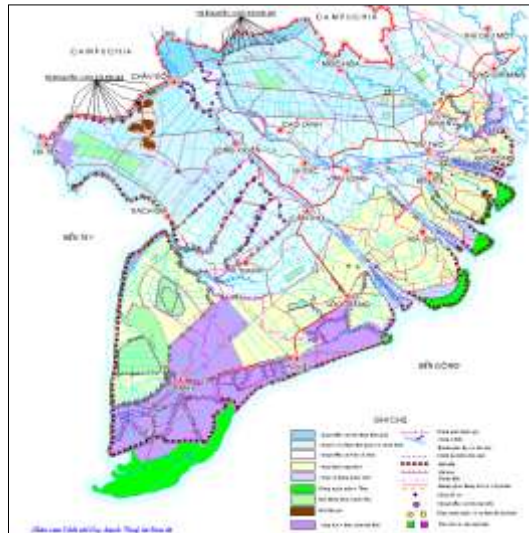
1. Summary of Rice farming in Vietnam

Overview of the country

- Vietnam is a traditional rice cultivation country with a more than 4.000 years civilization of wet-rice production.
- Vietnam is situated in a region geographically considered as an original zone of rice cultivation. It is divided into seven agricultural ecology zones (Mountainous North, Red river delta, Northern Center, Southern Center, Central Highlands, Eastern South, and Mekong river delta).
- Total land area of rice is around 4.1 millions ha, in which Mekong delta: 1.9 millions ha; and other regions: 2.2 millions ha with overall country



Mekong delta rice region



1. Summary of Rice farming in Vietnam

- **Overview of the country**
- At present, in Vietnam, the total food production is around more than 50 million tons per year, in which there are 43 million tons of rice, 4 million tons of corn, 8 million tons of cassava, 2 million tons of potatoes and sweet potatoes.
- In 2007, the cereals per capita is 469,5 kg and rice per capita is 421 kg. Therefore, in national level, we have ensured food security but the proportion of poor people still accounts for 14,8%.
- However, Vietnamese's population continues to increase greatly in next several decades, and it's forecasted to increase to over 100 million people in 2020 and 110 million people in 2030,
- Besides, Vietnam is one of 5 countries affected badly by the sea level rise that makes agricultural land areas flooded and salt-intruded

1. Summary of Rice farming in Vietnam

Overview of the country

In 2011

- Growth rate in agriculture achieves 2,8%/year, average for a period 2006-2010 is 3,36%/year.
- Productivity increases 4,69%, average for a period 2006-2010 increases 4,93%/year(estimated plan was 4,5%).
- Total export value achieves 19,15 billions USD *and 25 B in 2011*, increases 22,6% compared to 2009 and 77,3% compared to year's plan, average from 2006-2010 is 17%/year.
- Export value of major agricultural products achieves 9,95 billions USD, increases 24,22%.

Areas and yield of rice in Viet Nam 2009-2012

| Year | Harvested Areas (100 ha) | | | Yield (tons ha ⁻¹) | | |
|--------|--------------------------|--------------|--------------|--------------------------------|--------------|--------------|
| | Total VN | North region | South region | AV. | North region | South region |
| 2009 * | 7.437 | 2.520 | 4.916 | 5.24 | 5.32 | 5.20 |
| 2010 | 7.409 | 2.560 | 4.982 | 5.34 | 5.29 | 5.37 |
| 2011 | 7.651 | 2.512 | 5.139 | 5.53 | 5.51 | 5.54 |

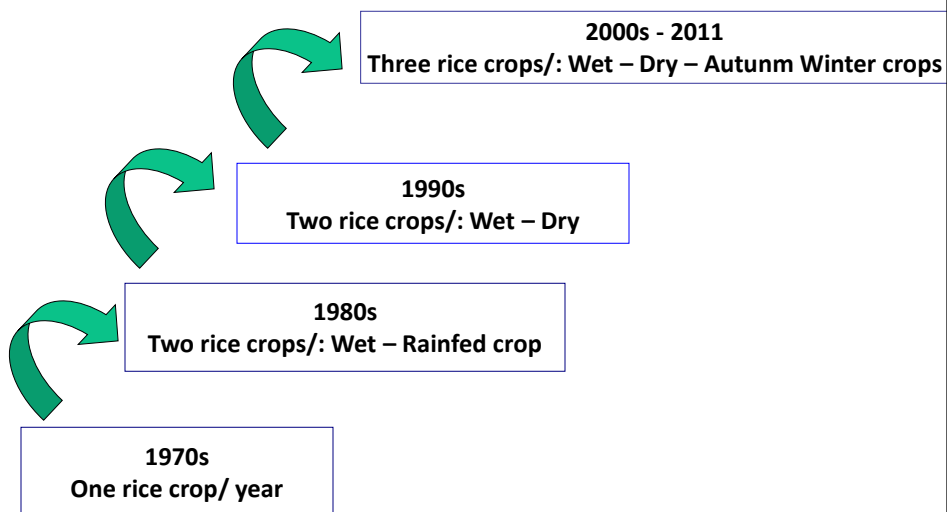
(*) *National statistical year's book 2011*

Rice production and export in Viet Nam from 2009-2012

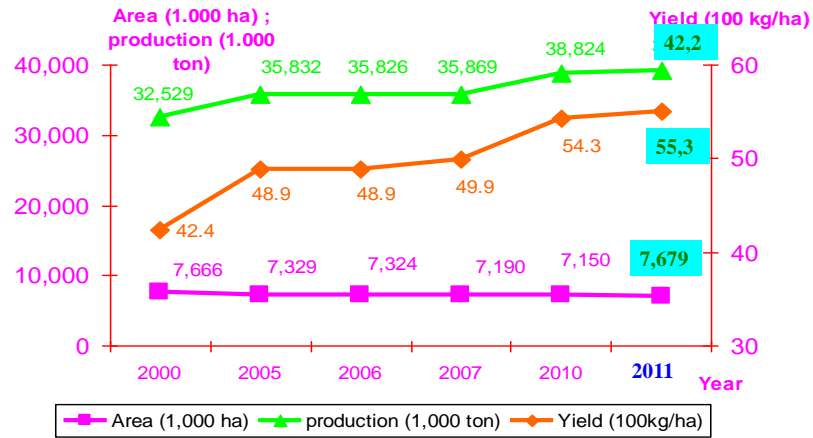
| Year | Production (1000 tons) | | | Export (M tons) |
|------|------------------------|--------------|--------------|-----------------|
| | Total VN | North region | South region | |
| 2009 | 38,950 | 13,408 | 23,541 | 6.052 |
| 2010 | 40,005 | 13,265 | 26,740 | 6.754 |
| 2011 | 42,324 | 13,842 | 28,482 | 7.105 |

(*) National
statistical year's book 2011

Rice crop pattern intensified in Mekong Region



Closing yield gap in rice



Rice Production 2000-2010

| Year | Planted Area (1000 ha) | Production (1000 metric tons) | Yield (kg/ha) |
|------|---------------------------|----------------------------------|------------------|
| 2000 | 7,666.300 | 32,529.500 | 4,243 |
| 2001 | 7,492.700 | 32,108.400 | 4,285 |
| 2002 | 7,504.330 | 34,447.160 | 4,590 |
| 2003 | 7,452.200 | 34,568.900 | 4,639 |
| 2004 | 7,445.000 | 36,149.000 | 4,860 |
| 2005 | 7,326.000 | 35,791.000 | 4,885 |
| 2006 | 7,324.800 | 35,849.500 | 4,894 |
| 2007 | 7,180.700 | 35,917.900 | 4,981 |
| 2008 | 7,400.200 | 38,729.800 | 5,230 |
| 2009 | 7,440.100 | 38,895.500 | 5,230 |
| 2010 | 7,513.700 | 39,988.900 | 5,320 |

1. Summary of Rice farming in Vietnam Production of key varieties

| Variety (000 t) | 2006 | 2007 | 2008 | 2009 | 2010 | Average |
|--------------------|-------|-------|-------|-------|-------|---------|
| Khang dan 18 | 3,600 | 3,293 | 3,021 | 2,499 | 2,232 | 2,929 |
| OM4218 | 1,800 | 2,215 | 2,465 | 2,756 | 2,981 | 2,443 |
| OM4900 | 1,171 | 1,574 | 2,194 | 2,317 | 2,813 | 2,014 |
| Q5 | 2,971 | 2,361 | 1,924 | 1,423 | 994 | 1,935 |
| OM6976 | 900 | 1,341 | 2,044 | 2,499 | 2,644 | 1,885 |
| Bac thom 7 | 1,743 | 1,632 | 1,773 | 1,287 | 1,467 | 1,581 |
| Huong thom 1 | 1,171 | 1,486 | 1,022 | 787 | 764 | 1,046 |
| OM2517 | 600 | 816 | 887 | 1,090 | 1,467 | 972 |
| | - | - | - | - | - | - |
| OM5451 | 357 | 947 | 1,022 | 1,151 | 1,330 | 961 |

1. Summary of Rice farming in Vietnam Production of key varieties

| Variety (000 t) | 2006 | 2007 | 2008 | 2009 | 2010 | Average |
|--------------------|--------|--------|--------|--------|--------|---------|
| Xi23 | 929 | 787 | 781 | 621 | 520 | 727 |
| Khang dan ĐB | 457 | 437 | 376 | 318 | 275 | 373 |
| Bao thai | 286 | 335 | 331 | 379 | 275 | 321 |
| Other varieties | 14,286 | 16,029 | 18,034 | 17,793 | 19,107 | 17,050 |
| National total | 30,271 | 33,252 | 35,873 | 34,919 | 36,869 | 34,237 |

1. Summary of Rice farming in Vietnam (cont.)

- Production of certified seed of salient varieties in the formal sector (incl. government institutions and private enterprises)

| Variety | Amount (000. tons) | Future target (000. tons) by year (2013) |
|--------------|--------------------|----------------------------------------------|
| Khang dan 18 | 17.5 | 19 |
| OM4218 | 23.4 | 28 |
| OM4900 | 22.1 | 25 |
| Q5 | 7.8 | 9 |
| OM6976 | 20.8 | 25 |
| Bac thom 7 | 11.5 | 15 |
| Huong thom 1 | 6.0 | 8 |

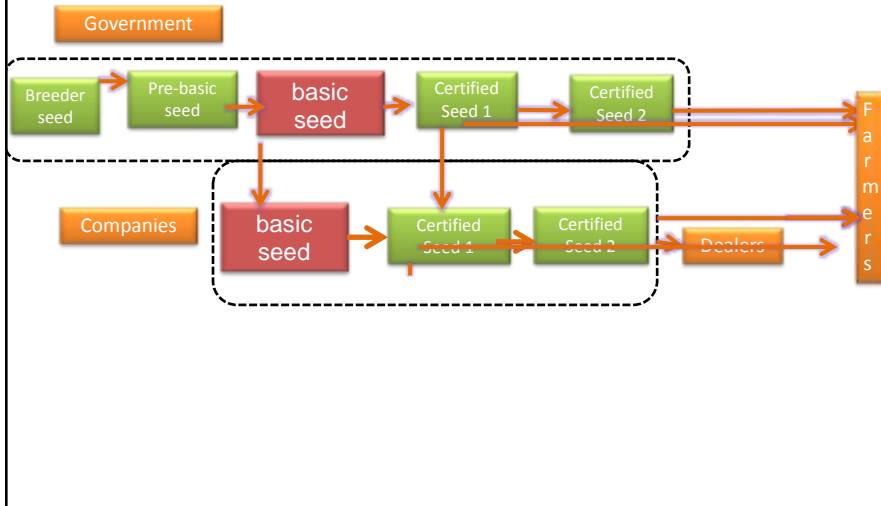
1. Summary of Rice farming in Vietnam

Production of certified seed of salient varieties in the formal sector (incl. government institutions and private enterprises) (cont.)

| Variety | Amount (000. tons) | Future target (000. tons) by year (2013) |
|-----------------|--------------------|---------------------------------------------|
| OM5451 | 10.4 | 16 |
| Xi23 | 4.1 | 4 |
| Khang dan ĐB | 2.2 | 2.5 |
| Bao thai | 3.5 | 4 |
| Other varieties | 240.0 | 230 |
| National total | 380.8 | 401.5 |

2. Flowchart from Seed multiplication to distribution and role of the government

- Processes from seed multiplication to distribution of certified seeds to farmers.

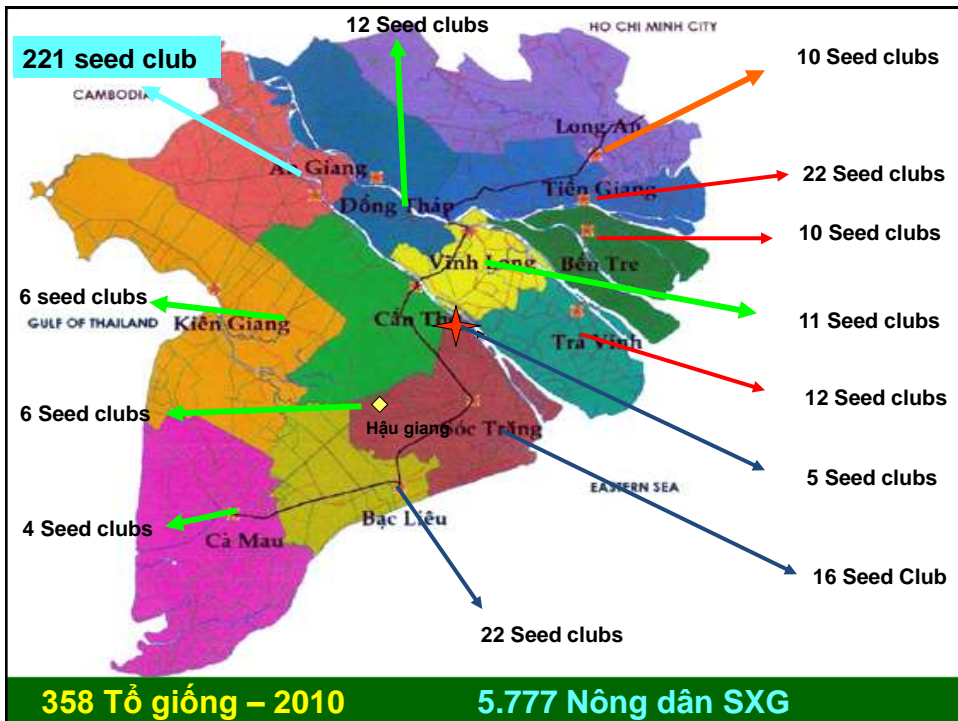


Farmers training for seed producer



Seed producer group in village of mekong delta region

Farmer groups received decision from People committee of village for seed multiplication



3. Government Organization Chart

- Which government ministries / departments / divisions are involved in the processes from seed multiplication to distribution?

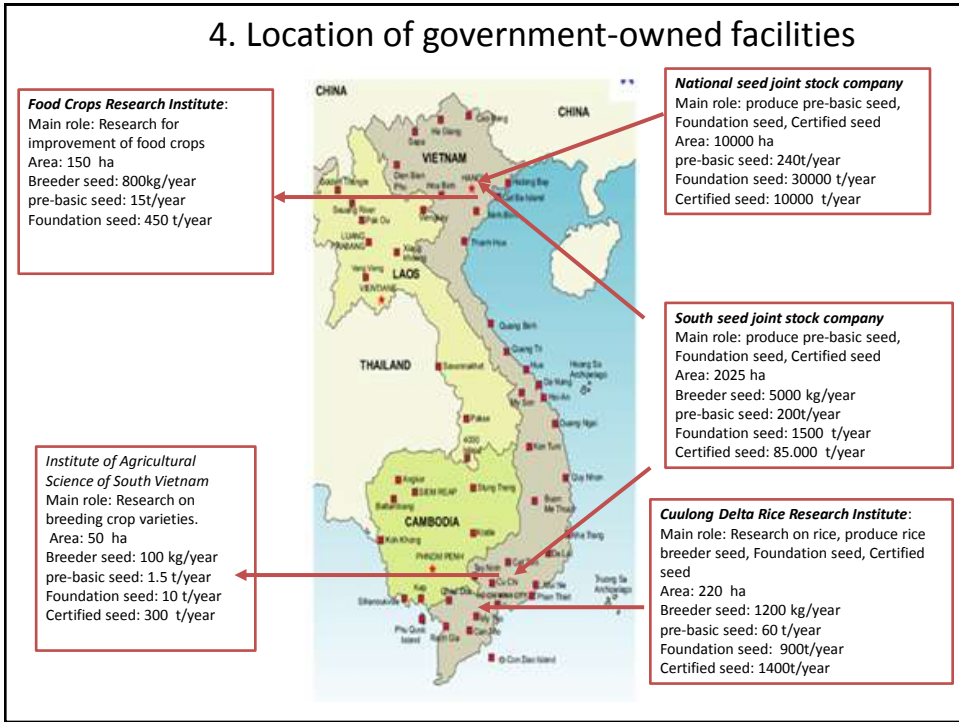
| Name of government department and division | Roles in the seed multiplication and distribution |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Ministry of Agriculture and rural development (MARD) -Department of Crop Production (DOCP) (2 Centers) | Seed quality management, regulation document of seed, monitoring and inspection of seed at national level. |
| Department of Agriculture and Rural development at province level (DOA) | Seed quality management, regulation document of seed, monitoring and inspection of seed at province level. |
| Agriculture office in District level | Seed quality management at district level |

3. Government Organization Chart (cont)

- Which government ministries / departments / divisions are involved in the processes from seed multiplication to distribution?

| Name of government department and division | Roles in the seed multiplication and distribution |
|----------------------------------------------------------|----------------------------------------------------------------|
| Food Crops Research Institute (FCRI) | Breeder seeds, Pre-basic seeds and basic seed multiplication |
| Cuu long Delta Rice Research Institute (CLRRI) | Breeder seeds, Pre-basic seeds and basic seed multiplication |
| Institute of Agricultural Science of South Vietnam (IAS) | Breeder seeds, Pre-basic seeds and basic seed multiplication |
| National seed joint stock company | Pre-basic seeds, basic seeds and certified seed multiplication |
| Southern seed joint stock company | Pre-basic seeds, basic seeds and certified seed multiplication |

4. Location of government-owned facilities



5. Calculation

Calculation method to set the volume of seeds of different levels

| Breeder seeds (kg) | Pre-basic seeds (kg) | basic seeds (kg) | certified seeds 1 (kg) | certified seeds 2 (kg) |
|--------------------|----------------------|------------------|------------------------|------------------------|
| 1 | 75 | 4,500 | 225,000 | 11,250,000 |

The need of certified seeds (tons) in Mekong delta region

| Amounts | Seeds needed ² | | | Paddy rice |
|-------------------------------|---------------------------|-------------|----------------------|------------|
| | Pre-basic seeds | Basic seeds | Certified seeds | |
| Total areas (x 1000 ha) | 0,05 | 2,5 | 100 | 3.939 |
| Density transplanting (kg/ha) | 25 | 50 | 100 | 100 |
| Yield (tons/ha) | 2,5 | 4 | 4 | 5,45 |
| Total (tons) | 125 | 10.000 | 400.000 ² | 21.500.000 |

6. Staff involved in Rice seed-related activities

- Number of government staff placed in rice-related facilities (incl. workers at cultivation farms)

| Name of the facility (according to Plate 7) | Researchers | Technicians | Labor staff | Others | TOTAL |
|----------------------------------------------------|-------------|-------------|-------------|--------|-------|
| Food Crops Research Institute | 72 | 24 | 12 | 2 | 110 |
| Cuulong Delta Rice Research Institute | 57 | 3 | 2 | | 62 |
| Institute of Agricultural Science of South Vietnam | 18 | 2 | | | 20 |
| National seed joint stock company | 13 | 49 | 5 | | 67 |
| Southern seed joint stock company | 6 | 66 | 13 | 10 | 95 |

7. Education and training

- Educational background of staff in different levels

| Name of the facility (according to Plate 7) | PhD and Msc | Bsc | Technician | High school | Others | TOTAL |
|----------------------------------------------------|-------------|-----|------------|-------------|--------|-------|
| Food Crops Research Institute | 27 | 48 | 35 | | | 110 |
| Cuulong Delta Rice Research Institute | 21 | 36 | 3 | 2 | | 62 |
| Institute of Agricultural Science of South Vietnam | 8 | 10 | 2 | | | 20 |
| National seed joint stock company | 4 | 58 | 5 | | | 67 |
| Southern seed joint stock company | 2 | 50 | 12 | 31 | | 95 |

8. Education and training

- Trainings given to the staff after placement

| Type of staff | Types of training |
|---------------|---------------------------------------------------------|
| Researchers | Training and Education (certification, regulation) |
| Technicians | Training and Education (technical skill, certification) |
| Labor staff | Training (technical skill-lab and field works) |
| Other staff | Training (technical skill- lab and field work) |
| | |

9. Role of the Private Sector

- The private sector plays very important role in Seed multiplication and distribution to farmers; at present, there are over 250 private companies in Vietnam to produce seeds of different levels. They provide about 80% amount of seed to farmer
- Seed quality managed by government by applying the National Technical Regulations on Seed Quality of rice (2011) and other regulation documents relating to management of seed. Issue seed certification after inspection.

10. Price of Seeds

| Variety | Price (seed producers-US\$/kg) | Retail price (US\$/kg) |
|-----------------|--------------------------------|------------------------|
| Khang dan 18 | 0.7 | 0.8 |
| OM4218 | 0.7 | 0.8 |
| OM4900 | 0.7 | 0.8 |
| Q5 | 0.7 | 0.8 |
| OM6976 | 1.1 | 1.3 |
| Bac thom 7 | 1.0 | 1.1 |
| Huong thom 1 | 0.8 | 0.9 |
| OM2517 | 0.7 | 0.8 |
| OM5451 | 0.7 | 0.8 |
| Xi23 | 0.8 | 0.9 |
| Khang dan ĐB | 0.9 | 1.0 |
| Bao thai | 0.9 | 1.0 |
| Other varieties | 0.8 | 0.9 |

THANKS FOR YOUR KIND ATTENTION