



# **Situation of Rice breeding and Production seed production in Lao PDR**

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# Introduction

- Rice is the staple for about half of the world's population,
- Increasing of population, but planting areas are decreased
- Government policy:
  - In 2015: 4.2 mill. tons
  - In 2020: not less 5.2-5.5 mill. tons
- Market needed (quality and quantity)

# Introduction (cont.)

- Production problem
  - Soil not fertile
  - Climate change
  - Drought and flood
  - Disease and pests

Manual of rice research and production system in Lao PDR,  
date 4/08/2005.

This manual defines principle of rice research and production system such as basic seed, Foundation Seed, Registration Seed and Certified Seed).



# Research components

## ❖ Short term

- observation and evaluate local varieties and introduce direct to farmers use
- Introduce varieties/fixed lines from other research centre in country and abroad

## ❖ Long term: develop new varieties

- Crossing
- Select segregated and fixed from research centre in country and abroad

# Rice Research Objective

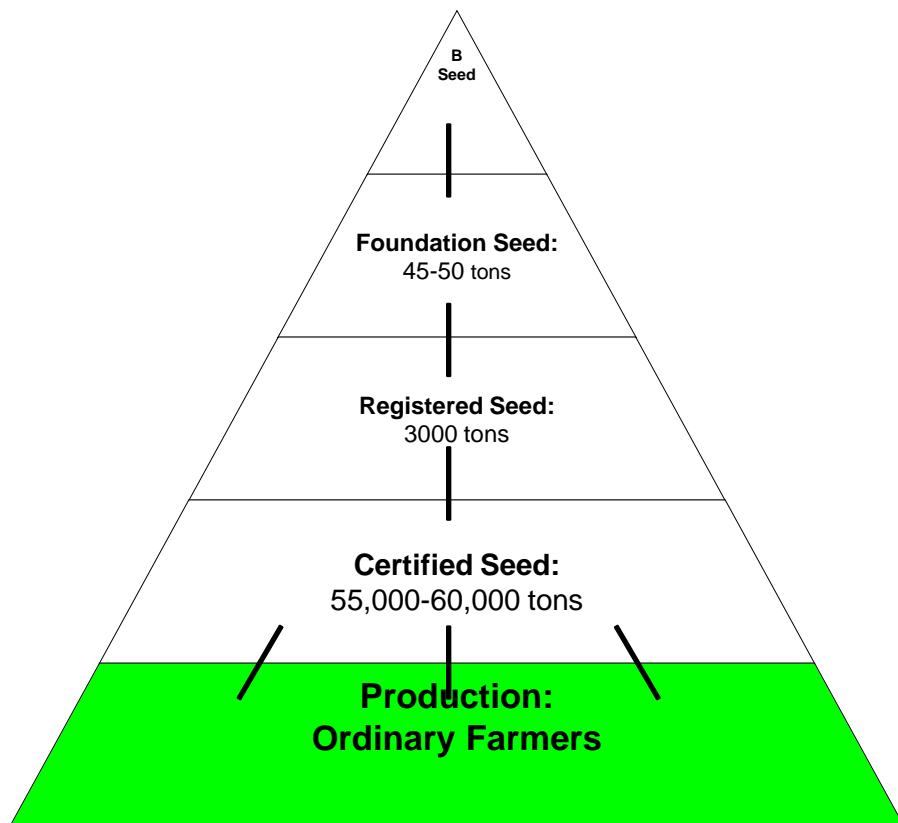
- High yielding,
- Resistance to diseases and pests,
- Wide adaption,
- Good quality,

# Rice Breeding Activities



1. **Crossed & F2, F3-F6 Selection**
2. **Evaluation of Fixed Lines Developed By RCCR C and from IRRI**
3. **Develop Aromatic Rice in Collaboration with Kaset sat Kampheng sene, Thailand and IRRI**
4. **Farmer Participatory in Varietal Selection**
5. **Seed Multiplication of Promising Lines**

# Plan of Breeding Activities



## **Responsible Agency:**

### **Breeder Seed:**

N-ARC, TSN-SMC, PNG-SMC and LNT-SMC

**Foundation Seed:** TSN-SMC, PNG-SMC, LNT-SMC, SNSs and PAFO/DAFEO (on station and on farm in collaboration with farmers)

### **Registered and Certified Seed:**

TSN-SMC, PNG-SMC, LNT-SMC, SNSs and PAFO/DAFO (on Station and farm in collaboration with farmers)



# Research Center

- Northern Region

1. LNT-SMS

2. HK-SMS

3. NTN-SMS

- Central Region

4. PC-SMS

5. N-SMS

6. **N-ARC**

7. NH-SMS

8. TK-SMS

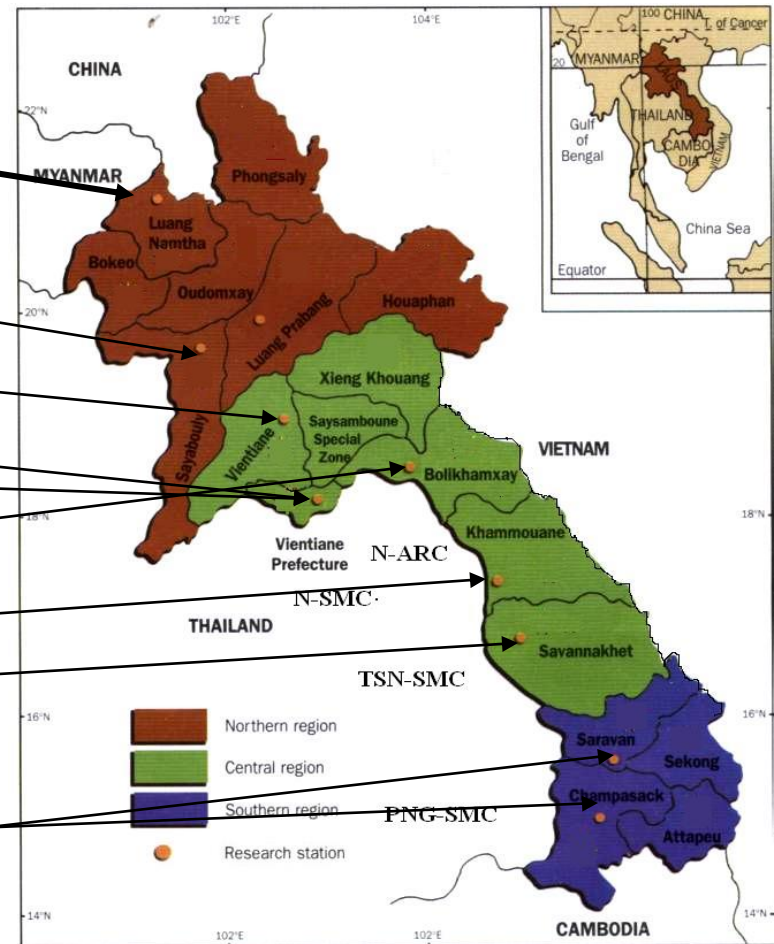
9. VP-SMS

10. **TSN-SMS**

- Southern Region

11. PNG-SMS

12. ND-SMS



# Characterization *Evaluation for Utilization*





**“Kam Niew Hom”  
Black Rice Variety  
Foundation Seed**



*Kainoi Leuang, Scentered  
Rice, Origin from Huaphanh  
Province*



# Breeder Seed Multiplication of Released Variety



# Foundation Seed Multiplication



# *TDK1-Sub1*, in collaboration with University of California and IRRI



# Achievement 1991-2011

## Improved varieties were released :

1993: TDK<sub>1</sub>, TDK<sub>2</sub>

1994: PNG<sub>1</sub>

1995: PNG<sub>2</sub>

1997: TDK<sub>3</sub>

1998: TDK<sub>4</sub>, TSN<sub>1</sub>, NTN<sub>1</sub>

2000: TDK<sub>5</sub>

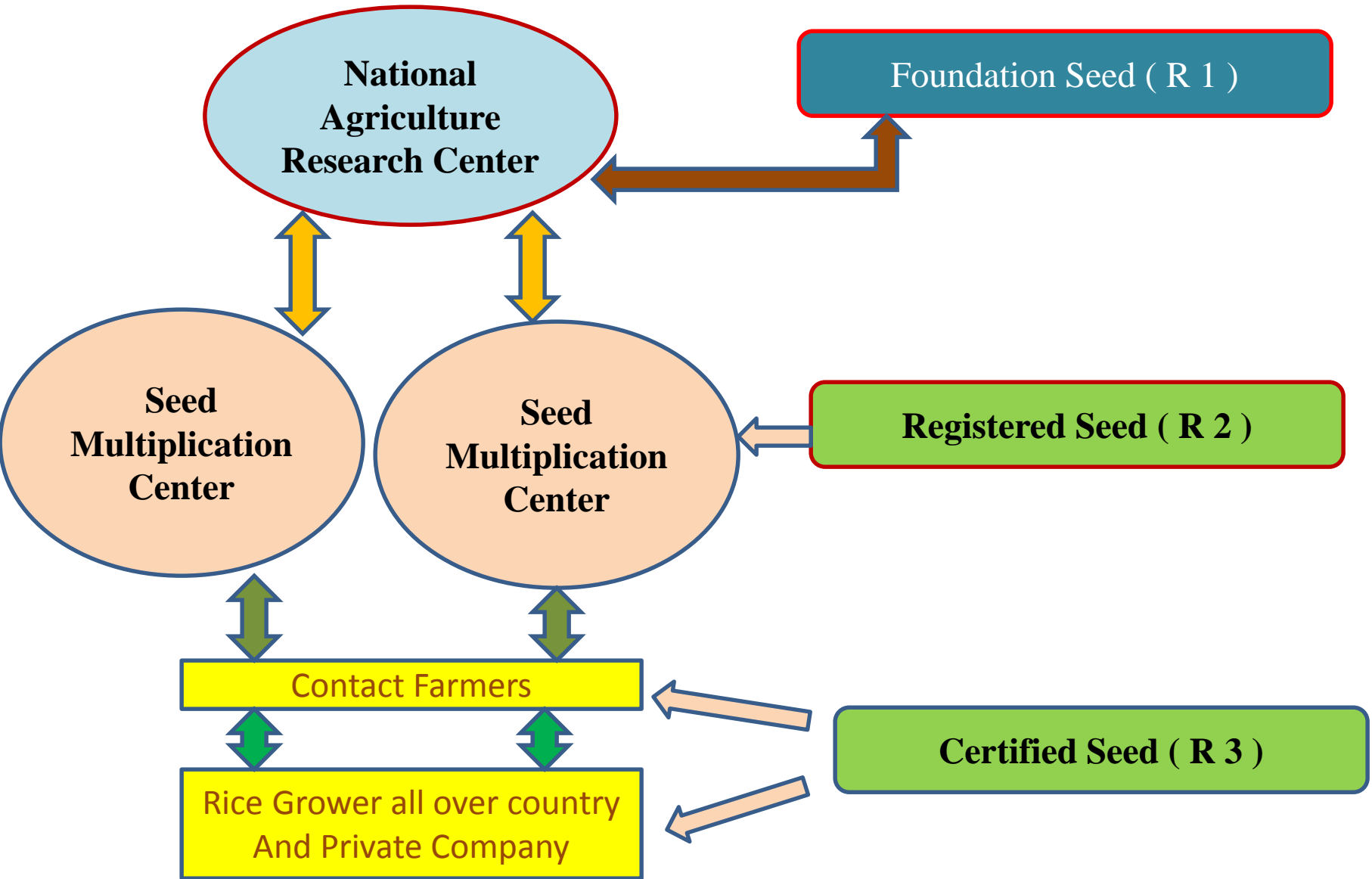
2002: TDK<sub>6</sub>, TDK<sub>7</sub>\*, PNG<sub>3</sub>

2003: TDK<sub>8</sub>, TDK<sub>9</sub>\*, TDK<sub>10</sub>, PNG<sub>5</sub>\*

2009: TDK<sub>11</sub>\*, TSN<sub>5</sub>\*, TSN<sub>6</sub>\*, TSN<sub>7</sub>\* and Homesavan\*



# Rice Seed production System



# Seed Distribution

**Research Institution**



**Extension Companies  
Or NGO organization  
Or Farmer Group**



**Individual Farmer**

**Import Country**



**Extension  
Companies  
Or Retailer shop**



**Individual Farmer**



# Seed Distribution system

Seed distribution System	Type of seeds /planting materials supplied
Informal	<p>Rice, both traditional and improved varieties</p> <p>Local/traditional varieties of corn, vegetables, legumes and other major crops (jobs tear, paper, mulberry)</p> <p>Plantation Crops: Banana &amp; Papaya</p>
Formal	<p>Improved varieties of rice</p> <p>With government project: seed distribution for field trial</p>
Company-based	<p>Vegetable seeds: cucumber, long bean, chili, Chinese mustard, mushroom etc.</p> <p>Other crops such as corn/maize, peanut, morning glory, jobs' tear and papaya</p> <p>Mostly improved/hybrid varieties</p>

# Rice seed storage





Thank you