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**MARKET AND INSTITUTIONAL REFORMS TO ENHANCE
TECHNOLOGICAL CHANGE IN AGRICULTURE: THE MALIAN
EXPERIENCE**

Niama Nango Dembele

Market and Institutional Reforms to Enhance Technological Change in Agriculture: The Malian Experience



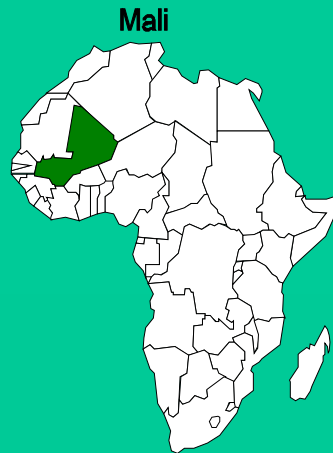
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Outline of Presentation

- The setting
- The context
- Pre-reform marketing policies
- Marketing policy reforms
- Lessons learned
- Conclusions and Implications

The Setting



- Climate: 60% desert and semi-desert
- Low Incomes: less than \$300 per capita
- Structure of the economy
 - Agriculture (50% of GNP)
 - Cereals
 - Livestock
 - Cash Crops (cotton, horticulture)
 - Mining
 - Remittances and regional trade
 - Member of the CFA franc zone



The setting (cont'd)



- Cereals account for over 70% of total calories
 - Coarse Grains
 - Rice
- Semi-subsistence Production: between 18 and 20% of total grain production enters the market

The Context: *Creating the incentives for farm-level productivity growth*

- Importance of technology and resources
- However, productivity growth depends on:
 - access to improved resources
 - technology
 - AND incentives to adopt them
- Need to focus on:
 - how policies and institutions affect productivity growth
 - complementarity of market reforms and technology development
- The Malian rice sub-sector as an example

Pre-reform marketing policies

- Objective – Providing cheap grain to select urban consumers
- Marketing arrangements:
 - State monopoly of national grain board
 - Official fixed prices (no quality premiums)
 - Ban on private marketing
- Consequences for:
 - producer prices
 - technological innovations & productivity growth
 - government budget, dependency on food imports
 - market access for farmers

Marketing reforms

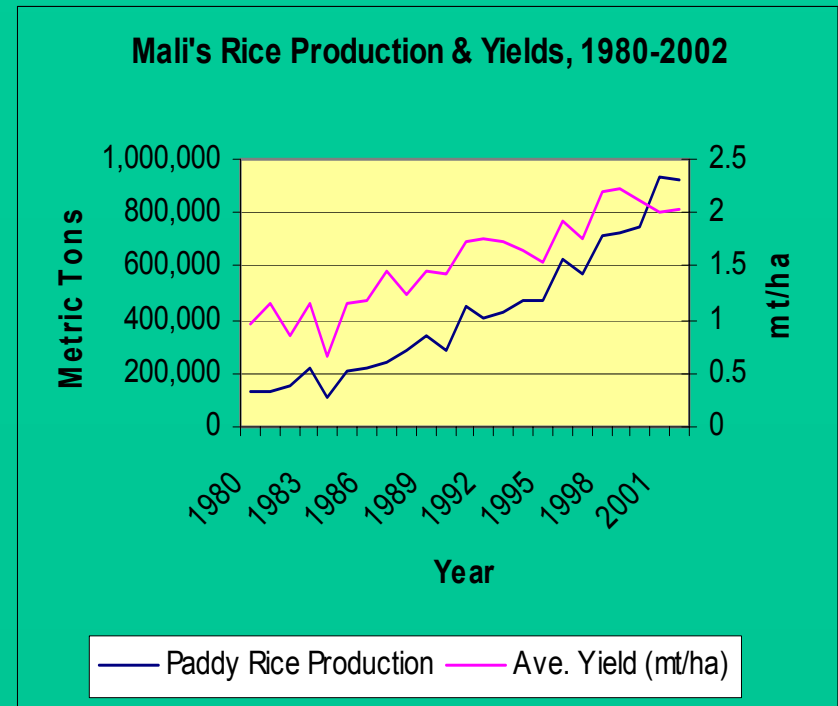
- **Rationale:** Create price incentives for farmers to adopt technological innovations to increase farm-level productivity
- **Objective:** increase producer incomes thereby spurring investment in productivity-increasing technologies.
- **Gradual process – began in 1981 and continued for nearly 20 years**
 - Removal of legal constraints to private cereals marketing
 - Increased role of the private sector
 - weekly village markets linked to urban centers and export markets

Marketing reforms (cont'd)

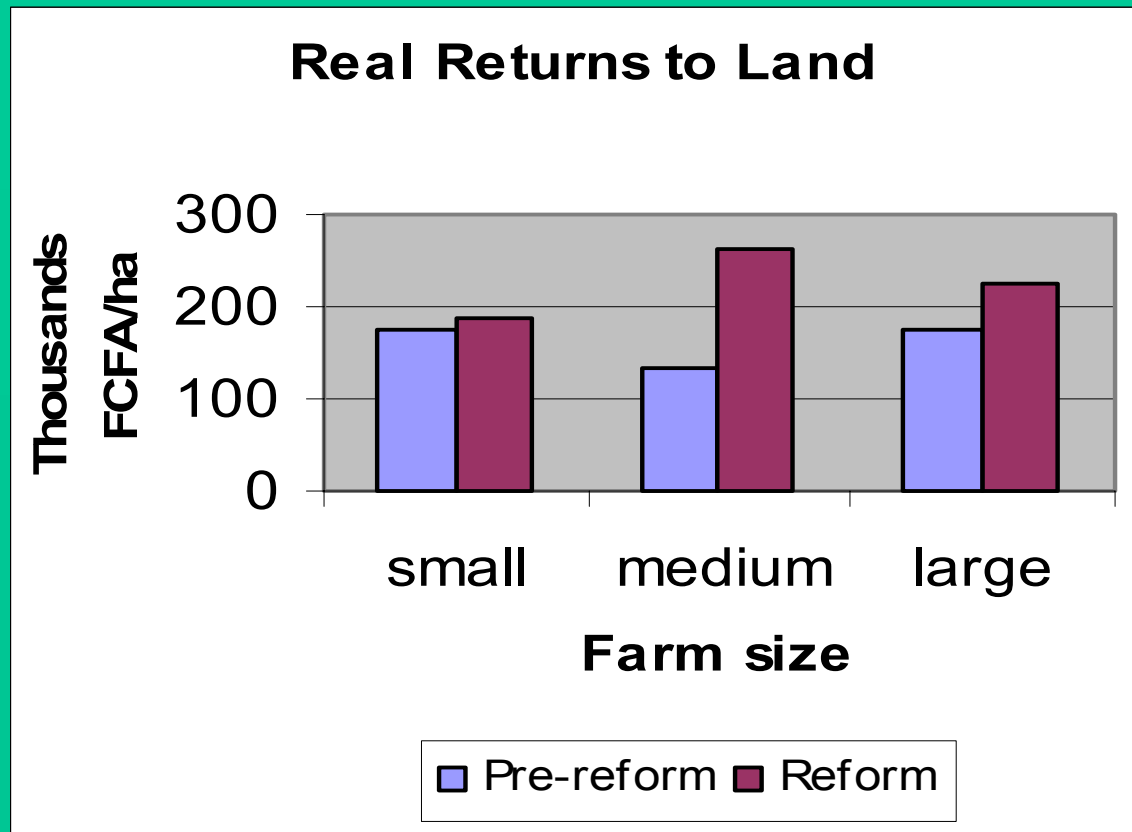
- Creation of MIS (OMA) in 1989 to:
 - Level the playing field
 - Improve farmers' market access
 - Increase government's capacity to evaluate policies
- Sector-level reforms were combined with a major macro-economic reform: 50% devaluation of CFA franc in 1994, which greatly increased returns to tradable goods, including rice.

Impact of reforms on agricultural productivity: Example of Malian rice farmers

- Evolution of production and yield
 - Production went up 7-fold between 1980 & 2002
 - Yields more than doubled on average, and tripled in most intensive systems
- Market reforms assured that higher prices were “competed back” to farmers



Benefits to Farmers



Factors contributing to high payoff to market information in the rice subsector

- CFA franc devaluation
- Competitive market structure
- Existence of high-yielding rice varieties, combined with new cultural practices
 - Transplanting
 - Increased use of organic and chemical fertilizers
- Spread of new post-harvest technologies, especially small rice mills

Lessons learned

- Market reforms as a long process
- Complementarity of market reforms and technological innovations
- For this process to work well, one needs:
 - Investment in market development activities such as MIS
 - Empirical research to feed reform process