



FEED^{THE}**FUTURE**

The U.S. Government's Global Hunger & Food Security Initiative

Value Chain Transformation in Asia: Emergence of a Quiet Revolution

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Second talk

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1. Overview of surveys for rice & fresh potatoes

- 1) Comparison over countries to see what is early, transitional, and advanced
- 2) Hold constant: VC from main production area for mega-city to mega-city
- 3) Samples of farmers, mills, cold storages, rural & urban traders, and retailers (traditional & supermarkets)
- 4) “meso” & “micro” surveys

	More advanced rice zone	Less advanced rice zone	Total
China	Heilongjiang	Jiangxi	
Bangladesh	Noagaon	--	
India	West UP	East UP	
Vietnam	Mekong River Delta (MRD)	Red River Delta (RRD)	
Surveys	Table 1. Study zone Surveys		
fielded:	925	1040	1965
Farmers	110	177	287
Rural traders	162	135	297
Mills	150	153	303
Urban traders	275	970	1245
Urban	170	182	352
traditional	47	55	102
retailer	1839	2712	4551
Supermarkets			
Village heads			
Total			

Sample: Potato Agra-India example

270 farm households,

31 cold storages,

86 rural traders,

30 urban traders,

120 traditional retailers

20 supermarkets

2. Quiet Revolution in Rice

2.1. Structural Transformation

a) Conventional wisdom: “the backbone of the rice sector is 1000s of village mills”

Myth busted by our finding: Rapid concentration of the milling segment

... disappearance of village mills over ONE DECADE

... rise of mills in rural town and district cities and now in large cities (with increase in capacity utilization as competitive advantage)

... increase in scale of mills (massive local investments)

b) Conventional wisdom: “the backbone of rice trading is 1000s of small rural brokers” ... “many hands” in “long inefficient VCs”

Myth busted by our finding: Rapid disappearance of small rural brokers (dis-intermediation & re-intermediation)

... Rapid rise in direct buying by mills

... Rise of direct buying by large urban wholesalers

→ cut out role of village trader (VT) in rice
(Bangladesh, 7% to VT, China, 29% to VT, India, 18% to VT)

→ farmers sell direct to mills: 63% in China, 60% in Bangladesh; little in India (APMC act constrains shift)

c) Conventional wisdom: “rice retailed only through small shops”

Myth busted by our finding: Rapid takeover of rice by supermarkets in China (emergence in India/Bangladesh/Indonesia)

... supermarket chains adding to demand for diversity of types and quality (China)

... supermarkets procuring long-distance from large mills

... Supermarkets selling rice cheaper than traditional shops in India & China

d) Growth in geographic length of rice VCs (China)

... combined with change in variety of rice in markets

... example of north to south shipment (train) & diffusion of japonica (and fall of indica) rice

... big increase in perfumed/jasmine rice from Thailand

... supermarket product differentiation strategies & branding & packaging important to spatial shift

2.2. Conduct/behavior Transformation

a) Conventional wisdom: “rice market is just a commodity market – not a product-differentiated market

➔ assumption was that market NOT have quality or quality differentiation or packaging or branding” ... just sold loose, unbranded, bulk, non-traceable

Myth busted by our finding: Rapid (in past few years) product/quality differentiation

... rise of mill brands (in China)

... rise of packaged (in differentiated sizes) rice

... rise of dedicated agents/wholesalers in urban wholesale markets (in China & India)

... but in Bangladesh we found variety-quality change premium captured by traders and millers not farmers

b) Conventional wisdom: “trader give advances to farmers to “tie” their rice sale to the trader”

Myth busted by our finding: Tied credit from traders has virtually disappeared! Same for input retail shops (saw in farm survey & trader survey)

Traders said 20 years ago they gave advances.

Traders said now it is too risky to advance to farmers because:

... farmers have cell phones so can shop around

... farmers have nonfarm income as their own source of cash

... the road density rose so too much competition

... farmers can now side-sell to other traders

c) Conventional wisdom, India: “Government input shops (subsidized) sell to smallest/poorest farmers”

Myth busted by our finding: Largest farmers get the great majority of government input shop sales

d) Conventional wisdom, India: “Government credit to rice farmers goes to to smallest/poorest farmers”

Myth busted by our finding: Largest farmers and richer zones get the great majority of government credit

3. Potatoes in Agra India

The Cold-Stored Potato Revolution in Western
Uttar Pradesh, India

3.1. First wave of public investment & first wave of potato farming development in late 1980s-early 1990s

- a) Farmers shift from wheat to potato
- b) Public investment: NARS research & extension of new potato variety (higher yield, longer storage life, more resistant to transport)
- c) Public investment: water pump subsidies
- d) Encouraged by initial growth in Delhi economy

3.2. Rapid Urbanization as “demand pull”

- a) **Rapid growth in Delhi’s** population and incomes in the 1990s/2000s (linked to economic liberalization and public investment in city infrastructure)
- b) **“diffusion” of urbanization effect** in rural space: large public investment in **rural roads**
- c) **Diet diversification** into horticultural products in urban areas

3.3. Rise of the Rural nonfarm sector

- a) **Rural nonfarm sector development** especially fast and intense in the “market-shed” of Delhi
- b) **Drives up farm and nonfarm wages**
- c) **Fuels private investment** in all segments of the supply chain

3.4. Second wave of public investments in rural areas

- a) Public investment in **energy grid**
- b) Public investment in **limited subsidies for modern cold storages**

3.5. Modern Cold Storage Boom in 2000s

a) Massive private investment in cold storages starting in mid/late 1990s

... crescendo over the 2000s

b) Shifting potato from seasonal consumption in Delhi to nearly-year round (2/3 from cold store)

3.6. Second wave of potato farm development: capital-led intensification in second half 2000s

- a) capital-led intensification
- b) Land concentration (rental and purchase)

3.7. Factor markets: rapid transformation

- a) Land market development (rental and purchase)
- b) Machine rental market
- c) Chemical market boom: herbicides... and pesticides

3.8. Output market transformation

a) “Re-intermediation”: Cold storages replace wholesale markets!

... and displace village trader “stranglehold”

... despite the APMC regulation...

b) north-south market integration (supply to southern India)

3.9. Consumption transformation

- a) Delhi potato consumption: rises & de-seasonalizes
- b) Southern India potato consumption starts to de-seasonalize

4. Some Performance points and implication points

a) India Planning Commission: “You have changed our view of rural India today”: ferment of change, not just bad news; can help the transformation

b) Energy cost share high of rice mills & potato cold storage & transport (in China, equal to farm costs), importance of energy efficiency policy

c) Vietnam: Domestic urban rice market share 80%, export share 20%, urban value chain most important

d) Supermarket prices lower than traditional retail in India and China, **implication for FDI debate in India**

e) Some countries had high urban trader and millet profits and share compared to others (India); with high regulation and lower competition; **implication for APMC debate in India**