Between the Market and the State: Evolution of Horticulture in Seongju, Korea

Young Jo Lee
Kyung Hee University, Korea
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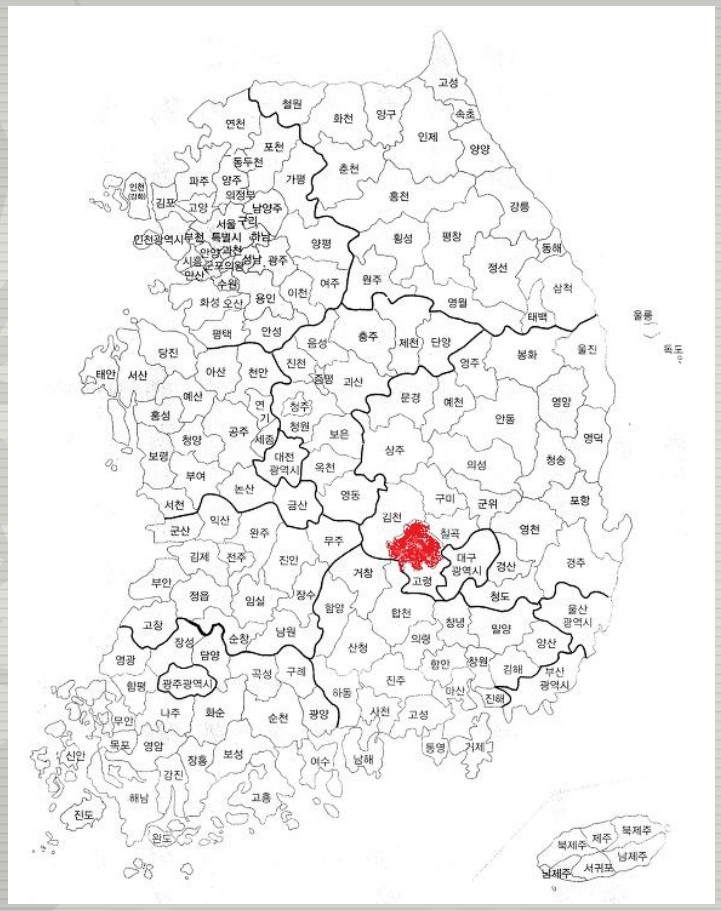
Oriental Melon Culture in Seongju

Seongju County, Korea



- 0.6% of Korean land mass
- Less than 0.1% of Korean population

Seongju, National Capital of Melon

- One of the most backward and poorest regions in Korea
- ←Seoul-Pusan Railroad and Seoul-Pusan Expressway bypass Seongju

- Produces 70% of oriental melons consumed in Korea
- Average melon growing household earns U$90,000 (2013)
- A typical melon growing household has a motorcycle, a car, and a pickup truck (since the early 1990s)

50 Years Ago	Now

All Irrigable Lands Used for Growing Melon

What Happened?

- How could Seongju transform itself from a primarily rice growing region to a thriving horticultural wonder?
- The developmental state as usual?
- No. It was the farmers that transformed Seongju

Rural Poverty in the 1960s

- Land redistribution in 1950
- Peasants became owner-cultivators
- But landholding was too small to sustain the average six family members
- Accumulated debts
- 1/3 of rural households ran out of grain stock in spring
- → 'Barley pass' was steeper than mountain pass

Earlier Self-Help Efforts

- Tried to grow burdock, red pepper, garlic, silkworm, tobacco leaves
- But soil unsuitable for burdock, red pepper, and garlic
- More success with silkworm and tobacco leaves
- But the farmers could not grow these as much as they wanted
- ← Government monopsony

Enter Watermelons

- New growing skills (hotbed & grafting) acquired while working for an agricultural expert
- Growing urban market for fruits
- In the late 1960s, more enterprising farmers began to grow watermelons in the rice paddies
- Their success and windfall encouraged more farmers to try watermelon growing

Conflict with Government

- Growing watermelons in the rice paddies clashed with government policy of maximizing grain production
  - Export-led industrialization needed cheap grains that enabled urban workers to subsist on their meager wages
- Farmers were unwilling to give up their new source of income

A Compromise

- The government condoned farmers skipping barley
- But farmers had to root out watermelon vines in time for rice seedling transplantation

A Boon in Disguise

- Government interdiction eventually turned out a blessing for farmers
  - It necessitated farmers to develop better skills to ship earlier when prices were higher
- Soon ‘Seongju’ became synonymous with watermelons produced before season

Extended Culture

- In the late 1970s, some farmers began to give up rice growing altogether
- Kept vines into September to meet demand increase before *Chuseok* or Autumn Harvest Festival
- After that they planted the Korean cabbage
  - Demanded in large quantity to make *kimchi* or spicy pickled cabbage for the winter

Extended Culture made possible because

- Farmers acquired skills to keep vines thriving longer than usual
- Government lost means to tame recalcitrant farmers
  - Usual control through farming fund and fertilizer was no longer effective
  - ←With savings, watermelon farmers needed no funding
  - ←They could buy fertilizers from other sources, if at higher prices

Transition to Melon

- In the 1980s through the early 1990s, Seongju farmers gradually replaced watermelon in favor of melon
- Because melon was more profitable per unit of labor and land
- Transition was smooth
  - Farmers could use the same facilities they had used to grow watermelon

Late Comer But…

- As for melon growing, Seongju was a late comer
  - Melon had already been grown in other regions
- But Seongju farmers could overtake them very quickly by utilizing their skills and experiences of growing watermelon
- The major technological breakthrough was their innovation: grafting melon onto pumpkin roots

Extended Culture of Melon

- By 1995, over 80% of the farmers were engaged in extended culture
- Only less than 12% grew melon and rice
- By this time, government interdiction disappeared
  - Government was more concerned about structural adjustment of the agricultural sector than with rice production (cf. UR of the GATT)

Double Planting

- In the late 1990s, the market share of Seongju melon was around 35%
- In the next 15 years, it rose to around 70%
- ←Improved skills of extended culture
- +Double planting by 20% of melon farmers
  - First planting in December
  - Second planting in June
- Seongju melon is available year round

An Evolutionary Process

- The process by which Seongju farmers gained dominance first in watermelon, then in melon was an evolutionary process
- Gradual but continuous upgrading
- Adaptation to external environment
- Continuous innovation
- Turning disadvantages into advantages, adversities into opportunities

Facility Upgrading (1)

- Seongju farmers started with simple hotbed
  - Using locally available cheap materials
  - They split bamboo stalk and bent it over 50cm wide bank to support vinyl films
  - At night, they covered this hotbed with self-made straw mats to keep warmth
- Later with savings they built firmer structure made of PVC pipes
  - They built a ‘house’ over two rows of hotbed

Facility Upgrading (2)

- As farmers turned to exclusive melon growing (extended culture and double planting), they built semi-permanent structure that contain wider banks/beds

Facility Upgrading (3)

Adaptation to Environment (1)

- Turned to watermelon at the prospect of rising demand for fruits
- Advanced production schedule at the government insistence on growing rice
- Time saving efforts in face of unavailability of labor outside the family
  - Time saving machines
  - Outsourcing: snack between meals, drink, sprout grafting, preparing field, etc
  - Automation: watering, fertilizing, insecticide spraying

Adaptation to Environment (2)

- Turned to melon at the prospect of greater profitability
- Set up on-site distribution centers at the prospect of greater competition from imported fruits (Korea-Chile FTA)
- Exploring foreign markets at the prospect of decreasing domestic demand

Innovations: Production

- Grafting
- extended culture
- choice of variety
- test of materials
- automatic spraying system
- automatic covering system
- Organic farming for higher value-added
- Many households have ‘experimental greenhouse’ to test new techniques, materials, processes

Innovations: Distribution

- Common sales markets (APCs)
- Integrated distribution centers
- Automatic cleaning and sorting system
- More than half of Seongju melons are distributed these cooperative-run distribution channels
- National prices are determined in Seongju
- Recently, direct sales by producers via internet also increasing

Innovations: Quality Control

- Low quality melons are bought up and discarded by the coop (Used for making organic fertilizer)
- Standardized container box with produce names
- At distribution centers, judges determine the quality level in the absence of the producer

Innovations: Diversification

- New melon-based products being developed
- Foreign markets being explored since 2000

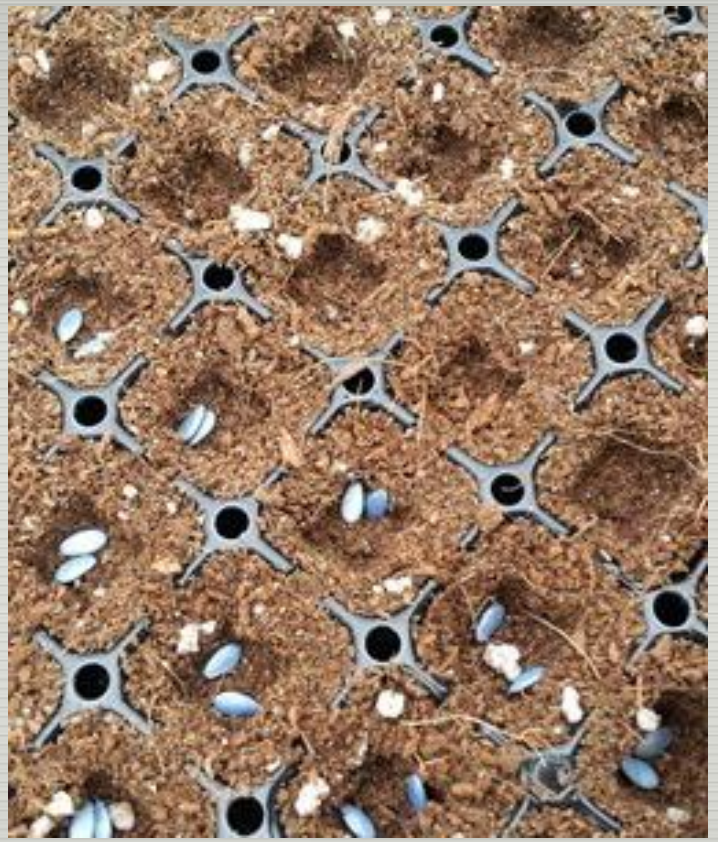
A Success Story Within Another (1)

- Melon culture is another success story within the story of Korea's economic success
- But it was largely written by farmers themselves
- Family labor based, melon growing brought about equitable development: low variation of household incomes

A Success Story Within Another (2)

- Time-saving efforts resulted in a high degree of division of labor
- Backward linkage effects: Industries servicing the needs of the melon industry shoot up
- ➔A melon industry cluster, an interlocking network of production, distribution, R&D, tourism, and local festivals

Pumpkin Seeds



Melon Seeds

Grafted Melon Sprouts

Grafted Melon Sprouts Ready for Planting