

CUS 510J Workshop in Cultural Practices
Harvesting the Future: Farming and Food Movement
The political ecology of Green Revolution
Oct 2, 2015

"It is not a violent Red Revolution like that of the Soviets, not is it a White Revolution like that of the Shah of Iran. I call it the Green Revolution"

(Gaud, USAID, 1968)

1. Origin

1.1 the trigger of cold war

- Berlin was decisive as to the future of Europe
- the allied occupation zone was just a tiny spot within the eastern Europe
- USSR threatened to blockade the transportation route from west Europe
- the legendary "airlift": 2,300,000 tons of supply over 275,000 lifts
- the Douglas DC-6A poster

1.2 situations around the world – during and after the WWII

- food shortage in Mexico, as a result of the shift from self-consumed maize to complimentary crops for the U.S.
- shortage in the U.K. in relation to the famine in India and the contradicting claims from different domestic sectors (e.g. among consumers, farmers and livestock breeders)
- (political) management of U.S. over-production of grain

1.3 the establishment of Population-National Security Theory (PNST)

- synthesizing perspectives from population studies, resource exhaustion, political stability, communist insurrection and American interests
- John Maynard Keynes selective interpretation of pessimistic Malthusian population theory
- contemporary development of population studies and ecological concerns in the context of national security
- pessimism avoided, academic and policy works found an outlet in increasing food supply through plant breeding and technical transfer

2. Green Revolution: better living through chemistry(?)

2.1 the birth of miracle seeds

- the Rockefeller Foundation funded a survey team in Mexico in 1941 on improving productivity
- the strategic considerations of maize and wheat and the establishment of Mexican Agricultural Program (MAP) and the subsequent
- the Borlaug semi dwarf varieties was developed from Japanese 1935 "Norin" variety, further from experiment between from Japanese "Daruma" variety and American "Fulltz" variety
- he bred the wheat of dwarf varieties in 1954 (productivity 6 times more), won the Nobel Prize in 1970

2.2 the practice

2.2.1 five major techno-sociological innovations:

- higher yielding varieties
- industrial fertilizers and pesticides
- dam and irrigation system
- mechanization
- land consolidation

2.2.2 significances and implications

- High Yielding Varieties (HYVs) as a photosynthetic machine

"Plants are the primary factory of agriculture where seeds are like the 'machine'; fertilizers and water are like the fuel; herbicide, pesticides, equipments, credits and technical know-how are accelerators, to increase the output of this industry. The output in the plant industry is directly correlated with the genetic potential of the seeds to make use of the case and non-cash inputs."

(Desai, quoted by Shiva 1991)

- replacement of the integration at the level of farm to integration of cash inputs such as seeds and chemicals
- from the aggregate function of the systems to the mere measurement of cash value of outputs
- higher yields at the cost of sustainability, instead of the traditional methods where higher yields with sustainability
- genetic uniformity in 2 senses: (1) from multi cropping/crops rotation to monoculture – forests and grazing lands were cleared, multiple cropping abandoned; 2) diverse natives varieties suitable for different conditions reduced to HYVs from CIMMYT (International Maize and Wheat Improvement Center) and IRRI (International Rice Research Institute)
- Having destroyed nature's mechanisms for controlling pests through the destruction of diversity, the "miracle" seeds of the Green Revolution became the mechanisms for breeding new pests and creating new diseases (Shiva 1991: 98)

"The methods of the (traditional) cultivators, if followed, would result in crops practically free from disease, the insects and fungi would be useful for pointing out unsuitable varieties and methods of farming inappropriate to the locality"

(Howard 1940)

2.3 a package of assumptions: appraisal

- scale neutral (but not resource neutral?) – irrigation, credit, fertilizers
- technology catering poor peasants or relatively rich commercial farmers?
- Small-holding peasants to drive economic growth
- situations after the adoption: land price since the adoption of miracle seeds, regional difference in agricultural growth, percentage change of landless peasants

2.4 seeds for thought

- cooperation or conquest of the nature?
- alleviating hunger or creation of yet another supplier for global market?
- the problems of market liberalization and global speculation: ultimately unpredictable no matter how technically advanced any certain peasant is
- the politics of social sciences and truth: definition of yield, genetic diversity, soil health, sustainability of seeds, gender, etc.

3. lessons

- the peculiarity of post-war situation: state control or market control, or both?
- The irreversibility of green revolution: the ecological and cultural consequences
- the sequence of industrial revolution and green revolution: the role of agriculture in world politics and culture
- the ethics of urban development and "food-from-nowhere" regime
- on what ground do urban population have the rights to eat food that were produced under miserable human and ecological conditions?

Reference

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