



The Great Leap Backwards

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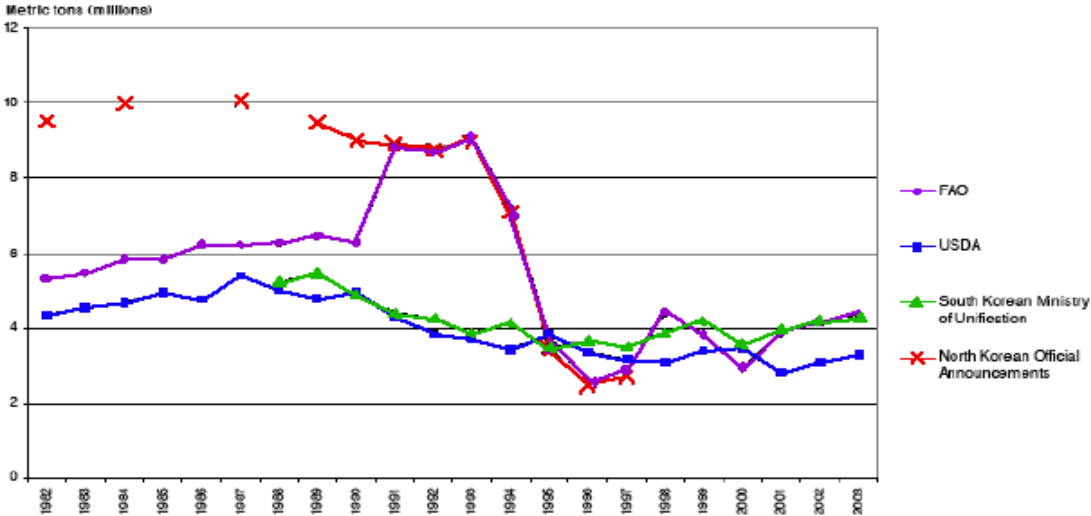
Pyongyang



The Political Ecology of the North Korean Famine: Revising Amartya Sen

- I. Democracy and Famine
- II. Food Availability Decline (FAD): Does It Matter?
- III. Entitlement Protection or Development Strategy?
- IV. Social Consequences of Famine

Estimates of North Korean Grain Production, 1982-2003



FAOSTAT; USDA and FAS website; Korean Ministry of Unification; Woo (2004)

Agricultural Land Damaged by Floods in 1995 and 1996 in North Korea

(Unit: '000 ha)

Year	Land submerged	Land washed away	Land buried	Total damaged	Total arable land	Damaged in % of arable land
1995	331	10.7	18.2	359.9	1853	19%
1996	273.1	9.7	15	297.7	1853	16%

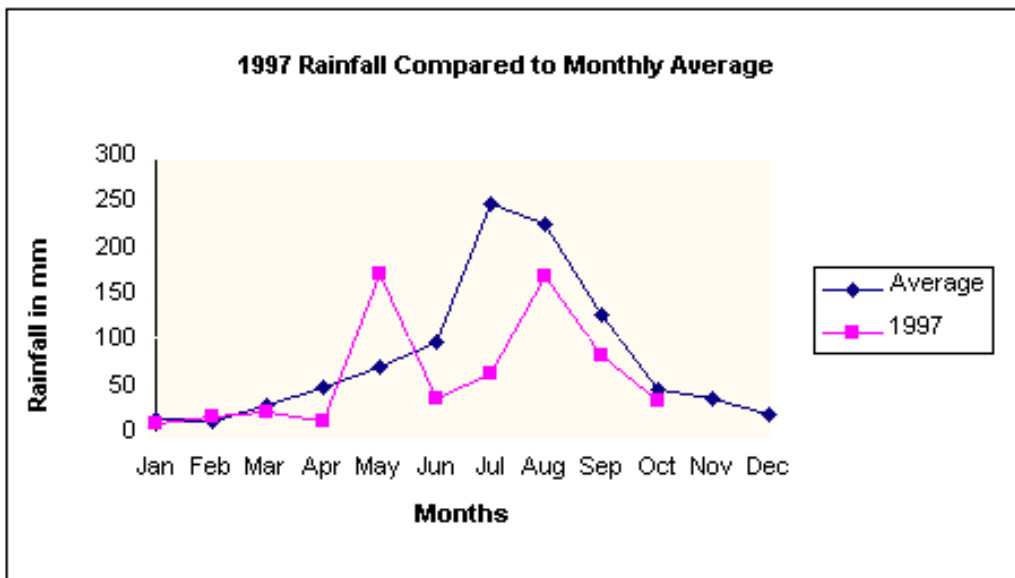
Data from Thematic Roundtable on AREP in DPR Korea in Geneva Switzerland, hosted by UNDP in 1998 which used information from North Korea's Flood Damage Rehabilitation Committee

Satellite Image of the Impact of Drought on Mixed Crop Areas



Yellow/green patches indicate poor vegetation. Drought had serious impact on corn yields.

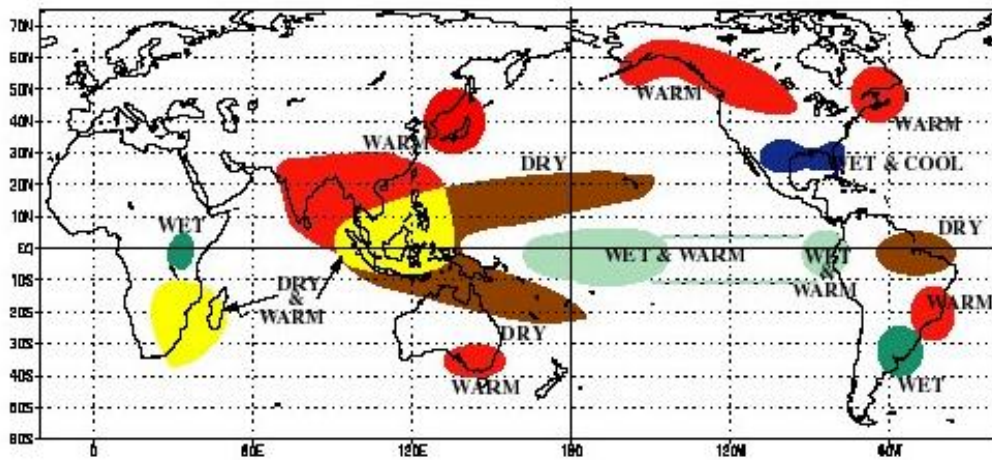
1997 Monthly Rainfall



FAO/WFP Crop And Food Supply Assessment Mission To The Democratic People's Republic Of Korea, 1997

Typical Influence of El Nino

WARM EPISODE RELATIONSHIPS DECEMBER - FEBRUARY



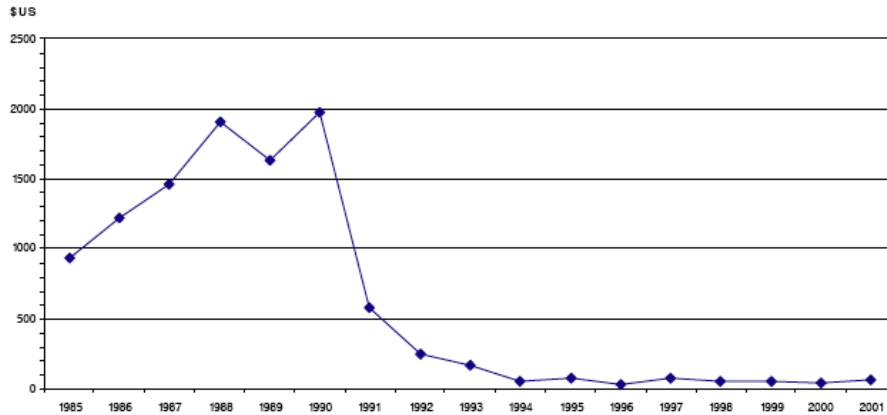
International Research Institution for Climate Prediction, *Schematic Effects of El Niño*, 1994

Satellite Image of North Korea at Night



Defense Meteorological Satellite Program

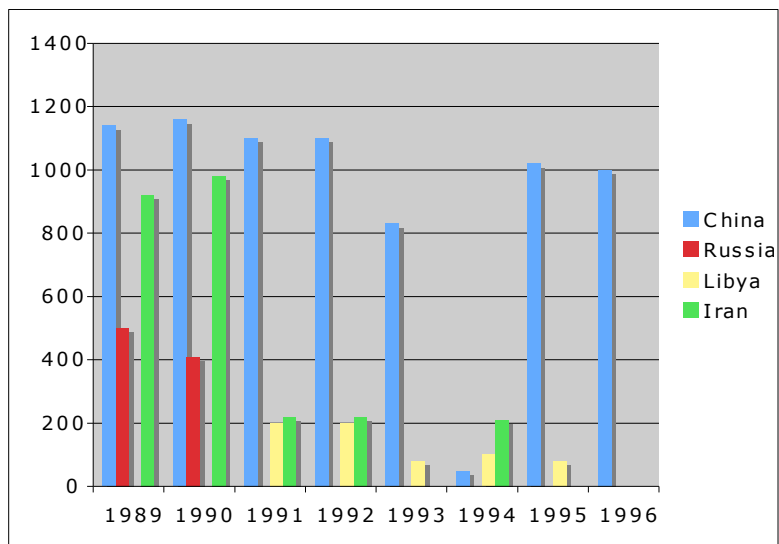
Imports from USSR/Russia, 1985-2001



Note: Original data reported as exports from the Soviet Union/Russia. 10% c.i.f./f.o.b. adjustment made. (Eberstadt,2005)

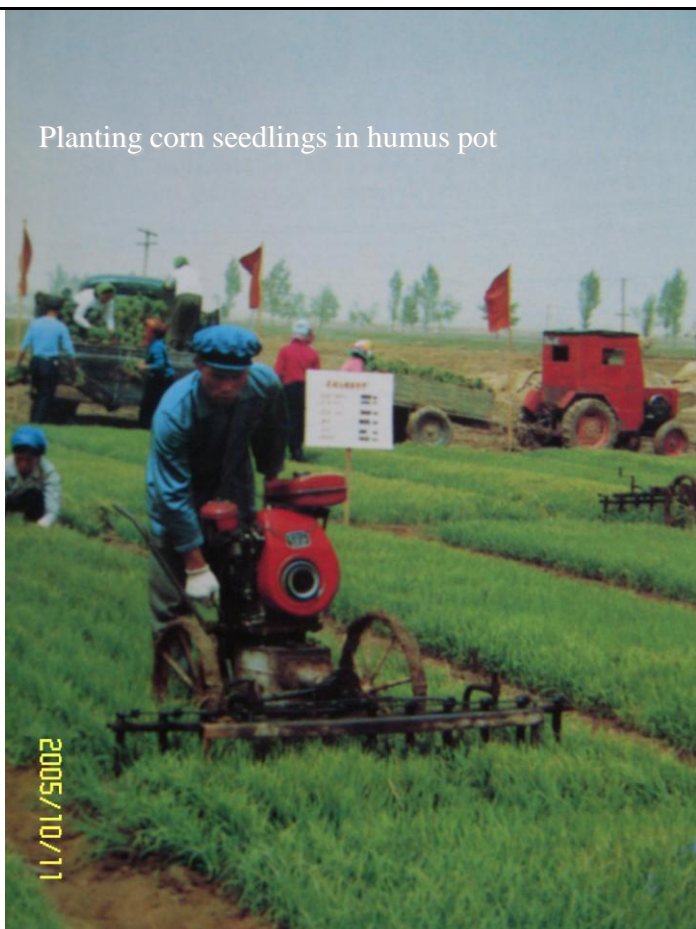
Crude Oil Imports to North Korea

(Unit: Thousand Metric Tons)



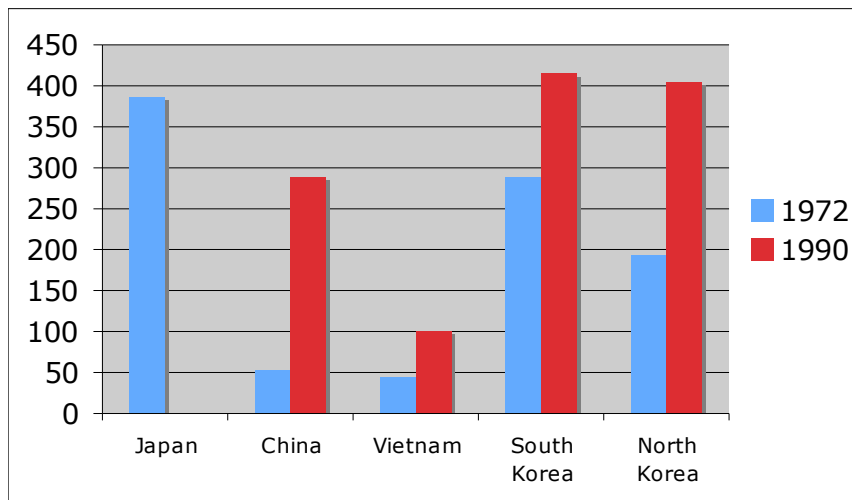
Von Hippel, Savage, and Hayes, p.38

Planting corn seedlings in humus pot



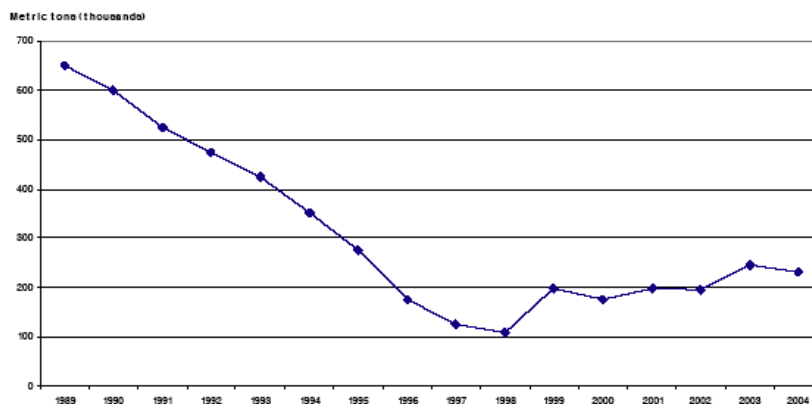
2005/10/11

Fertilizer Use in North Korea and Other East Asian Economies (kg/hectare agricultural land)



Smith, Heather and Yiping Huang, 2000

Fertilizer (NPK) Consumption, 1989-2004



FAO/WFP (2004, Section 4.3 and Fig. 2)

Domestically manufactured farm implements
- DPRK Encyclopedia of Agriculture



농업부담기



비모프는기 (5-20)



리모대는기 (대농장-10)

농악가무부담기



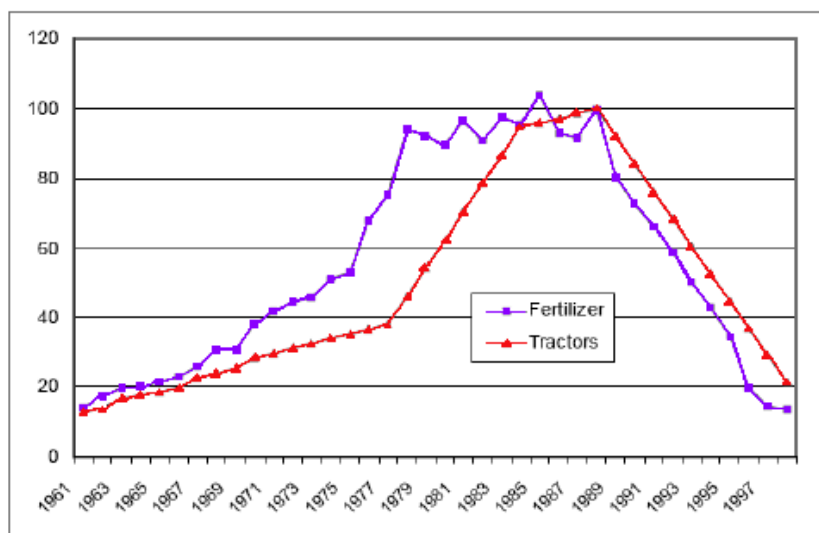
리모대는기



2005/10/11

리모대는기

Tractor and Fertilizer Application (1988=100)

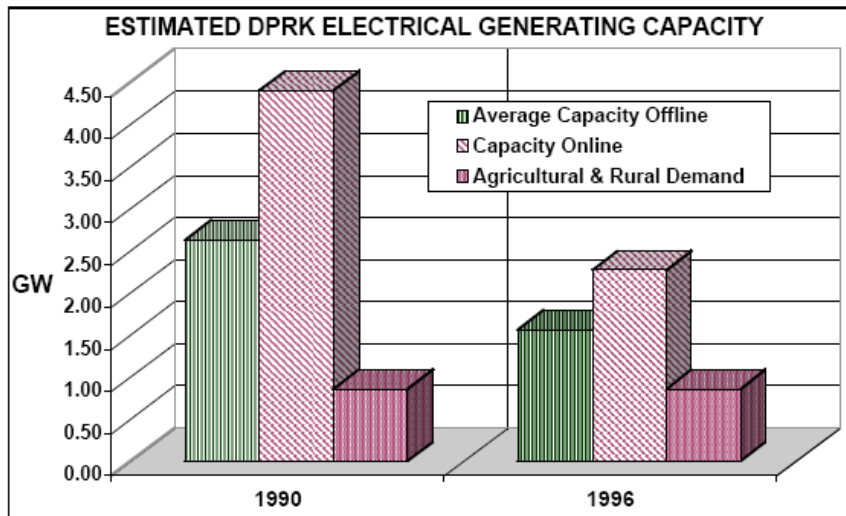


Smith, Heather and Yiping Huang, 2000





Estimated DPRK Electrical Generating Capability



Irrigation pumping demand represents over one quarter of online generating capacity in peak seasons. Williams, James H., David von Hippel, and Peter Hayes, 2000

North Korean Farmlands



United Nations Environmental Programme, *DPR Korea: State of the Environment 2003*, p.48

Terraced Hills



United Nations Environmental Programme, *DPR Korea: State of the Environment 2003*, p.18

Soil Erosion by Gradient

Gradient in degree (°)	Erosion (cu.m/hectares/year)
Below 10 °	1
10 ° ~20 °	5
20 ° ~25 °	20
Above 25 °	Above 30

Li Bong Rak, 2000

Degraded Forests on Mountain Slopes

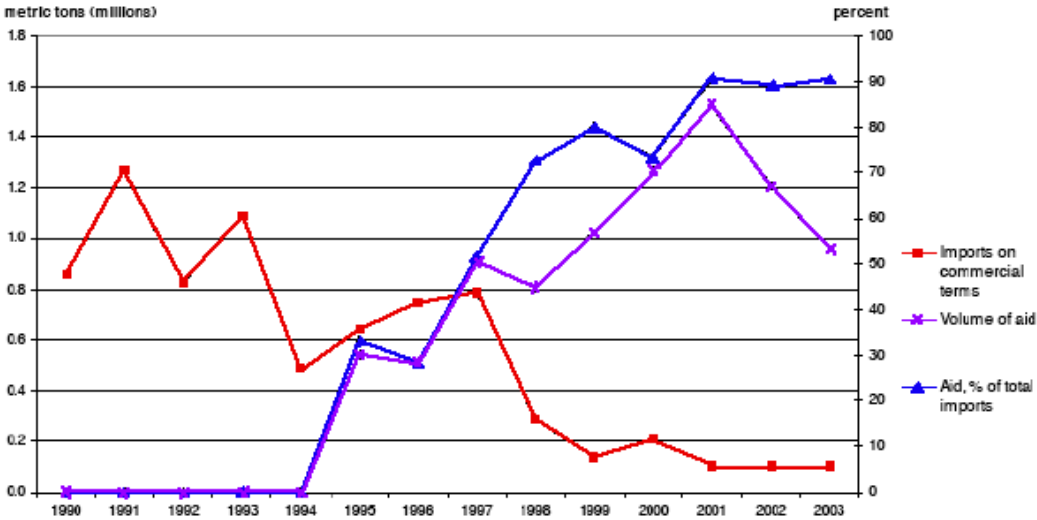


United Nations Environmental Programme, *DPR Korea: State of the Environment 2003*, p.23

Kaesong



North Korean Food Imports and Aid, 1990-2003



Imports: FAO/WFP (various publications); Aid: INTERFAIS (2004)

Market in Pyongyang



Adrian Bradshaw/European Pressphoto Agency