Eco-compensation and Agriculture: Lessons from the United States, Questions for the People's Republic of China

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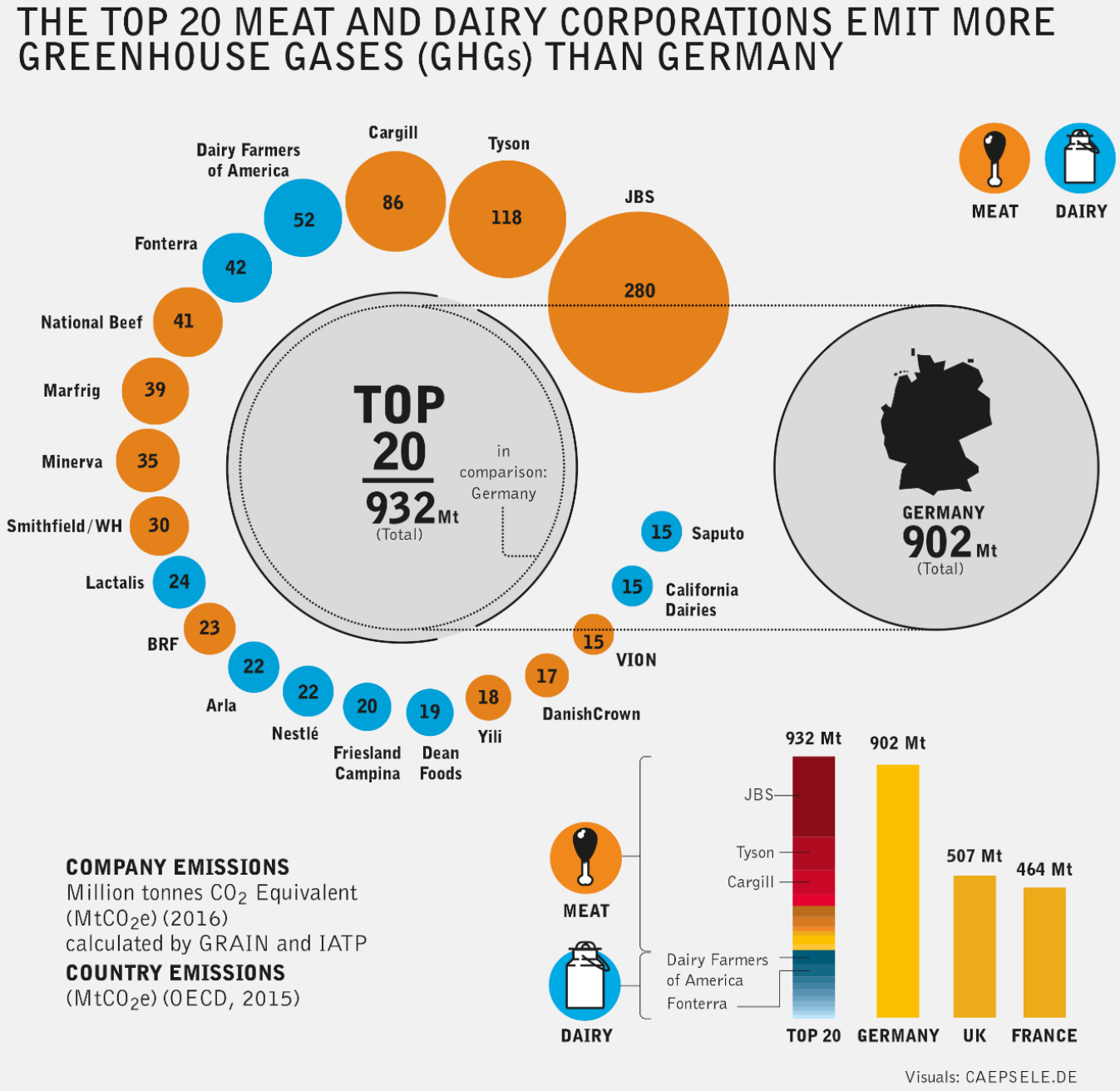
Agriculture and Climate Change



One Solution: No More Agriculture

Agriculture and Development

- Food security
- Livelihoods
- Engine for economic growth

Eco-compensation/ PES Programs for Agriculture in the US

- Conservation Easements
- Conservation Stewardship Program
- Environmental Quality Incentives Program
- Conservation Reserve Program
- Regional Conservation Partnership Program

Conservation Easement

- Permanent transfer of some land use rights.
- Specifies ecosystem services to be restored or maintained.
- Landowner retains all use rights that do not affect the specified ecosystem functions.
- May be purchased by the government or NGO (e.g. TNC)
- 1.75 million ha since 1970

Conservation Stewardship Program

- 5-year contract
- Whole farm
- Amount based on lost income, cost of implementation, conservation value
- Average Payment: $7.30/ha
- Area 24 million ha
- Budget: $5 billion (2009-2015)

Environmental Quality Incentives Program (EQUIP)

- 50%-75% subsidy for approved actions
- Vegetative, Management, Structural
- 33 million ha
- $6.4 billion (2009-2015)

Conservation Reserve Program

- Pays farmers to restore non-crop cover on fragile land
- 10-15 year payments
- 10 million ha
- $1.7-$2.0 billion/year

Regional Conservation Partnership Program

- Watershed as unit of action
- Implementation by organizations, not individuals
- Eight major watersheds
- $1.3 billion since 2014

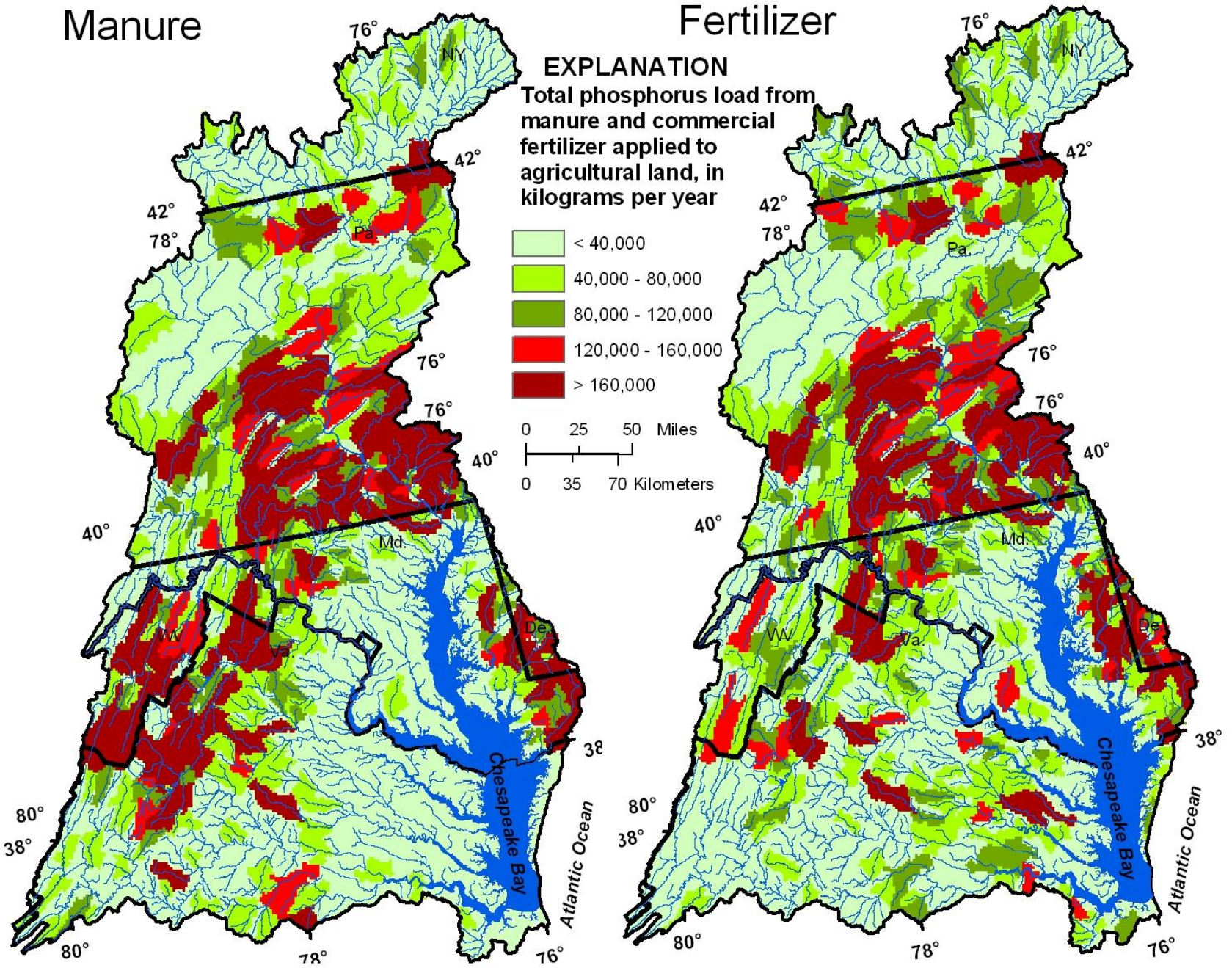


Figure 8.-- Loads of phosphorus from manure and commercial fertilizer applied to agricultural land in the Chesapeake Bay watershed, 1997 (modified from Palace and others, 1998).

Problems

- Voluntary, temporary
- Easy money, but not enough
- Poor targeting
- Outputs not outcomes
- Lack of monitoring

Core problems

- Assumptions about farming
- Political power of farm states/agribusiness

Result:

US nonpoint source pollution programs have had limited success

Lessons

- Watershed plan
- Target most serious areas
- Outcome focus
- Monitoring
- Incentives

EPA Section 319

Iowa Cover Crop Program

Agriculture in China

- Main source of water pollution
- GHG, soil erosion, desertification
- Food safety crisis

BUT

- Food security
- Livelihoods of 700 million
- Recreation/Tourism

SO

It is vital that China finds ways to improve the ecosystem functions of working farmlands.

Features

- Watershed planning
- Targeted
- Outcomes not Outputs
- Monitoring
- Technical assistance

Eco-friendly farming

↑ Vegetative cover

↑ Soil health

↑ Diversity

↓Chemicals

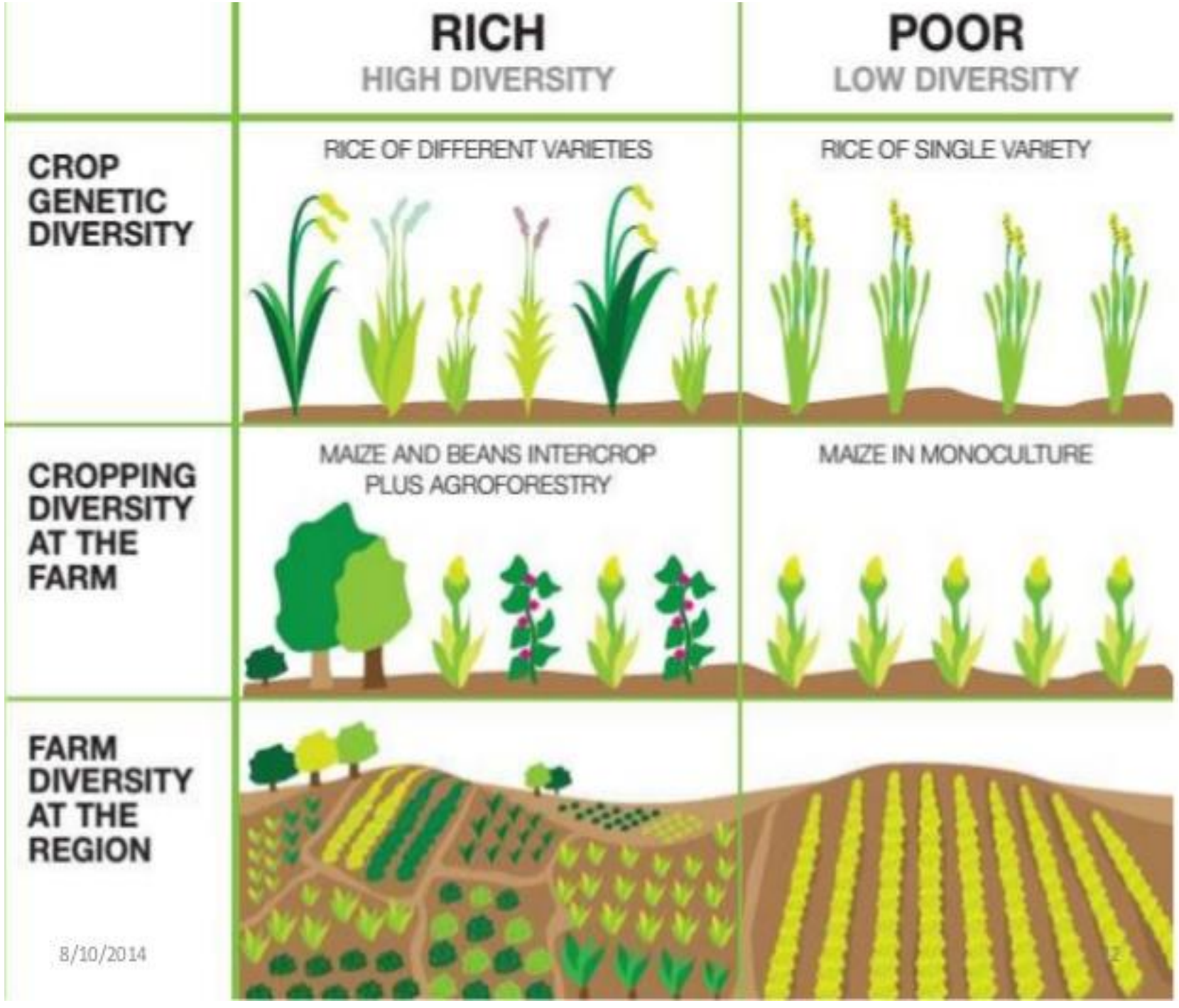
↑Natural pest control, fertilization

Transitions:

- Organic
- Land retirement

Challenges

- Technical support
- Complexity
- Monitoring



Co-Benefits

- Improve rural livelihoods
- Improve food supply
- Maintain landscapes
- Prevent social/cultural disruption

Thank You!

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