

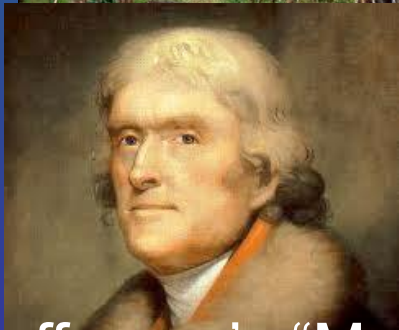
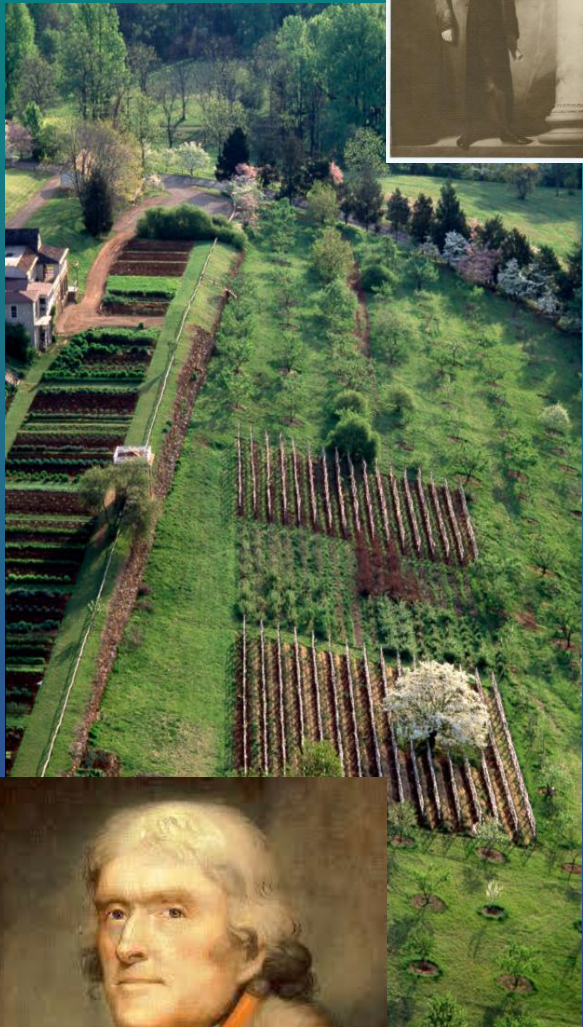
Small-scale family farming as a necessary but not sufficient foundation for food security, food sovereignty, and sustainability

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Feeding Cities 2014: Rural-Urban Connections
and the Future of Family Farming





Jefferson's "Moral Agrarianism"
Holowchak, 2010



The Jetson's Techno-
Futurist Minarchism
Hanna-Barbera, 1962

Inverse Relationship Between Farm Size and Productivity (IR)

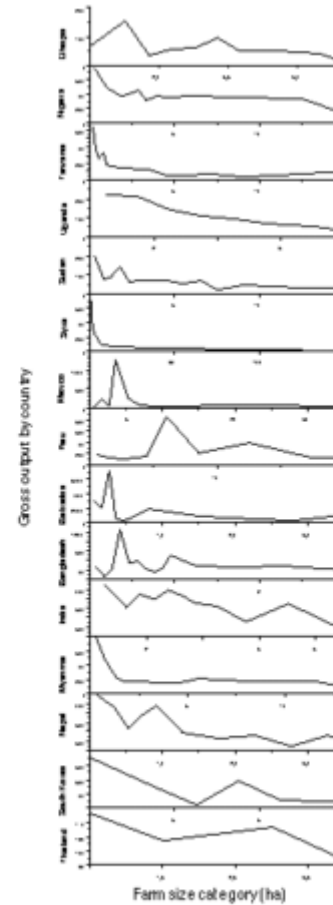
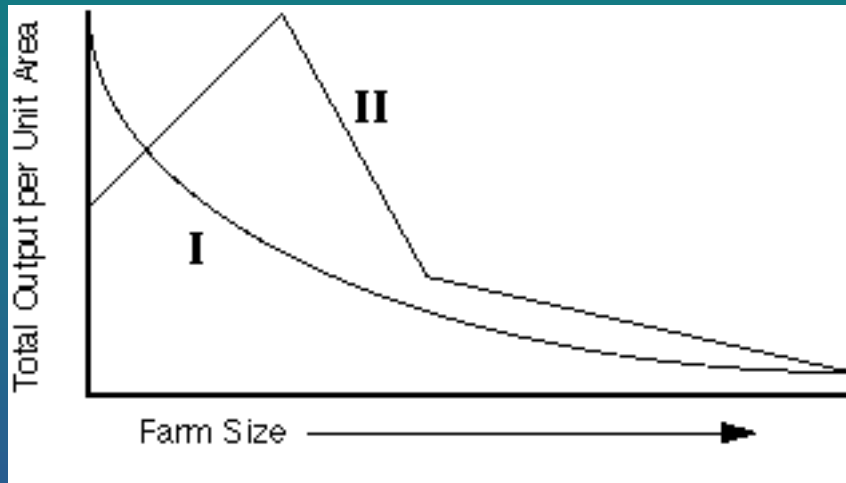
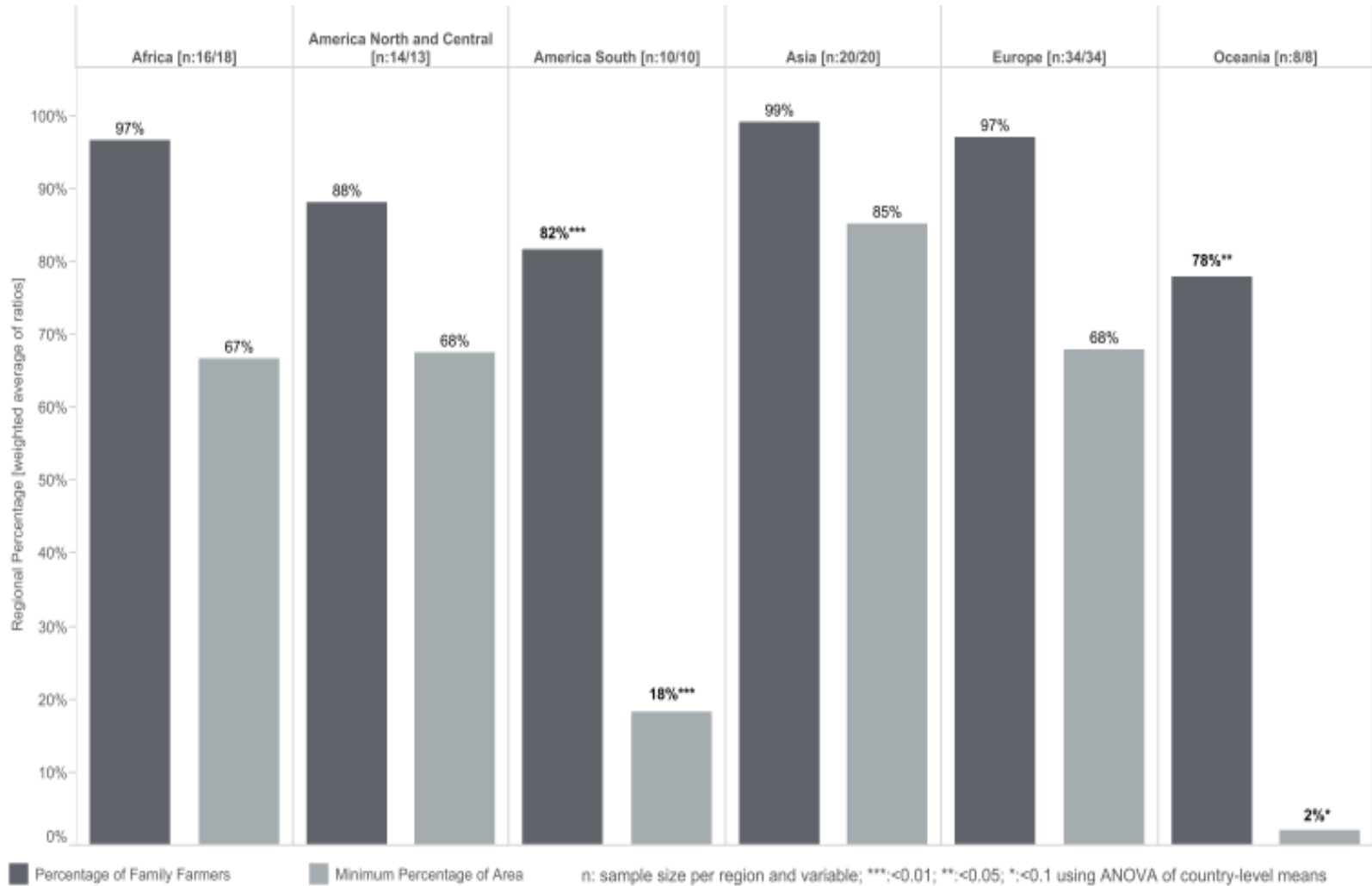


Figure 1. The relationship between farm size and total output in different countries (after Cornia, 1985).

Figure 3: Share of Family Farmers by Regional Averages



Based on country-specific censuses: Graub et al., in prep

Scale and “Cognitive Democracy”

- Innovative solutions to difficult social problems, and the social cohesion to solve them, are most likely when governance institutions:
 - “Foster a *high degree of direct communication* between individuals with diverse viewpoints. This kind of intellectual diversity is crucial to identifying good solutions to complex problems.
 - Second... they should provide *relative equality* among affected actors in decision-making processes, to prevent powerful groups from blocking socially beneficial changes to the detriment of their own particular interests.

Farrell and Shalizi, 2012:

<http://crookedtimber.org/2012/05/23/cognitive-democracy/>

Scale and Agricultural Heterogeneity

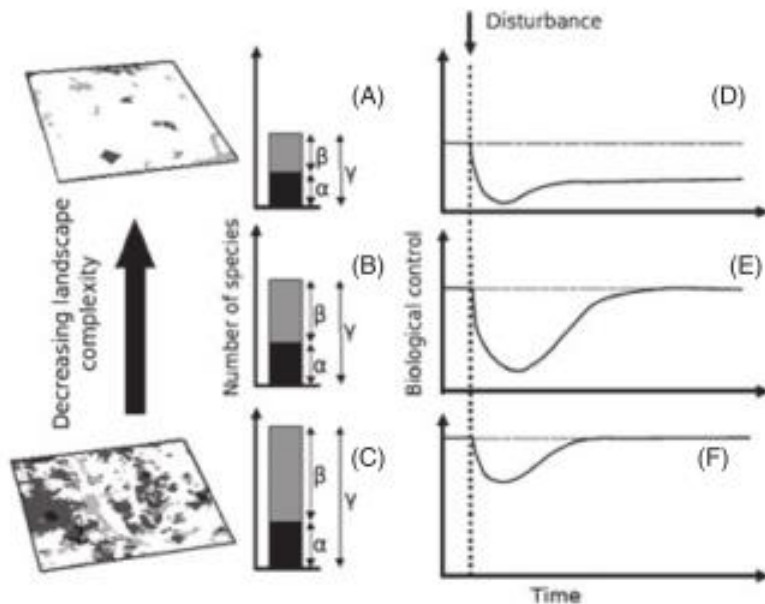


Fig. 5. Landscape complexity and resilience, the capacity to re-organize after disturbance, of an ecosystem service such as biological control. Landscape complexity decreases from bottom to top, influencing responses to disturbance in terms of species richness (A-C) and biological control by natural enemies (D-F). Increasing landscape complexity enhances the species pool (A-C) and the level of biological control, allowing quick recovery in biological control after a disturbance (D-F). Complex landscapes support more species, mainly due to the higher beta diversity, but often also higher alpha diversity (not shown here) and allow only a small dip and quick return in biological control after disturbance (Tscharrntke *et al.*, 2007a, modified after Bengtsson *et al.*, 2003).



Shemann, 2007

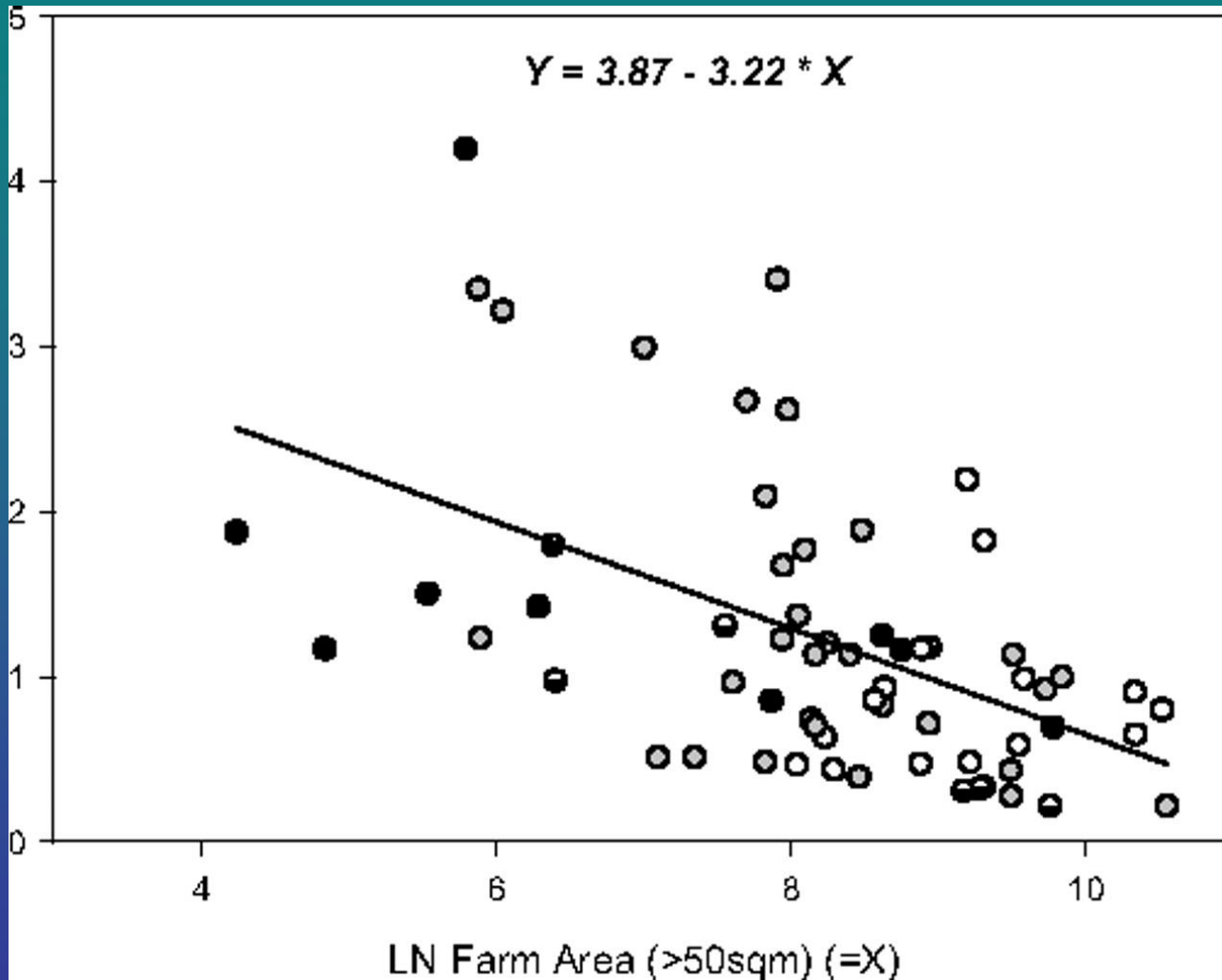


Erle C. Ellis



Erle C. Ellis

Relationship between farm area and divergence, both on a logarithm scale.



Jarvis D I et al. PNAS 2008;105:5326-5331

Specialization/optimization and scale



Where's the Gray?

- “Any serious futurist must recognize that a major re-ruralization is the only sustainable way forward.” – John Vandermeer, 2004
- “There is no other realistic model” – David Orr, 1994
- There's a difference between what we might envision and where we are
- Need to differentiate “vision” and “transition” from “judgment” and “vilification”