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)

Rosset, 1999
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/
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 (Tschäntke et al., 2007a, modified after Bengtsson et al., 2003).
Relationship between farm area and divergence, both on a logarithm scale.

\[ Y = 3.87 - 3.22 \times X \]

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 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”