

Food Security and Land Use: The Telecoupling Challenge - ABC Telecoupling

Call: Food Security and Land Use Change

Type of Project: Type 2 - Medium to Long-term Integrated Project

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BF/IGFA and FACCE JPI sponsors: FAPESP, NSF, NERC-BBSRC-ESRC

The Telecoupling Consortium, consists of four focal countries (Brazil, China, U.K. and U.S.), vulnerable spillover countries in Africa, two major CGIAR centers (CIAT and IFPRI), FAO and extensive stakeholder involvement. We apply an innovative integrative framework, Telecoupling – socioeconomic and environmental interactions among coupled human and natural systems at different scales over great distances – that can transform how we think about collateral effects from international trade on food security and land use dynamics. We address Theme 3 (Feedback Loops), focusing on major commodities central to food security: rice, corn, wheat, soybeans, potato, biofuel crops (mainly sugarcane and corn) and livestock. We will examine processes at different scales, from the international trade in major food commodities, to in-depth studies at regional/local scales. The Consortium partners bring to this project a very large portfolio of food security and land use projects, representing four continents, while providing a much needed framework to address how food systems change across large distances, and to account for socioeconomic and environmental consequences of shifting forms of food production, trade and distribution. The team includes leading scholars in social and natural sciences as well as influential stakeholders in relevant sectors. The end result of this project will be enhanced capacity to predict effects from shifts in food flows and land use; tools to facilitate policy

changes to improve food security, while ensuring a more sustainable environment; increased cooperation among major research and stakeholder groups in major food production and consuming countries; and training a new generation alert to minimizing negative consequences from changes in land use worldwide. The project will provide a comprehensive framework, a complex systems modeling approach and a Web-based Decision Support System to finding solutions that enhance food security for all, while ensuring a sustainable earth.