

## **Land Use Change and Global Adaptations to Climate Change**

Topic: Addressing Resource Challenges in a Globalized Economy II

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**Abstract:** This paper uses the World Trade Model with Climate Sensitive Land (WTMCL) [1] to evaluate possible future land-use changes associated with adaptations to climate change in a globalized world. In this approach changes in regional agricultural production, which are based on comparative advantage, define patterns of land use change in agriculture in all regions of the world. We evaluate four scenarios that combine assumptions about future increases in food demand and future changes in land endowments of different productivities associated with climatic conditions: each scenario generates distinct patterns of regional specialization in the production of agricultural commodities and associated land-use change. The analysis also projects future food availability under the simulated conditions and the direction of likely changes in prices of the major agricultural commodity groups.

### References

1. Juliá, R.; Duchin, F. World trade as the adjustment mechanism of agriculture to climate change. *Climatic Change* 2007, 82, 393-409.