



# Discussion notes Wei Zhang, IFPRI

## Integrating Institutions into Bio-Economic Modeling for Development

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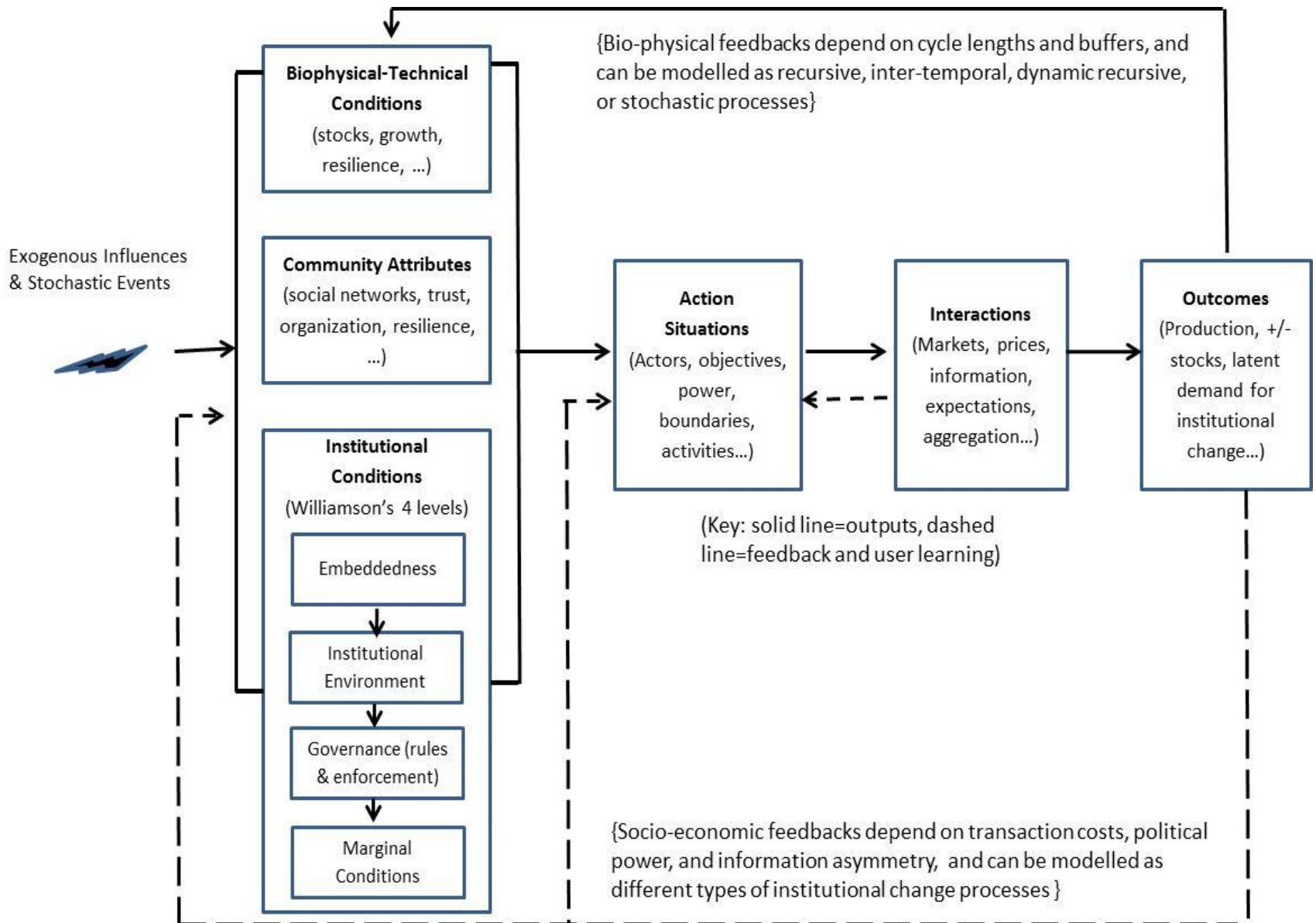


# Current state of knowledge on institutions in relation to sustainable intensification

- How social and economic institutions affect farm-level decisions related to agricultural intensification, environmental sustainability, and their inherent trade-offs and synergies?
  - What are the specific challenges pertinent to agricultural intensification for which institutional analysis is particularly important?
  - What are the sensitive issues relating to competing and contested uses of land, water, forests, and energy—and their impact on food availability and well-being, that institutional analysis can play a role in addressing?
- What are the main institutional analysis approaches and how might they be useful for integrated bio-economic modeling?
  - Analysis methods, both qualitative and quantitative
  - Data collection methods
  - etc.



Figure 4. Bio-economic institutional model (Source: Based on Ostrom and Cox (2010) and Williamson (2000))





# Clarification/comments on the conceptual framework (Figure 4)

- “Community Attributes” vs. “Institutional Conditions”
- Can institutional conditions and community attributes impact “Action Situations”, “Interactions” and “Outcomes” directly?



## How can different institutional contexts be effectively introduced into integrated bioeconomic modeling?

- What types of indicators of institutions (social, political and/or institutional capital) should be accessed in order to integrate institutional dimensions into bio-economic models?
  - Given the five ways of incorporating institutions into bio-economic models : resources, constraints, factors affecting marginal incentives, factors structuring interactions, and/or the outcomes of social choice processes.
- What types of data are needed in order to develop such indicators?
- Prospect of developing small modules of institutional and governance change embedded within (or hard-linked to) bio-economic model