

Appendix 2

ADDITIONAL INFORMATION ON THE WORKSHOP HELD IN BELÉM - “Understanding barriers to the wide-scale adoption of integrated crop, livestock and forestry systems and potential impacts”

1. Goals of the workshop

In this workshop we sought to better understand barriers to the adoption of integrated systems, the socioeconomic outcomes of adoption, and farmers’ perceptions of these systems. Of particular interest were differences in motivations and outcomes between actors and regions, including differences between: i) subsistence and commercial agricultural systems, ii) farmers of different cultural backgrounds and genders, iii) frontier areas and long-established agricultural regions, and iv) national policy contexts. Variations in integration possibilities across different markets and supply chain were another area of interest.

From an academic perspective, the specific objectives of this workshop were to: 1) Share our current understanding of farmers’ barriers, motivations, and outcomes related to ICLS across and within regions based on existing work, 2) Assess the generalizability of regional findings, 3) Identify major research gaps, and 4) Develop new ideas for collaborative and comparative work across regions to address research gaps. Based on this meeting and in cooperation with a handful of other researchers that could not attend, we aimed to produce a synthetic paper regarding the theoretical and empirical evidence base for assessing barriers to wide-scale adoption of integrated systems and potential outcomes of wide-scale adoption. From an applied perspective, a primary objective of this workshop is to help facilitate knowledge transfer between the international agricultural social science community and Embrapa to help inform their future research and extension activities related to ICLS.

Early in the course of the workshop it became apparent that a broader focus beyond understanding barriers and motivations to adoption of new versions of ICLS was needed. We thought it was necessary to also examine the reason ICLS were retired in the first place. This was added to the discussions on the second day.

2. Structure of the workshop

Days 1 & 2 - Optional

- Field trips to Paragominas to see different types of integrated and non-integrated grain and pasture systems in the Brazilian Amazon and talk to farmers about why they adopted/use these systems.

Day 3

- **Overview & Introductions**
- **Presentations – The challenge of sustainable development in the Brazilian Amazon: What is the role of integrated systems in meeting this challenge? What is Embrapa doing in this area**
- **Presentations – Farm level integration**

Existing theoretical frameworks for understanding adoption and outcomes of integrated systems given the social and economic contexts in which agricultural systems are embedded. Special attention to: i) motivations and competences in subsistence vs. commercial agricultural systems, ii) heterogeneity in preferences across culture and gender, iii) resources in frontier areas vs. long established agricultural regions, iv) differing incentives provided by national policy structures.

- **Presentations – Beyond farm integration and diffusion of integration**

Existing theoretical frameworks for understanding cooperation between farmers to achieve integration of cropping and livestock systems and the role of institutions and innovation systems in promoting change. With specific attention to areas of interest mentioned above, as well as differences in scale, market attributes, and the structure of food chains.

- **Small group work & report out:** Are there a common set of theories regarding adoption and diffusion that we can agree on within certain contexts? What theories do we lack?

Day 4

- **Recap of Day 3**

- **Presentations: Empirical results from different regions: Brazil, France, Australia, US, and New Zealand**

- **Group work & report out:** What are the points of convergence and divergence between regions? What findings are generalizable? Where are the gaps in empirical analysis? -Feel free to draw from other literature.

- **Group work & report out:** Developing frameworks to understand trajectories of integrated systems across regions and mapping out the differences between regions.

- **Full discussion:** Synthesis of insights from the workshop and future directions for research and collaboration to address research gaps

3. How were participants chosen and expertise of those who were able to attend

Researchers and practitioners that were known to have written about the socioeconomic and policy dimensions of ICLS based on a literature review were invited. We aimed to have the widest swath of countries with primarily commercial agricultural systems represented, but not all researchers could attend. Attendees had regional expertise on ICLS in Australia, Brazil, China, France, US, New Zealand, Netherlands, and disciplinary expertise in: agroecology, agronomy, economics, geography, innovation studies, and policy analysis, as well as methodological expertise in quantitative and qualitative methods, interviews, experiments, and synthesis. Researchers with expertise on commercial systems in Southeast Asia and Sub-Saharan Africa were invited, but were not able to attend.