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**Aide memoire**

<i>Session</i>	Interlinkages between biodiversity and agriculture: Part I – Imperatives and implications
<i>Title of presentation</i>	Ecosystem services in smallholder production systems in Western Zambia
<i>Name of presenter</i>	Natalia Estrada-Carmona

***Abstract***

Wetland ecosystems support high levels of biodiversity and provide vital ecosystem services for people that live in and around them. However, many wetlands in developing countries are increased pressures from land degradation and conversion through agricultural expansion because of their wealth of resources and access to water. A critical challenge testing whether strategies to promote sustainable intensification in an environmentally and economically sustainable manner, tackling both conservation and development priorities is feasible. The ecosystem service paradigm proposes that such a vision is possible if and when the benefits that nature provides people is recognized, valued, and integrated into development planning. Here, we test this notion through fieldwork in Zambia’s Barotse Floodplain. The Barotse is a flood pulse driven ecosystem which provides numerous ecosystem services serving as the foundation for human wellbeing and livelihoods in a region beset by one of the highest poverty rates in the country. Communities regularly are exposed to a five month hunger season and acute risk of crop failure. We conducted a rapid assessment of the landscape and integrated both, local and scientific knowledge, using a participatory process and four staggered activities 1) participatory mapping, 2) field work, 3) cropped land characterization and 4) ecosystem services characterization with three communities in the floodplain. We characterized the landscape and identified options for action that aim to improve the nutrition and livelihoods of the participants and others in their communities, target crop production, improve productivity and diversification while providing vital ecosystem services and narrowing Barotse development outcomes gender gaps.

***Key considerations***

- Food security and agriculture development policies should consider the vital role of crop diversification for nutrition and ecosystem health.
- Agricultural land should, and can, be managed to provide other benefits beyond yield.
- Ecosystem services approach and TEEBAg framework are essential tools to make the positive and negative flows from biodiversity and ecosystems visible and tangible.

***Key discussion points and conclusions***

- Agricultural intensification changes farmer's dependencies from natural capital to build capital and makes locally visible positive flows from biodiversity and ecosystems invisibles. The consequences of these changes are frequently imposed on farmers (and families) who are the most vulnerable.
- The changes on biodiversity and ecosystems flows, values and dependencies must be highlighted in regional agricultural plans.

***Key question/s that you would pose at the roundtable discussions***

- How do we better show that agro-ecological intensification has the capacity to meet food and nutrition security at scale?
- What are the institutional, governmental or market contexts needed to recognize and reward farmer's contributions to sustainability?