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## What are the interactions between agriculture and the environment? Let the data talk!

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Despite the development of the System of Environmental and Economic Accounting (SEEA) and the SEEA Experimental Ecosystem Accounting framework, there are still challenges when agro-ecologists, agronomists, bio-diversity specialists, economists and statisticians try to work together, in building communication bridges between different conceptual world views. This should however not be surprising as the domains of agroecology and agri-environmental statistics have both developed independently over the past two-three decades and are only now starting to interact.

In this paper, the authors will present experiences and results from a study the Food and Agriculture Organization of the United Nations implemented to evaluate the impact of rice farming on human health and well-being on four different continents, and the role of different ecosystem services. The study set out to understand the extent to which the economic environment in which farmers operate is distorted by significant externalities, both negative and positive, and the dependency on natural capital.

The vocabulary and the ways of approaching working together differed between the specialists from the various disciplines involved in the study. Agro-ecologists study ecological processes in farming systems and their surrounding landscapes. Their focus is site and context-specific, whereas agricultural statisticians tend to focus on national and sub-national aggregates and trends.

Ecosystem assessments in agriculture are often based on specific crops in defined, sub-national geographical scales (from plot to farm to landscape scale) where the interactions are complex and measured to understand a system whilst agri-environmental statistics comes from a more macro perspective, where data is aggregated from sub-regions to regions and national and global estimates are produced. Other issues such as whether to measure static or dynamic relationships, whether measurements of individual flows or netting flows should be undertaken amongst others, provided challenges for those involved. These were discussed and solved by letting the data talk!

**Key words:** agroecology, ecosystem services, rice production, agri-environmental indicators, System of Environmental and Economic Accounting, SEEA, Ecosystem Accounting.