

Tuesday AM

panelist, Linda Collette

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## **Towards sustainable agriculture – target 7**

Food security and nutrition of present and future generations is **one of the biggest challenges humanity is facing**. The world population is expected to reach more than nine billion by 2050. To feed the world population, FAO estimates that 60% more food would be globally needed by 2050.

The challenges agriculture is facing now and over the coming decades are complex. Agriculture has multiple roles to play. About 2.6 billion people depend directly on agriculture for their livelihoods.

To meet the growing demand for food, feed, fuel, and fiber, agricultural systems need to become more productive and less wasteful. They need to produce sufficient quality food. These systems also need to be efficient, sustainable, resilient to shocks and changes, climate-smart, provide livelihoods and decent incomes for farmers, landless and waged agricultural workers, and be socially equitable.

Agriculture depends heavily on natural resources and biodiversity and agriculture is a driver of biodiversity loss. Sustainable agricultural systems are based on approaches that take advantage of the natural biological inputs and processes such as soil organic matter, pollinators, natural predators of pests and that conserve, manage and enhance natural resources. The upcoming first report of the State of the World's Biodiversity for food and agriculture should provide us with more insight.

Farmers manage biological processes provided by biodiversity and landscapes in order to increase sustainability of their production systems. This is mainly achieved through farming practices which follow ecological or ecosystem-based approaches such as Integrated Pest Management (IPM), conservation agriculture (incl. low or zero tillage) (CA), system of rice intensification (SRI), agroforestry and integrated rice-fish systems to name a few.

**Integrated Pest Management (IPM)** is an ecosystem approach to crop production and protection that combines different management strategies and practices to grow healthy crops and minimize the use of pesticides.

IPM is now adopted worldwide and, in many countries, are success stories.

**Conservation agriculture** (another example) enables the sustainable intensification of agriculture by conserving and enhancing the quality of the soil, leading to higher yields and the protection of the local environment and ecosystem services. It is characterized by three linked principles:

- 1. Continuous minimum mechanical soil disturbance.
- 2. Permanent organic soil cover.
- 3. Diversification of crop species grown in sequences and/or associations.

**System of rice intensification**

SRI is based on improved planting and growing techniques. It aims to produce more from less, using fewer seeds and less

water, by carefully managing the relationship between the plant and the soil.

**There are however several challenges regarding the scaling up of these practices and approaches**

- They are highly location-specific and knowledge-intensive and require certain skills to yield good results.
- Some approaches and practices are undervalued since inputs, such as chemical pesticides are still subsidized in many countries.
- Many farmers also regard chemical pest control as "modern" and therefore desirable, and may regard non-chemical methods such as crop sanitation and biological control as traditional or even backward.
- Market infrastructure is another factor why farmers have easier access to chemical pesticides than to other resources required for IPM techniques.<sup>1</sup>

So, there are sustainable farming techniques and approaches that enhance both productivity and sustainability and there are also fora where countries are encouraged to adopting such practices.

For instance the above-mentioned practices and others have been captured in a document produced for policy makers. It is called **Save and Grow** (FAO, 2011).

The policies, strategies and technologies promoted by Save and Grow address all three dimensions (economic, social, and

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<sup>1</sup> World Bank:  
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTARD/EXTPESTMGMT/0,contentMDK:20298730~menuPK:584346~pagePK:64168445~piPK:64168309~theSitePK:584320,00.html#Q9>

environmental) of sustainability in a positive manner. They are based on the broad principles of increased resource use efficiency; conservation, protection and sustainable use of natural resources; improved protection of livelihoods and social well-being; enhanced resilience of individuals, communities and ecosystems; and good governance. The FAO Committee on Agriculture (COAG) has recommended that member countries examine Save and Grow and consider incorporating those aspects that would make their agriculture more sustainable.

The **Climate Smart Agriculture** source book is another reference tool for planners, practitioners and policy makers to help them understand the different options available. It is an approach that also requires site-specific assessment to identify suitable agriculture production technologies and practices.

Finally, in the process of developing the Post-2015 Development Framework, national consultations identified food security and sustainable agriculture as priority issues for the new sustainable development goals.

To move towards a sustainable path and have a holistic view, all stakeholders including governments, farmers, consumers, researchers and civil society must be engaged and work together. A broad adoption of sustainable practices requires policy reforms, investments and capacity development at different levels.

Healthy people depend on healthy food systems! This is the theme of tomorrow's **World Food Day 2013**. Sustainable food systems use resources efficiently at every stage along the way from farm to fork. One of the main messages is that "Healthy food systems are made possible by appropriate policies, incentives and governance."

Sustainable farming practices and approaches exist and they can be further implemented. Sustainable agriculture is a challenge that we cannot afford to postpone any longer.

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