SBSTA 44 Agenda Item 5
Workshop on the identification of sustainable practices to enhance productivity, food security and resilience

Herwig Ranner
European Union
Question 2: How do various processes under the convention facilitate the identification and assessment of agricultural practices and technologies to enhance productivity in a sustainable manner, food security and resilience observed in your country.
EU activities (domestic and international) on mitigation:

EU Common Agriculture Policy:

- Reduction of 24% of agriculture emissions since 1990
- Greening measures
- Crosscutting measures to reduce emissions
- Voluntary schemes to incentivize farmers to carry out sustainable practices
- Nationally implemented action
- Co-benefits of mitigation measures (water quality, increasing biodiversity, resilience, food security...
National Examples:

Beef Data & Genomics Programme in Ireland’s RDP 2014-2020

Origin Green - Ireland

Climate Programme for Finnish Agriculture

Sown Biodiverse Pastures in Portugal

Focus on nutrients - Sweden

The agro-ecological project in France, a policy framework for sustainable climate action

Fertilization planning under integrated pest management and precision agriculture - Latvia

Agricultural Technology - UK
Knehtila Farm – Finland
Low Emission Dairy products – The Netherlands
Maintaining and increasing soil organic carbon – Germany
Enhancement of nitrogen use efficiency – Germany
Wetland restoration and flood management - Germany
National Examples:

- Palopuro Agroecological Symbiosis creates an energy and nutrient self-sufficient food production system that is both locally based and transparent to the community and the consumers of the products.
- French national agro-ecological project: towards a sustainable agriculture to face climate change;
French national project for agro-ecology: towards a sustainable agriculture to face climate change

- Environmental and climatic performance as a comparative advantage. Also addresses public concerns.
- Practices and systems that use functionalities of natural cycles and regulations to inputs, costs and impacts and resilience
- Main target: convert half of farmers in 2025
- Bottom-up initiative (pioneers, farmers groups, applied research)
- Mainstreaming in agricultural policies, finance an institutions
- Multi-stakeholder committee, roadmap and indicators
- Some lessons: not one size fits all, farm-based innovation, flexible policy framework, political will and dialogue, incentives
### Strong changes in every technical intervention

<table>
<thead>
<tr>
<th>Conventional intensification</th>
<th>Agro-ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segregation between agriculture and animal productions</td>
<td>Association / Integration of animal and crop productions</td>
</tr>
<tr>
<td>Fertility brought by fertilizers</td>
<td>Diverse sources of fertility: biomass, manure, compost, legumes crops, etc.</td>
</tr>
<tr>
<td>Simplification of cultural successions</td>
<td>Diversification of cultural successions</td>
</tr>
<tr>
<td>Tendency to monoculture with elite monogenotype</td>
<td>Diversification / complexification of crops: multicropping, varietal mix,...</td>
</tr>
<tr>
<td>Pest and disease control by pesticides</td>
<td>building up diverse trophic networks</td>
</tr>
<tr>
<td>Animal health managed by curative means (antibiotics)</td>
<td>Ecopathology and etiopathology strategy for animal health</td>
</tr>
<tr>
<td>etc.</td>
<td>etc.</td>
</tr>
</tbody>
</table>

**Simplification – uniformisation Degradation of the agrosystem**

**Complexification - diversification ‘aggradation’ of the agrosystem**

adapted from M. Griffon 2013
Promoting Soil Carbon Sequestration AND Adaptation in Portugal

- Degraded Grasslands
  - Root productivity
  - Soil Organic Matter content
  - LOW

- Sown Biodiverse Pastures
  - 3x Soil C content
  - HIGH
Baseline Scenario: Degraded Grassland

- Destruction of soil organic matter
- Limited accumulation of soil organic matter
- Low productivity
- Limited accumulation of soil organic matter
Alternative Scenario: Sown Biodiverse Pastures

- Sowing of biodiverse pastures
- No-till whenever possible

- Up to 20 different species/varieties
- Mix includes legumes and gramineae species

- Growing Winter & Spring
- Plants produce seed
- Grazing occurs during all year round (except during flowering)

- Seeds germinate in Autumn and Winter
- Grassland is re-established

- Grassland is re-established
Sown Biodiverse Pastures
Grassland under Cork-Oak Forest; 1st year
International Cooperation

FoodAfrica (Improving Food Security in West and East Africa through Capacity Building in Research and Information Dissemination) - Finland

Climate Change Adaptation, disasters prevention and Agricultural Development for Food Security - ANADIA Niger - Italy

Geodata for Agriculture and Water – The Netherlands

International Climate Smart Agriculture Initiatives - the Netherlands
EU submission

http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/39_84_131008812614561491-NL-02-24-EU%202016%20AFOLU%20AGRI%20new.pdf

Please take a read and please contact us for more information!