FAO E-Conference on Sustainable Grasslands:

Week One Summary and Introduction to Week Two

Week one summary

Week one focused on the potential of grasslands to contribute to food security and sustainability. As an introduction, a Working Paper was presented modeling projected changes in human nutrition[1], agricultural production[2] and environmental indicators[3] for the year 2050 following a hypothetical shift from concentrate use to greater grassland-based livestock production. The preliminary results suggest that a grassland-based system could meet the food security demands of a growing global population while alleviating pressure on natural resources and the environment. The model takes a broad perspective, operates on a global scale and relies on a number of assumptions. Better data on grasslands productivity and environmental processes are important to refine the model and for wider grasslands research in general.

Therefore, an important objective of the first week was to conduct a stocktaking of scientific and practitioners' knowledge relating to livestock production and sustainability. We outlined a series of questions referring to data-gaps identified in the modeling process. Participants contributed data sources covering the productivity (yields), nutritional value of grasses, carrying capacity and nutrient demand for different agro-ecological regions, management regimes and species composition of grasses. An important theme was the diversity between different agro-ecological and socio-economic regions. For arid and semi-arid grasslands in India, energy, protein and water were the most significant limiting factors. Conversely, for high rainfall areas, production was limited by N and P availability during dry seasons. In week two, questions will target discussions around particular ecologies.

A number of comments suggested ways in which the Working Paper model might be improved. In particular, an important next step will be to incorporate a further analysis to assess the viability of a grassland-based system from an animal nutrition perspective. Variability in rainfall and productivity is another area where further analysis is required to determine appropriate strategies such as 'back-up supplies' for dry years. This is especially significant in the context of climate change.

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[1]Figure 2, Sustainable Grasslands Working Paper: E-Conference, 2-30 September 2013
[2] Figure 3, Working Paper
[3] Figure 4, Working Paper

Many participants highlighted the pressures on grasslands from overgrazing, population pressure, climate change and land-use change. Land degradation in dry lands was a prominent issue. The need to further recognize the value of grasslands was expressed by some while other foreshadowed the multiple ecological functions of grasslands (especially in providing livelihoods for rural poor and smallholders). These are two of the central themes of the second week.

Others called for improved management systems and technologies (e.g. silvopasture, diverse swards, small-scale technologies, mob grazing, specialization of breeds), backed by appropriate policy frameworks. The E-Conference will focus specifically on challenges and best practices of sustainable grassland management during weeks three and four. In advance of these discussions, an important step during week two will be to outline a common analytical framework to incorporate the multiple ecological and social functions of grasslands.

Finally, a number of participants expressed support for the E-Conference as a means to promote cooperation and establishing a network for grasslands sustainability.

Introduction to week two: the multiple ecological and social functions of grasslands

Questions for week two have been posted. Discussions will be structured around agro-ecological regions: ***arid/semi-arid***, ***tropical***, and ***temperate/cold***. For each region we would like to focus attention on the role of grasslands in ***water storage***, ***energy production/savings***, ***erosion control***, and ***climate regulation***. We have chosen these functions as they are generally not as well-understood/studied compared to other grasslands topics such as soil fertility, nutrient cycling and biodiversity. This is meant as a suggestive guide; participants are welcome to introduce further ecological functions to the discussions. There are two further questions relating to the ***socio-economic functions*** of grasslands and the ***economic valuation of ecosystems services*** provided by grasslands.

Please include references to data sources and names of (or links to) publications so that others can follow the evidential trail. Where applicable, a short quantification of results is encouraged.