

CHAIRS' SUMMARY PAPER: Integration of Environmental and Agricultural Policy

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SUMMARY

The following summarizes the content of the papers and posters which also serves as a barometer of the future needs in integrating environmental and agricultural policy. Several key points were observed as a result of the paper presentations, poster sessions, and the ensuing discussion yield a couple of key observations. These key points revolve around the role that grass and forages play in more diversified crop/livestock systems and the interaction between policy and grass-based systems.

One, grasses and forages continue to play a key role in expanding and diversifying cropping systems around the world with positive impacts on profitability and environmental quality. This is clearly seen in the paper by Ren Jizhou and Jiang Whelan (Sustainable Grassland Production Systems in Southern China: An Example from Guizhou Province) where a comprehensive research-education program is shown to increase net income, reduce poverty, and reduce environmental degradation on fragile lands. We saw this observation in several poster papers including the impact of grasses on the yield and quality of Rice in Japan, a paper by T.I. Kawase entitled "Rotational Cropping Introducing Tame Rye Grass Renge (*Astragalus Sinicus*), Pumpkin (*Cucurbita Moschata* Var *Tecnus*), and Horse Bean (*Vicia Faba*) in Paddy Field." In a paper by E. Meister, V. Mediaville and P. Weisskopf entitled "Long Term Benefits of Diversified Forage-Oriented Cropping Systems as Compared to Rotations Based Mainly on Cereals or Maize" we learned about the positive environmental impacts in terms of soil and plant parameters. We then learned the economic and environmental advantages of adding forages to beef-based crop-livestock systems in a paper by V. G. Allen, J. P. Fontenot, W. L. Daniels, A. M. Zajac, G. K. Evanlo, R. R. Youngman, and J. Luna entitled "Sustainable and Conventional Grazing Systems for Beef Steers."

Two, a number of factors influence grass-based farming, which comes as little surprise, but the range of factors considered in the poster papers is worth a note. The Netherlands has been developing regulations intended to reduce nitrogen, phosphate, and ammonia losses on dairy farms. The impacts of these regulations on dairy net income are examined in a paper by P. B. M. Berensten and G. W. J. Giesen entitled "Policy Options for Decreasing N and P₂O₅ Losses from Grasslands Based Dairy Farms." In a much different context, the impact of land and animal ownership on the total number of livestock, number of farmers, and the environment is the focus of a paper by C. Opp entitled "Socio-Economic and Climate Change in Mongolia - Effects on Grassland Ecosystem." We also learned about the impacts of gender on cow ownership and off-farm income on dairy herd size and grass utilization on dairy farms in Sri Lanka in a paper by S. Premaratne, G. Zemmeling, S. Thanapalsingham, P. Leegwater, and M. N. M. Ibrahim entitled "Small Holder Dairy Farming in the Mid Country of Sri Lanka."

Three, we also saw evidence that broader, more comprehensive approaches are being used to model and evaluate grass-based and agricultural systems. W. A. Laycock in a paper entitled "Are We Ignoring Science in Our Quest for Simplicity in Range Management?" evaluated the impacts of grazing on biodiversity using a broader conceptualization in the modeling approach. We also saw a broader perspective in terms of combining biological and economic approaches in evaluating alternative systems in a paper by J. De Souza Neto, J. R. Connor, J. W. Stuth, W. T. Hamilton, and J. W. Richardson entitled "Integrating Biophysical and Economic Models for Assessing Impacts of Change on Grazingland Ecosystems." G. Fick in a paper entitled "Linear and Community-Based Processes of Ethical Decision-Making for Grassland Workers" draws heavily from work done by the Iroquois (Haudenosaunee) First Native community in developing a broader perspective of socio-economic modeling by incorporating ethical considerations.

Four, much as grazing practices are site-specific, we learned that policy development is as well in the sense that the site is defined to include culture, political situation, and the overall economic environment. For example, collaborative approaches of the type presented in the paper by Mark Brunson (Integrating Environmental and Agricultural Policy: A North America Perspective) have worked or are likely to work much differently in predominantly rural, privately owned land situations (New Zealand), than predominantly rural, non-privately owned lands (western US and Canada), than more heavily populated areas (western Europe), than in developing countries with publicly owned lands and rural poverty (Mongolia), than developing countries with privately owned land and rural poverty. We also saw the interaction between policy development and grass-based systems in a paper by J. C. Scanlan and E. J. Turner entitled "Production vs. Conservation: A Policy Dilemma in the Tree Clearing Debate in Queensland, Australia," where a hybrid mix of state policies and locally developed guidelines were used to develop standards for the clearing of woody vegetation. We then viewed the poster explaining how holistic indicators had been developed as a policy tool/indicator for determining when severe drought conditions existed in the paper by D. H. White and S. M. Howden entitled "Objective Indicators for Monitoring Drought in Grasslands."

Five, and perhaps most interesting from a policy perspective, we learned how grazing itself can be developed into a policy tool in a paper by D. J. Flaherty and J. Drelich, Jr. entitled "The Use of Grasslands to Improve Water Quality in the New York City Watershed." In their poster presentation, the authors demonstrated how interagency and participatory approaches could be used to develop a program where farms could be maintained in a watershed crucial to a large metropolitan area, New York City.

