AGRICULTURE'S PROVISION OF POSITIVE AMENITIES: SUPPLY, DEMAND AND THE ROLE OF GOVERNMENT

ORGANIZER DAVID R. OGLETHORPE (UK)

RAPPORTEUR LAILA RACEVSKIS (USA)

This mini-symposium was designed to provide a holistic appreciation of the provision of positive amenity from agriculture. The first step was to examine the *supply* of landscape and amenity goods and services through management of land use in agriculture. In the second session, an appreciation was developed of how best to place values on those goods and services to measure *demand*. The third session sought to bring supply and demand together in a complex and dynamic policy environment. Ultimately, the sessions helped to highlight key research questions and to identify the role of governmental intervention in the light of WTO and shifting global priorities. Figure 1 illustrates the dynamic or cyclical process the sessions were trying to mirror.

Agriculture is seen as a supplier of amenity for which society has demands. In order to meet those demands, given a non-market policy, signals need to be provided by governmental institutions, hence the 'role of government'. How-

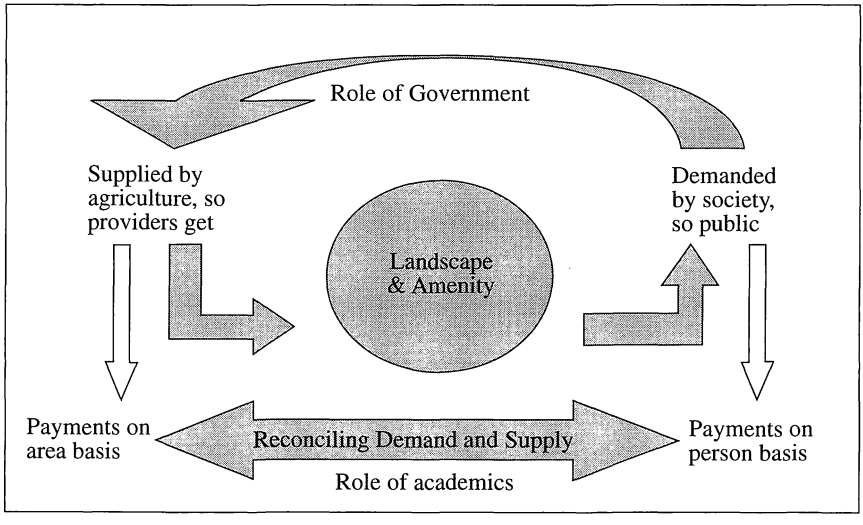

FIGURE 1 *Overview of the symposium*

ever, for that to be effective, there is a role for academics to reconcile area-based supply costs with person (or household)-based demand estimates.

The first presenter, Brian Jacobsen (Denmark), noted the increasing interest in nature amenities in Danish policy recommendations. Both mandatory and voluntary policies had been used to influence farmers and to shape natural landscapes to provide recreational areas, wildlife habitat and aesthetic quality. However, the reluctance of farmers to participate in voluntary programmes has led to attempts to identify the optimal means of achieving environmental amenities through policy signals. Developing this, Julian Smith (UK) and David Oglethorpe (UK) provided an innovative approach to modelling environmental amenity by linking ecological and economic systems in Scotland. The economic model used predicts how farmers will change management practices in response to a policy change. It has to be linked with a geographic information systems (GIS)-based model to simulate the response of vegetation cover to farmers' management changes. This dynamic system provides the opportunity for policy makers to examine the combined economic and ecological effects of agricultural and environmental policies.

A major challenge to reconciling supply models with demand models is to move to a situation where both demand estimates and supply costs can be made at the same (spatial) resolution and transferred across regions. Within the environmental economics literature, 'choice experiments' are providing a means to this end. The second session concentrated on these techniques. Nick Hanley (UK) (who had worked with Alistair McVittie and David Oglethorpe) showed that, through choices, survey respondents can reveal values for different attributes set at different levels. This method can be helpful to policy makers to determine priority levels for the protection of different landscapes. Olvar Bergland (Norway) also focused on choice experiments, but within a Scandinavian context. He stated that the literature on the perception of landscape is extensive and ranges across various fields. Factors found to be important in the appreciation of landscapes are variation, comprehensibility and degree of mysticism. From the discussion it emerged that choice models could allow reconciliation of supply and demand since policies taken up by farmers combine premiums for providing specific features (hay meadows, heather moorland, stone walls and so on) and choice surveys could reveal demand estimates for those specific features.

The first paper in the session on the role of government was presented by Laila Racevskis (USA) who recognized that the United States federal government has been somewhat passive in the area of agricultural land use policy. The structure of farming has changed markedly over the past 50 years and small farmers, now unable to compete with large corporate operations, are under pressure to sell land for commercial or residential development. This has led to problems of urban sprawl and loss of countryside amenity. Public interest in policies to protect open land is increasing. Policy makers could benefit from information about the specific attributes of agricultural land as a provider of open space that the public finds desirable.

The last speaker, Wilfrid Legg (OECD), dealt with the role of policy in contributing to the improvement of environmental performance and rural vi-

ability while meeting food demands. There is a need for a balanced approach so that farmers pay for the pollution they create but are also themselves paid for the amenities they provide. The policy mix is becoming more complex because of the need to achieve a variety of goals. Some countries fear that trade liberalization will constrain the provision of amenities demanded by the public, while others fear that supporting agriculture for its provision of amenities is disguised protectionism. The primary challenge to policy makers is to develop good policies to complement market approaches. The session ended with a discussion of the need to reconcile policy planning at local levels with national frameworks and international conventions. This was becoming increasingly important in the light of WTO negotiations and the importance of 'green box' payments. It was felt that research methods and techniques were moving in the right direction and the need to harmonize the science of supply simulation with the social science of demand estimation was becoming increasingly important.