

shifting cultivation into more sustainable practices, such as agroforestry.

CIDA and IDRC have collaborated in joint ventures, particularly those with a strong research component. The Andean Farming Systems Project in Peru supported on-farm research for improved crop and livestock production under marginal high-altitude conditions. Both agencies are founding members of the Consultative Group for International Agricultural Research (CGIAR) and continue to stress the importance of international cooperation in science-based agricultural development. This focus has given birth to the Canada–CGIAR Network Initiative, which seeks to build a consortium of Canadian organizations and individuals who share a concern for poverty, food insecurity, and natural resource degradation in developing countries.

Through promotion of the tenets of sustainable development in its participation in international organizations such as the Food and Agriculture Organization of the United Nations and the Inter-American Institute for Cooperation on Agriculture, Canada is viewed around the world as an open and capable partner in addressing the many problems that face all nations in balancing the environmental, economic, and social pillars of sustainable agriculture and rural development.

## The State of Resources Affected by Agriculture

As agricultural production in Canada has intensified in recent decades, significant pressures have been exerted on the environment. Much research has been done by governments, universities, and scientific organizations to track the environmental performance of agriculture.

### *Soil Quality*

As a result of soil conservation programs and the development and adoption of conservation farming technologies, there are signs that the quality of Canada's agricultural soils is improving in some areas to some degree. Indicators show that cropping measures and greater use of conservation tillage contributed to a drop in the risk of soil erosion by water in the Prairies, Ontario, and New Brunswick between 1981 and 1996. Technologies for reduced tillage combined with a reduction in the area of summerfallow also led to a 30 percent drop in the risk of wind erosion on the Prairies over this same period. The risk of tillage erosion — the displacement of soil by tillage implements — dropped by 9 to 26 percent throughout the country during this time. When soil is covered by the crop canopy or crop residues, it is less vulnerable to

### Controlling Water Erosion of Soil on Potato Land in the Maritimes

*Land under potato production in the Maritimes is particularly vulnerable to soil erosion by water because row crops like potatoes leave much of the soil's surface exposed to the elements for long periods. Other factors contributing to soil erosion on these lands include high rainfall, light-textured soils, and cultivation on long, steep slopes. A wide range of conservation practices is needed to control the severe water erosion on Maritime potato lands. The most common methods are cross-slope cultivation, terracing, grassed waterways, and surface water inlets. Other complementary methods include strip cropping, conservation tillage and residue management, cover cropping, and mulching. In a comparison of two New Brunswick potato fields, Agriculture and Agri-Food Canada researchers found that the field with up- and down-slope cultivation and no erosion controls lost about 10 to 100 times more soil than the field with diversions and grassed waterways.*