



IDRC's Commitment to Sustainable and Equitable Development



A Decade of Progress Since Rio

Executive Summary

In a recent speech, IDRC President Maureen O'Neil reiterated the Centre's commitment to the future: *The cornerstone of the Centre's work will be an ever stronger link to the aspirations and needs of the people in the developing countries of the world. Sustainable and equitable human activity depends on men and women's control of their own social and economic progress, on equitable access to knowledge, and on an indigenous capability to generate and apply knowledge.*

This report demonstrates how the International Development Research Centre (IDRC) has become a world leader in its support for research and capacity building for sustainable and equitable development. It chronicles how the Centre came to occupy this position of strength as a direct result of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. Finally, it describes the major areas where the Centre continues to support research.

Since it was created in 1970, IDRC has seen many changes to both the program of support it provides and to the structure of the Centre itself. During the 1970s and 1980s, many IDRC-supported projects were considered successes in terms of meeting their research objectives and strengthening indigenous capacity. Over time, however, it became clear that they were sometimes less successful in making a real difference to the course of development.

While IDRC's program framework has gone through several iterations during the last decade, most areas of work have evolved from priorities identified at UNCED. For example:

- When UNCED's global program of action, Agenda 21, stressed the need to apply science to the realization of sustainable development, Canada's Prime Minister announced that Canada would broaden the mandate of the International Development Research Centre (IDRC) to emphasize sustainable development issues.
- In 1993, IDRC formulated a new program framework with a focus on human welfare. At this time, the Centre also adopted the term sustainable and equitable development to better recognize the Centre's need to integrate three strategic directions: more human development, better economic management, and sustainable use of the environment. The Centre's Program Framework for 1993–1997 ensured that all programs were to be oriented explicitly toward sustainable and equitable development.
- The Centre's current programs reflect extensive and repeated consultation with Southern partners, learning and refinement in thinking about the Centre's strengths in responding to development priorities, and attention to new challenges identified through the 1990s (such as Peacebuilding and Reconstruction). IDRC programming for 2000-2005 concentrates support in three areas of enquiry: **Social and Economic Equity, Environment and Natural Resource Management, and Information and Communication Technologies for Development.**

In 2002, the Centre supports research through 11 program initiatives, 6 secretariats, and a small number of large projects. Woven through all research support and capacity building are the following guiding concepts:

- integration and "main-streaming" of gender considerations;
- adoption of a problem-oriented and interdisciplinary approach to research. (In fact, radical changes to the Centre's structure in the mid-1990s created teams known as program initiatives to promote and support a multidisciplinary approach.);
- a commitment to connected communities of researchers (networking);
- the establishment of partnerships with other donors; and
- integration of impact analysis to ensure research results are brought to the attention of policy and decision makers at all levels.

Financial Resources

Since the Earth Summit in Rio, the Canadian Government has provided IDRC with \$975 million to support research and capacity building for sustainable and equitable development. This has made it possible for the Centre to fund more than 1,500 projects. In addition to this funding, partnerships with other donors have attracted more than \$300 million to projects co-funded by IDRC. IDRC has also built extensively on the expertise of Canadians. On average, 18% of all Centre funding has supported collaborative projects that involve Canadian researchers working with scientists in the South.

Three program areas support the vision

In the area of **Social and Economic Equity**, IDRC has acted on the Agenda 21 statement that the economic policies of individual countries and international economic relations both have great relevance to sustainable development. To this end, the Centre continues to support research on trade policy, poverty alleviation, health, environmental economics, tobacco control, economic research in Africa, sustainable development in Vietnam, and policy integration.

In the area of **Environment and Natural Resources Management**, the Centre is focusing on the needs of present and future generations by recognizing the importance of research that will help people protect the environment and manage natural resources. At the same time, the Centre's work supports their efforts to achieve food security, rise out of poverty, and grow economically. This is being accomplished through the following three streams:

- Ecohealth -- This initiative emphasizes the human health benefits that accrue from protecting the environment.
- Sustainable use of biodiversity -- This initiative calls attention to the food security, economic, and medicinal values that must be protected in the world's biodiversity.
- Community-based natural resource management in Africa, Asia, and Latin America -- This initiative recognizes that the proper protection and management of natural resources has benefits for all direct and indirect users.

In the area of **Information and Communications Technologies (ICTs)** for Development, IDRC has responded to the Agenda 21 comment that many Third World nations had a general lack of capacity in many areas for the collection and assessment of data; for their transformation into useful information; and for their dissemination. In 1993, IDRC created the Bellanet Secretariat to collaborate with partners in the developing world to make efficient use of ITCs. Other IDRC programming for ITC development is based on the understanding that these technologies have enabling impacts on health, education, governance, employment, and enterprise. IDRC projects in sub-Saharan Africa and the creation of networks in Asia and Latin America have helped development workers, researchers, communities, and students benefit from ITCs.

IDRC's Commitment to Sustainable and Equitable Development: A Decade of Progress Since Rio

Since the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, IDRC has led the way in supporting research and capacity building for sustainable and equitable development. The purpose of this report is to chronicle achievements stemming from activities IDRC has supported in the last decade and to illustrate major areas where the Centre continues to support research.

IDRC is a Canadian public corporation created by the Parliament of Canada in 1970. Its mandate is to help developing countries use science and knowledge to find practical, long-term solutions to the social, economic, and environmental problems they face. IDRC's support for indigenous research capacity is aimed at helping developing countries to sustain policies and technologies they will need to build healthier, more equitable, and more prosperous societies.

IDRC continues to reflect the vision and development concerns that were championed by Lester Pearson and Maurice Strong when the Centre was created in 1970. The last three decades have seen many changes to both the program of support IDRC provides and to the structure of the Centre itself. However, one constant is a commitment to respond to the priorities of the researchers the Centre works with and to place responsibility for the research it funds in the hands of its partners.

During the 1970s and 1980s, many IDRC-supported projects were considered successes in terms of meeting their research objectives and strengthening indigenous capacity. Over time, however, it became clear that they were sometimes less successful in making a real difference to the course of development. As a result, researchers were encouraged to adopt a more multidisciplinary approach to their research efforts. They were encouraged to integrate contributions from both the social and physical sciences and to take a more holistic approach to project design. IDRC also placed more attention on engaging intended beneficiaries in the research process. The hope was that this approach would encourage increased adoption of research findings and lead to more sustainable results.

This evolution in the Centre's approach to program development meshed well with the concerns and priorities expressed by the Brundtland Commission in 1987. The Commission's report, *Our Common Future*, signaled a rising global concern for sustainable and equitable development: *meeting the needs of today without compromising the ability of future generations to meet their needs*. When IDRC became the repository for documents produced by this commission, it also began to absorb sustainable and equitable development into its institutional lexicon and programming philosophy.

Preparations for the Earth Summit

IDRC's commitment to sustainable development led it to fund a wide range of activities that laid the groundwork for the 1992 Earth Summit in Rio de Janeiro. This support included:

- *For Earth's Sake: A Report from the Commission on Developing Countries and Global Change* — IDRC and SAREC (Swedish Agency for Research Cooperation with Developing Countries) cofunded developing-country scholars to prepare a report for UNCED that outlined the key Southern social science issues and priorities within the context of global environmental change.
- A major IDRC study was commissioned by the National Round Table on Environment and Economy to advise the Prime Minister on *Technology, Environment and Development: Options for Canada at UNCED and Beyond*. This report was incorporated into *On the Road to Brazil: The Earth Summit*.
- *Health and the Environment: A People Centred Research Strategy* was prepared by IDRC and used by the UNCED Secretariat in Geneva to outline the relationships between health, development, and the environment from a Third World perspective.
- IDRC funded the creation of computer-based communications networks to facilitate the participation of nongovernmental organizations (NGOs) in UNCED.
- *The Third World Network* (TWN), a coalition of environment and development NGOs in developing countries, received IDRC support to help its members prepare for UNCED.
- In collaboration with the International Institute for Sustainable Development (IISD), IDRC sponsored a workshop on the design and system specifications for the Agenda 21 Information System (AGIS). The workshop results were used by the UNCED Secretariat to develop a computer-based system for extracting and analyzing information from Agenda 21 and UNCED national reports.

Agenda 21 and IDRC

After UNCED in Rio, a new global program of action, Agenda 21, recognized the need to apply science to the realization of sustainable development. Canada's Prime Minister announced that Canada would *broaden the mandate of the International Development Research Centre (IDRC) to emphasize sustainable development issues*, in order to provide a "quick start" in following up on Agenda 21. IDRC's expanded mandate recognized the *Centre's proven track record in supporting research in developing countries* and dovetailed well with IDRC's program aims and philosophy.

Immediately after UNCED, a careful internal analysis of Agenda 21 helped IDRC identify the challenges and opportunities both the Centre and its partners might face. Further consultations developed and strengthened strategic partnerships and helped create the foundation for a broadly based North–South coalition dedicated to moving forward on Agenda 21. This review of ongoing programs and modes of operation helped the Centre assume both a leadership and advisory role in direct response to UNCED. It also allowed the Centre to define its strengths in the fields of research and capacity building for sustainable development. The results led to immediate outputs and a major revision of IDRC's programing framework.

IDRC quickly published several important collections of Agenda 21 documents and funded international consultations in support of the UNCED initiative:

- *IDRC An Agenda 21 Organization: A Backgrounder on Current Activities*, IDRC, Ottawa, 1992.
- *Agenda 21 — Abstracts, Reviews and Commentaries*, edited by Theodora Carroll-Foster, IDRC, Ottawa, 1993.
- *A Guide to Agenda 21: Issues, Debates and Canadian Initiatives*, edited by Theodora Carroll-Foster, IDRC, Ottawa, 1993.
- IDRC co-produced the *Earth Summit CD-ROM*, the only complete collection of official documents leading up to and including UNCED (50,000 pages in total), and the IDRC Library became the official repository of the UNCED Collection, as well as the archives for the Brundtland Commission.
- IDRC provided project support to the Instituto del Tercer Mundo (IteM) in Montevideo to produce and distribute a CD-ROM about NGOs' contributions to UNCED.
- *Green Paths to the Future*, Ottawa, IDRC, 1993.
- IDRC guided the establishment of the *Earth Council*, and participated in its founding meeting in October 1992.
- IDRC supported a *National Stakeholders' Meeting* in November 1992.
- IDRC initiated a *Symposium on the Use of Roundtables for Sustainable Development* in February 1993.

Rapid development on several projects of direct relevance to Agenda 21 priorities began. As a result, the following initiatives were funded:

- *The Bellanet Secretariat* — This international initiative works with the development community by providing advice and assistance on how to create productive partnerships and increase collaboration, through more effective use of information and communication technologies (ICTs) (see page 26).
- *The Local Agenda 21 Initiative* — Implemented by the International Council for Local Environmental Initiatives (ICLEI), this project has helped participating municipalities design *Local Agenda 21 Action Plans* that integrate environmental, social, and health considerations into municipal planning.

- *Assessing Progress Toward Sustainability* — In conjunction with the World Conservation Union (IUCN), IDRC supported a project to develop and field-test practical tools, indicators, and methodologies for monitoring, assessing, and reporting on progress toward sustainable and equitable development. This fieldwork yielded three publications: a *Tools and Training Series* designed to help institutions, field teams, and collaborating agencies assess progress toward sustainability; a *Resource Kit for Sustainability Assessment*; and the book *The Wellbeing of Nations: A Country-by-Country Index of Quality of Life and the Environment*, by Robert Prescott-Allen (published in November 2001). The book combines 36 indicators of human wellbeing and environmental sustainability to generate a comprehensive picture of the state of the world.

Evolution in Programing

Following a review and analysis of Agenda 21 by IDRC staff and an assessment as to the Centre's comparative advantage, IDRC formulated a new program framework in 1993. A focus on human welfare was reaffirmed and the term sustainable and equitable development was adopted to recognize explicitly the need to integrate several dimensions that, when taken together, could provide a sound basis for development. Three strategic directions were highlighted: more human development, better economic management, and sustainable use of the environment. The importance of culture in the development context was also recognized.

The Centre's Program Framework for 1993–1997 ensured that all programs were to be oriented explicitly toward sustainable and equitable development. Six core themes related to environment and development were identified: integrating environmental, social and economic policies; food systems under stress; health and the environment; technology and the environment; biodiversity; and information and communication for environment and development. As well, a number of supporting programs were recognized.

While IDRC's program framework has gone through several iterations since 1993, most areas of work have evolved from priorities identified at UNCED. The Centre's current programs reflect extensive and repeated consultation with Southern partners, learning and refinement in thinking about the Centre's strengths in responding to development priorities, and attention to new challenges identified through the 1990s, such as Peacebuilding and Reconstruction. IDRC programing for 2000-2005 concentrates support in three areas of enquiry: **Social and Economic Equity, Environment and Natural Resource Management, and Information and Communication Technologies for Development**. These areas represent an intersection where the priorities of developing countries merge with IDRC's potential to make a contribution to sustainable and equitable development.

In 2002, the Centre supports research through 11 program initiatives, six secretariats, and a small number of large projects. Secretariats receive support from multiple donors working toward common goals. This system provides the financial and administrative infrastructure needed to undertake a long-term research agenda. While they are housed at IDRC and are governed by IDRC's international Board, the Secretariats have independent steering committees overseeing their operations and research directions.

In addition to changes in the framework and structure of IDRC programing, the Centre evolved during the 1990s in its approach to development research and in the way it provides its support. As noted earlier, the ongoing focus has been to encourage and support research in the South, and to strengthen research capacity, mainly in terms of human resources. Other areas that have received great emphasis include:

- the importance of understanding the different impacts that change has on the lives of women and men, so that gender considerations must be included in all research and development activities. In addition to "main-streaming" gender, IDRC has set itself the target of advancing international debate on gender issues through a specific program of research support;
- an approach that stresses the need for research that is problem-oriented and interdisciplinary. To break the mould of disciplinary activities, radical changes to the Centre's structure in the mid-1990s created teams known as program initiatives that could promote and support a multidisciplinary approach;
- a commitment to encouraging connected communities of researchers using all available means to create and support networking;
- a concentration on establishing partnerships with other donors in order to exploit each organization's strengths; and
- measures to ensure that research has an impact by bringing it to the attention of policy and decision makers at all levels.

Research in Action

President Maureen O'Neil recently reiterated IDRC's commitment to the future: *The cornerstone of the Centre's work will be an ever stronger link to the aspirations and needs of the people in the developing countries of the world. Sustainable and equitable human activity depends on men and women's control of their own social and economic progress, on equitable access to knowledge, and on an indigenous capability to generate and apply knowledge.*

The following examples are grouped according to the Centre's three current program areas: **Social and Economic Equity, Environment and Natural Resource Management, and Information and Communication Technologies for Development**. In most cases, the link to UNCED and Agenda 21 will be clear, although we have not necessarily shown this explicitly. Although these projects illustrate the breadth of support that IDRC provides and the achievements of those – mostly mostly in the South – who have received such support, they represent only a small portion of the Centre's contribution to research for sustainable and equitable development in the decade since Rio.

1. Social and Economic Equity

Agenda 21 recognized that the *economic policies of individual countries and international economic relations both have great relevance to sustainable development*. Much of the research that IDRC supports in the area of social and economic equity is aimed at strengthening the information and analytical base through which developing countries achieve their economic and social development objectives. To achieve this goal, research must pay attention to the interplay between efficiency and equity, and the role institutions play in determining the effectiveness of strategies.

Research on Trade Policy

Over the last 20 years, developing countries have faced dramatic changes in trade relations. Trade volume has expanded steadily and its composition continues to shift toward manufactured exports and trade in services. This is due, in part, to domestic policy changes, and to the closer trade ties that many developing countries have with their neighbours. Globally, developing countries now deal with regional trade blocs. They are also engaged in multilateral trade negotiations through the World Trade Organization (WTO) where difficult policy issues, such as labour standards and the environment, are now on the agenda. As a result, many developing countries find that their capacity to keep pace with the expanding trade negotiations agenda is being seriously challenged. Through the Trade, Employment, and Competitiveness (TEC) program initiative, IDRC helps developing countries participate more effectively in the global economy by funding research that supports their objectives in international trade negotiations and the design of related domestic policies.

- **The Environment and International Economic Negotiations** — As the WTO mandate expanded to include links between trade and the environment, developing-country trade researchers and policy officials were faced with the challenge of acquiring policy relevant knowledge in order to participate effectively in such negotiations. In response, IDRC supported 12 studies on various issues in the trade–environment debate, including a review of the contribution NAFTA made to environmental management in Mexico and the contribution MERCOSUR and ASEAN (two developing-country integration schemes) made to the protection of the environment in member countries. IDRC has also worked with the United Nations Development Program (UNDP) since it began its analysis on Global Public Goods, which has a significant environment component. The results of this collaboration include two books and an international dialogue process framed in terms of this analysis.
- **Eco-Labeling and International Trade** — A study of eco-labeling programs in Canada, Germany, the European Union, Nordic countries, India, the Republic of Korea, and Singapore helped to clarify the rationale and functioning of eco-labeling schemes, and their impact on international trade. Case studies on the impact of eco-labeling on exports of developing and transitional countries included interviews with producers, producer associations, government officials, eco-labeling authorities, and experts from standardization bodies. The research results helped to identify possible solutions to the concerns and constraints expressed by developing-country producers.
- **Trade and Sustainable Development Knowledge Network** — Initiated by the International Institute for Sustainable Development (IISD) and the World Conservation Union (IUCN), this network has helped developing-country research institutions, nongovernmental organizations, and governments to develop the analytical capacity they need in order to address issues of trade and sustainable development. As well, it has increased international awareness and understanding of the issues. In China, for example, an interest in sustainability has moved the Chinese Ministry of Foreign Trade and Economic Cooperation (MOFTEC) to explore new options, including an exchange program with Canadian officials working on trade/environment issues, a Chinese environmental review of WTO issues, and training workshops on trade and sustainable development.

Research on Poverty Alleviation

Through a program initiative known as Micro Impacts of Macroeconomic and Adjustment Policies (MIMAP), IDRC is helping developing countries to measure and better understand the factors contributing to poverty. Research is seeking to develop more sustainable and equitable policies and programs that can help to reduce the vulnerability of the world's poorest people. The MIMAP Network connects developing-country researchers, policy officials, (NGOs), and international experts. It includes more than 40 research teams from Asia, Africa, and Canada.

- **Mining in Palawan** — Since 1990, MIMAP-Philippines has developed analytical tools and frameworks to capture the consequences of macroeconomic policies. In May 2001, a study on the impact of macroeconomic policies (finance, foreign exchange, and trade liberalization) on the mining and quarrying sector in the province of Palawan ended. The analysis has shown that financial liberalization had a minimal impact and that foreign exchange liberalization and trade liberalization had beneficial overall effects on the mining and quarrying sectors, as well as the environment. However, the policy changes did have some negative environmental impacts. For example, as devaluation increased the operating costs of firms and householders' cost of living, the firms were less willing to spend on environmental improvements and the households became more dependent on natural resources for their survival.
- **Understanding Rural Poverty** — A MIMAP study in Nepal has provided new information on the incidence of poverty at the district level. This information was used by the National Planning Commission to design its ninth 5-year plan. A second phase of this research will build on the extensive documentation produced in phase one. Nepalese researchers, planners, and policymakers are studying the responses of individuals, households, and markets to the changing policy environment; tracing the effects of macro policy changes on various sectors of society; quantifying the impact of macro policy changes on incomes, expenditures, and living standards; and developing a poverty monitoring system to be used by Village Development Committees. This research has given local researchers and policymakers a better understanding of the dynamics of poverty among various social groups in Nepal.

Research and Training in Environmental Economics

The Economy and Environment Program for Southeast Asia (EEPSEA) was established in response to the Rio conference, and in particular to the Secretary-General's concluding remark: We went into the conference thinking it was about the environment. We came out realizing it was about economics. Foreseeing that other donors might respond in a similar fashion, IDRC began discussions in September 1992 to launch a Secretariat whose purpose would be to pool funding in a collective effort to support research and training in environmental economics. The choice of region reflected an observation by the Secretary-General that the battle for sustainable development will be won or lost in Asia.

EEPSEA was formally launched in May 1993. The program aims to strengthen local capacity for the economic analysis of environmental problems. By doing so, it hopes to provide sound advice to policymakers in 10 countries: Thailand, Malaysia, Indonesia, the Philippines, Vietnam, Cambodia, Lao PDR, China, Papua New Guinea, and Sri Lanka. Research seeks to identify the market and policy failures that lead to environmentally damaging behaviour and to propose remedies. The results have been documented in a series of Impact Reports and include the following: Economic

Damage from Fires — In 1998, EEPSEA studied the economic value of damage caused by the 1997 fires and haze in Indonesia. Results were presented to a meeting of the Environment Ministers of the Association of Southeast Asian Nations (ASEAN), as input during the creation of a regional haze action plan. One of the study's recommendations was *to adopt no-burn methods for land clearing*. This was adopted as policy by the Ministers in April 1999. The study's findings were also discussed as the first agenda item in a Meeting of the United Nations General Assembly Committee on Humanitarian and Social Affairs. The study has been cited in more than 100 places, including the *Financial Times*, BBC, CNN, *Globe and Mail*, and the *International Herald Tribune*.

- **Water Policy in the Philippines** — Two projects in Manila have played an important role in developing water policy in the Philippines. A study estimating householders' willingness to pay for water was completed shortly before the government decided to privatize water delivery in Manila. The researchers were consulted before a privatization contract was drafted, and the study's findings were used by bidders to arrive at a realistic supply price. This study, and one on industrial use of groundwater, contributed to the recognition that water is a scarce resource and that economic principles can be applied to improve its management. Reflecting this, the government commissioned the same research institute to carry out a one-year water pricing project in two cities, financed with PHP 2.5 million.

Tanzania Health Interventions Project (TEHIP)

The Tanzania Essential Health Interventions Project (TEHIP) is a collaborative venture between Tanzania's Ministry of Health and IDRC. It was established to test innovations in planning, priority setting, and resource allocation in the context of ongoing health reform. TEHIP examines the feasibility of establishing a more evidence-based approach to planning as a result of decentralization in Morogoro Rural and Rufiji Districts. By supporting local researchers, TEHIP addresses three questions: how and to what extent can district health plans be more evidence-based; how and to what extent can such plans be implemented; and how, to what extent, and at what cost do such planning interventions affect a population's health?

- **Malaria prevention** — Malaria has long been one of the biggest killers in the Morogoro Rural District, but treating and preventing malaria had not been one of the big items in the District's health budget. Using a tool developed by TEHIP, health officials in Morogoro analyzed their budget priorities against the disease burden borne by the District's people. As a result, the District health management team increased its budget for malaria prevention and treatment programs from 5% of total spending in 1996 to 25% in 1998. IDRC began investing in research on insecticide-treated nets (ITNs) in 1989, recognizing their potential to prevent one of the main causes of death and illness in the developing world. Further TEHIP research and development has shown that these nets prevent malaria. NGO programs promoting the use of these nets in several districts, and new government tax policies designed to make nets more affordable are key measures in the fight against malaria. In fact, Tanzania is poised to become the first country in Africa to introduce a national ITN strategy. The goal is to see 60% of children and pregnant women protected by a treated net by 2005.

Peacebuilding and Reconstruction

Most of today's violent conflicts occur in the developing world, very often in the least developed countries. Almost all are protracted, internal struggles that destroy the very physical, human, and social capital these countries need to pull themselves out of poverty. To help war-torn societies make the transition from violent conflict to lasting peace and sustainable development, IDRC established the Peacebuilding and Reconstruction (PBR) program initiative in 1996. Peacebuilding is the pursuit of policies, programs, and initiatives that seek to create the conditions war-torn countries need to transform or manage their conflicts without violence. As a result of this process, the hope is that they may be able to address longer term developmental goals. PBR has been especially active in Southern Africa, the Middle East, and Central America where research funding promotes the rights of marginalized groups, particularly women, the rural poor, and Indigenous people. It also encourages peacebuilding and conflict prevention strategies in development policy, practice, and research. PBR supports projects that address three dimensions of peacebuilding: democratization, human security, and political economy. Projects are also encouraged to question established tenets and break new ground in peacebuilding research.

- **War-Torn Societies in Somaliland** — The town of Hargeisa in northwest Somalia is the capital of the self-declared but internationally unrecognized Republic of Somaliland. Although Hargeisa was flattened by the former dictator Siad Barre's bombing raids, the people have reconstructed their town and rebuilt peace. One agency that played a role in this recovery process was the War-torn Societies Project (WSP), an initiative established by the United Nations Research Institute for Social Development and the Geneva Graduate Institute of International Studies, with funding from IDRC and 27 other donors. WSP's mandate was to help societies emerging from conflict identify their problems and develop solutions in the form of new policy. The WSP Somali program was based on participatory action research. Researchers found that people were concerned about regional equity, the process of decentralization, and popular participation in the decision making process. The project demonstrated that research can be a tool for transmitting the aspirations of the community to decision makers.

Research for International Tobacco Control (RITC)

RITC was established in response to an invitation IDRC received at an international donor consultation in June 1995. The original idea involved developing tobacco control research strategies and global partnerships with a unique goal: to reduce the threat that tobacco consumption and production poses to sustainable and equitable development in the South. RITC has since evolved into a multi-donor Secretariat. Its mission is to raise the issue of tobacco control as a priority item on the public health, environment, social and economic development agendas of countries in the South. The mandate also includes a similar consciousness-raising within the international donor community. As well, the Secretariat's goal is to generate a local knowledge base to tackle the problems tobacco production and consumption pose to health and human development.

RITC carries out its mission through a combination of research, coordination, dissemination activities, and strengthening of research capacity. In 1998 and 1999, RITC championed the development of regional tobacco control research agendas in South and Southeast Asia; East, Central and Southern Africa; and Latin America and the Caribbean. These homegrown regional agendas formed the basis of a policy-oriented global tobacco control research agenda. The global agenda has received

international recognition as an essential element for addressing tobacco control research in a coordinated manner. Its existence is also vital if the world is to address the challenges that tobacco use poses to sustainable and equitable development in the South.

RITC's program framework is rooted in the specific research themes identified in the global agenda. It supports research in four priority areas: Health and Social Implications of Tobacco Use; Economics of Tobacco; Legislative and Policy Analysis; and Tobacco Farming and Alternative Livelihoods. Project funding priorities focus on policy-relevant projects that involve key stakeholders and research users throughout the research process. RITC emphasizes support to research that is not only multidisciplinary, but also relevant to broader development priorities such as poverty alleviation and environmental sustainability. Exploring gender issues in relation to tobacco control is another high priority. RITC promotes North-South collaboration among researchers and international donor agencies, and strengthens individual and institutional capacity for tobacco control research by providing fellowships, training, mentoring, and sharing of expertise and experience among researchers. Recent projects include:

- **Economics of Shifting from Tobacco Production** - Research in India explored the issue of alternative crops and sustainable livelihoods for tobacco farmers. A project in the village of Sidnal in Belgaum District provided soybean seeds to farmers and facilitated financial assistance from local rural banks to encourage economic activity in place of tobacco cultivation. In the first year, the area under tobacco cultivation in the village fell by 50 percent, with 54 percent of farmers shifting to alternative crops and activities.
- **Smoking Behaviour and Attitudes** - Research in Turkey has helped to clarify factors that influence cigarette smoking and public opinion regarding smoking in public places. Some of the study's recommendations for reduced tobacco use included: increased health education in schools, smoking bans in areas frequented by young people, advertising restrictions, progressive tax measure on cigarettes, and increased community action on the issue.

Secretariat for Institutional Support for Economic Research in Africa (SISERA)

SISERA was created in July 1997 to provide technical and financial support for African economic research institutions. By improving research and management skills in these institutions, SISERA is helping to develop a corps of elite African economists whose research outputs will inform and influence economic policymakers and enhance debate on economic policy options. SISERA also seeks ways to reduce the relative isolation of African researchers from decision-making circles. The Secretariat provides economic research centres in Africa with financial and technical support to enhance their expertise, credibility, and relevance. SISERA's interventions focus on providing financial and technical support in the form of: institutional grants (core grants, seed grants); encouragement of collaborative research and networks; funding of training and sabbaticals; support for electronic connectivity; and better dissemination and publication of research results.

- **Outlets for Research** — Research reports prepared by SISERA's partner institutions are published and disseminated through a working paper series established in 1998. Partner institutions include African research centres that have demonstrated a capacity to carry out policy-oriented research and to enhance policy debate in their respective countries or sub-region. The publications in the series focus on economic policymaking and provide a forum

for discussion on issues of interest to African countries. The working papers are widely circulated within Africa to policymakers and research centres, and abroad to institutions that work in the development field.

- **Enhanced Training Opportunities** — The Secretariat has collaborated with the World Bank Institute to develop and deliver courses for African researchers, policymakers, and other stakeholders. These courses provide participants with the tools they need to strengthen their capacity to analyze, formulate, and implement policies on current economic issues. The courses combine local classes with teleconferences involving both African and overseas participants. To ensure the widest possible access to course materials, all resources are made available on the Internet. Vietnam

Sustainable and Economic Development Project (VISED)

The VISED project was established in 1993 in collaboration with the Canadian International Development Agency (CIDA). Its purpose was to strengthen the capacity of Vietnamese researchers in contributing to ongoing economic reforms and preserving Vietnam's natural resource base. Vietnam faces a host of challenges on its road to sustainable development and a market economy. Some of the most important issues involve economic and social policy reform, within a complex web of other issues. A wide variety of Vietnamese institutions and the government are seeking to develop local ways to assess the impact of restructuring on poverty, and to improve environmental policy and natural resource management practices. IDRC's initial VISED project has evolved into a program called Sustainable Economic Development in Vietnam (VEEM). Building on earlier lessons, VEEM is focusing its programs on economic management, environmental policy issues, and improved networking between Vietnamese institutions and others in the region.

- **Public Participation in Mangrove Management** — Vietnam's mangrove areas have been overexploited and destroyed because of rapid population growth, low incomes of coastal communities, and extensive development of shrimp culture. Much of the mangrove in the Can Gio district of Ho Chi Minh City was defoliated during the Vietnam war. In this area, there is a tradition of raising shrimp in water bodies inside mangroves without clearing the trees. In 1990, the city implemented a Land Allocation and Forest Care Contract Policy, where contract people act as forest stewards. They have the right to use the water inside the forest for aquaculture, they share forest products during periodical thinning and final harvesting, and they receive allowances for forest care. IDRC funding helped the College of Agriculture and Forestry assess how well this policy promoted forest care, and what benefits were realized as a result of community participation.
- **Assessment of Environmental Change** — In 1995, the government designated 5,600 ha in Xuan Thuy District as a Nature Reserve. Local people were allowed to engage in traditional aquaculture, gather marine products, and graze domestic animals. With IDRC support, local researchers are assessing the impact of activities and the effects of ecological changes within the Reserve. The goal is to recommend ways to improve management of the Reserve and to understand how livelihood diversification may have created new pressures on the reserve. The research engages local people in fact-finding and in developing improved resource-use practices that are locally acceptable.

Integrating Environmental, Social, and Economic Policies (INTESEP)

UNCED proposed a fundamental reshaping of decision-making in order to integrate environmental, social, and economic policy perspectives. In response, IDRC supported INTESEP, which provides countries with the opportunity to review their policy-making processes and adopt sustainable social and economic policies appropriate to their cultures.

- **Case Histories of Integration** — IDRC started by organizing two workshops in Canada. The goal was to find out if Canada's experiences with multistakeholder groups could be of interest to developing countries. The Centre then held workshops in Latin America, Asia, Africa, and Canada to develop case histories on the pitfalls and rewards of integrating environmental, social, and economic policies. The breadth of IDRC's contribution to this integration was captured in a 1998 publication entitled *The Cornerstone of Development: Integrating Environmental, Social, and Economic Policies*. This book covers the concept of policy integration, the barriers to integration, the levels at which integration can take place, the degree of coordination and collaboration that is required, the conflicts that exist, the learning that can be derived from these experiences, and the role that research plays in the process.

2. Environment and Natural Resources Management

This program area was established in direct response to the development needs of present and future generations. Its central challenge involves the need for research that will help people protect the environment and manage natural resources while also supporting their efforts to achieve food security, alleviate poverty, and enhance economic growth. Strategically, IDRC has emphasized the interdependence of humans with the natural environment, and the life-sustaining benefits that can be derived from this interdependence. This focus stresses the responsibility and imperative that all people have to protect the environment. Within IDRC, these issues are being addressed in the following ways:

- The Ecohealth initiative emphasizes the human health benefits of protecting the environment.
- The Sustainable Use of Biodiversity initiative calls attention to the food security, economic, and medicinal values that must be protected in the world's biodiversity.
- Initiatives on Community-based Natural Resource Management in Africa, Asia, and Latin America emphasize that benefits depend on the protection and proper management of natural resources in all ecoregions by all direct and indirect users.

Health and the Environment

Although human health and wellbeing are intimately tied to the health of life-sustaining ecosystems, this complex relationship is rarely taken into account in mainstream health programming. Economic, social, and environmental components play equal and important roles in influencing health. IDRC's Ecosystem Approaches to Human Health program initiative believes that with knowledge of the ecologically-based web affecting human health — and the links within this web — local communities can better manage ecosystems to improve their health, and the health of the ecosystem. By developing interventions that use this approach, research can make a cost-effective contribution to improving human health in developing countries. The methods used to achieve

holistic results are participatory and transdisciplinary. They also aim to integrate gender and social concerns to generate a better understanding of local determinants of human health.

- **Reducing Mercury Poisoning in the Amazon Basin** — In the Brazilian Amazon, an eight-year project has shown that mercury contamination is largely the result of soil erosion that accompanies slash-and-burn agriculture, and not artisanal mining, which had previously been considered the cause. A trans-disciplinary group of community members and scientists from l'Université du Québec à Montréal, the Federal University of Pará, the Federal University of Rio de Janeiro, the Montréal Biodôme, and the Grupo do Defencia do Amazona has also demonstrated that eating mercury contaminated fish has adverse effects on the nervous system at concentrations lower than "safe levels" defined by the WHO. Although current interventions involve reducing the consumption of fish with high mercury content, a longer-term solution will entail the promotion of less erosive agricultural practices on farms adjacent to river banks.
- **Fighting Malaria Without DDT** — The southwestern Mexican state of Oaxaca is home to 80 percent of all the malaria cases in the country. With the phasing out of DDT, a very toxic but effective control of malaria-carrying mosquitos, the search for other safe and effective controls is urgent. This project brings community members together with public health researchers, anthropologists, and malaria and environmental specialists. The National Institute of Public Health of Mexico, the National Programme of Vector-borne Diseases, the Ministry of Health of the State of Oaxaca, and the Centre for Integral Training of Voluntary Community Health Workers are working together in the search for solutions. Taking into account ecological, biological, social, and economic factors affecting malaria transmission at both the local and regional levels, the team is exploring ecological and social strategies that will help to diagnose, treat, and prevent malaria. Research results are providing new survey techniques and new insights into malaria control. The focus of the research is on affordable, alternative methods and community participation — approaches that can be used in many other countries.

Community-Based Natural Resource Management (CBNRM)

The Brundtand Commission and UNCED recognized that poverty and environmental degradation are linked. They also stressed the need to pursue development measures that both avoid and counter environmental degradation. The CBNRM work funded by IDRC specifically seeks to improve both local livelihoods and environmental sustainability. Many people in developing countries depend directly on natural resources to make a living. As land, forest, and water resources are exploited, degradation increases, particularly in mountainous and coastal areas. When the ability of ecosystems to recover diminishes, so do the employment and lifestyle options of local people. Policies and research have often ignored local people when designing and implementing ways to ensure sustainable and equitable use of natural resources. Community-based natural resource management works with local men and women who are most directly involved in natural resource management (often the poor and ethnic minorities who are politically and economically isolated) and recognizes that different groups (men, women, ethnic groups, and distinct social classes) use natural resources in diverse ways and for distinct purposes.

- **Sustainable Technologies** — Despite rapid economic growth in eastern urban centres, much of China's huge rural population remains very poor and dependent on a degrading natural resource base. With IDRC support, researchers in the remote mountains of Guizhou province have developed innovative ways to work with local farmers. Their new methods of adapting technologies have improved production and reduced poverty, improved the sustainability of natural resource use, and restored degraded lands. Local people have guided research efforts to address health and women's issues, such as helping villagers to develop a low-cost clean water supply. The success of the project has led provincial authorities to explore how its methods can be replicated by the government at other sites.
- **Water Management** — The People, Land, and Water (PLaW) program initiative focuses its research support in fragile ecoregions such as the semi-arid regions of Africa and the Middle East, where water scarcity limits both food security and economic and social development. The Middle East and North Africa have the lowest per capita fresh water availability in the world. The task of increasing the water supply in response to higher water demands is becoming more expensive and damaging to the environment.
 - With IDRC support for research and dialogue, decision makers in the region are turning their attention to Water Demand Management (WDM) policies and practices. These options offer the possibility of increased efficiency and equity when it comes to both access and use of water resources. IDRC and other donors made it possible for Jordanian, Palestinian, and Israeli researchers to meet, discuss, and research environmental issues related to the Dead Sea. The focus was on the upstream use and management of the Jordan and Yarmouk rivers by Israel and Jordan, as well as on large-scale developments for tourism. Both of these factors have affected the unique ecology of the Dead Sea, whose water levels have dropped 25 metres during the last 40–50 years. Based on joint research results, the Jordanian and Israeli governments presented UNESCO with a plan to manage the Dead Sea as a protected international area.
 - Community based and participatory research efforts supported by IDRC helped a traditional, subsistence community in Aarsal, Lebanon to strengthen its local organization and governance, experiment with several technical options to manage resources, diversify its agriculture, and develop a longer term development plan. With the help of researchers from the American University of Beirut, this plan will be presented to the government and other donors.
- **Resource Tenure** — In Cambodia's northeastern province of Ratanakiri, IDRC-funded research has demonstrated how important resource tenure can be to the success of development activities. Project work has focussed on developing connections between ethnic hilltribes and the provincial government to encourage sustainable development of natural resources. The project also recognizes the importance of communal action.
 - **Yeak Lom** — A 300 hectare zone near this lake has been transformed from an area suffering severe environmental threat to a tranquil, wooded haven. Now, tourists and local people visit for recreation and coexist with the highland peoples who gather food and collect traditional building materials from the forest. Throughout the project, tribe members were involved in developing rules and regulations for the sustainable management of the lake and surrounding forest. The rules they developed were endorsed by the provincial government, which had been unsuccessful in its earlier attempts to halt

environmental destruction. The provincial government granted the hilltribes an unprecedented 25-year communal land lease in 1998, which means the land is theirs to manage and use according to the rules they helped develop.

- **Minga** — The unusual name for this program initiative was derived from a Quechua word for the collaboration among Andean communities on specific tasks (e.g. harvesting). Minga seeks to enhance natural resource management in Latin America and the Caribbean by improving information use and strengthening participatory decision making. Through its support to research, Minga hopes to improve the capacity of societies in the region to define, develop, and implement equitable and sustainable strategies for natural resource management. Minga works with local, national, and international researchers who are engaged in analyzing, synthesizing, and applying key experiences with natural resources management in four ecoregions — the Andean highlands, the Central American hillsides, the Amazonian lowlands, and coastal zones. Research has produced tools and methods that support multi-stakeholder approaches to watershed management, integrated coastal zone management, and rural agroindustrial development. These methods have effectively stimulated discussions in mining and coastal communities. Lessons about multi-stakeholder approaches to managing natural resources in a sustainable and equitable way have already been synthesized. These approaches have included ways to manage conflicts over natural resources. New tools in stakeholder analysis and watershed management are being developed.
 - **Participatory Decision Making in Resource Management** — In the El Angel river basin of Ecuador, the irrigation water that farmers use is contaminated long before it reaches their lands. IDRC has helped to establish a forum in which ordinary citizens, research and development organizations, national and foreign universities, international research institutions, and government agencies can work together to manage the canals that make up the irrigation system. Cooperative action has allowed the groups to develop strategies to reduce pesticide use, manage socioenvironmental conflicts, promote community management of water resources, and conduct environmental education.
- **Nagaland Environment Protection and Economic Development Project (NEPED)** — Nagaland is a small hilly state in northeastern India where the main method of subsistence farming is slash and burn agriculture, known locally as jhum. Funded by IDRC and CIDA, through the India Canada Environment Facility (ICEF), NEPED is working to improve the sustainability of the traditional jhum system by helping to integrate agroforestry practices into jhum fields. Using a participatory research approach, farmers are able to take part in the selection, development, and testing of agroforestry technologies in village test plots. As equal stakeholders in the research, they provide land and local knowledge. NEPED's role is to underwrite the risk associated with on-farm experiments and to provide technical assistance. More than 2,000 farmers and 600 field officers and staff have been trained as part of the project. Some villages are using their locally managed development funds to replicate the lessons learned. Tree planting in jhum fields is now very popular, and in a few villages, so many trees have been planted that the village councils have had to ban tree planting for fear there will be no more areas for cultivation.
 - **Counteracting Sheet Erosion** — Different Naga tribes use different methods to counteract sheet erosion. Some practice extensive land

shaping combined with terracing and the use of alder trees; others lay bamboo, which is left over from the slash component of the jhum operation, across contours to trap rich topsoil in the fields. Land shaping is too costly for most farmers, so after field tests of both traditional methods, the farmers decided to use the lower cost, but effective, bamboo technology.

- **Women's New Role** — NEPED has also promoted a new role for women – one that emphasizes their right to be joint beneficiaries, participants, and decision-makers. The women's groups formed, to date, have established 88 test plots and 34 nurseries. As well, they have organized state-level workshops to enhance women's awareness of their role in sustainable development.

Sustainable Use of Biodiversity

One of the key agreements adopted at Rio de Janeiro was the Convention on Biological Diversity. It had three main goals: the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of the benefits from the use of genetic resources. This program initiative, which was created in direct response to the Convention, helps local and Indigenous peoples to protect, access, and make use of local biodiversity. IDRC research has helped local communities in Africa, Asia, and Latin America enhance the sustainable use of biodiversity and develop appropriate and equitable policies. To ensure that all parties benefit equally, research has developed models for intellectual property rights affecting traditional resources. Other projects supported by SUB include: local community involvement to develop and conserve agricultural and aquatic biodiversity; income-generating strategies and incentives for the sustainable use of the products of biodiversity; and a network of researchers working on medicinal plants.

- **Genetic Diversity of Sorghum** — Sorghum is critical to food security in Ethiopia. Since 1992, IDRC has supported research on the factors influencing the maintenance of crop genetic materials in the central highlands. In the early 1990s, 60 varieties of sorghum were being grown in five communities. During the 2000–2001 growing seasons, research showed that although the number of varieties was increasing, the survival of many crop varieties was in jeopardy because most varieties were being grown on fewer and smaller fields. The farmers' lack of secure land tenure also influenced the level of genetic diversity on each field, putting agricultural biodiversity in the region at risk. Research recommendations included the need to address tenure issues, and to introduce community gene banks and participatory conservation activities in order to save Ethiopia's remaining sorghum varieties. CIDA is using the project's findings to develop a food security program with the Government of Ethiopia.
- **The Value of Uncultivated Foods** — In Bangladesh, uncultivated foods such as leafy greens and tubers are collected from ponds, farmers' fields, roadsides, and common lands. This kind of food accounts for at least 40% of the food consumed by the poor. The connections between uncultivated foods and the culture of food (which includes cooking and related technologies of food preparation and consumption) are being studied by the New Agricultural Movement. Working with more than 50,000 women farmers who are part of this Movement, researchers are hoping that the findings of this study will be compared with similar studies now underway in India, Sri Lanka, Pakistan, and Nepal. The goal is to better understand how uncultivated crops can be preserved and used.

- **Policy Options and Biodiversity** — The Crucible Group was created to explore issues such as: access to, use, and ownership of genes; trade in biological resources; preservation of biological diversity; the rights of Indigenous peoples; and international food security. Supported by IDRC, CIDA, and other international organizations, the Group includes more than 45 members from 25 countries. Members of the Group have looked into a range of legal policy options open to national policymakers. In 1994, IDRC published the first Crucible Group book: *People, Plants, and Patents: The Impact of Intellectual Property on Trade, Plant Biodiversity, and Rural Society*. More recently, IDRC released *Seeding Solutions, Policy Options for Genetic Resources*.

Desertification

Desertification is defined as land degradation in arid, semi-arid, and dry sub-humid areas. It can occur as a result of variations in climate and/or human activities. As a result of heightened global attention immediately before and during UNCED in 1992, a decision was made to negotiate and establish a United Nations Convention to combat desertification (UNCCD). Within the context of the action plans stemming from Agenda 21, the Canadian government gave IDRC a mandate to participate actively in the development and implementation of the UNCCD.

In fulfilling this part of its mandate, IDRC has been part of the Canadian delegation at all five negotiating sessions of the Intergovernmental Negotiating Committee (INCD) for the convention. Some specific activities carried out by IDRC include:

- contributing information to the negotiating process through research reports and organized debates dealing with the impact of land tenure systems, indigenous knowledge, trade, and structural adjustment programs on land degradation and desertification;
- capacity building and support of five African NGOs so that they could participate actively in the negotiation process, given their acknowledged role at the community level where most of the actions and activities to combat desertification are concentrated;
- support to a number of developing-country delegations who wanted to participate actively in the Convention negotiation sessions; and direct input into the Convention text, particularly with regard to technical and scientific cooperation (information exchange, research and development, development and transfer of technology); early action for Africa; and the establishment of the Committee on Science and Technology.

Since UNCCD was adopted in 1994, IDRC has provided financial support to allow affected countries, such as Burkina Faso, Senegal, and South Africa, to prepare National Action Programmes (NAPs). These NAPs are a fundamental requirement of the Convention. Throughout the years, the Centre has participated as an active member of the Canadian delegation in all five of the Conferences of the Parties (COP), served as a Vice-Chair of the Committee on Science and Technology (CST) during COP 3, and served as Chair of the CST during COP 4.

As the Convention now enters the implementation phase, IDRC is responding to requests from affected developing countries to implement elements of their NAPs. The Centre's financial and technical support is funneled through three program initiatives focused on Community-based Natural Resource Management in Africa and the Middle East; Latin America and the Caribbean; and Asia. All three programs

emphasize community participation, development of appropriate technologies, and networking and knowledge-sharing for the management of natural resources. These are the same key elements that the Convention highlighted and insisted should be prominent features of NAPs.

- **Improving the Silviculture of Casuarina** — During the 1930s, the rapid advance of dunes from the northern coast of Senegal toward the interior prompted massive planting of Casuarina. This tree, while effective, has a lifespan of only 50 years and does not regenerate naturally in Senegal, mainly because leaves that accumulate under the trees prevent seeds from reaching the ground. Researchers are studying how silvicultural interventions can improve the regeneration of old plantations and nutrient cycling within these ecosystems. Project results will be used to develop a management plan that will ensure the regeneration of Casuarina plantations on the northern coast.
- **Agroforestry Research Network** — Since 1988, the International Centre for Research in Agroforestry (ICRAF) and collaborating National Agricultural Research Systems (NARS) in Burkina Faso, Senegal, Niger, and Mali have conducted agroforestry research through the Agroforestry Research Network for the Semi-arid Lowlands of West Africa (SALWA). SALWA has identified four promising agroforestry technologies: living fences, fodder banks, domestication of native trees, and contour planting. Building on existing local knowledge and practices, researchers hypothesize that they can increase farmers' incomes and food supplies (both crops and animal products), decrease the rate of land degradation, and replenish soil fertility. With IDRC support, this research network is addressing the socioeconomic constraints that keep farmers from adopting these technologies and helping to redress the shortage of appropriately trained researchers.
- **Improved Water Management** — The Taklamagan Desert in northwest China is second only to the Sahara in size. Around its margins, this desert's recent expansion has threatened oasis agriculture and grazing lands. As a result of a seven-year research project supported by IDRC, regional and national research institutions in China have proposed a series of technical and policy measures to improve water resource management. The measures range from pricing reforms to river channel stabilization, and include improvements to irrigation and crop technology as well as devolution of irrigation system management. Several layers of government within China are now examining these research recommendations and considering how to implement them.
- **Food Security in Sub-Saharan Africa** — The Desert Margins Initiative, jointly funded by a consortium of donors including IDRC, is an integrated research program aimed at developing sustainable management options to combat desertification in sub-Saharan Africa while increasing the food security of the poor. Partner countries include Niger, Burkina Faso, Mali, Senegal, Botswana, Namibia, Zimbabwe, South Africa, and Kenya.

Model Forests

The International Model Forest Program was launched by Canada in 1992 at the Earth Summit in Rio to address growing international concern over the alarming rate of forest degradation. Other issues identified at the Summit included the need to understand and balance the environmental, social, and economic demands on forests, and the need to broaden decision making through community-based partnerships. When the Model Forest Secretariat was created at IDRC in 1995, there were 10 model forests in Canada. Today, 30 model forests have been established or are being developed in 12 countries.

Model forests involve large land areas and long-term partnerships that are formed to identify, adapt, and apply innovative solutions to the challenges of sustainable forest management. Their fundamental concern is with the relationship between people and ecosystems: how people use and interact with the forest ecosystem —its plants, soils, water, wildlife, and other resources. These forests are about community-based partnerships and about joint decision making among all of the people who value forests. The International Model Forest Network fosters management, conservation, and sustainable development of forest resources through a worldwide network of working model forests. The Secretariat encourages international cooperation and exchange of ideas, supports international cooperation in the search for new models of forest management, and supports ongoing international discussions on the principles of sustainable development in order to foster their application at the local level.

- **Community Development of Forests** — In Mexico, model forests have become a dynamic force for community development that is wholly endorsed by the central government. Each model forest responds to the particular needs of the communities living within its boundaries. The forests provide opportunities for research, education, and economic diversification. The Chihuahua, Calakmul, and Monarch Butterfly Model Forests demonstrate how people can work together to recognize and enhance the economic, social, and environmental values of the forest.
- **Innovative Solutions to Forest Management** — In Chile, the Chiloé Model Forest has given traditionally antagonistic groups the chance to develop trust and better understanding. This partnership has now supported some 30 community projects that provide the tools and solutions needed to better manage the forests' resources while protecting the ecosystem.
- **Indicators of Sustainable Use of Forests** — The Gassinski Model Forest was the first one created in Russia. It was established to ensure an adequate standard of living for forest-based communities, based on the principles of sustainable forest management. As the model forest enters its second phase, research will identify effective biological and socioeconomic indicators of sustainable use, so as to monitor the condition of the forest and ensure its long-term sustainability.

Cities Feeding People (CFP)

Millions of men and women in the cities of the South have become farmers in recent decades. They grow vegetables, raise livestock, and practice many other types of agriculture in urban areas. These urban farmers enjoy better diets and a higher income, and they make a significant contribution to the urban environment. Despite the benefits it provides, most urban agriculture remains largely unrecognized and unassisted, if not outlawed, and its practitioners are often harassed, even when there are food shortages. Nonetheless, some governments are creating agencies to manage and actively encourage urban agriculture.

IDRC was one of the first international agencies to establish a program devoted to research on urban agriculture. The Cities Feeding People (CFP) program initiative encourages policies and technologies for the sustainable use of urban resources, with an appropriate gender focus. Research support focuses on: developing confined space technologies for low-income food producers; supporting safe urban agricultural practices (organic recycling); reducing human and environmental health risks; and promoting new policy and regulatory frameworks for land tenure, zoning, and use planning.

- **Urban Gardens in Haiti** — People living in some of the poorest urban areas of Haiti are now using tires, baskets, kettles, pails, and other containers to grow vegetables in confined areas. This practice allows them to improve their health and nutrition status, and gives them a new source of income. Launched in November 1996, an urban gardening project is helping to reduce the dependency participating households had on purchased food in a nation where the average annual per capita income is less than CA\$350. The five-year initiative, which grew out of studies conducted by CARE-Haiti, is jointly sponsored by CIDA, the Cities Feeding People program initiative, CARE-Canada, CARE-USA, CARE-Haiti, and various community-based and nongovernmental organizations. Funds are helping CARE-Haiti design, implement, monitor, and evaluate space-confined gardening methods. Technologies tested in other IDRC-sponsored projects are also being used here. Throughout the project, CARE-Haiti has worked with local organizations that are focused on women. CARE-Haiti has also secured more funding for a second project in Gonaives.
- **Policy Support for Urban Agriculture** — CFP support through the United Nations Urban Development Program and Habitat (UNCHS) allowed city governments and researchers in 30 Latin American cities to review municipal policies on urban agriculture. Following this review, Quito, Ecuador incorporated urban food production into local policies. This led to the official recognition of urban agriculture, its inclusion in Quito's Land Use Plan, and the development of a micro-credit fund to support the production, transformation, and commercialization of urban agricultural products. An international seminar held in April 2000, sponsored by IDRC, the FAO, and UNCHS, culminated in the Quito Declaration, a pledge by 33 mayors to support and promote urban agriculture in their cities as a way to achieve food security and better environmental management. The project also succeeded in having urban agriculture included among the indicators for followup to Agenda 21 in the region.

Environmental Management Secretariat (EMS)

This Secretariat helps to promote best practices in environmental management within Latin America and Caribbean. EMS activities have focused on managing urban environmental problems through the promotion of applied participatory research. Within and among countries in this region, improved environmental management depends on cost-effective information transfer among local governments, research institutions, and civil society. EMS is addressing this need by establishing a regional "market" for information on environmental issues and urban development, and by emphasizing the connection between access to research information and decision making. The goal is to create a knowledge system that systematizes regional experiences, identifies information and knowledge requirements, organizes specific research projects, and ensures that results are made available and promoted using new information technology.

- **Eco-efficient Cities** — The EMS is helping municipal governments to implement urban environmental management policies in intermediate-sized cities. By fostering institutional partnerships with research centres, EMS hopes to ensure that appropriate policies are developed that will provide environmental services in areas affected by informal settlements. The focus is on sewage treatment, the supply of potable water, and the management of informal garbage collection within a city's urban waste management policies. Municipal governments recognize that the complex link between urban poverty

and environmental issues is one of the most significant challenges they face in their attempt to improve local governance. EMS-supported research and capacity building focuses on generating and disseminating knowledge about institutional models that will ensure the sustainability of environmental interventions in the medium term.

- **Southern Cone Coastal Cities** — A seminar organized in Montevideo in 1997 by the Merco Cities Network, the Inter-American Development Bank, the Ibero-American Urban Strategic Development Centre, the Municipality of Montevideo, and IDRC gave governments of coastal cities in the Southern Cone of the Americas an opportunity to analyze issues related to coastal management, institutional coordination, and urban regeneration and sustainability. In response to this seminar's recommendations, the EMS has promoted and facilitated access to information and has linked specialized research centres and municipalities to encourage improvements to government programs.

Mining Policy Research Initiative (MPRI)

Created in 1998, MPRI supports applied and participatory research and processes that generate stakeholder engagement on issues related to mining and the sustainable development of mining regions and communities in Latin America and the Caribbean. MPRI contributes to Agenda 21 objectives through all its projects, by providing research support for studies on legal and policy frameworks, and on the interactions among communities, mining enterprises, and the state. Research also focuses on identifying, measuring and managing the impacts of mining activities.

- **Mine Closures** — A study by the Chilean Copper Commission (COCHILCO) on mine closures includes the text of a draft bill (supported by legal, economic, and technical studies) that will be discussed by the Chilean Congress. Under COCHILCO's leadership, and with initial support from MPRI, this important sustainable development policy will also be discussed within CAMMA (the Annual Conference of the Mining Ministries of the Americas) to generate agreements about the principles that should govern the regulation of mine closures in all member countries. To improve information access for researchers and policymakers, MPRI supported the creation of an annotated bibliographic database on mine closure and reclamation practices in the Western Hemisphere. This database is available on the MPRI website.
- **Partnerships for Local Sustainable Development** — Research is seeking to improve how mining companies, local governments, and communities can work together to improve sustainable practices at the local level. The research is studying specific cases, drawing up guidelines for improved performance, and building a database on how mining companies have managed their social policies and strategies by contributing to local and regional development through foundations or other community development activities. The research includes two projects: one by MERN (Mining and Energy Research Network of Warwick University, UK) and the other by a network of South American researchers coordinated from Peru and carried out in Colombia, Peru, and Chile. The overall goals include: an analysis of corporate culture; the opportunities and limitations of the institutional and legal frameworks for the development of tri-sector partnerships; an overview of the main experiences and attempts at partnerships in these countries; a review of how mining companies have met their social responsibilities and how this is reflected in their social policy; and an analysis of the mechanisms that have supported the participation of different social players in the decision making process.

- **Mining, Minerals, and Sustainable Development (MMSD)** — This project is being implemented by the International Institute for Environment and Development (IIED). It was commissioned by the World Business Council for Sustainable Development (WBCSD). One of the project's key goals is to understand how the mining and minerals sector can contribute to the global transition to sustainable development. Results will be presented at the World Summit on Sustainable Development in 2002, both by the mining industry and by the MMSD work team. MPRI is the regional coordinator of stakeholder participation for South America. Project activities have included forming a network of 20 researchers in six countries, conducting a regional survey, convening 50 workshops, hosting two regional multi-stakeholder meetings, and undertaking a state-of-the-art study of key mining and sustainable development issues through participatory research in Brazil, Peru, Chile, Bolivia and Ecuador. The final report will be available in April 2002.

Office for Central and Eastern Europe Initiatives (OCEEI)

Since 1993, the (OCEEI) has developed and managed IDRC activities in Central and Eastern Europe. The unit uses technical expertise, project management, network-building, and support services to find innovative solutions to the problems of sustainable development within the region. Its partners in Eastern and Central Europe and from other regions of the world seek to conduct and apply research that will enhance the quality of life, support the process of reform, and foster bridges and linkages between Canada and the region.

- **Dnipro River Rehabilitation** — In 1991, Canada was the first Western country to recognize Ukraine's independence and to extend an offer of technical assistance. At that time, Ukraine was one of the most environmentally degraded republics of the former Soviet Union; 70% of its population lived in areas considered environmentally dangerous. The Dnipro River was the country's first environmental priority because it had been degraded by pollution from nuclear fallout from Chernobyl; toxic pesticides and herbicides used in agriculture; heavy metals and organochlorine compounds from industry; untreated sewage from municipalities; and high levels of air pollution. An ambitious program to clean up the Dnipro River basin, the source of 70% of the country's drinking water, was launched in 1994, with CA\$4.8 million in funding from the Department of Foreign Affairs and International Trade and CIDA. This project has changed Ukrainian environmental policy and public attitudes. One of the program's main achievements was formal recognition of Ukraine's National Environmental Plan in February 1998. Another important development was creation of the Dnipro Renaissance Fund to manage funds from domestic and foreign sources, including the Canadian government.

3. Information and Communication Technologies (ICTs) for Development

Agenda 21 noted that many Third World nations had *a general lack of capacity in many areas for the collection and assessment of data; for their transformation into useful information; and for their dissemination.* The information economy is the most dynamic and highly profitable sector of our world economy. IDRC programming in this area is based on the understanding that the developing world should not be bypassed by the exciting developments and opportunities created by ICTs. These regions, communities, and people have much to contribute to the knowledge and network

economy. They can also benefit from the enabling impacts that ICTs have on health, education, governance, employment, and enterprise. Research in this subject area has two goals: to promote equality of access and to expand information economy opportunities within the developing world.

Sub-Saharan Africa: the Acacia initiative

International development agencies are increasingly recognizing that both social and economic wealth is tied to information (which improves decision making) and communications (which accelerates decision making). Together, ICTs help build networks that serve as channels of social and economic opportunity. The Acacia initiative helps communities in sub-Saharan Africa use new technologies to further their social and economic development. Acacia support is demonstrating how ICTs can be extended to disadvantaged sub-Saharan communities, particularly women and youth, and how the access they provide to relevant information can help people solve local problems. Acacia is dedicated to learning from its experiences and looks for innovative ways to disseminate this knowledge internationally.

- **Links to Distance Learning** — In Rosslyn, South Africa, community access to ICTs has been linked to distance learning. By promoting cooperation among companies, trade unions, and the community, the project has learned how access, availability, time, cost, and the way material is packaged affect the efficiency of distance learning. Workers at participating companies are provided with access to distance learning, and the courses provided over the Internet are accredited within the South Africa National Qualifications Framework.
- **Telecentres, Rural Radio, and Development Information** — In Mali, a community telecentre in Timbuktu is using the Internet to help rural radio stations provide information to communities on such topics as agriculture, the environment, women, energy, the economy, nutrition, health, society, and water. The project has shown that the Internet can have positive impacts on rural development. The number of prenatal visits to physicians has increased, child mortality rates have fallen, and new agricultural techniques have been adopted by a large number of farmers.
- **Learning from Project Experiences** — Acacia has developed and supported an innovative evaluation and learning system (ELSA) that enables key project implementors and stakeholders to simultaneously learn about ICTs and better gauge or measure their impact on communities and community development activities. Research in Senegal, Mali, Uganda, Mozambique, and South Africa has documented the immediate effects of telecentres within communities. The results of these studies will soon be published in a volume titled *African Telecentres: A Pioneering Experience*.

Networking Initiative in Asia and Latin America

The PAN Asia Networking program initiative and the PAN Americas project support research on the benefits of universal access to the information economy. Their goals are to provide options for developing countries and to shed light on innovative approaches. They also look for ways to link public and private sector approaches.

- **Wireless Technologies and Remote Access** — In Mongolia, IDRC support helped to create Internet connectivity and content-development services for private business, government, academia, and nonprofit organizations. Since 1998, further support has funded a study of wireless technologies as an approach to the extension of Internet access to all of Mongolia's 22 provinces.

There are now two network central stations and nine remote stations in Ulaanbaatar, and one central station and two remote stations in the city of Erdenet.

- **The Internet and Social Change** — In Latin America, Internet technology was used to nurture a network of Latin American and Caribbean academics and social activists. This research project (MISTICA) also experimented with different ways of making the network workable, both technically and socially. The study showed that while electronic links can have a positive influence on the effectiveness of a network, ways to increase participation and support lobbying efforts were also required.

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In Rio de Janeiro, collaboration was identified as an essential mechanism for realizing Agenda 21. The Bellanet Secretariat helps its partners make efficient use of ICTs to achieve their goals and to work collaboratively with other members of the global development community. Bellanet delivers several kinds of services to the development community. All are designed to support collaboration by promoting equal access to information and communication resources and forums; open dialogue among development partners in both the North and South; increased commitment to sustainable information sharing; development of tools that make it easier to share information; better ICT programming strategies; and ongoing organizational learning.

- **Open Source Collaborative Tools for Research Communities** — Bellanet is working with IDRC's Community-Based Natural Resource Management (CBNRM) program initiative to develop an online resource centre and collaborative workspace that will support the international research community working on these issues. This Web-based collaborative environment supports news, discussions, document sharing, and links management. It will be released to the public as Open Source software.

Further information on these and other examples of IDRC's research support for sustainable and equitable development can be found at: <http://www.idrc.ca/>