

IDRC in Ecuador

IDRC's support for research in Ecuador dates back to 1975. Research initiatives have contributed knowledge and solutions in many sectors, including sustainable resource management, farming systems in several ecological zones, and social and environmental performance in the mining sector.

The health impact of the use of pesticides in farming systems has been one area of investigation. For example, research has shown that potatoes can be grown using pest management methods that reduce reliance on pesticides, and the negative effects these can have. The results have contributed to practices and policies to reduce harm to people and the environment while bringing potential economic gains and sustainability for both commercial and subsistence potato farmers across the Andes.

Pesticides also feature in research supported by IDRC on Ecuador's flower export industry. Applying an ecosystem approach to human health (ecohealth), researchers showed that residents of flower-growing zones suffer negative health impacts associated with pesticides. The research team proposed methods for improving the conventional test for pesticide exposure and developed a system of community-based surveillance.

Another initiative examines the health impacts of small-scale gold mining in Ecuador. The current research builds on earlier work that revealed high exposure to heavy metals among residents of the Puyango River Basin. Researchers are now carrying out a detailed study of the dynamics of lead, mercury, arsenic, and manganese in the river basin and developing a community model for ecosystem management to control pollution and health impacts.

A regional effort, supported by IDRC and coordinated by the Toronto-based International Council for Local Environmental Initiatives, is examining how local governments can contribute to peace and security. Researchers in Ecuador, El Salvador, and Guatemala are analyzing good practices in four cities, including two near Ecuador's northern border with Colombia, to develop guidelines and tools that municipal authorities can use to reduce conflict.

Social and political volatility in Ecuador in recent years has impeded progress on some important national issues. In the run-up to the 2006 presidential election, IDRC supported an initiative by the non-governmental organization (NGO) Grupo FARO to draft a national policy agenda with citizen input. The group invited civil society organizations to provide policy solutions to 10 of the country's most pressing problems. It then incorporated the suggestions into

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policy documents on social, environmental, and economic issues that provided an opportunity for public debate.

Through the competitive Teasdale–Corti Global Health Research Partnership Program, IDRC is supporting research on comprehensive primary health care (CPHC) in nine countries, including Ecuador. In this initiative, researchers, health practitioners, and policymakers are joining forces to gather existing knowledge and explore the future possibilities of CPHC, whose principles were codified in the World Health Organization's 1978 Alma Ata Declaration. Sidelined in the 1980s and 1990s, CPHC is rising again in international policy prominence, and new research in this area is timely.

Government decentralization is often touted as a means of strengthening democracy, but the gender implications must be monitored to ensure that all benefit equally. The Facultad Latinoamericana de Ciencias Sociales in Argentina is coordinating IDRC-supported research exploring the links between decentralization and women's rights. In Ecuador, erratic state policies on decentralization have given rise to new forms of participation in recent years, including alternative local governments controlled or significantly influenced by Indigenous social movements. The Quito-based Instituto de Estudios Ecuatorianos is conducting a comparative study to determine how this phenomenon has affected women's social and political inclusion in four municipalities.

IDRC also supports efforts to put gender dimensions at the heart of natural resource management research in Ecuador and Peru. Multidisciplinary teams in both countries are advancing a gender-focused research agenda that is contributing to the sustainable use of biodiversity. It is also helping professionals in the biological and social sciences better understand and apply gender analysis.

IDRC's regional partners are broadening Internet access through wireless fidelity (Wi-Fi) technology in isolated communities, including the Ecuadorian town of El Chaco. Another initiative is producing a set of case studies to document effective partnerships involving government, the private sector, and NGOs that use information and communication technologies for development and poverty reduction efforts. Fundación Chasquinet is leading one such study examining Ecuador's experience.

Notable among earlier IDRC-supported initiatives was research during the 1980s and 1990s to improve traditional quinoa production systems, which helped provide small farmers with access to germplasm of superior quinoa varieties and other Andean crops. The work led to improved cropping systems for producers, greater awareness of the nutritional value and potential of Andean crops, and increased private-sector interest.

Since the mid-1970s, IDRC has supported 109 projects in Ecuador, some regional in scope, with a total contribution of CA\$27.6 million. The eight projects currently active represent an allocation of CA\$7 million.

RESEARCH HIGHLIGHTS

Growing Healthier Flowers

Ecuador's Granobles River Basin is one of the world's largest sources of cut flowers. A first phase of IDRC support allowed the Centro de Estudios y Asesoría en Salud (CEAS) to pursue research linking social, environmental, and human health issues in this industry. The initiative put pesticide exposure in the industry onto the political agenda, and has contributed to social and ecological standards in flower production.

CEAS and its research partners demonstrated that the enzyme test used in the floriculture industry to identify exposure to pesticides is not sufficiently sensitive for assessing occupational

exposure. The research showed pesticide contamination to be significantly higher in the floricultural (lower) areas than in the upper levels of the valley. The initiative helped to develop a community-based surveillance system and contributed to the creation of a master's program in ecohealth in Ecuador. The research also showed that floriculture used 1 000 times as much water per hectare as traditional farming systems.

IDRC is supporting CEAS in a second phase that focuses on four communities of the Granobles Basin. One component is validating an alternative pesticide-monitoring system that would significantly increase the sensitivity of the enzyme test. The research is also testing community instruments for environmental and health monitoring.

(Project # 103697, Environmental and Health Impacts of Floriculture in Ecuador, Phase II: Duration: 2007–2008; IDRC allocation: CA\$239 255; IDRC contact: Roberto Bazzani; Research partner: Jaime Breilh, Centro de Estudios y Asesoría en Salud, Asturias N2402 y G. de Vera (La Floresta), Quito, Ecuador; Tel: 593-2-2506-175; Email: jbreilh@ceas.med.ec)

Seeking Peace and Security on the Northern Border

Communities along Ecuador's northern border with Colombia live in a state of insecurity, in part because of the activities of armed members of Colombia's guerrilla and paramilitary groups who move back and forth across the frontier. By implementing the campaign, "Local Agendas for Peace and Security," the International Council for Local Environmental Initiatives aims to empower local governments to create strategies to address conflicts and reduce violence.

This IDRC-supported regional initiative is working with governments in Lago Agrio and Tulcan in northern Ecuador, Soyapango in El Salvador, and Guatemala City. The Ecuadorian studies are being led by the Ecuador branch of the Facultad Latinoamericana de Ciencias Sociales. An earlier research effort developed a baseline study, now being updated, of conflict and violence in Latin

American cities. The initiative uses a consensus-based method that has been shown to improve relationships within communities and help reconcile competing interests.

(Project # 103791, Local Agenda 21 for Peace and Security, Phase II: Duration: 2006–2008; IDRC allocation: CA\$395 097; IDRC contact: Gerd Schönwälder; Research partner: Konrad Otto-Zimmermann, ICLEI – Local Governments for Sustainability, City Hall, West Tower, 16th Floor, 100 Queen St. W., Toronto, ON, Canada M5H 2N2; Tel.: 416-392-1462; Email: konrad.ottozimmermann@iclei.org)

Analytical Tools on Gender and Natural Resources

The relationship between gender and the equitable use and management of natural resources is a critical topic in Latin America and the Caribbean, especially for Indigenous groups. Ecuador and Peru both have significant Indigenous populations in biodiversity-rich regions, where resource-use conflicts are common. With IDRC support, the Ecuadorian NGO Grupo Randi Randi is helping to put gender on the natural resource research agenda by generating case studies, training materials, and a technical support program for institutions wishing to incorporate gender in conservation and development projects.

The researchers have strengthened national and regional research networks by holding meetings in Ecuador, Colombia, and Peru. In collaboration with EcoCiencia and the World Conservation Union, discussion forums via the Internet have been held, with participation from across Latin America. The researchers' efforts have led major universities in Ecuador to consider setting up natural resource management courses with a gender focus.

(Project # 102101, Managing Ecosystems and Resources with a Gender Research Focus; Duration: 2004–2007; IDRC allocation: CA\$474 220; IDRC contact: Merle Faminow; Research partner: Susan Poats, Grupo Randi Randi, PO Box 17-11-6102, Quito, Ecuador; Tel: 593-2-2448-112; Email: randirandi@ramt.com)

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Potatoes and Human Health in the Highlands

In Ecuador's highlands, farmers suffer neurotoxic effects from heavy pesticide use in potato cultivation. IDRC-supported research carried out by the International Potato Center (CIP) showed that up to two-thirds of rural inhabitants suffered significant neurological impairment associated with pesticide exposure. A new phase of IDRC support is helping CIP researchers, collaborating with Ecuadorian, American, and Canadian specialists, to scale up research and policy influence efforts in the provinces of Bolivar, Carchi, and Chimborazo. Earlier research in Carchi that focused on commercial production systems is being expanded to subsistence farming zones with high levels of poverty, malnutrition, and land degradation.

The researchers aim to provide an accurate estimate of pesticide-related health problems for policy-making purposes. They have identified the major pesticides in use, and confirmed that most potato farmers are unaware of safer potato-growing practices such as integrated pest management. The research team is working with communities to develop communication and education programs, and with municipalities and health authorities to reduce the risks of pesticide use.

(Project # 101810, Human Health and Changes in Potato Production Technology (Ecuador) – Phase II; Duration: 2004–2008; IDRC allocation: CA\$494 870; IDRC contact: Andrés Sanchez; Research partner: Fadya Orozco, International Potato Center, Apartado Postal 1558, Lima 12, Peru; Tel: 51-1-2690-362; Email: f.orozco@cgjar.org).

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Broadening Internet Access in Remote Communities

In many parts of Latin America, remote and rural communities must make do with only one point of Internet access. However, Wi-Fi technology connects many facilities with one Internet antenna, without additional recurring costs. IDRC is supporting Wi-Fi pilot initiatives in isolated communities. These are being implemented by Brazilian, Colombian, Ecuadorian, and American partners, along with the Fundación Escuela Latinoamericana de Redes.

One community to benefit from the pilot initiative is the town of El Chaco near Ecuador's Amazonian rainforest. The NGO Chasquinet worked with the community to develop a plan for implementing the Wi-Fi initiative and provided training in Internet use for community development. The knowledge accessible through wider Internet access, combined with training, has assisted local businesses, including a mushroom farm and a cheese factory.

(Project # 102177, Wi-Fi for Development; Duration: 2003–2007; IDRC allocation: CA\$382 200; IDRC contact: Ben Petrazzini; Research partner: Hermann Pietrosevoli, Fundación Escuela Latinoamericana de Redes, Apartado Postal 514, Mérida, Venezuela 5101-A; Tel: 58-274-240-3320; Email: ermanno@ula.ve)

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