

# Health

AN ECOSYSTEM APPROACH

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## Health, Environment, and Indigenous Culture

Revitalizing Chile's Mapuche communities

*Indigenous people around the world are among the planet's poorest and most marginalized. They are also the most dependent on sustainable, healthy environments for their well-being. In Chile, researchers and Mapuche organizations, supported by Canada's International Development Research Centre (IDRC), are working together to better manage the local environment and improve community health. In the process, they have developed an innovative "intercultural" approach to community development built on equity and respect for the social and cultural demands of local Indigenous populations.*



IDRC: Kevin Conway

A respected elder, Carmen Marín is a link to her community's past and to their present efforts to improve their health.

Carmen Marín's kitchen garden or *huerto* is a tangle of greenery. But the native elder smiles at any hints that it is in need of a good weeding.

"We grow the good plants and bad plants together," she says. "This is the natural order and a balance must be maintained if the plants are to grow strong and healthy."

Carmen Marín is a respected elder among her people, the Mapuche of southern Chile. The knowledge of medicinal plants,

both wild and cultivated, that she and traditional healers known as *machi* possess has been a first line of defence in community health strategies for generations. Yet it is one that is largely ignored by "modern" public health interventions.

The clash between traditional health beliefs and modern approaches to treatment and prevention of disease embodies the Mapuche struggle to find their place within contemporary Chile. The Mapuche are proud of their traditions and culture. However, the lingering effects of colonization and repeated attempts at assimilation have bred mistrust of the larger Chilean society. Centrally planned, top-down programs geared to the perceived needs of the "natives" have done little to ease tensions. Indeed, they have often made the situation worse. The ecosystems that once sustained the Mapuche have suffered as families and communities struggled to gauge and control the effects of imported development schemes. The net result is an Indigenous population that is among the country's poorest and most marginalized, despite repeated attempts by governments and other social agencies to improve the Mapuche's living conditions.

### The search for alternatives

Finding ways to promote more equitable and sustainable development through better collaboration between the Mapuche, the state, and Chilean society has been the focus of much of Dr Teresa Durán's work. In the mid-1990s, as Director of the

Centre on Sociocultural Studies (CES) at the Universidad Católica de Temuco (UCT), Dr Durán evaluated an IDRC-funded project to establish community-based water testing in isolated communities of the South. Tests had revealed high levels of fecal contamination in the wells, streams, and rivers that supplied drinking water to homes in two Mapuche sectors or administrative units, Makewe and Rüpükura.

To rectify the problem, a local organization from Makewe turned to IDRC for continued support and a package of clean water and sanitation technologies. While many of the techniques were adopted in several communities of Makewe, people in Rüpükura did little to improve the situation. Digging deeper, Dr Durán discovered that leadership problems had divided the community along generational and religious lines. Furthermore, the local population saw little benefit in a technology transfer project. In their view, water and sanitation were part of much larger health and livelihood issues.

Drawing on her relationships with Mapuche and non-Mapuche academics, development practitioners, and Indigenous community groups, Dr Durán successfully negotiated a leadership structure for a collaborative research project to which all parties could agree. An intercultural and interdisciplinary team was formed, made up of the CES, UCT's Centre for Sustainable Development (CDS), the Asociación Indígena de Rüpükura, and the Centre of Education for the Development of the South (CET SUR). Together they designed a project to address issues associated with water supplies, community health, food security, soil fertility, and sustainable agricultural practices. This broader vision of local development dovetailed easily with the ecosystem approaches to human health (Ecohealth) that IDRC was examining.

"The closer the relationship between men, women, and their natural milieu, the more people's well-being is tied to the conservation of health, be it of humans, animals, or the environment itself," says Dr Durán. "Our approach was participatory and integrated to try to balance economic growth with sustainable development and people's health."

Part of that approach meant addressing the absence of local leadership in community development. Although Indigenous groups or individuals were often involved in programs and projects funded by the state and charitable organizations, their participation was limited to accepting and implementing the plans of others. To fully integrate a Mapuche perspective and presence in community development, Durán and her team saw the need to address the thorny issues of Mapuche, state, and Chilean society relationships as essential. This meant finding ways to mend the rifts within the Mapuche communities so that local leaders could clearly and forcefully articulate the views of their entire community.

As a first step, the research team helped the Mapuche leaders or *longkos* register the Asociación Indígena de Rüpükura as a legal entity and then pushed to have it named as a funding recipient, along with the university.



IDRC: Kevin Conway

The Mapuche blame changes to their ecosystem on deforestation and land shortages.

This latter point may seem insignificant, but it was important, says Andrés Sánchez, IDRC Program Officer. "Funding the Asociación directly gave the communities a seat at the table as equal partners that could negotiate with the University of Temuco and other institutions about what would be done, when, and by whom. It gave them more control in setting an agenda for research and action."

While the university took the lead role in a baseline study to identify indicators of human and ecosystem health, the community led the way in planning and testing techniques to protect and manage water, soil, and plant resources and to guarantee food security.

## Local action plans

Researchers surveyed more than 80 percent of the 150 households scattered along the steep slopes of Rüpükura's Chol Chol Valley. They focused on four areas: health, the environment, economy and productive systems, and social organization. Among other things, they gathered information about local history and state-Mapuche relationships, local perceptions and traditional beliefs about health, common illnesses, types of soil erosion and environmental degradation, agricultural practices, the water needs of households and communities, and the management of organic waste. The entire team drew on this information to develop an action plan to address the environmental and health-related concerns of the community.

To date, that action plan has provided some relief to water shortages and erosion problems by introducing water and soil conservation techniques such as contour plowing, the use of check dams to slow runoff, and crop rotation. Simple technologies, like gravity-fed, ferrocement wells and tanks located on hillsides above the farmsteads have helped to protect household drinking water supplies. These structures were strategically located to provide homes with clean water while respecting the Mapuche tradition of leaving water sources in their natural state.

In agriculture, the action plan emphasized environmentally friendly resource management techniques, such as natural methods of pest control, increased crop diversity, reduced reliance on agrochemicals, and composting household and animal wastes. Traditional crops, like *kinwa* or quinoa, have been reintroduced. In one instance, the women of Rüpükura exchanged seeds with women in a neighbouring sector and repatriated six indigenous varieties of bean, one variety of chickpea, and one variety of pea that had disappeared from Rüpükura.

## Revitalizing “community”

According to Dr Durán and the other project staff, “the project underscored the complexity of interactions between Indigenous groups and institutions charged with planning and delivering official development programs.”

By helping to voice a stronger, more unified Mapuche perspective on local development, the project has changed the nature of those interactions — although not always to everyone’s liking. Municipal authorities, for example, signed an agreement at the outset of the project to include community development proposals stemming from the research in the delivery of municipal programs and services to the Mapuche of Rüpükura. Municipal staff, however, see this agreement as complicating their work. Where delivering municipal programs was once a matter of finding the right people to administer them, there is now a need to present, explain, and negotiate programs with Mapuche representatives. Feedback on the quality and relevance of services is now voiced through community discussion and consensus that requires more thoughtful answers and actions by municipal authorities.

Regional and national authorities, on the other hand, have seen the broader representation and increased organizational capacity of the Asociación as an opportunity to better articulate their programs. For example, the National Corporation for Indigenous



IDRC: Kevin Conway

Local participation in community development has spurred a cultural revival.

## Indigenous culture in development planning

The intercultural approach that Durán and her team developed brought together community members and their leaders with academics, legal experts, and municipal and state authorities.

The following overlapping activities were carried out during the project to promote dialogue and better understanding across cultures and to build new, more inclusive forms of planning and delivery of official development programs:

- Exploring Mapuche history and culture, including the local history of Rüpükura, and the implications of Chile’s current legislation, the *Ley Indígena* (Indigenous Law);
- Strengthening the capacity of the Asociación Indígena de Rüpükura to communicate and negotiate with public institutions, such as the National Corporation for Indigenous Development (CONADI) and the National Institute for Agriculture Development (INDAP);
- Sharing experiences from Rüpükura with Mapuche organizations in other sectors of Chile; and
- Facilitating self-assessment of the intercultural team through regular meetings between the university researchers and the Asociación.

The development of this intercultural approach continues. At the close of the project, a first diploma course, *Intercultural Health: Theory and Practice*, for health personnel and managers of government programs was offered at the university, with funding from the health services authority of the region, Servicios de Salud Araucanía Norte y Sur. This was followed by a second diploma course, *Applied Intercultural Approaches in Public Administration*, for 40 senior members of the public service. Both courses were taught by Mapuche academics and practitioners in collaboration with the university.

Development (CONADI) provided funding for irrigation works and implemented a program to help Indigenous communities register their water rights. The program met with resistance from more traditional Mapuche groups who view water not as a commodity but as inalienable from the land and the people that require it to survive. Meetings among the parties were organized and the pros and cons debated. In the end, Rüpükura’s communities registered their water rights, but as a precautionary stance.

The Asociación has also matured and reforged relationships among competing factions in Rüpükura. This has allowed the Mapuche to move many of their past grievances forward — those related to the “scarcity of land” and contamination of farmland and water from the aerial spraying of tree plantations with pesticides, for example. Women’s groups also emerged within the communities of Rüpükura to further their interests. Although their focus is health and agricultural production, each community adapted the theme to its own needs. In Pedro Marin, for example, women residents focused on promoting traditional medicine and the growing of medicinal plants for family use. In neighbouring Anselmo Quintriqueo, the women’s group worked to improve family vegetable gardens using organic growing techniques, such as composted manure to increase soil fertility. In collaboration with the project team, the women of Juan Nahuelpi organized a series of health talks on the control of high blood pressure and the care and prevention of respiratory

infections. By lobbying the Asociación and municipality, they also obtained funds to improve the local health post and make it more comfortable for health care personnel and patients.

According to IDRC's Sánchez, one direct outcome of the changes within the community and the Asociación has been increased investment. "IDRC's modest contribution of US \$60,000 has been used to mobilize 10 times this amount from other state authorities."

Among the notable projects funded were irrigation works and water rights through the CONADI, beekeeping and soil conservation programs through the National Institute for Agriculture Development (INDAP), and applied research on indigenous crop varieties through the state-supported Agricultural Innovation Fund.

Another evident change has been the "rediscovery" of lost or forgotten traditions. When the community of Zewco joined the Asociación, the *longko* and elders from this community organized a traditional religious celebration known as a *nguillatun* — the first seen in the sector for over two decades. They also built a *ruka*, a traditional Mapuche dwelling. The *ruka* is now a community gathering place where young and old meet to remember traditions, dances, and crafts. It also stands as a reminder of a Mapuche perspective and presence in Rüpükura that is now impossible to invalidate or ignore.



IDRC: Kevin Conway

Rüpükura's children rely on complementary health care systems for their well-being — traditional and modern.

This Case Study was written by Kevin Conway of IDRC's Communications Division.

[www.idrc.ca/ecohealth](http://www.idrc.ca/ecohealth)

## For more information:

### Teresa Durán Pérez

Directora  
Centro de Estudios Socioculturales  
Universidad Católica de Temuco, Campus San Francisco  
Pasaje El Bosque 697, Casilla 15-D  
Temuco, Chile

Tel: (56 45) 205626/ 27  
Fax: (56 45) 205627  
Email: [cesc@uct.cl](mailto:cesc@uct.cl)

## Ecosystem Approaches to Human Health

Human health and well-being are intimately tied to the health of the ecosystems that sustain life. Yet the potential for improving health by better managing the local environment is an avenue rarely explored in mainstream health programming. Through its Ecosystem Approaches to Human Health (Ecohealth) Program Initiative, IDRC aims to identify the web of economic, social, and environmental factors that influence human health. Communities can then use this knowledge to better manage ecosystems and improve the health of both people and the ecosystem.

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Ecosystem Approaches  
to Human Health Program Initiative  
International Development  
Research Centre  
PO Box 8500, Ottawa, ON  
Canada K1G 3H9

Tel.: +1 (613) 236-6163  
Fax: +1 (613) 567-7748  
Email: [ecohealth@idrc.ca](mailto:ecohealth@idrc.ca)  
Web: [www.idrc.ca/ecohealth](http://www.idrc.ca/ecohealth)

The International Development Research Centre (IDRC) is a public corporation created by the Parliament of Canada in 1970 to help researchers and communities in the developing world find solutions to their social, economic, and environmental problems. Support is directed toward developing an indigenous research capacity to sustain policies and technologies developing countries need to build healthier, more equitable, and more prosperous societies.

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