

**An Address by
Maureen O'Neil
President, IDRC
to
Engineers Without Borders
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Thank you for your kind introduction, and good evening to you all. I have to say, to begin with, that it was a particular pleasure for me to receive this invitation from your organization—Engineers Without Borders. At IDRC, we welcome and applaud your efforts to bring the special knowledge and skills of science and engineering to the work of peaceful and sustainable international development.

After all, your objectives go to the mandate and operations of IDRC itself. The International Development Research Centre was established by Parliament in 1970 with exactly this mission: to promote and conduct research into the problems of the developing regions. And we do that chiefly by fostering the indigenous research capacity of the developing countries themselves. In the end, development occurs when people have the knowledge—and the power—to identify their own problems and explore their own solutions.

Let me give you an example. We in IDRC have been directing a lot of our energies to improving the management of scarce water in developing countries. (As you all know, scarcities of good-quality fresh water now threaten economic progress, social peace, and even survival, for millions of people around the globe.)

For decades, many of the solutions to scarce water supplies have been defined in engineering mega-projects—big dams on big rivers, altering entire geographies, or vast irrigation systems that change whole economies. But the world is reaching—and in some cases surpassing—the limits to that kind of engineered solution. There are not many accessible rivers left to dam, and we understand better now the environmental and social destruction that damming can cause. Big irrigation projects are similarly burdened with environmental, economic, and social costs.

So the focus now is more on managing water supply and demand on smaller scales, at local levels. Some of the most productive engineering research now looks to systems for collecting and distributing rainwater at the scale of households, or villages, or city neighbourhoods. It looks to irrigation engineered for the smallest farms and villages. It looks to managing urban aquifers to supply the poorest neighbourhoods in Latin America, Asia, and Africa.

With these new approaches to local water management, exciting engineering innovations are being introduced to make the conservation, supply, and distribution of water more efficient, more fair, and more sustainable.

But we have also been discovering what engineering alone cannot accomplish. Or rather, we are meeting the challenges of transforming engineering and scientific knowledge into policy, and into practice. In fact, some of the great engineering answers present us with even tougher questions of politics, economics, and social organization. How do we make a wastewater treatment plant workable and safe after the specialist engineers have left? How do we regulate expensive well-drilling, so that rich landowners aren't the only ones who can afford or profit from it? What kinds of governance will best ensure that the benefits of new engineering will be shared fairly, and productively, and sustainably?

A prominent scholar at this university, Thomas Homer-Dixon, has framed such questions in terms of “the ingenuity gap”—the dangerous distance between our technical achievements and our social/political capacity to manage those achievements, and to control their consequences. Obviously, Homer-Dixon is not proposing a stop to technical innovation. What he is proposing is an acceleration of social and political innovation, to catch up. More often than not, the worst and most pressing problems we now face are less about technical innovation than about social innovation—problems of politics, of economics, of culture and organization.

Some might think that lets you engineers off the hook. Wrong. I am convinced that the work of research and engineering in development is not complete until it has had a real effect on policy and practice. You might devise a brilliant new technology for harvesting water from fog, or from the dew that forms in the desert night. But until you have explained that innovation to local people convincingly—and to decision-makers in language they understand—and until you have made the application of your innovation affordable and manageable, you have not finished the job. (In the case of collecting water from fog, for example, it has to be said that we got the technology right. But not the economics, and not the organization that was needed for long-term management of the system.)

At IDRC, we think of this as closing the loop: through research to policy to practice, and then back to more research. And it is an enormous challenge, in everything from public health to trade policy to peacebuilding. Closing the loop can generate dramatic and lasting improvements in people's lives. Failure to close the loop between knowledge, policy and practice can result in calamitous tragedy—as we have seen in the poorest communities of the developing world, and just down the highway in Walkerton.

As I say, this is the mandate of IDRC. We promote the search for practical solutions to practical problems, as defined in poor countries by the people of those countries. In the past three decades, the Centre has funded approximately 6,500 projects in 122 countries. It has sponsored and participated in training for thousands of researchers in the South. And this work has been able, in varying degrees, to influence policy in such crucial

realms as economic development, environmental protection, health, agriculture, and urban planning.

Just to give you a clearer sense of IDRC activities—and to encourage you all to consider how you might work with us—I should add that the Centre now concentrates its programs in three main areas. These are: environment and natural resource management; information and communication technologies for development; and social and economic equity.

These three concentrations reflect IDRC's founding tenet—that a country's development depends on the capabilities of its people to address their own problems. More than that, IDRC programs increasingly focus on research that immediately informs—and reforms—policy and the policy process. It is this transformation of new knowledge into policy and practice that preoccupies us most.

As part of that mission—and here I want to speak directly to your own future plans—IDRC has been accepting and supporting up to a dozen interns every year. Our intern program, now more than a decade old, pays off in at least three important ways. It advances the dissemination of research skills throughout the developing world. It enlarges Canada's own capacity to contribute to international development and peacebuilding. And it offers the interns themselves special opportunities to enrich their experience and their careers.

Each IDRC intern is assigned a program officer as a mentor. Interns spend half their time working with mentors and other Centre staff on IDRC projects. The other half of the time is invested in a research project of the intern's own design. Actually, the personal research proposal forms an important part of the application for an IDRC internship. I invite anyone who is curious about these opportunities to go to the Centre's Web site (www.idrc.ca). There you can learn more about the Centre generally, about internships, and about IDRC program initiatives that might fit your own research interests.

Our interns so far have been drawn from a wide diversity of disciplines. Surprisingly, perhaps, only one has been an engineer. With her first degree in engineering, Ritu Vema worked on development projects in Asia and sub-Saharan Africa before returning to university for a Master's degree in international affairs. As a Centre intern from 1997 to 1999, she worked in the IDRC program on people, land and water—and with UNESCO in Nairobi. Her experience led her to write a book (*Gender, Land, and Livelihoods in East Africa*), published by IDRC last year.

I have mentioned research on water management, in part because that is a field where IDRC has applied much of our own engineering capabilities. And here I can highlight a wonderful example of engineering interacting with the social and cultural dimensions of development. IDRC program officer Naser Faruqui—a world-recognized authority on water management—is an engineer. He is also one of the authors and editors of the book *Water Management in Islam*. This is a groundbreaking examination of Islamic norms,

rules, and traditional practices for the management and sharing of scarce fresh water. And it's a good display of the social sciences and the hard sciences strengthening each other.

Among many other examples of engineering research for development, I will only add the obvious case of information and communication technologies. Here too, IDRC is supporting several timely projects exploring the linkages between technology and social change—effects of the Internet, for instance, in poor communities of Latin America. Along those lines, IDRC is now the lead partner in launching the Institute for Connectivity in the Americas; the Institute was announced by Prime Minister Chrétien last year at the Quebec Summit of the Americas.

Finally, let me say a word about Afghanistan. For Engineers Without Borders, there can hardly be a more powerful argument for your mission than the desperate urgency of reconstruction and peacebuilding in Afghanistan. The requirements in Afghanistan for engineering and technical capacity are as stark as they are compelling. Think of clearing the fields of landmines; of rebuilding roads and airports and the other necessities of physical infrastructure; of restoring housing and schools and hospitals; of building a power grid in a country where something like six per cent of the population has access to electricity. All of this, of course, means building institutions of government strong enough to lead Afghanistan's development while beginning to heal its deep political wounds.

For our part, IDRC is considering the ways that the Centre might help. In early December 2001, IDRC received a large proposal from the International Center for Agricultural Research in the Dry Areas, ICARDA, on "Providing Seeds to Assist Farmers Restore Food Security in Afghanistan", and we are committed to provide support. There were 75 people from 37 organizations who wanted to work together with Afghanistan to restore food security.

I emphasize these issues because Afghanistan is not the only place confronting the complex, dual challenges of post-conflict peacebuilding and long-term development. That is a condition endemic to much of the developing world.

For more than 30 years, IDRC has found ways to contribute to those efforts by generating and spreading the knowledge needed for peaceful and sustainable development. I am delighted that in Engineers Without Borders you are discovering your own contributions to development, and to peace.

I congratulate you, and I wish you well.

Thank you.