

Encouraging and Capitalizing on Innovation at IDRC

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Executive Summary

This paper analyzes how well the IDRC, a research-for-development organization, is set-up to encourage and capitalize on innovative activities. It uses a framework developed by Annabalie composed of criteria considered essential by research scientists for fostering innovation. Given that IDRC is a research organization that was established to initiate, solicit and help develop innovative research ideas, it is not surprising that the organization is set-up well for encouraging innovation — it has a sound mechanism for considering new ideas, it gives public recognition to POs and research partners who successfully innovate, and it does not punish for failed research projects. Furthermore, IDRC devotes adequate resources to encouraging and developing innovative research. Overall, Senior Management has created an environment characterized by freedom, a sense of challenge, and effective work groups. Despite this, the Centre can boast relatively few success stories. Given the nature of research that IDRC is supporting, very few of its research projects can be expected to be unqualified successes. However, after 30 years, and more than \$30 billion in research grants, IDRC likely would have been able to capitalize on such innovation with more successes if it had paid better attention to careful project management. IDRC has not fared well when it comes to project management related to seeing innovative research through the full project cycle. Project monitoring is poor, IDRC is working too superficially in too many countries, and it has a spotty record in disseminating research results to decision-makers in developing countries. Considering the current atmosphere of donor fatigue, it is essential that IDRC demonstrate to Canadians concrete impacts arising from the implementation of high-quality research results. On the basis of this analysis, the following recommendations are:

- Attaining an 80 per cent monitoring approval rate by recipients within five years.
- Establishing a research dissemination and policy-uptake branch within two years;
- Cutting by 50 per cent the number of countries where new projects will be supported by fiscal year 2002-03.

Introduction

This report analyzes how well the International Development Research Centre (IDRC) is set up to encourage and capitalize on innovative activities.

In today's world, information and, more importantly, knowledge are the cornerstones of success for more and more organizations. For a cutting-edge research organization like IDRC, new knowledge depends on developing innovative ideas and technologies, or implementing and improving old technologies in innovative ways.

First, this document comprehensively describes IDRC's mission, and then outlines the conceptual framework used to analyze the Centre. It then examines how IDRC fares against each element of the framework —investigating the underlying reasons for its performance. After describing what is most important for IDRC to address and why, three major recommendations are outlined, and conclusions are offered.

Overview of IDRC

The International Development Research Centre is a Canadian Crown Corporation that supports scientists in developing countries who are conducting research to alleviate their social, economic and environmental problems

The Centre was established in 1970, to build research capacity in the South. Specifically, the IDRC Act states that the public corporation is “to initiate, encourage, support, and conduct research into the problems of the developing regions of the world.”¹ While the IDRC is a Crown Corporation, it is intended to operate at arms-length from the Canadian government. Although the Act states that IDRC may use its budget to conduct its own research, historically it has focused on helping developing countries become self-sufficient in solving their own problems. IDRC often uses the following metaphor to describe its mandate: feeding a hungry man will allay his hunger for a day, while teaching him how to fish will allow him to allay his own hunger for a lifetime.

In addition to its head-office in Ottawa, IDRC has six offices in the South: Singapore, New Delhi, Cairo, Dakar, Nairobi, and Montevideo. The bulk of IDRC's funding, 36 per cent, supports research in Africa, while 26 per cent goes towards research in Latin America and 22 per cent towards research in Asian. The remainder assists global activities. IDRC's current budget of \$85 million is spent supporting its recipients with research grants, as well as covering the salaries of its Program Officers (POs) -- specialists who help develop research programs, monitor research projects, and guide its recipients work.

IDRC has evolved considerably since it was first set-up with a budget of \$1.4 million in 1970. IDRC projects during the first decade focused on single commodities, single crops, and single centres of economic activity, and were typically confined to a single scientific discipline. Examples were the development of new crop varieties such as canola, or mechanical devices such as better handpumps, or economic studies into how marginalized people, such as rickshaw drivers, earned a living.

During the 1980's, IDRC began stressing more inter-division collaboration. For example, health scientists and communication experts worked together to increase the acceptance of immunization of the poor in Indonesia. As the number of trained scientists in the South continued to grow, projects aimed at developing research capacity became less relevant for some countries, and IDRC began to see that funding of networks and information-sharing mechanisms were more important.

In the 1990's, IDRC had to respond to Federal Government budget cuts that reduced its parliamentary appropriation from \$115 million at the beginning of the decade to \$87 million at the end of the decade. This required laying-off staff. The Centre also responded by moving from an emphasis of 55 divisional subprograms grouped by scientific division, such as health sciences, to 11 multidisciplinary program initiatives that sought to address specific, well-defined problems.

Notable innovations resulting from IDRC research include: developing a disease resistant variety of Canola for China, a technology to harvest drinking water from fog in remote mountainous regions of Chile, and helping the exiled mass democratic movement in South Africa prepare for a post-Apartheid state by building its environmental and scientific research capacity,²

Innovation at IDRC can be measured in two ways — innovations in products themselves, such as the “gold-finger banana,” a new banana variety more resistant to pests that has increased the incomes of poor farmers in Latin America, or innovations in the way IDRC supports the research. Of course, the former often depends upon the latter.

Framework used to organize the discussion

The conceptual framework developed by Amabile³ based on a comprehensive study of 120 Research and Development (R&D) Scientists from more than 20 corporations will be used as a basis for analyzing IDRC. The scientists were asked to outline factors that seemed important to either very high or very low creativity in their organizations. While the scientists related features relevant to both personal qualities and environmental factors, the latter were mentioned more often than personal qualities. The importance of environmental factors is notable, not because intrinsic motivation of people is less important to creativity than to environmental factors. However, once it hires its staff, an organization can do little to change or cultivate traits relating to intrinsic motivation, but it can change the environment or, at least, staff perception of it.⁴ The scientist's responses were grouped into nine different qualities of environments that enhance creativity, ranked below:

1. Freedom
2. Good project management
3. Sufficient resources
4. Encouragement
5. Various organizational characteristics
6. Recognition
7. Sufficient time
8. Challenge
9. Pressure

Annabalie also was able to distill nine of the most important environmental obstacles to creativity. They are largely the opposite of the positive characteristics given above. For example, instead of freedom, project teams faced constraints, although in events of poor creativity, the inhibitors were not necessarily ranked in the same order as the stimulants to creativity. Annabalie later grouped the above factors into the following three elements of a conceptual framework for analyzing innovation in organizations:

Organizational motivation to innovate. This element reflects how well the organization itself, as distinct from management practices, is set-up to innovate. It includes:

- A mechanism for considering new ideas
- Open, active communication of information and ideas
- Reward and recognition of creative work
- Fair evaluation of work, including an atmosphere where failure is not fatal

Resources. What an organization makes available to support innovative work, including:

- Sufficient time
- People with necessary expertise and
- Adequate funds

Management Practices. This reflects both corporate level management and management at lower levels and includes:

- Freedom in doing one's work
- A sense of challenge in the nature of work problems
- Compilation of effective work groups
- Effective and Disciplined project management

It is useful to group the factors because it makes it easier to isolate the over-riding causes of either successful or failed innovation. For instance, perhaps the organization is structurally set-up to encourage innovation, but it hires managers that are not. However, the elements do overlap and are obviously related. Also, they can either undermine or reinforce each other. For instance, management practices that encourage innovation can eventually change the very culture of an organization, and this can attract better managers who will then help build the virtuous circle. Conversely, if inadequate time is not available to experiment with approaches that may go nowhere, then staff will not be entrepreneurial, no matter what the company mission statement or Act says.

The above framework will be used to analyze IDRC because it represents the latest thinking on creativity, and because the original factors and their rankings were based on interviews with R&D Scientists — IDRC is a R&D organization.

Analysis

This section analyzes how well IDRC encourages and capitalizes on innovative work.

Organizational motivation to innovate

By definition, as a research organization, IDRC strives for innovation. In fact, innovation is crucial to IDRC's continued support from the Government of Canada. Thus, it is not surprising that the organization is structurally set-up very well to encourage innovation.

IDRC is set-up to welcome new and innovative ideas, including unsolicited proposals, from scientists in developing countries who need funds and technical support to further developing their research. The proposal review mechanism is well structured, with a clear review process that requires reviews from at least three different IDRC POs.

There are three mechanisms that must be engaged before IDRC supports new research ideas, even for research ideas that do not fit into the existing program framework.. First, a PO may propose an "exploration" — a focused study of a new research area. If the proposal is considered feasible, he or she is awarded funds to further develop the idea. An exploration can turn into a new PI, or a secretariat or a special project. Existing projects within PIs that have evolved past conventional IDRC funding can also turn into secretariats or special projects.

Through international secretariats, IDRC brings together donors to develop research agendas and share costs. Secretariats are able to undertake research that is more ambitious than the Centre would be able to support on its own. IDRC manages nine international secretariats, such as the Micronutrient Initiative, established to find the best ways to eliminate deficiencies in vitamin A, iron and iodine among the world's poor.

In addition to its program initiatives and secretariats, IDRC has developed several large corporate projects. These projects respond to special needs and opportunities that fall outside the Centre's conventional funding framework. For example, IDRC supports Canada's participation in the Middle East Peace Process by managing the Expert and Advisory Services Fund set up by the Department of Foreign Affairs and CIDA.

IDRC's atmosphere is intellectually stimulating. Workshops and seminars on a myriad of fascinating developmental issues such as globalization and the environment are regularly held in the Centre, and all staff members are encouraged to attend as many as possible.

Given IDRC's mandate, innovative work receives the most feedback and recognition. Both IDRC POs and the researchers they support are recognized for developing innovative projects through public acknowledgment of their work, and dissemination of results to their peers, the public and other development organizations. This includes:

- Publication of interviews with IDRC experts on IDRC's public website;
- Profiling POs and scientists in IDRC's Annual Report and *IDRC Reports*, a glossy publication; and,

- Arrangement of interviews with the media.

Special monetary rewards for innovation are non-existent because they would not respond to the intrinsic motivation of IDRC POs, and may conflict with research meant to serve the public good rather than private interests.

Scientists in developing countries undertake their research in an atmosphere of ignorance, poverty, conflict, corruption and other difficult social and institutional problems. And although the scientists are intelligent and idealistic, they often have low research capacity and sometimes work in dysfunctional institutions that mirror the societies where they are located. For the last two decades, many Southern countries have regressed, rather than developed. Thus, very few of IDRC's research projects that develop an innovative product or policy are expected to achieve unqualified success. Failure cannot be considered fatal in the sense that this is the nature of research, especially in a developing country context.

Another reason for high organizational motivation in IDRC is that structural elements that deter creativity, such as turf battles, destructive criticism and internal competition are minimal. Furthermore, as an independent Crown Corporation, not subject to standard treasury board guidelines, a level of bureaucracy far lower than most government departments characterizes IDRC. This gives individual staff far more flexibility to respond to the particular needs of the situation.

Resources

Given its mandate, IDRC's funding is made available for innovative work. The Centre also reserves part of its budget every year for unforeseen projects that do not fit anywhere else.

Sufficient time to do innovative work can sometimes be a problem, because innovation resulting in sustainable development results takes time. In some respects, IDRC can often have too innovative a perspective, by moving on to the next cutting-edge issue before the research ideas supported earlier have been nurtured, however this point will be discussed further below. POs must approve projects and spend budgets by the end of the year. This latter point is not really a criticism, rather an observation of the inherent tension that must be balanced because IDRC is a government granting agency.

IDRC also has talented people with the expertise to recognize innovative ideas when they see them, and who have the technical expertise to help nurture the idea. POs have a wide variety of background incorporating all elements of the applied, natural and social sciences. IDRC POs are expected to work mainly in one PI, called their home PI, but to also act as a resource member with another PI, spending 15 to 25 per cent of their time on the latter. Finally, when necessary, POs also have the freedom to hire specialized consultants, when the required expertise does not exist within the Centre.

Management Practices.

IDRC POs enjoy considerable freedom in how they do their work.. Each PO is granted a yearly research and travel budget that can be used as he or she sees best fit, within ethical and strategic program framework guidelines. The travel budget allows for 10 to 20 weeks of fieldwork travel a year. IDRC's POs are also free to attract more funds from other PIs within IDRC, or, with the support of the Partnership and Business Development Office, to attract funds from other donor organizations, such as CIDA and the World Bank.

IDRC Senior Management and its POs are scientists possessing a deep-rooted social consciousness working to address development problems by applying methodical, scientific approaches. They have traveled a great deal witnessing many development projects, most of which failed. The staff tends to be motivated by the daunting challenge of addressing these successes and failures, either at the micro- or macro-level. IDRC Management reinforces this intrinsic challenge by maintaining an intellectual atmosphere.

However, in the past, management has not been very disciplined about moving from the general challenge of helping address poverty through research, towards defining more specific and measurable challenges. For example, IDRC will install and pilot-test 15 low-cost sustainable waste treatment plants in Jordan by the end of 2002. Management finally required these types of specific objectives in a prospectus of results that all PIs had to produce in 1999.

Since 1995, when it re-organized, IDRC PI teams have been multidisciplinary, "whole-brains, with cross-functional expertise and experiences from different countries. For example, a team examining mercury contamination in the Amazon included a neurotoxicologist, a tropical forester, a fisheries biologist, and a sociologist. Staff challenges each other's ideas in constructive, good-natured, and even humorous ways. They tend to trust each other, communicate well, and are mutually supportive.

IDRC does not fare as well, however, when it comes to project management, which is often undisciplined and ineffective. The failure lies in three main areas. First, despite the excellence of its staff, project monitoring has never been very good in IDRC, and has deteriorated in recent years. Because of insufficient guidance resulting from overworked POs, the vast majority of scientists in developing countries actually carrying out the work are not able to attain their full potential for achieving real measurable results. Furthermore, POs often want to monitor projects more frequently, but do not have the time because they are working in too many countries, which limits the number of field visits they can make to each project. Finally, from the project outset, IDRC has been historically poor at disseminating and implementing its research results. It has not acknowledged that, to do this, it must deal directly with policy-makers, nor has it recognized that other donor agencies, even other Canadian organizations such as CIDA, are usually not interested in implementing IDRC's research and that it must do this itself.

All of these factors have meant that although IDRC has helped support a lot of innovative ideas, too few have changed people's lives in demonstrable ways.

Recommendations⁵

The forgoing analysis demonstrates that IDRC is very good at soliciting and developing creative ideas because of the way that the organization was originally set-up. Most of its management practices supporting innovation are also sound, with the exception of factors crucial to concrete impacts resulting from innovative research. Despite this, the Centre can boast relatively few success stories. In an atmosphere of dwindling foreign aid budgets and general donor fatigue, it is crucial that IDRC demonstrate to Canadians concrete results arising from the implementation of high-quality research. IDRC is trying to reach this audience, but has little to sell them. IDRC needs to develop a complete product to sell them.

The key to this strategy is the first step — obtaining better results from each research project it funds, because poor results will not be implemented. Increasing the proportion of research projects that succeed depends on better support from Program Officers. Although POs are knowledgeable and well meaning, this does not mean they are good coaches, or disciplined enough to monitor frequently. Sometimes they want to monitor more frequently, but do not have the time because they are working in too many countries, thus limiting the number of field visits they can make to each project. Working in fewer countries will result in less travel stress on POs, and the ability to spend more time coaching individual recipients. It also offers the advantage of synergy, as the results gathered for one research project in a particular country can frequently feed into another. Finally, it will help IDRC work with governments to implement research results, because the more time spent working in the country will improve relationships between IDRC staff, local NGOs and local government decision-makers.

On the basis of the fore-going analysis, the following three recommendations are:

Attaining an 80 per cent monitoring approval rate by recipients within five years

This will include setting-up guidelines for monitoring projects in the field, by identifying how successful projects were monitored and then by developing a monitoring training program for POs. It will also outline Senior Management requirements for concise monthly reports on each research project, and a minimal communication schedule beyond email (teleconference, videoconference, or on-site travel).

Setting up a research dissemination and policy-uptake branch within two years

This will require setting-up a new branch and hiring a VP for it, who will study the development policy branches of other donor organizations, identify necessary new staff qualifications, and then recruit and hire them.

Cutting by 50 per cent the number of countries where new projects will be supported by fiscal year 2002-03

This will require identifying the countries where IDRC will support projects, first by outlining the criteria necessary for choosing the countries, and then by going through a strategic planning session to choose them. Senior Management will have to decide how quickly IDRC will withdraw from each country, and develop a communications plan to inform the countries of the planned withdrawal.

Conclusion

IDRC is a research organization established to initiate, solicit and develop innovative research ideas. Thus, it is not surprising that the organization is set-up well to encourage innovation — it has a sound mechanism for considering new ideas, it gives public recognition to POs and research partners who successfully innovate, and it does not punish for failed research projects. Furthermore, it grants sufficient resources for encouraging and developing innovative research. On the whole, its management practices are also sound. However, IDRC has not capitalized on the innovation that it has encouraged. The Centre can boast relatively few success stories. Given the nature of research that IDRC is supporting, very few of its research projects can be expected to be unqualified successes. However, after 30 years, and more than \$30 billion in research grants, IDRC would likely have been able to capitalize on such innovation with more successes if it had paid better attention to careful project management. Project monitoring is poor and POs tend to focus on developing the next innovative idea instead of helping research partners gain optimal results from the projects currently underway. IDRC is collecting too many new research ideas from too many different countries, instead of focusing on a few countries and enjoying the synergies that result from a more focused effort. Finally, IDRC has historically been poor at disseminating its research results to decision-makers in developing countries. None of these failings are due to the inherent nature of IDRC itself. Its Act and mandate encourage IDRC to follow-through so that its innovative research has a measurable impact on the lives of the poor. Rather this has resulted from Senior Management devoting insufficient attention to this task. Considering the current atmosphere of donor fatigue, it is essential that IDRC demonstrate to Canadians concrete impacts arising from the implementation of high-quality research results. On the basis of this analysis, the following recommendations are made:

- Attain an 80 per cent monitoring approval rate by recipients within five years.
- Set-up a research dissemination and policy-uptake branch within two years;
- Cut by 50 per cent the number of countries where new projects will be supported, by fiscal year 2002-03.

End-Notes

¹ The International Development Research Centre, 2000. Corporate Strategy and Program Framework, 2000-2005.

² Before South Africa's first democratic elections in April 1994, IDRC played what President Nelson Mandela called "a crucial role in helping the African National Congress and the Mass Democratic Movement to prepare for negotiations (and) was instrumental in helping us prepare for the new phase of governance and transformation."

³ T. Amabile, 1999, "Managing for creativity", in *Entrepreneurial Venture*, edited by Salhman, Stevenson, Roberts, and Bhide. Harvard Business School Press, Second Edition.

⁴ T. Amabile, 1999.

⁵ This section draws partly on the paper I wrote entitled "Critique of IDRC's Strategy" for P. Richardson, in the MBUS 801 Foundations of Strategy course. Given that achieving concrete impacts arising from the research on innovative technologies or policies is, or should be, crucial to IDRC's strategy, I am not surprised that I found myself heading to similar conclusions in both papers, even though the frameworks and analyses were different.