

**SCIENCE FOR DEVELOPMENT: THE EXPERIENCE OF THE  
INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC)**

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I would like to begin by apologizing for the absence of Keith Bezanson, the president of IDRC. Mr. Bezanson had been looking forward to participating in this symposium and to meeting many of you with similar concerns. He is unavoidably detained in Ottawa and two weeks ago asked me to take his place. He suggested that I present my own perception of the lessons to be learned from IDRC's twenty three years experience in relating science to development objectives. My credentials for doing this are that I was a member of the task force which designed the IDRC in 1969. I also headed the Centre's Science and Technology policy programme for 10 years in the 1970's, and returned 6 months ago as the President's Science and Technology Advisor. In between, I was the Director of the Science Policy Research Unit at the University of Sussex.

I have accepted this assignment with some trepidation. This Canadian case study is very different from the others to be presented at the symposium. The detailed analysis which led to the setting up of IDRC was carried out 24 years ago. It was carried out over a six month period by a small team of analysts under Maurice Strong, then president of the Canadian International Development Agency. We reviewed the levels of funding of research and development throughout the world and analyzed the potential of scientific research in alleviating the gap between rich and poor countries in such topics as housing, access to water, and agriculture.

The analysis drew on recent studies and statistics which demonstrated that approximately 95% of world R&D was carried out in the already industrialized world and less than 5% in the developing world. Also, of the research done in the developing world more than 80% was directed towards the interests of the relatively affluent people in those societies and less than 20% on the needs of the poor.

The task force also noted that historically those developing countries which had succeeded in industrializing had done so by relying heavily on imported technology and at the same time had developed their own indigenous research capabilities. This had been particularly true of the United States and of Japan during their early industrializing periods.

The task force went on to propose that the Canadian Government establish an organization which would have as its main objective the support of research within the developing regions of the world. There were many sceptics of this notion who argued that the absorptive capability for research funds was extremely limited in most developing countries. Nevertheless the Government accepted the proposal and in 1970 the International Development Research Centre was launched. It had one particularly innovative feature. Its Board of Governors was international in its origin with strong representation from the developing countries.



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The level of funding of this new organization was arrived at through a somewhat curious analogy. It was observed that many science based firms in the private sector spent 5% sales on R&D to develop new products and processes. Perhaps, it was argued, that on this basis 5% of a countries' development assistance might be devoted to research, especially that research which would develop the new products and processes needed by the developing world. This figure became an early target for the IDRC budget allocation. In fact, over the years, IDRC has accounted for about 4% of Canadian ODA. If CIDA's additional contributions to research, as for example to the CGIAR, are taken into account, the amount is closer to 7% of ODA for research in Canada.

The first Board meeting which met in 1970 was chaired by the former Prime Minister, the Right Honourable Lester B. Pearson. It agreed that the priority areas for the new Centre would be Agriculture, including food and nutrition; Health; Information Sciences; and Social Sciences. Within each of these areas certain priority themes were defined and researchers from the developing world invited to submit research proposals. These were evaluated by a staff recruited according to their professional expertise and knowledge of development.

In the early years, approximately 95% of the Centre's resources were devoted to building research capacity in the developing countries. In 1980, the Centre added a new collaborative programme designed to foster research links between Canadian institutions and developing country institutions. Approximately 18% of the Centre's resources are devoted to these collaborative projects, but still less than 10% of funding goes to Canadian institutions.

In two years' time, the Centre will celebrate its twenty fifth anniversary, and at that time is likely to conduct a major review of its achievements and failures. My review will be more impressionistic and reflect my personal biases. It is based on a number of IDRC reports, my knowledge of the organization, and a few interviews with IDRC personnel. I have been particularly concerned to draw out the lessons from IDRC's experience which might be relevant for this conference.

### THE ACCOMPLISHMENTS OF IDRC OVER 23 YEARS

Overall, the IDRC appears to have been very successful. It is held in high regard by most developing country researchers who have valued the professional competence of its staff, and the freedom they have been given even to make mistakes. The following statistics tell part of the story.

The IDRC has, over 23 years:

- spent more than 1.5 billion Canadian dollars on support of research in developing countries
- provided this support to individuals and institutions in more than 100 countries
- supported more than 20,000 researchers, mostly in developing countries
- supported more than 1,000 institutions
- financed more than 5,000 different projects.

The outputs from this research are much more difficult to quantify. The only statistic I was able to collect was that the Centre holds 12 patents resulting from research it has supported. But the number of scientific publications resulting from its assistance, the number of innovations, problems solved, and policy advice acted upon are either unknown or are impossible to measure.

All I can do in this presentation is to provide a flavour of the sort of results that have been achieved over these 23 years. They add up to a collection of exciting success stories. Many of the research results have already helped to transform the lives of poor people; others have yet to be commercialized, but if and when they are, they could play a major role in improving the quality of life of the 8 billion people expected to be alive in 2020. Some may even help postpone that date to much later.

#### The antipregnancy vaccine

Potentially the most significant of all the research supported by IDRC has been the antipregnancy vaccine developed by Dr. Gursaran Talwar, director of the National Institute of Immunology in New Delhi, India. It is an affordable and reversible vaccine which is effective for one year. It does not interfere with a woman's physiology and menstrual cycle since she continues to ovulate. The vaccine is currently being tested in Brazil, Chile, Finland, India and Sweden.

#### Services provided by sophisticated technologies

Some of the IDRC supported research has used the most modern and sophisticated technologies to provide services to people in poor or isolated communities. One example of this is the use of geomatics in Chile. Remote sensing experts have been working together with artisanal fishermen from South America's Atlantic coast. A team from the Instituto de Fomento Pesquero, in Valparaiso, Chile translates signals from a U.S. remote sensing satellite into simple sea water temperature maps. These are then used by the tuna and swordfish fishermen to locate the areas where there is the strongest likelihood of good catches.

Another example which permits valuable information exchange is Healthnet. This uses a low orbiting satellite to transmit medical information and makes it possible for doctors over the world to consult one another. Healthnet signals are received or sent using modified amateur radio equipment connected to a simple microcomputer. In Africa, the satellite brings to doctors articles from medical journals and advice from colleagues from the leading medical institutions. It also makes it possible for African doctors to communicate among themselves.

### **Simple technologies**

Other research has led to the development of simple technologies which can be used to produce useful products and tools, often in rural areas. Some of these are described in the publication "101 Technologies" which has been distributed to all participants at this conference.

### **Agriculture Innovations**

There have been many agricultural innovations, but in two areas there have been particularly rewarding results. The first is in agroforestry. In this area, Dr. B.T. Kang of Ibadan in Nigeria used IDRC's funds to develop alley cropping where food crops are grown between rows of fast growing leguminous trees. IDRC also played a major role in helping to establish the International Council for Research in Agroforestry (ICRAF) which is now a part of the CGIAR.

Agroforestry is widely regarded as one of the most important disciplines for the future of sustainable agriculture in the Tropics. In the opinion of some experts, it could lead to a second green revolution providing a new way of life to poor people living in marginal lands in the Tropics. Agroforestry may also make a contribution to the solution of the CO<sub>2</sub> problem by helping to create a "carbon sink". The involvement of local communities in expanding the tropic's forest cover could make a significant difference to the greenhouse effect.

The other agricultural development to be mentioned here is the development of biological controls for insect pests. In the 1970's Centre supported researchers identified the natural enemies of a major pest which was destroying the cassava crop across Africa. These discoveries made it possible to launch a major biological control experiment and to save the African cassava crop.

Now in reverse technology transfer, Canadian scientists are using the small trichogram wasp imported from China to control the spruce budworm which has destroyed more than 15 million hectares of Canadian forests.

Another development which builds on research by an Ethiopian researcher is the discovery that lemma toxin could prevent zebra mussels from clustering and adhering to surfaces. The zebra mussel was imported to the Great Lakes from Europe. It has no natural enemies in North America and is breeding in profusion causing billions of dollars of damage by clogging beaches and municipal water intakes. Lemma toxin was extracted by Aklilu Lemma from the berries of endod, an African plant traditionally used to make soap. Dr. Lemma discovered that the endod soap berry could be used to kill snails which are host to the bilharzia parasite. Now American and Canadian researchers are building on his work to tackle the zebra mussel problem.

### Downscaling industrial processes

Some IDRC supported research has led to the downscaling of techniques for producing essential oils, natural dyes, biopesticides, and natural medicines. These are creating job opportunities and providing export revenue in Africa and Latin America. For example, families living in areas threatened by overgrazing and degradation of land in Rwanda and Morocco are exporting essential oils extracted from local aromatic plants to the European pharmaceutical and perfume industry. Also, 200 families in the Cochabamba area of Bolivia are now exporting 4 tons of various oils annually. Some of these products can fetch several hundred dollars a kilogram. They may even provide an alternative to growing coca leaves!

### New research methodologies

It is not only in the production of new hardware, or providing immediate solutions to problems that the Centre has contributed. It has also contributed new approaches to research methodologies. Two examples will suffice. The first is from agriculture where earlier Centre projects helped pioneer the "on farm" and "farming systems approach" where agricultural scientists worked with farmers and demonstration plots were on the farmers' land.

The other methodology is the participatory action research (PAR) whereby communities, researchers and policy makers work together to determine priorities. Examples of this have been work carried out in many developing countries which have led to the determination of national health priorities.

These are just a very small selection of the 5,000 projects supported by the IDRC. They are described in order to illustrate the different ways in which research carried out mainly in the south can help solve problems of the south and occasionally can contribute solutions to problems of the north.

### Supporting Economic Policy Research in Africa

In order to build research capacity in economics, the Centre initiated the African Economic Research Consortium which has supported economics research in local institutions in Eastern and Southern Africa. The consortium has helped bridge the gap between academic research and the government's needs for policy advice on economic issues. Several of the members of the consortium also participated in negotiations on structural adjustment with the World Bank and the IMF.

## LESSONS LEARNED FROM IDRC'S EXPERIENCE

This symposium is addressing the nature of Europe's response to the needs of the 8 billion people expected to inhabit the planet by the year 2020. The IDRC experience relevant to this issue is modest. It has, with limited resources, been seeking to build research capacity in the developing countries over the past twenty three years. Nevertheless, that experience does suggest some guidelines and lessons which might be of value in preparing a European response.

1. There is the capacity in most developing countries to absorb external research funding. The sceptics who doubted this at the start of IDRC have been proven wrong. There are now several other donors in addition to the IDRC who provide support for research, and there is still a "demand" for more funding. Except in very few of the least developed countries, external funds only constitute a small percentage of total domestic R&D funding.
2. Most of the problems facing developing countries are economic, social and political rather than scientific and technological. By no means all of these problems can be solved through research. Nevertheless, a sufficient number of them are amenable to research that by investing in building indigenous scientific and technological capabilities a significant difference can be made to the economic and social well-being of the developing world.
3. Research alone is not sufficient to guarantee development. Close links must be forged between the researchers and the production system in order for innovations to occur. This was recognized by IDRC twenty four years ago and the Act of Parliament creating the Centre gave it an objective of helping to create "innovative skills" in developing countries. This has not been an easy objective to achieve.  
It is now recognized that all IDRC's research projects should involve the potential clients or beneficiaries of the research at an early stage in the research design. The Centre's recent response has been to create a new programme called Programme of Research in Innovation Systems Management (PRISM). This has the twin objectives of supporting studies and research designed to generate a better understanding of the innovation process in developing countries and of advising all Centre programme staff about this knowledge so that they can help design projects which have the greatest likelihood in resulting in innovations.
4. There is a need to involve the social sciences in the design of scientific research. Otherwise the economic and social consequences of technical change may not be what is wanted or expected. This observation was recognized in the design phase of IDRC. One Canadian government official explained, at a hearing about the proposed IDRC, that Canadian fishermen frequently ignored the research results of government scientists. How, he asked, would the IDRC ensure that the potential clients of research in developing countries take greater notice of the results. The answer was given that the IDRC would pay great attention to combining the skills of social scientists with natural science research, so that it would be known what sort of results would likely be acceptable to potential clients.

In reality, this has been difficult to achieve. In part this has been due to the disciplinary training of the IDRC staff, but mostly it has been due to the disciplinary orientation of most developing country research institutions. The IDRC cannot force institutions to become inter-disciplinary in their approach. As a result, there are unexpected consequences of successful technical change.

One example will illustrate the point. The IDRC had supported a Chilean research group to develop what is known as the "fog catcher". This was a simple device, basically a nylon NET which condensed fog and produced a continual flow of water in the fog shrouded mountain slope of northern Chile. The water was carried through pipes to a small village in the desert between the mountains and the sea. At first, the regular flow of fresh water was warmly welcomed by the villagers. Later, however, when it was realized that there was a need for regular cleaning of the storage tanks and for repairs to the pipes, the villagers quarrelled about whose responsibility the maintenance should be. Furthermore, it had been anticipated that the villagers would use the excess water for growing vegetables for a nearby town, and hence increase the earnings of the community. Instead the villagers used the water for irrigating flower beds. A more beautiful environment was given a higher priority than extra income through growing vegetables! The participation of social scientists in the research would likely have identified the potential problems and devised solutions before maintenance and repair became a major source of friction.

The difficulty in institutional innovation which permits inter-disciplinary work in many developing countries gives added weight to the proposal made at this Wiesbaden meeting to strengthen technology assessment capabilities both in Europe and in the developing world.

In recent years IDRC has paid much more attention to including management and policy dimensions to most of its research activities.

5. There is a need for persistence in research support. IDRC has followed a policy of providing many small seed grants and then following up those which have shown the best research promise with long term support. It is noteworthy that Dr. Talwar had received 17 years of IDRC support before he successfully produced his antipregnancy vaccine.
6. IDRC has been prolific in its support of collaborative research through different types of research networks. Most of these networks involve collaboration between institutions in the South. Many networks link researchers tackling the same problem in neighbouring countries, but others are global in scope. Approximately 40% of all IDRC projects involve collaboration and the evaluations have almost always shown that the benefits outweigh the disadvantages.

7. The IDRC has taken the issue of dissemination of its research results very seriously. Nevertheless, the rate of diffusion of its innovations is still slower than is desirable. The Information Sciences Division has put in place a number of systems to promote the flow of information. But it is now recognized that more must be done to promote the flow of knowledge. Knowledge brokerage has become an important goal of the Centre.

The problem seems to be particularly acute in the policy domain where decision makers make their decisions on the basis of a very small proportion of the total body of knowledge relevant to those decisions. Ways are needed to provide better access to relevant knowledge in a timely way. This is not only a problem for developing countries. IDRC is currently studying this issue and hopes to put in place some novel methods for "knowledge brokering" in the near future. This is an issue which must also be tackled by the European Community.

8. Building research capacity has immediate project related results, but the expectation with all capacity building projects is that they will bring even greater benefits over the long run. It is not easy to measure these benefits, nor those which occur as a result of the research experience even when the researcher changes career.

There is anecdotal evidence to suggest that involvement in an IDRC science and technology policy network project in the 1970's made a substantial impact on the outlook of those members of the network that went on to become - a Prime Minister; two Ministers of Science & Technology; the President of his country's largest bank; the Director General of a U.N. Specialized Agency; the head of strategic planning of the World Bank. Several other social science researchers supported by IDRC have gone on to Ministerial positions in their countries.

### LESSONS BASED ON IDRC SUPPORTED RESEARCH

The eight lessons above are based on IDRC's experience as an institution. There are two other lessons which stem from both the science and technology policy research programme of the Centre and the research of Centre staff, past and present, and which are particularly relevant to the Wiesbaden conference. These are:



- (1) Research capacity, although important, is not the only indigenous scientific and technological capacity which needs to be built. In most countries only about 10% of qualified scientists and engineers are engaged in research. The other 90% are engaged in all the other tasks which are required to ensure that science and technology are absorbed in production and that the population is scientifically literate and scientists and engineers trained. Included in this category are teachers, engineers, surveyors, information specialists, etc.

Furthermore, many small step by step or incremental technical changes are brought about by engineers and workers who are not formally involved in research.

Most donor agencies over the past 20 years, the IDRC included, have concentrated on building research capacity and have neglected the other scientific and technological capacities which are required.

It is important that the various skills should be in balance. The nature of the balance will vary according to the level of development of the country. An important gap which could usefully be filled by European initiatives would be to help train the sort of creative engineers who frequently spearhead corporate efforts to bring about incremental technical changes. These training activities could be included within technology transfer packages between private sector firms and would contribute to improved management of technical change.

- (2) IDRC helped support many studies of technology transfer to developing countries and several of its staff have continued to make contributions in the field. Their work has helped to identify a number of obstacles to successful transfer of technology. This issue has re-emerged recently in the UNCED negotiations and improved access to technology remains a major goal of most developing countries.

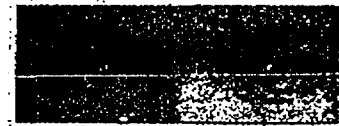
The reaction of most European governments has been that since most technology is proprietary then this is a matter for the private sector and doesn't concern them. They are wrong. All the evidence points to the need for collaboration between public and private sectors on this issue. The proposal to create an International Technology Transfer Agency is timely. It is supported by similar suggestions made by the former U.N. Advisory Committee on Science and Technology for Development and other bodies. A European initiative on this theme would be warmly welcomed in the developing world.

## **THE FUTURE**

As IDRC approaches its silver jubilee, it is beginning a new chapter in its history. The need for new directions is brought about by the confluence of three factors: the lessons it has learned over the past 23 years; the vast changes in the world's economic & political situation; and the commitment that the Canadian Prime Minister made in Rio de Janeiro at the Earth Summit that IDRC would become a Canadian contribution to the achievement of Agenda 21 objectives.

For the next several years, IDRC will concentrate much of its resources on six Agenda 21 themes. It will still support the building of research capacity, but will expect the projects which it supports to make a direct contribution to this global environmental agenda. The six themes are: The integration of environmental with economic and social policies; Technology and the Environment; Food systems under stress; Information and the Environment; Health and Environment; and Biodiversity.

# Empowerment Through Knowledge



The Strategy

of the

International

Development

Research

Centre

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## Foreword

*The world of international development in the 1990s is very different from the world of the 1970s, when the International Development Research Centre (IDRC) was founded. Recognizing the imperatives for change, IDRC has been engaged in a process of reflection and debate on how it could most effectively contribute to development in the coming decade.*

*The experience has been productive. It has brought into perspective the Centre's accomplishments and strengths and it has also underscored some relative weaknesses. Contributions from Centre staff at all levels elicited a number of broad strategic themes, many of which are reflected in this strategy document.*

*IDRC's Board of Governors, an independent body comprising leading scientists and development specialists from all parts of the world, is part of the uniqueness of the Centre. Over the past year, much of the Board's attention has been devoted to IDRC's future strategy. In June of this year, the Board's Executive Committee asked IDRC's President, Mr Keith Bezanson, to develop a strategic plan for the Board's fall meeting. This plan was presented in October 1991 and met with the Board's full support.*

*The strategy presented here includes an assessment of the emerging context for development, the advantage that the Centre brings to that context, some principles and*

*practices that will guide our actions and choices over the next several years, and a description of the Centre's new structure. The document is not intended as a definitive strategic plan for the Centre, although it contains elements of such a plan. It represents the vital first step in an evolutionary process that will reshape and refine IDRC in its role as an innovator in the field of international development research.*

Janet M. Wardlaw  
Chairman of the Board  
of Governors

## Introduction: Mission and Vision

The Act of Parliament creating IDRC assigns the Centre a unique role among Canadian institutions and a distinctive place among international development agencies. IDRC's mission can be stated succinctly as

### Empowerment through Knowledge

It is predicated on the explicit relationship between knowledge and development, and in the conviction that empowerment through knowledge is the key element in the development of nations, peoples, communities, and individuals. Research provides the means for the acquisition of appropriate knowledge and, thence, for development. The capacity to conduct research, therefore, is a necessary condition for empowerment. IDRC is dedicated to creating, maintaining, and enhancing research capacity in developing regions, in response to needs that are determined by the people of those regions in the interest of equity and social justice.

The task before us is to translate the Centre's mission into a clear program framework that will guide and inform the detailed decisions to be made in consultation with our research partners, and that will permit an assessment of our progress. To do so requires

- a new perspective on development and IDRC's place in it;
- a sharper program focus;
- a restructuring of our programs to maximize the impact of available resources;
- perseverance in our efforts;
- greater efficiency in program execution and administration; and
- flexibility and agility to adjust as conditions and experience dictate.

In the coming decade, IDRC will strive to consolidate and reinforce a vision of itself as a results-oriented, "research-for-develop-

ment" organization. This implies developing and sharing with others a conception of an IDRC that emphasizes the potential benefits arising from the research that it supports, that links developing countries with global research agendas and potential beneficiaries with local problem-solving efforts, and that is capable of influencing others as a result of the quality and innovative character of its work.

## International Development A Context for the 1990s

Over its 20-year history, IDRC has made significant contributions to the work of international development. To maintain the Centre's relevance and effectiveness, we must anticipate and adjust to major transformations on the international scene. The global order in 1991 is markedly different from that prevailing in 1970 when the Centre was founded. The political, economic, social, cultural, environmental, scientific, and technological changes of the past two decades have created an entirely new context for developing countries and for IDRC. This section reviews briefly some of those changes and examines their implications for the development community in general and IDRC in particular.

Several major groups of changes characterize our times, each of which forces us to rethink our ideas and concepts. We need to change the way we visualize the process of development, particularly the roles that research and knowledge can play.

The first group of changes concerns the rapidly shifting political environment. The predominant feature of the post-war period — the East-West balance of power — has been radically transformed. The world is still coming to terms with a new international order in which East-West tensions are a much less powerful influence. The role of the nation state has also been transformed. Our political systems and our thinking about the management of economic, environmental, and social forces are based on the concept of the nation state, but supranational and transnational entities increasingly erode the ability of the

state to control such phenomena. Also, totalitarianism is in retreat in many parts of the world as democratic movements and political pluralism spread and take hold. Repressive regimes meet with increasingly vocal protest and often international sanctions.

The second group of changes concerns the explosive growth in social demands in developing regions, largely triggered by population increases during the last 50 years. These are extensively catalogued in the 1990 *World Development Report* of the World Bank, which focuses on poverty, and in the 1991 *Human Development Report* of the United Nations Development Programme (UNDP). Food and nutrition demands have multiplied many times over, particularly in the poorest countries, and even though the world's farmers produce more than enough to provide adequate nourishment for all, existing political, social, and institutional arrangements — at both the national and international levels — have proven incapable of doing so. The situation regarding basic health care and education in the developing world is similarly skewed.

Population growth has also resulted in an increase in rural-urban migration. Rapid urbanization has created huge demands for housing, sanitation, transportation, and energy supply. This adds unmet urban needs and widespread urban poverty to the deprivation that characterizes rural populations throughout most of the developing world. Overpopulation also leads to unemployment and underemployment, which have emerged as two of the most troublesome and dangerous phenomena in developing countries.

The world has also belatedly come to the realization that the global ecosystem has finite limits and will not be able to withstand indefinitely the various pressures of unchecked population growth and uncontrolled development. Thus, environmental sustainability has become the most stark aspect of planetary interdependence, applying with equal force to all countries, irrespective of wealth, geographical position, or political system. Lifestyles, resource use, and production systems will have to change in all countries if the challenges of sustainable development are to be met.

The third group of changes has to do with the major transformations taking place in the patterns of world economic interdependence. The rapid growth and globalization of financial markets began in the mid-1970s. Financial markets now form a complicated set of many kinds of transactions, which have become increasingly independent of the production and distribution of goods and services. Although these changes may conceivably present new opportunities to some developing countries, they also pose new obstacles, the removal of which will require major policy adjustments, highly trained professionals, and agile managers.

The content and direction of international trade have also altered significantly. The North Pacific has taken the lead over the North Atlantic as the world's largest trading area. The content of international trade has shifted away from commodities (exported primarily by developing countries) toward high-technology services and manufactured products (typically the exports of industrialized nations). Powerful new regional trading blocs are fast emerging that will have major economic effects on both developing and industrialized nations. The continuing uncertainty surrounding the outcome of the currently stalled GATT negotiations, presents a bleak prospect given the cost of protectionism to the developing economies, which the World Bank estimates to exceed US \$50 billion annually.

40 The context for development efforts is increasingly affected by a fourth group of factors concerning the international will and resources for investments in international development. Here, we confront the combined impact of "aid fatigue," the protracted debt crisis, and its influence on capital flows. The multilateral financial institutions are not contributing significant net resources. For the remainder of this decade, the prospects for direct private investment in developing countries are not very encouraging — with a few notable exceptions. The combined effects of these factors suggest that, compared with the last three decades, the outlook for development finance is bleak. Whether via concessional or nonconcessional channels, resources available for investment in developing countries

during the 1990s may even diminish in real terms and, perhaps, in nominal per-capita terms.

A fifth cluster of changes concerns a plethora of technological advances that, while opening up new opportunities for some countries, will likely create deeper and more intractable problems for others. As part of a more general explosion of knowledge, in a brief span of two decades, and at an ever accelerating pace, we have witnessed the emergence of entirely new technologies in areas such as biotechnology, microelectronics, and new materials. Many of these new technologies are highly flexible and mobile, allowing for rapid and continuous modifications and improvements. As such, they are fast changing the way in which the international marketplace has functioned since 1945. Individuals, groups, and nations actively participating in the generation and exchange of these new technologies will prosper in the emerging new order; those left behind will become increasingly marginalized. The risk of marginalization is particularly severe for the least developed countries.

In addition, there are cultural and environmental changes that must inform and influence our thinking about development. Among the most pervasive of the many cultural transformations currently under way are the growing importance of religious values, ethnic allegiances, and the rise of fundamentalism. In several parts of the world, these phenomena constitute the predominant influence on the lives of people and communities. They are often complicated when the wish to preserve cultural identity comes into conflict with the tendency of the mass media to promote a "foreign" culture.

Finally, donor funding of research for development has increased very significantly over the past two decades, as has the number of agencies involved in such funding. The total amount of external support for research in developing countries has grown many times over and is now estimated at US \$2 billion. M

On the recipient side, many more international, regional, and national research centres exist today than was the case even a few years ago. The number of international and regional research centres



in the South increased from 140 in 1970 to more than 200 by 1990. There has also been a notable increase in the capacity to undertake research at the national level in developing countries. For example, in the 20 years from 1965 to 1985, the number of agricultural researchers in the Third World increased fourfold to 45 000. Not surprisingly, some of the most impressive results of research have been in the areas of plant breeding and agricultural production.

The nature of research and how it is conducted have been significantly altered, partly by the products of research itself. New technologies, particularly in the communications and informatics fields, now offer tremendous potential for increasing the speed and efficiency of scientific enquiry. However, perceptions and beliefs about how research should be carried out to be more effective have probably changed more than actual practice. There is still much work to be done, including research on that very question.

### ***Implications of The New Context***

The changes of the past 20 years have been dramatic, and the pace of change continues to accelerate. What, then, are the implications of this radically different context for the development process, for developing countries, and for development agencies like IDRC?

The first implication is the need to rethink what we mean by "development." The underlying notion that development is a linear process is no longer valid. More and more, the term empowerment captures the essence of what "development" should be. Given that it cannot and should not be imposed upon a society from outside, development should mean above all giving people the power, defined in terms of adequate knowledge and capacity, to decide what is best for them, and to act accordingly in fulfilling their own destinies.

The second implication follows, and is one of great importance for IDRC: the generation, dissemination, and application of knowledge will become even more important in the development process.

Perhaps the most vital difference between developed and developing, rich and poor, is the knowledge gap — the capacity to generate, acquire, disseminate, and use scientific and technological knowledge. The extent of this capacity will make the difference between those parts of the world where people are able to decide and act independently and those where they cannot.

A third implication is the need for fresh thinking about social, economic, and political institutions. Practical and effective intervention through the application of knowledge requires analysis of greater subtlety than that which is based on simplistic distinctions between "market" and "planned" economies, or "private" versus "public" spheres of economic activity. The theory and ideology that have supported these concepts have outlived their usefulness. Interactions that are unencumbered by such distinctions will be needed with a wider variety of entities — trade unions, professional associations, community organizations — that represent civil society and that are in the business of producing and using knowledge.

Fourth, we will need to look differently upon the international system, particularly the multilateral and bilateral development assistance agencies. The system was established to fit the conventional wisdom of "underdeveloped versus developed", "market versus planned." Even in 1969, before IDRC was created, the Pearson Commission pointed to

considerable uncertainty about the rules of individual international organizations.... [There is] not yet an adequate framework for an expanded and intensified effort to put international development on a firm basis, render it more efficient and make it a cohesive force for international community. (*Partners in Development, Report of the Commission on International Development, pp. 208, 227*)

As a small but key player, born out of that realization, IDRC must play its part in seeking ways and means for development agencies to coordinate their efforts better.

It is time for all members of the international development community to marshal conceptual, methodological, and technological developments in the theory and practice of social, economic, and political change, putting them at the service of development efforts. New concepts of strategy formulation and implementation — for example, multidisciplinary, multisectoral approaches; interactive planning; strategic issue management — can contribute to better understanding and management of the problems of the 1990s. Progress in telecommunications, microelectronics, and modelling tools makes it easier to acquire and exchange information, to experiment with the impact of alternative policies and decisions, and to disseminate ideas and communicate with the public at large. All of this is considerably helped by a growing public awareness of global interdependencies and, therefore, the emergence of global agendas; and by widespread social mobilization, often supported by mass media, around issues such as the environment, hunger, the arms race, governance, terrorism, education, drugs, and AIDS.

### ***Comparative Advantage of IDRC***

In this new context for development efforts, the Centre faces a range of strategic choices. IDRC's resources are finite — indeed they are minuscule in relation to demand, and even in relation to the resources at the disposal of many other agencies. We must ask ourselves, therefore, what comparative advantage the Centre brings to bear on the challenges of development in the 1990s. IDRC has a number of structural and policy-derived characteristics, as well as features it has acquired over two decades of existence, that confer certain advantages in its relations with the researchers it supports and with other development assistance agencies.

#### ***Structural and Policy-Derived Characteristics***

- IDRC was the first development assistance institution to focus exclusively on research support and on the development of

science and technology capacity in developing countries. As such, it has a long and rich experience in this specialized field.

- IDRC has an international Board of Governors that confers broad legitimacy on its activities, differentiating it from purely bilateral agencies. At the same time, the fact that resources from IDRC come primarily from a single source has simplified budgetary negotiations and administrative requirements.
- IDRC is based on the explicit philosophy of a full intellectual partnership with its recipients in developing countries. Plans and priorities are defined jointly, with most research carried out exclusively by the recipients. The Centre has always been prepared to accept mistakes and occasional failures as part of the learning process that leads to capacity building. Thus, the Centre has avoided the pitfalls of traditional technical assistance agencies, and has pioneered an approach that encourages the exercise of judgement and authority.
- IDRC has developed a global perspective on mobilizing science and technology for development objectives, building bridges across continents and putting developing-country researchers and policymakers in contact with each other. At the same time, it has given a regional flavour to much of its activity, responding to specific concerns and priorities. A main strength, however (considering the Centre's limited funding capacity), lies in identifying commonalities in development problems and solutions, fostering comparative research across regions, countries, and cultures, thereby allowing widely different developing countries to learn from each other.
- IDRC is a flexible, agile, mid-sized organization that has enough financial resources to make a difference in research and science and technology support. The Centre's resources can be quickly redeployed because of the independence of its Board of Governors and freedom from many administrative

and political constraints that affect other development agencies. It has combined support for policy research and for devising specific technical solutions to development problems, showing how knowledge and its proper application can make a difference in development.

#### Acquired Characteristics

- IDRC has acquired a favourable reputation and considerable prestige in most parts of the developing world. This constitutes a tangible asset on which the Centre can build. To do so, however, will require innovation; the preservation of goodwill and a favourable image will require adjustments in the Centre to deal adequately with the new international context.
- IDRC has developed a broad network of institutional and individual contacts throughout the world. Thus, it may be uniquely placed to undertake new initiatives that can make a difference, by mobilizing a large number of organizations and people across continents and regions.
- IDRC has developed considerable convening power, based on the confidence it has built over several years of operation according to the principles, features, and characteristics described above. Once again, however, it needs to renew this resource continuously by demonstrating that it can continue to be innovative and exercise leadership.

These structural, policy-derived, and acquired characteristics are the starting points to guide strategic thinking in IDRC in the coming years.

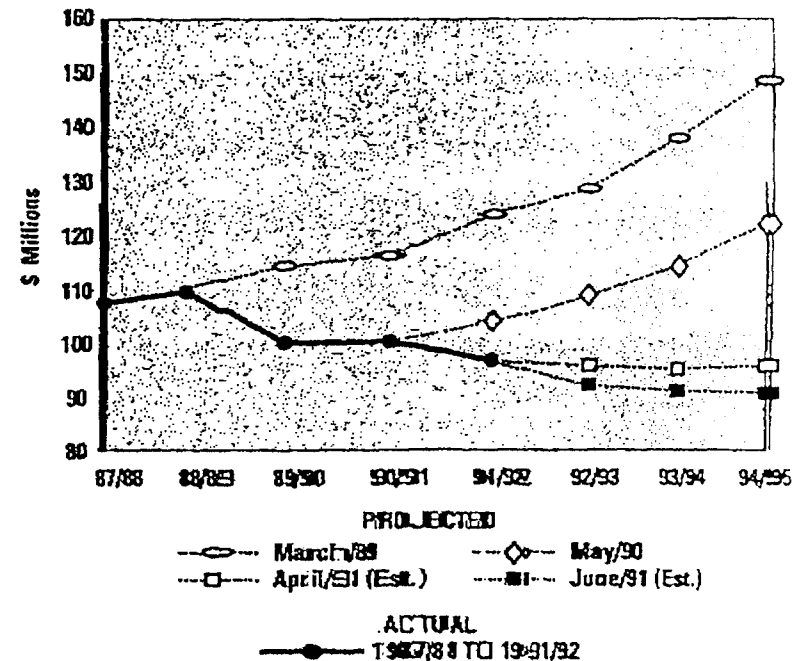
#### Resource Availability

The financial resources available from the global community for international development efforts are limited, and unlikely to increase in real terms for some years. There are severe and increasing

pressures on fiscal systems everywhere. As a result, the flexibility to respond to domestic and external priorities is constrained. The recent changes that have taken place in Eastern Europe and elsewhere also mean that competition for limited official development assistance is increasing. Canada and IDRC are not insulated from the global situation. Over the past three years, IDRC's revenues have declined in real terms. While we must take all possible steps to reverse that trend, it would be unwise to assume that real growth will be restored to the parliamentary grant to the Centre.

Figure 1 outlines the changes in the grant provided to the Centre, starting in 1987/8-8, with projections to 1994/95. IDRC programming must take careful account of these changes in revenue prospects.

Figure 1  
IDRC's grant actual and projected levels  
(in 1987/88 Canadian dollars)



## *The Imperative of Change*

Thus, a number of factors — the new context for development, the need to define a special role to remain effective, and the pressures of budgetary limitations — combine to make change in IDRC imperative. The future role for IDRC must necessarily involve a careful selection of program areas, a concentration of our energies and resources, and a perseverance in our chosen areas of work. As a counterbalance to the need to concentrate and to persevere, we will need to leave some margin for manoeuvre to react to changing circumstances, certainly within our chosen areas of focus. We must, at the same time, increase and improve our communication within Canada so that the role, accomplishments, and potential of IDRC are better understood.

As changes are made — some rapidly, some phased in more gradually — we must take great care to keep our sights fixed on basic criteria and practices that will improve the Centre's effectiveness. Some of these fundamentals for change have served us well in the past; others are necessary adjustments to the way in which we will pursue our mission.

## **Evolution and Devolution: A Blueprint for Change**

### *Perspectives on IDRC*

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What is IDRC's view of what it should be, of the characteristics by which we wish to define ourselves and by which we wish to be seen and judged?

The structural, organizational, and cultural characteristics of IDRC have evolved considerably over two decades. Our mandate requires that we constantly build and rebuild an organization that provides the necessary structural room for recipients and staff at all levels to take responsibility, to innovate, experiment, and learn,

thereby tapping and developing a far greater range of their capacities. At the same time, the high degree of scientific specialization engendered by the knowledge explosion means that the Centre must develop mechanisms for drawing the appropriate specialist expertise into its endeavours.

The culture of IDRC must continue to be that of an organization for learning. This requires that we reaffirm and extend the entrepreneurial nature of our organization and its staff, that we seek ways to reinforce and reward experimentation and risk-taking in the context of a shared culture.

To consolidate and advance these characteristics of organizational culture, our basic operating style must be built on a number of basic principles:

- delegating to staff and recipients at all levels as much authority as possible within a context of agreed objectives;
- minimizing the degree to which the initiatives of staff and recipients require prior approval by other levels;
- demanding accountability; and
- evaluating lessons learned to inform future decision-making.

Such an operating style calls for devolution of decision-making processes and learning. The intent must be clearly to develop the capacities of people, give them greater opportunities to contribute, and integrate their contributions within a learning process that is cumulative and whose results are greater than the sum of its parts. It is important, therefore, that we devolve to our research partners even greater responsibility and authority in defining, planning, executing, and controlling the research agenda. This will entail the acceptance of higher risk, but it is also imperative to the evolution of responsible partnerships and genuine empowerment.

A related requirement is a willingness to embrace error, and an understanding that mistakes are an inevitable part of any learning process — all the more so in the domain of research and in a discontinuous environment. If we do not consciously take risks and

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embrace the learning value of mistakes that occur, our ability to innovate and be at the leading edge of research for development will be compromised.

Where should IDRC situate itself to profit to the fullest extent from our strengths and to maximize our contribution to international development? Clearly, our relevance and impact are enhanced in direct proportion to the extent to which we make full use of our comparative advantage.

Strategic initiatives will be needed that combine specific program choices with innovations in the way we conduct both our internal business and our relations with our research partners. Such initiatives may typically involve

- selectively strengthening national research capability to create core centres of excellence that can be linked to programs in other countries as well as in the home country;
- international initiatives, such as serving as a catalyst in the creation of international research or information centres to support disparate national efforts — such initiatives might also involve other actors, including both government and private sectors; and
- alliances with other funding and development agencies to create multilateral financial and policy frameworks.

One example of previous Centre experience with this kind of initiative was the creation of a project to explore the potential development benefits of agroforestry. The potential of combining agricultural and forestry practices for the creation of sustainable agricultural production systems was not unknown, but until the IDRC initiative there was only limited research in a few small programs. On the basis of a review of agroforestry commissioned by IDRC in 1975, a group of international donors decided to create the International Council for Research on Agroforestry (ICRAF), with IDRC serving as executing agency. ICRAF has recently been accepted into the Consultative Group for International Agricultural

Research (CGIAR), a global network of 16 research centres, which assures financial stability and improves its ability to respond to the growing concern for environmental sustainability.

There have been many other successful initiatives, such as the development and dissemination of the MINISIS bibliographic software system, which has greatly assisted developing countries to enhance information systems and has been a modest commercial success in the industrialized world. Others include a macroeconomics network in Africa, the International Commission on Health Research for Development, and an economic mission to South Africa at the request of the Canadian government. Although these activities differ widely, they are all based on identifying a major niche where the Centre could make a significant contribution and on pursuing a strategy involving other actors over a considerable period of time. These examples serve to illustrate the range of strategic initiatives of which the Centre is capable. They have made a difference by exploiting our comparative advantage.

## *Directions for Our Work*

Given the need to develop strategic niches and to become a more "results-oriented" institution, the following general directions will guide our program choices:

- increasing opportunities: working on global and interregional problems;
- using research capacity more effectively;
- working with others; and
- acting as a knowledge broker.

### *Increasing Opportunities:*

#### *Working on Global and Interregional Problems*

IDRC's contribution in the past has tended to focus on issues that profoundly affect the quality of life and which are regional or local in character — the Centre will continue to support such

research. However, with increased national capacity in developing countries to address more sector-specific and location-specific research questions, and with other donors providing more resources, we feel that the pay-off to IDRC investments can be increased by devoting relatively more resources to a few, carefully selected global and interregional problems. Such problems will require greater emphasis on interdisciplinary approaches.

The development prospects of individual countries are determined by such disparate issues as changing trade patterns, financial markets, demographics, and environmental conditions. Yet, research to understand their effects and identify different options is often inadequate. Lack of knowledge about options, opportunities, and potential pitfalls is one of the main reasons why developing countries have only limited influence on the global agenda. This applies in particular to the rapid pace of change in science and technology. The Centre proposes to direct more support to those broad areas where opportunities can be identified to effect change and to increase participation by the developing world.

#### *Using Research Capacity More Effectively*

There has been a significant increase in developing-country research capacity over the last 20 years. This is not to suggest that the creation of new capacity and raising the level of existing capacity do not continue to be legitimate and important components of Centre work. Available resources are still grossly inadequate, but the prospects for increasing research output by providing more inputs are limited over the medium term. On the other hand, there could be significant short-term gains from increases in productivity, given the size of the resources available to existing research systems in the South — currently estimated to be about US \$20 billion, as measured by the total annual expenditure on research and development of all types.

The problem for development research then is not only to attract more funds (although this is important) but also to ensure

that existing capacity is used effectively. IDRC will contribute to the effective use of research capacity in two ways: greater commitment to utilization, and better understanding of "what works" in development research.

**IDRC and utilization:** IDRC will make greater efforts and commit more resources to ensure that the products from the activities which it supports are used — through better specification of the expected outcomes and clearer identification of potential users, uses, benefits, and costs. Intended beneficiaries will be empowered through their participation in determining what research is required and, if appropriate, in the research process itself. IDRC will be more active in funding or seeking resources for follow-up activities such as testing, the construction of pilot plants, and dissemination.

To take research and knowledge to the stages of application and utilization may require joint actions and partnership with private enterprise. Efforts will be made to involve the private sector where appropriate. This is a relatively new area for IDRC, one that will cut across all Centre programs and will doubtless pose new questions and new difficulties. It is, however, an issue that must be tackled.

**Research on effective research systems:** The Centre will intensify its efforts to assess "what works" in development research. Little information exists on how research for development is best organized or how to ensure that the products of useful research can be more speedily and widely applied. A new program will be developed to support research on such topics. It will draw on the accumulated experience of the Centre's own evaluation program. The new program will pay particular attention to the important question of how to improve policy research — the formulation, packaging, and application of knowledge for policy-making.

#### *Working With Others*

The Centre will work more closely with others to enhance both the financial resources for necessary research and its overall influence on development issues. To be more effective and relevant, it is

necessary for IDRC to be engaged actively with a larger number of actors — including the Canadian universities and scientific community, multilateral institutions, other donors, and, above all, our developing-country partners.

While IDRC will be more active in identifying issues to be addressed, the principle of mutual respect will continue to guide the choices that are made. Advisory groups and other consultative mechanisms will allow the Centre to work even more closely with developing-country researchers and policymakers. New ways to inform this partnership will be sought, including devolution to appropriate institutions and researchers in the South.

Support for South-South collaboration will continue to be a key feature of Centre operations. IDRC will test new communication techniques to increase the sharing of knowledge among countries and will explore ways to improve existing networks.

Enhanced partnerships with Canadian organizations and institutions will also be developed. The Centre's involvement with Canadian organizations has been relatively limited, with the notable exception of the Cooperative Program, initiated in 1980. The Canadian development community, always small, is in decline and opportunities are decreasing for Canadians to participate directly in development work. In this regard, the complementary natures of IDRC and CIDA, the Canadian International Development Agency, suggest a continuation of recent efforts to exploit a special partnership. Involvement with other Canadian institutions should look beyond the traditional concept of North-South technical assistance and asymmetry, and should focus on the mutual interests of Canada and developing countries.

The Centre already has close links with the small groups of agencies and foundations that devote most of their resources to supporting development research. The Centre intends to reinforce and expand linkages to these and other development-financing organizations. The larger donor agencies, for whom research is only a

small part of their lending programs, contribute most of the funds that are labelled "development research." They are potentially key actors in implementing research results. IDRC will explore a broader relationship with these larger agencies, such as the World Bank, the regional development banks, and UNDP.

IDRC must seek out new partnerships in development including Canadian organizations, such as CIDA, and non-Canadian donors. This will include cofinancing large-scale projects and programs, exploiting the complementarities of other possible sources of finance. Exploring these options requires the prior identification of areas of special emphasis and concern to other financial agents of research for development, be these multilateral, public, or private. While doing so, the Centre will be mindful of the need for a balance between partnerships and specialization, on the one hand, and the incentives created by healthy competition, on the other.

#### *Acting as a Knowledge Broker*

Over and above providing funds to research, IDRC plays a role as a knowledge broker. Its widespread access to a broad network of Canadian and developing-country researchers, and to information on development and on science and technology, means that it has a responsibility to inform and influence others, both in developing countries and in other development organizations. At the micro or project level, the Centre can provide information to researchers, and put them in contact with the scientific community at large.

The information generated from work on global development and technological changes and on increasing the effectiveness of research systems will provide a more systematic assessment of what works in development and research. This will permit the Centre to build on its existing capability as a learning organization. The knowledge gained from evaluation of project and program results will be used to inform and influence other actors. IDRC will improve its scanning of the research environment and its ability to pick out important but neglected areas.

## Guiding Principles

### *Sharpening The Centre's Focus*

A critical mass of resources is required for any given program to have a significant impact.

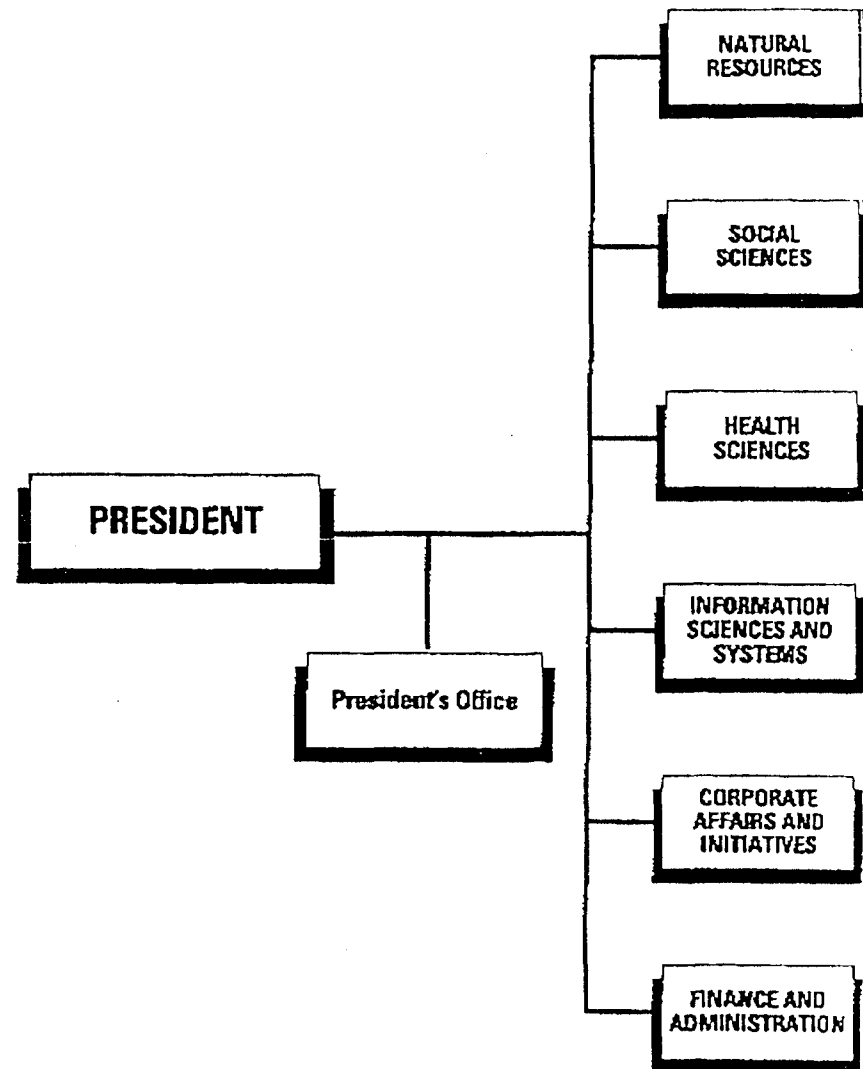
Recognizing the need for an integrated and coherent set of research activities, the Centre will concentrate its resources in fewer programs. IDRC will continue to promote and experiment with more integrated approaches that cut across disciplines. The smaller number of program areas and increased attention to global and inter-regional development issues will ensure that the disciplinary and interdisciplinary aspects of problem-solving are addressed in context and not in isolation.

The structure of IDRC has been streamlined. As our program agenda focuses increasingly on global and interregional problems of development, more emphasis will be placed on interdisciplinary and interdivisional approaches to research and problem solving. The revised organizational structure of the Centre has been designed to facilitate the following:

- through consolidation, the number of program divisions has been reduced from seven to five;
- common or Centre-wide activities (which were subject to some overlap and duplication) have been combined and given clear loci of responsibility and accountability; and
- the number of management levels has been reduced to three, including the President.

In addition to encouraging a more cooperative and interdisciplinary approach to Centre activities, these changes are designed to make IDRC a more flexible institution and to encourage staff to take initiatives and test new ideas. Figure 2 indicates the broad outlines of the new structure.

Figure 2  
IDRC's new structure





As part of the restructuring process, the roles of the program divisions have been re-defined. In summary, the responsibilities of the new divisions are as follows:

The **Natural Resources** division supports technical and policy research into the sustainable utilization of natural resources in the broadest sense. This encompasses strategic, applied, and adaptive research on the transformation and marketing of natural resource products, as well as environmental research and the promotion of integrated, participatory approaches to research in these fields.

The **Social Sciences** division is organized to support two lines of research: economic, trade, and technology policy research including areas such as macroeconomic adjustment and social services financing; and applied social policy research focusing on the conditions, planning, implementation, management, and outcomes of social policy processes in relation to strategies for human development.

The **Health Sciences** division promotes a three-pronged, integrated approach to health research that focuses on people. The emphasis is on identifying health risks in the living and working environment; on understanding the effects of local knowledge, circumstances, and behaviour on health; and on enhancing the effectiveness, efficiency, and sustainability of health systems and services.

The **Information Sciences and Systems** division aims, through research and the design and establishment of appropriate information-communication systems, to improve the flow and use of scientific, technical, and other information. Promotion of the use of modern information tools and methods, as well as the continued development of the **MEINISIS** database management software, are also part of the program.

The **Corporate Affairs and Initiatives** division covers those non-administrative initiatives that are of Centre-wide significance. These include the development of effective research systems; the provision of information about developmental research; the encouragement of initiatives that involve Canadian institutions, individuals, and communities in the Centre's work; and policy research and analysis.

In addition to the five program divisions is the **Finance and Administration** division, which is responsible for all administrative functions across the Centre, including finance, human resources, management information services, and general administration.

With the new strategy, the average size of IDRC grants is expected to rise. The Centre will focus on a smaller number of institutions, but its support will be more complete — covering research-complementing needs such as library services, administration, and training, as well as research itself. This is an area in which the Centre has considerable experience, particularly through its experiments with integrated support for research institutions. The Centre will select the most appropriate institutions to work with and, where possible, ensure necessary linkages through networking and spillover to other countries ready to engage in similar research activities. Concentration on a smaller number of institutions is likely to lead to the Centre working in fewer countries.

IDRC's network of regional offices was established predicated on the view that a regional presence is important in responding to the variety of needs and characteristics of different developing regions. The definition of roles and responsibilities between headquarters and regional offices does not, however, provide the clarity required for efficient and effective resource allocation. Additionally, the Centre is simply not in the position to build the full range of programs in each regional office. Moreover, as the Centre moves increasingly over the next few years to work on global and inter-regional problems, we must determine the extent to which the regional offices are the most appropriate vehicles.

To resolve these issues, starting in 1992, the IDRC regional offices will be designated as responsibility centres for region-specific programs. Their responsibilities will include planning, execution, and evaluation. The first step will be the preparation of regional strategic proposals that will be drawn up under the authority of the head of each regional office. The analysis will include a framework of regional development concerns, the research environment involv-

ing the activities of other donors, and proposals involving research priorities and institutions of concentration.

### *Continuity and Perseverance*

Building strong research institutions and strengthening the capacity to conduct research and use its results is a time-consuming process that requires persistence. Future IDRC support will be sustained for longer periods. Short-term project support in isolation from the broader institutional development context has proven to be relatively ineffective, particularly when dealing with weaker research institutions.

### *An Efficient IDRC*

The Centre must become more efficient in the use of resources in the pursuit of its mission.

In becoming more efficient, we must enhance our effectiveness by reinforcing and advancing the importance of full intellectual partnership in the support and conduct of research. The Centre will continue to provide nonadministrative support and certain services in addition to money. Therefore, we will continue to appear "labour intensive" relative to some other agencies.

The Board, at an Executive Committee meeting in June 1991, clearly indicated that first priority should be given to increasing the "proportion of the Centre's funds flowing in direct support of research in developing countries." The proportion of total funds that flows out to grant recipients is one indicator of efficiency that has declined in recent years, a trend that now must be reversed. The intention is to increase this percentage steadily over the next several years to a level of approximately 70 percent.

There will be fewer staff in IDRC. The transition will be phased over a period of 18 to 24 months. There are several reasons for this. The Centre has a very large "investment portfolio" of active research projects. In moving to a new structure and greater program concentration, decisions about which projects to maintain and which to

close should not be taken hastily. The latter will require technical and financial monitoring until our commitments have been met. This work is best done by those familiar with the institutions and procedures, both in Ottawa and the regional offices. Furthermore, the Centre wishes to effect the changes and the transition with sensitivity and full attention to the human dimension.

Administrative procedures must be streamlined and simplified to achieve greater efficiency and to permit a reallocation of financial resources from administrative to program activities. This must be effected with great care to ensure that the highest standards of administrative service are maintained, and that the fiduciary responsibilities of the Centre are not compromised. The primary consideration is to control what is important and only what is important. This shift to more selective control, will mean a greater reliance on risk analysis.

### *Assessing the Centre's Performance*

Like other research support agencies and organizations, IDRC has a lot of information about research inputs. By contrast, the measurement of outputs is much more complex and difficult, and information is limited.

Research, by its very nature, entails a high level of risk and results may be apparent only over the very long term. Therefore, IDRC must reinforce its own knowledge of the assessment activities and results of other organizations. In addition, Centre programs and activities must become more precise in stating objectives in terms that are conducive to assessing and measuring output.

It will often be difficult to be absolutely clear about the causal links between Centre activities and development results. This should not prevent us from encouraging the measurement of development effects whenever possible, while making a clear distinction between inputs and outputs, and between intermediate results and ultimate impact. Emphasis on assessing what we do and what we achieve will help the Centre increase the efficiency and effectiveness of its

operations, demonstrate quality and willingness to improve performance, and allow it to exert a positive influence on partners and recipients.

### ***Diversifying IDRC Funding***

As previously indicated, there is a low probability of any increase in real terms in the Centre's parliamentary grant in the near future.

We must not, however, passively accept a continued decline in our financial situation. Thus, while we must adjust to short-term financial realities, we must do so in such a way as to attract additional, new, and more diversified sources of financing as soon as possible. The best way to do this is by maintaining and enhancing our effectiveness. The Centre will attempt to identify new resources for development research both from Canadian official development assistance (ODA) and external sources. There may be opportunities to use funds from other research-funding agencies and to generate revenue from publications, patents, and by contracting Centre services.

The Centre already has some experience in this area: over the years, approximately CA \$42 million has been managed outside the parliamentary grant. This covers funds from external ODA agencies for specific projects and modest revenues derived from the sale of Centre patents and publications. However, the Centre has not as yet actively encouraged or searched for alternative sources of funding given the record of growth in its parliamentary grant.

We intend to contract out services or facilities wherever this can be accommodated within Centre objectives, and to test more innovative approaches in promoting the utilization of research. There may be opportunities for private sector funding of pilot development phases arising out of successful research work. These initiatives may best be handled separately from the grant-disbursing function and structure of the Centre. IDRC will study the feasibility of

establishing an appropriate mechanism — for example, some form of private sector entity, such as a wholly owned foundation — that would be able to operate on commercial principles to increase revenue for IDRC.

### **Conclusion: Empowerment Through Knowledge**

We are living in an era of change, more powerful and rapid than at any time in recorded history. The shape of our global order is changing in a dramatic and irreversible manner — some say the very survival of the human species is threatened. Those who regard the situation with optimism, however, point to the enormous potential of planetary resources — physical, technological, and above all human — for bringing about increased well-being.

The optimists interpret recent events on the geopolitical front as evidence of the human will to remove totalitarianism and permit the emergence of participatory and pluralistic systems within which human creativity can flourish. Other analysts view the current situation with alarm — it is the human race, after all, that created most of the problems that now threaten to destroy it. There is broad agreement, however, on the urgency of directing global resources toward realizing the potential for human benefit that unquestionably exists. The point of balance is fine and the risks from a misdirection of those resources great. Thus, is it imperative that not only physical resources, but all our conceptual and methodological capabilities be marshalled in the interest of development.

To intervene effectively, IDRC will be guided by the focus of our mission: empowerment through knowledge. Resources alone are not sufficient. Our role must be to help provide that other necessary ingredient — knowledge, but in such a way that people are empowered by knowledge to determine and meet their own needs without damaging their neighbours' or their children's prospects of doing the same.

All the elements of our strategy — the choice of program areas, the devolution of research responsibilities to partner institutions, the participation of beneficiaries in the research process, the integration of scientific disciplines to exploit opportunities, the tailoring of programs to fit specific regional characteristics — will be directed toward empowering researchers, leaders, and citizens with relevant knowledge.

The very act of beginning to implement this strategy will generate new ideas and encounter shifting ground. Certain fixed points and sustained effort will be needed. At the same time, IDRC and its research partners will need to remain conscious of the room to manoeuvre provided by the strategy, of the obligation to exploit it to the fullest, and of the imperative that the Centre's characteristics of risk-taking and perseverance be further developed and reinforced.

Preserving the ability to see the horizon as well as the immediate foreground, distinguishing the optimum from the expedient, and pursuing the difficult at the expense of the orthodox: these are the foundations of this strategic plan and will be the hallmarks of a Centre of excellence.

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#### Regional Office for Latin America and the Caribbean

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*Please direct requests for information about IDRC and its activities to the IDRC office in your region.*