

Innovating for Development Strategic Framework 2010–2015

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INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
Ottawa, Canada

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STRATEGIC FRAMEWORK 2010–2015

Introduction

- 1 As Canada's International Development Research Centre (IDRC, the Centre) approaches its 40th anniversary, the challenges facing international development remain varied and complex. IDRC remains convinced that research, the creation of new knowledge, and innovation — in science and technology, but also the social, economic, and cultural fields — are and will remain vitally important determinants of humanity's ability to grapple with these challenges. Over the next five years, IDRC will make a modest but important contribution to research done by citizens of the developing regions of the world on the problems that they identify as important to their societies. IDRC will fund research, engage with researchers, innovators, and technicians to improve their scientific and technical capacities, and will link researchers and practitioners with each other in vibrant networks that bring together the best people and ideas to confront the challenges of the 21st century.
- 2 This document, *IDRC's Strategic Framework 2010–2015*, provides overall guidance to management and staff on the Centre's mandate, values, strategic goals, business model, and program themes. It is a tool for the IDRC Board of Governors, management, and staff to plan and assess the work of the Centre, as well as being an important tool for communicating with and providing accountability to stakeholders outside the Centre. Following this introduction and background, Part 1 outlines IDRC's mandate, values, business model, and strategic goals. Part 2 contains IDRC's program map for the coming years, including the principal themes, the reasons for choosing them, and how they will be developed. Part 3 provides further detail on how IDRC's business model will be implemented.

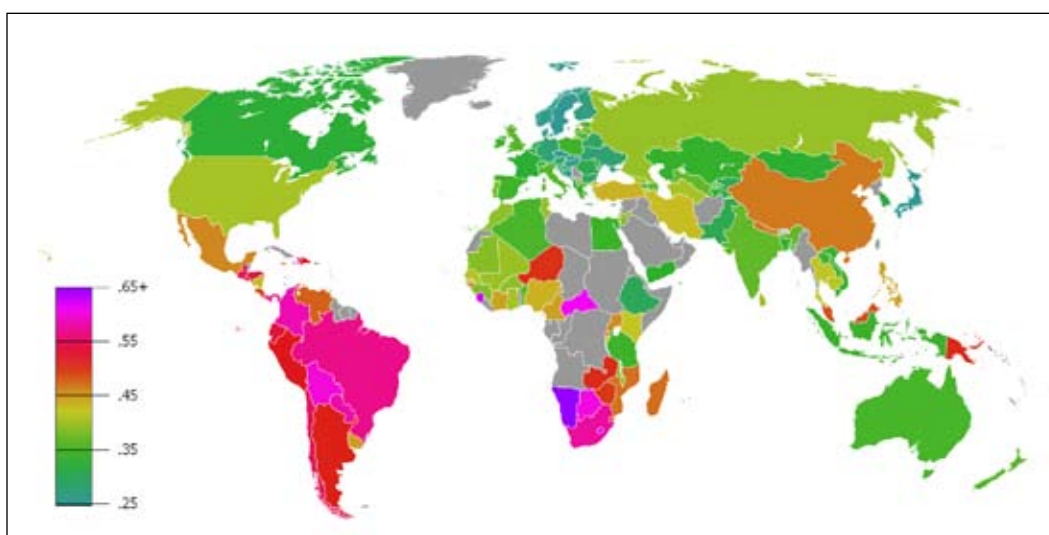
Context

- 3 The panorama for international development offers some reason for optimism, but also grounds for concern. Progress at some levels, notably in reducing poverty around the globe and in achieving spectacular growth levels in China and India, is balanced by less encouraging trends elsewhere. Africa's ability to reach and sustain high growth rates before the financial and economic crisis of 2008–2009 is encouraging but rests on weak foundations.
- 4 Reaching some of the United Nations Millennium Development Goals (MDGs) by 2015 now seems less likely, while others are still achievable. Macroeconomic policies in much of the developing world are much sounder than before, and recent debt forgiveness has ensured that several highly indebted poor countries, notably in Africa, have entered the current crisis less burdened than they would have been some years ago.
- 5 At the same time, the financial and economic crisis has highlighted the vulnerability of an increasingly interconnected world to shocks somewhere in the system, whose real and potential impacts on economic growth, trade, and aid policies will take years to become evident. The magnitude of these developments may well signal the advent of profound changes to current global governance arrangements, with knock-on effects in many other areas. The severity of the crisis could also slow down the speed of globalization without, however, reversing the basic trend toward tighter economic integration through trade and

investment, greater mobility of people, and faster circulation and improved accessibility of information.

- 6 There are other challenges, some long-standing and others representing new fault lines and divisions:
- Inequality around the globe remains stubbornly high, both within and between countries, reminding us that economic growth alone — while crucially important — can never guarantee comprehensive development outcomes. Economic inequality can coincide with exclusion and inequity along various dimensions (gender, class, ethnicity, age, religion, geography, etc.).

Gini Coefficient *World Human Development Report 2007–2008*¹



- The food crisis has drawn attention to the plight of many millions of people across the globe whose livelihoods remain extremely precarious. The “green revolution” of the 1960s and 1970s, to which IDRC contributed, relied on admirable science in hybrid high-yield seed research, but it also encouraged what we now recognize to be irresponsible water use and excessive use of fertilizers. Moreover, its effects were uneven across the developing world. The next advance in agricultural productivity will need to aim for greater sustainability: it will thus be more challenging.
- The risks to development from environmental and climatic shocks are increasing, as are the economic, social, and health costs of environmental degradation. Climate change will force economic adjustments and pose other challenges, such as in health and the ability to cope with natural disasters. Shortages of energy, water, and food are likely in some countries, possibly contributing to renewed conflict. All will hit the poor particularly hard. This will require new thinking around the economic, environmental, social, and even political trade-offs inherent in current development models.

¹ http://commons.wikimedia.org/wiki/File:Gini_Coefficient_World_Human_Development_Report_2007-2008.png

- International efforts to combat disease and increase the quality of life through better health have been impressive, but vast investments in the fight against specific diseases have been only partially successful. The emergence of new diseases — and the persistence of old ones — presents an ever-expanding frontier and growing threat. However, the need to build and sustain stronger health systems, long an IDRC priority, is more widely recognized today.
 - Far too many people remain untouched by scientific and technological progress, at a time when food, health, and energy, as well as information, communication, and other technologies are becoming rapidly more important for human development, innovation, and prosperity.
 - Demographic shifts ripple across the world — societies need to care for aging populations while providing new opportunities for youth. Population shifts reflected in migration and urbanization also pose policy challenges.
 - The onward march of democracy, considered virtually unstoppable by many, has stalled in many countries. This is detrimental to human rights and prospects for greater equity and less exclusion. It can also impede development more generally speaking. State fragility, meanwhile — with all its attendant problems — is as pressing as ever.
- 7 Because there are few certainties in this scenario, the Centre will have to be nimble and flexible if it wants to respond to future unforeseen challenges. What is certain, however, is that new and better knowledge is urgently needed to tackle a host of challenges, new and old. In a world that is increasingly interconnected, and where challenges as well as potential solutions transcend national and even regional boundaries, this is perhaps more applicable than ever. Novel solutions and more effective ways have to be found to help people develop and act on the knowledge they need, whether they be policymakers and opinion shapers, civil society representatives, entrepreneurs, or other change agents. Obstacles to applying new knowledge to today's problems — political, economic, cultural, or otherwise — will need to be overcome. If not, even the best research will have little or no impact.
- 8 Knowledge and innovation, in other words, remain core tools for empowerment. As such, they are critical ingredients in the quest for greater prosperity, security, and equity. IDRC, together with other research-for-development donors, occupies a small but vital niche, since its support acts as a catalyst that helps to mobilize other, much larger, resources. IDRC firmly believes that in assisting its research partners produce, disseminate, and apply new knowledge, it can contribute to positive change in the developing world.
- 9 Development assistance is clearly only a partial answer to global imbalances and to the broader challenge of sustained growth in poorer countries, if only because it is increasingly overshadowed by private financial flows, including remittances, foreign direct investment, and philanthropic contributions. For instance, startling growth levels in China and India have had little to do with development assistance (although development assistance was critical in staving off hunger and worse in India from the 1950s to the 1980s, and played a considerable role in China's development in the 1980s). A degree of donor fatigue appears likely, even though leading donor governments have reasserted their commitment to increasing their Official Development Assistance (ODA).

- 10 As India, Southeast Asia, China, and some Latin American countries show, the impetus for growth and progress in the developing world must come from within. In less advanced countries, external players, through well-targeted programs, can help local actors within a framework of greater aid efficiency and shared accountability for results. Hence, helping to develop human capabilities and institutional capacities remains fundamental. Evidence-based policy development and implementation also remain central objectives.
- 11 The emergence of viable development models in the South has attracted much attention and invites further inquiry, not least into what lessons can be learned from these experiences. The Centre's support should capture and build on this exciting reality and further possibilities of cooperation, especially among Southern research and policy communities. This is why Brazil, India, and China (as well as several other Latin American, African, Middle Eastern, and Asian countries with advanced research capabilities in some sectors) are of growing importance to the Centre's work. They are also important as anchors for broader regional or cross-regional research initiatives, and can play an important bridge-building function.
- 12 The Centre is well placed to play its part in this endeavour, even though with a share of just under 4% of the Canadian ODA effort, it is a relatively small player. IDRC's advantage is due not least to its networks of current and former grantees and staff, who are abundant within the developing world. Its "grants-plus" approach to providing research support goes well beyond making financial contributions: it doesn't stop at creating *opportunities* for research that would otherwise not exist. The Centre also places great emphasis on *engaging* with its partners in their research and policy priorities, helping to open spaces for their views and perspectives, including critical ones. It also provides intellectual leadership in a spirit of mutual learning. Furthermore, IDRC facilitates access to other researchers as well as to policymakers, increasing the impact of the research it supports and drawing lessons from what works and what doesn't.
- 13 Honed and refined over the past four decades, this approach is widely praised by specialists in the South and admired within the industrialized world.² The significant funding partnerships that IDRC has been able to build in recent years, leveraging relatively modest sums of its own money to attract much larger contributions from others, is proof of the high regard in which this model is held. From less than 5% a decade ago, about a quarter of the Centre's programming is now funded by other donors. Examples are partnerships with leading philanthropic foundations, but also with the Canadian granting councils and the Canadian government, most notably around the recently established Development Innovation Fund (DIF). As a Canadian Crown corporation with an international mandate, IDRC is well placed to foster collaboration between Canadian and developing-country researchers. IDRC has made great strides in recent years in connecting with Canadian research communities, supporting their own links with counterparts in the developing world.

² Jones, Nicola and John Young (2007). *Setting The Scene: Situating DFID's Research Funding Policy and Practice in an International Comparative Perspective*. A scoping study commissioned by DFID Central Research Department. London: Overseas Development Institute (ODI).

Looking Back

- 14 Under the *Corporate Strategy and Program Framework 2005–2010*, IDRC sought to strengthen local research capacities across its four program areas, support research that would lead to better policies and practices in support of development, and leverage its own support to foster financial and intellectual partnerships between Canadian institutions and those in the developing world.
- 15 The Centre has performed well against these goals and it continues to draw favourable reviews by others. For example, the Office of the Auditor General of Canada, in its 2008 Special Examination,³ noted that “IDRC has sound systems and practices to manage the funding of research projects, its core function,” and that the Centre “continues to attract and retain highly qualified staff.” A scoping study for the United Kingdom’s Department for International Development (DFID)⁴ comparing research-for-development donors worldwide, stated that “the only bilateral (donor) to stand out consistently in terms of positive evaluations ... was the Canadian International Development Research Centre (IDRC) ... based predominantly on their role in supporting innovation, capacity building/mentoring and a focus on research-policy linkages.” An IDRC-commissioned survey of how others perceive the Centre⁵ concurred: “IDRC is especially well regarded for working on relevant, innovative research topics and for the expertise and quality of its staff.”
- 16 A number of highlights can be cited about IDRC’s programs. A key thrust of its investments in the past few years has been to develop approaches to natural resource management that recognize the competing demands on their use and preservation. The practical application of these approaches is manifest in the successful design of a water management law in Bolivia that, after 32 tries spanning several decades, balances the application of leading-edge science with the imperatives of economic efficiency and traditional modes of management of this scarce resource.
- 17 Similarly, much of the current discussion about the global financial crisis and the reform of international financial institutions is informed by the Centre’s long-standing support for credible work in this area. Seen as ahead of their time some years ago, proposals advanced by the African Economic Research Consortium (AERC) and the research program of the Group of 24 (G24) developing countries to make the International Monetary Fund more representative of its membership, or international capital flows less volatile, are now considered part of the mainstream discussion. As an example of the creation of a platform that is both successful and flexible, the AERC is already well on its way to tackle new issues on the continent, such as policy responses to climate change and the role of the so-called “Asian drivers” in Africa.
- 18 Improved access to the Internet and mobile phones (through support for appropriate regulatory and pricing frameworks) and the application of information and communication technologies — for example, to health information systems — can be linked to the Centre’s pioneering support for ICTs for development during the last 20 years. In Uganda,

³ Office of the Auditor General of Canada (2008). *International Development Research Centre. Report presented to the Board of Governors, 27 March 2008. Special Examination Report*. Ottawa: Office of the Auditor General.

⁴ Jones and Young (2007). See footnote 2.

⁵ Globescan (2008). *IDRC Perceptions Survey 2008. Final Report*. Prepared by GlobeScan for IDRC, 19 September 2008. Toronto: Globescan.

a pilot project to explore how Personal Digital Assistants (PDAs) might be used in the health sector demonstrated a variety of benefits. When linked to the national cellular network, costs, error rates, and time lags related to gathering, collating, and publishing health data based on household surveys fell significantly. The system also better enables patients to connect with physicians, and physicians with each other. The program itself has expanded nationally in Uganda, and to other countries in the region: IDRC is involved in the Mozambique component.

- 19 In parts of the developing world, IDRC support is increasing the capacity to examine complex areas of interaction — for example, between climate change and human health, or the factors underlying the transmission of disease from poultry and livestock to humans — and to derive practical lessons that policymakers and farmers could apply. Chagas disease affects about 18 million people, almost exclusively in Latin America, killing about 20,000 annually. Of the two vectors responsible for its transmission to humans, one is controlled by insecticides while the other, more stubborn, vector is not. Centre-supported research in Guatemala demonstrated that the most effective way of attacking this vector involved better ways to store and maintain animals, particularly chickens and pigs. This has reduced costs by eliminating the spraying of insecticides where they were unlikely to work, and reduced the risk of contracting Chagas.
- 20 Since its creation in 1993, the Economy and Environment Program for Southeast Asia (EEPSEA) has trained a generation of researchers and practitioners in the region, thus influencing the progress of environmental management and policy in several countries. In the spirit of replicating success, similar networks have been created in Latin America, the Middle East and North Africa, South Asia and sub-Saharan Africa. Moving beyond the technical rigour for which it is known to wider communication, EEPSEA has created a “climate change vulnerability map” that overlays climate hazard, sensitivity, and adaptation indicators for the region. The map is detailed (to the district level) and dynamic (changing with newly available data). It is already widely used in the region and was featured in two September 2009 issues of *Time* magazine.
- 21 The conclusion seems to be: sustained support, coupled with smart choices of where and how that support is directed, has an appreciable impact on development outcomes on the ground. But success has not come without challenges. An abiding lesson of the past five years has been that the ability to communicate successful techniques and outcomes to wider but interested audiences — policymakers, funders, members of other related disciplines — cannot be assumed to arise naturally among all researchers. The EEPSEA map is the exception that proves the rule. A more concerted effort to build communications skills in the IDRC circle is in order.
- 22 A second challenge is equally unsurprising yet important. Research institutions in many developing countries are fragile because the research and funding environment within which they operate is fragile. Recognizing the importance of the context within which specialized thematic research occurs, the Centre is paying more attention to institutional strengthening, through the Think Tank Initiative, larger proportions of core support to well-run institutions of long standing, and a diligent effort to extend something like the Think Tank Initiative to other sectors beyond economic policy.

- 23 A third challenge has to do with the gestation period that typically occurs between research and identifiable outcomes. The first real impacts from EEPSEA — the development of a clay-mining law in Sri Lanka and production of the only authoritative study of the costs of haze in the region — did not appear until four to five years after the program's inception. IDRC must continue to find ways to be persistent in its funding, convince others to be so as well, and demonstrate the value of patience and long-term investment.

Looking Forward

- 24 Building on these foundations, the Centre will seek to improve in some key areas in the coming years.
- 25 IDRC will increase its efforts to reach out to non-research audiences, particularly policy-makers and other stakeholders in policy debates, including the interested public in Canada, in developing countries, and elsewhere. IDRC will improve how it communicates the results of the research it supports and assist its partners to do so, effectively demonstrating why this research is relevant and important for public policymaking on development issues. Critical audiences will include other development donors and non-governmental organizations, given their key role in shaping external perceptions of IDRC.⁶
- 26 IDRC will take on a larger role in facilitating partnerships and other forms of collaboration between and among its various stakeholders and research and funding partners. This includes connecting researchers in different regions with others working in complementary disciplines elsewhere. The Centre will also emphasize the creation of links between researchers, policymakers, civil society groups, and other development donors, wherever these make sense. Given its past and current support to networks and other research platforms, IDRC has considerable potential to build such bridges: it will need to more fully realize this potential.
- 27 The Centre will need to become more nimble and resilient to be able to take advantage of new opportunities, and to manage new initiatives it may develop itself, without greatly expanding its footprint. The Centre will strive to increase its efficiency, streamline its internal procedures, and work to increase the share of its resources devoted to research programming and research support. In so doing, the Centre will allocate sufficient resources to deliver on all aspects of its mandate and business model, ensuring continued and meaningful engagement with its research and funding partners, while ensuring the sustainability of its operations and maintaining strong internal controls for effective stewardship.
- 28 This recognizes that grants to individuals and institutions newer to the research and policy worlds may require more IDRC staff time than those to larger institutions in countries with greater research capacity and a greater culture of connection between the research and policy communities. Since support for the organizational environment within which researchers work is as important as support for specific thematic research, organizational strengthening efforts will continue and, ideally, expand.
- 29 IDRC's particular status as a Canadian Crown corporation is a significant asset, but balancing parliamentary and governmental concerns in Canada with priorities of

⁶ Globescan (2008). See footnote 5.

developing-country partners is an ongoing challenge. Remaining sensitive to Canadian government priorities — indeed seeking them out — and being useful to the pursuit of government objectives are vital aptitudes for IDRC to continue to thrive. Capitalizing on this global engagement, on the Centre's exceptional network of partners, grantees, influential and often very prominent former staff and partners, as well as on its administrative strength and flexibility, can only serve the government well in a world in which Canada seeks to maintain meaningful evolving relationships with many other governments.

- 30 Indeed, IDRC's individual, institutional, regional, and intercontinental programming through networks of researchers across the developing regions of the world — along mostly thematic lines consistent with overall Canadian priorities — well complements the Canadian International Development Agency's (CIDA's) much larger and more focused bilateral funding in key partner countries as well as its sizeable multilateral funding. The Centre is attentive to the poverty focus of Canada's official development assistance, particularly the priority areas recently announced by the Minister of International Cooperation. It hopes to contribute to them, for example, through the Canadian International Food Security Research Fund (a partnership between CIDA and IDRC), by emphasizing children and maternal health in its programming on health and health systems (including the Global Health Research Initiative), as well as through its long-standing programming on economic growth. IDRC also expects to contribute to the government's focus on fragile states.

Part 1

Foundations and Objectives

IDRC's Mandate

- 31 IDRC operates under the *IDRC Act* (1970) that in subsection 4(1) directs the Centre “to initiate, encourage, support and conduct research into the problems of the developing regions of the world and into the means for applying and adapting scientific, technical and other knowledge to the economic and social advancement of those regions.”
- 32 In carrying out this mandate, IDRC emphasizes encouraging and supporting researchers from developing countries to conduct research in their own institutions and regions. In the process, the Centre has helped the developing world “to build up the research capabilities, the innovative skills and the institutions required to solve their problems.”⁷ IDRC will continue to build the capacities of individual researchers by affording them opportunities to carry out research and develop and refine appropriate methodologies. Noting the keen interest generated by the Think Tank Initiative (co-sponsored by the Bill & Melinda Gates Foundation and The William and Flora Hewlett Foundation), the Centre will also help build the capacity of select research partner organizations, keeping in mind the considerable human and financial resources this requires. The Centre will continue to devolve the responsibility for coordinating, managing, and administering research programs to Southern-based institutions whenever the opportunities to do so exist or can be developed.
- 33 The objects of the Centre, set out in the *IDRC Act*, also include “to enlist the talents of natural and social scientists and technologists of Canada and other countries; ...to encourage generally the coordination of international development research; and ... to foster cooperation in research on development problems between the developed and developing regions for their mutual benefit.”⁸ IDRC has made great strides in this regard and will endeavour to do so in future by promoting Southern–Canadian research collaboration, playing a lead role in the International Forum for Research Donors, and supporting a wide variety of donor partnerships and exchanges. It will also sponsor research networks and other collaborative platforms designed to enhance the role of developing-country researchers. This is all the more important in an era when the production of knowledge is increasingly networked and shared, but where access to this endeavour — as well as the power to set and shape relevant agendas — continues to be unevenly distributed between North and South.

IDRC's Values

- 34 IDRC's work is based on the conviction that knowledge and innovation can effect positive change in the social, economic, environmental, and political conditions of the poor, marginalized, or otherwise excluded peoples of developing countries. IDRC remains committed to sustainable and equitable development and poverty reduction, as well as the protection, promotion, and realization of human rights and the rule of law throughout the developing world.

⁷ *IDRC Act*, paragraph 4(1)(b).

⁸ *IDRC Act*, paragraphs 4(1)(a, c, d)

- 35 Sustainable development must meet the needs of the present (which, in many parts of the world, include a degree of sustained economic growth) without compromising the ability of future generations to meet their own needs. It goes beyond environmental stewardship to underpin all areas of human development.
- 36 Equitable development encompasses inclusive economic growth. More broadly, it aims at ending exclusion, creating opportunities, and progressively removing inequities that can exist along various dimensions (gender, class, ethnicity, age, religion, geography, etc.). Different forms of inequity often compound and reinforce one another.
- 37 Poverty reduction addresses economic and non-economic forms of poverty, including poverty's social, cultural, political, environmental, ethical, and other roots. Reducing poverty implies enabling and assisting people to take control over their lives and to realize their full potential.
- 38 IDRC recognizes that human rights encompass civil, political, social, economic, and cultural rights. The rule of law — the quality of and role played by legal norms and practices — contributes to the progressive protection, promotion, and realization of human rights and implies greater freedom and enhanced human capabilities.
- 39 Intellectual pluralism and diversity, and space for debate and dissent, are key ingredients of a rights-based political culture and are critical for innovation. Informed public dialogue is at the heart of successful policymaking and development strategies. Intellectual pluralism includes room for experimentation, speculation, and the questioning of established beliefs and practices, while respecting often diverse local preferences and choices. Facilitating greater access to knowledge, as well as helping to build local capacities to generate, interpret, and apply such knowledge, takes on added significance for an institution based on research and mutual learning, such as IDRC.
- 40 Human rights continue to be challenged by different forms of social discrimination, including along gender lines. Research that purports to be “gender-blind” can contribute to entrenching existing disparities, as gender discrimination often goes hand-in-hand with other forms of social discrimination based on age, ethnicity, geography, social status, and the like. IDRC will continue to place the fight against all forms of discrimination at the centre of its research support.

The IDRC Business Model

- 41 IDRC's business model is rooted in its commitment to excellence in all spheres of its activities, including programming, staffing, outreach, management, and governance. At the same time, IDRC is committed to professional risk management and the highest standards of accountability, stewardship, and probity in using the public and private funds entrusted to it.
- 42 The Centre employs its resources to deliver on all aspects of its business model. It adopts a “grants-plus” approach to supporting research for development. The main components of this approach are opportunity, engagement, and access. This means that IDRC is not just a research funder offering financial support to create new opportunities for research. The Centre is also a research partner and adviser that engages with its recipients throughout the research process as a mentor, but increasingly on a peer-to-peer basis. In addition,

IDRC acts as a research broker that furthers networking among its various grantees, helps strengthen research-to-policy linkages, and facilitates access to research materials and other services. The combination of these roles sets IDRC apart from other organizations, whether development agencies, research councils, or philanthropic foundations.

- 43 Too many people are excluded from the creation and sharing of knowledge that can benefit their societies. For that reason, IDRC responds to locally defined research priorities and needs as it helps to create new research opportunities. This implies a need to consult broadly with a wide variety of partners and stakeholders in addition to recipients of IDRC financial support, and to do so continuously. IDRC places great weight on having frequent, open, and meaningful exchanges with all its partners, in an effort to both remain sensitive to the way in which research priorities and needs may evolve over time and to reflect the input received in its programming.
- 44 IDRC also relies heavily on the creative judgment of its staff in making programming choices, not least given the heterogeneity and the different realities of developing countries. IDRC staff members are highly qualified in their areas of expertise and often possess extensive knowledge of particular geographic areas, making them effective interlocutors for the recipients of the Centre's research support. Maintaining and expanding their professional know-how is therefore a Centre priority.
- 45 Development assistance programs are still sometimes driven by donors' interests and concerns. By contrast, IDRC engages with its grant recipients in framing research problems, improving research designs, and selecting and implementing research methods. This can take the shape of formal training, less formal mentoring with IDRC staff and more established researchers or, increasingly, peer-to-peer *relations* between IDRC staff and IDRC-supported researchers. Centre staff and grantees actively contribute new ideas and theories, influence relevant research and policy agendas, and strengthen new generations of researchers. Perhaps the greatest value of IDRC's "grants-plus" approach lies in this engagement, which helps to make the research supported more open, accountable, and effective.
- 46 The Centre strives for research excellence, supporting research that is methodologically sound, evidence-based, and scientifically valid. IDRC is conscious that attaining the very highest standards and results can take years and may require considerable investments in capacity building, sometimes starting from a relatively low base. IDRC encourages young and new talent. The Centre has a long history of providing early support to promising researchers who go on to make substantial contributions to the scientific, policy, and practice communities. As a learning organization, IDRC places great value on drawing lessons from experience, continuously evaluating what works and what doesn't.
- 47 IDRC is persistent, providing support for the full project or program cycle, from conceptualization to dissemination and application. At the same time, the Centre remains "ahead of the curve," looking beyond short-term crises and supporting research that has the potential of making a lasting difference in the future. This implies a steady turnover between existing — and often long-standing — research support activities and new projects or programs. These can replace existing programs or, sometimes, be an addition to IDRC's program map. (The overall ratio between existing and new research support activities is held at approximately 2:1.)

- 48 An increasingly important part of the Centre's work is to help build new fields of knowledge, bringing together communities of researchers and practitioners and helping them to develop new applied methodologies, conceptual tools, or technologies. These often call for a multidisciplinary approach to a new set of problems. For example, IDRC played a key role in fostering the fields of ecosystem approaches to human health (ecohealth), information and communication technologies for development, and peacebuilding and reconstruction.
- 49 Too often, developing-world researchers are excluded from regional and global networks and debates, limiting their reach and impact. IDRC helps researchers gain access to other individuals or organizations linked by a common theme or purpose (as well as access to relevant literature, datasets, and other research materials). It does so, for example, by supporting networks and other platforms for multidisciplinary and collaborative research. The Centre will emphasize such methods in delivering its research support in future years.
- 50 Drawing on its international reputation, IDRC's support can also enhance the credibility of its recipients, helping them to connect with and inform public policy debates.
- 51 Recipients of IDRC funding own the copyright resulting from their research and benefit from it. At the same time, IDRC is committed to providing public access to the research results through the IDRC Digital Library, which operates in accordance with open access principles.
- 52 IDRC aims to balance its principal roles of research funder, adviser, and broker across its program map. Novel activities on new research frontiers, those set in difficult environments, and those involving less experienced research partners or research partners who are new to IDRC might necessitate greater engagement on the part of Centre staff as research advisers, as well as a greater role for IDRC as a knowledge broker. By contrast, supporting more experienced researchers — especially those who have worked with IDRC before, using methodologies and approaches that have been proven to work — will tend to require less hands-on support from IDRC staff. The same would apply for bringing such approaches to scale and extending their applicability. In these cases, IDRC's role as a research funder would likely take on greater prominence. The weight assigned to any of these functions will depend on the specific goals and requirements of individual Centre programs.

Objectives 2010–2015

- 53 In light of the considerations above, as well as in Part 2 and Part 3 below, in the next five years IDRC will use the support it provides to
- Build new knowledge, including fields of knowledge, around the following themes:
 - Agriculture and the environment
 - Science, technology, and innovation
 - Information and communication technologies
 - Social and economic policy
 - Health and health systems

- Build research capacity, especially in developing countries. IDRC will continue to help build the capacities of individual researchers, while increasing its efforts to build the capacity of research organizations.
- Enable its research partners to influence policy and practice, and help build constituencies for change.

Part 2

Program Framework

Introduction and Highlights

- 54 The principles that characterize the Centre's work, described in the first part of this *Strategic Framework*, are typically manifested through the Centre's programs. It is through the interaction of ideas, people, and money in development research and policy institutions in Canada and around the world that the Centre puts its precepts into action.
- 55 By way of illustration, China and India were noted to have achieved sustained high rates of growth in recent years (and withstood the global economic slowdown better than many other countries). There are many reasons why they and other developing countries have achieved success, but central among these is the ability to conduct research domestically and apply it to local problems, or to import and adapt knowledge to suit local needs. Success has been achieved using an array of strategies rather than working from a common template. Land reform, industrial policy, export promotion, social safety nets, and federal governance structures — to name just a few of the variables — have played quite different roles in, say, Chile, China, India, and South Africa, not to mention the countries of Western Europe and the USA before them. The program themes outlined below are sufficiently broad to encompass all developing countries. The purpose of Centre programs is to build local capabilities in each of these areas.
- 56 The thematic areas outlined below are not intended to be water-tight compartments. Rather, there is deliberate overlap among the themes and issues, reflecting the kinds of cross-program linkages that will be encouraged during the 2010–2015 programming cycle. Nor are the themes intended to provide details of individual funding programs. The annual program reports to the Board (which alternate between a thematic cut and a geographic cut of the program matrix) provide periodic accounts of the progress and developments in Centre programming.
- 57 A number of considerations have gone into selecting the broad themes and related program structure. Extensive internal and external consultations, program evaluations, and Centre management's own assessment of and experience with programming during 2005–2010 have played a role. These continue to point to the importance of selecting issues where significant knowledge gaps exist and where the potential is high to have an impact on research and decision-making capacities (sometimes high risk, high impact).
- 58 A second set of considerations in making programming choices has been the importance of balancing continuity in programming with change. The importance of continuity, particularly in the development cooperation sector where agencies are frequently criticized for being driven by "fads," cannot be overstated. Building capacity, in particular, requires prolonged and dedicated attention if it is to be durable. Continuity is also important for attracting and retaining the high quality specialists who contribute to IDRC's reputation for professionalism. In short, continuity does not mean more of the same. Rather it is about using existing platforms and current niches to build on demonstrated strengths in enduring themes. It contributes to deepening areas of support, so that the results are better grounded and more sustainable.

- 59 At the same time, the internal and external environments have changed during the last few years. Past programming has yielded a number of lessons. New imperatives in the development discourse internationally and in Canada have emerged. The principal elements of continuity and change are summarized at the end of this section. Some elements will be dropped or recast, which will allow room for new lines of research to be supported.
- 60 Finally, program choices will be congruent with the priorities of Canada's international development, innovation, and science and technology (S&T) agendas.
- 61 Together, these considerations have provided the guideposts by which program choices have been made. The highlights are:
- Agricultural productivity, nutrition, and food security issues will gain greater prominence;
 - Programming on climate change will continue to concentrate on adaptation rather than mitigation. Building on work started in Africa, it will continue to extend to Asia, and to Latin America and the Caribbean;
 - The environment and human health research agenda will focus mainly on new and emerging diseases and pandemics, and on both developing and disseminating new ecohealth research methodologies. This will complement ongoing work in support of designing efficient, equitable health systems;
 - Work on energy, largely absent from Centre programming in recent years, will be covered through programs in several areas, such as agriculture, climate change, economic growth, and S&T policy;
 - The Development Innovation Fund (DIF) and several programs that partner with Canada's science granting agencies will support research in the natural and physical sciences along with the social science dimension of S&T;
 - Support for economic policy reform will continue, including elements of rule of law. This will support work on poverty and inclusion;
 - Recognizing the improved access to information and communication technologies in most parts of the world and their wide application in nearly all areas of life, the Centre's work in this area will be supported through the thematic programs on agriculture, the environment, health, and growth. A further program will deal with issues related to the information society;
 - Support for young and mid-career Canadians by means of fellowships and awards, and for strengthening research and debate within Canada's development community, will continue and expand as resources permit;
 - Other themes, such as demography, employment, and migration could be addressed through a limited number of self-standing regional or global research projects;
 - Although the geographic ambit of individual programs ranges from sub-national to international, implications for international relations and global governance are evident in all. These implications will be extracted and addressed as an important cross-cut to the rest of the Centre's programming.
 - Recognizing that support for the organizational environment in which researchers work is as important as support for specific thematic research, organizational strength-

ening efforts will continue and expand, as possible. In some cases this will mean making core grants to strong, long-standing Centre partner institutions. Resources permitting, it might also mean using the Think Tank Initiative as a model for programming in sectors other than economics, such as health or agriculture.

- 62 Prospectuses that define the focus and rationale for individual programs will be presented to the IDRC Board of Governors.

Research Themes 2010–2015

Agriculture and the Environment

- 63 The global food crisis that struck in 2007–2008 was a wake-up call for a world that had grown complacent about agriculture. The soaring cost of staple foods such as rice and wheat hit poor people in the poorest countries hardest. It served as a reminder that a billion people still go to bed hungry and that when more household income must be spent on food, other needs, such as educating children and health care, go unmet.
- 64 A healthy environment and access to natural resources remain key issues for development and agriculture. And yet, despite more than two decades of global efforts since the 1987 report of the World Commission on Environment and Development, these resources are still very much under threat: people in all countries (and national and foreign interests in those countries) still exploit ecosystems unsustainably because of broader economic imperatives. Persistent and growing inequities between rich and poor are partly to blame. Investments in agricultural research in developing countries have declined significantly over this period. But the very economic success of many countries has also contributed to the crisis through pressures on the environment and demand for food created by the emergence of large, thriving middle classes. While opportunities for growth are required, they need to become more sustainable.
- 65 In developing regions, persistent poverty means that growing populations depend on mostly inadequate local natural resources for survival. In addition, today's biggest development challenges — climate change, food security, energy scarcity, and emerging infectious diseases — have environmental overtones. The Centre is well positioned to continue to provide leadership in supporting research that links better agricultural and environmental management to human development and economic growth.
- 66 Recommendations from the 2008 Environment and Natural Resource Management (ENRM) external program reviews (and the management response) have been integrated into this programming plan. Building on the Centre's substantial base of past programming, the Centre presents its response to current environmental and developmental research priorities using a fresh approach to new challenges and persistent problems within the following four themes: Health and the Environment; Sustainable Agriculture and Food Security; Climate Change; and Energy.
- 67 Cutting across these themes are activities in environmental economics, supporting programming on economic aspects of environmental issues such as environmentally beneficial technologies in agriculture, the costs of environment-related illness, and financing of services for the urban poor. IDRC has considerable environmental economics expertise and regional networks. The Centre's future work will expand economic pro-

gramming to increase awareness of trade-offs between environmental goods and other basic needs, as well as ways to give the poor greater voice in making those choices. Other areas include the identification of cost-effective interventions and better understanding of the economic factors that motivate environmental behaviour.

- 68 Complementarities among the themes will be exploited for greater impact. For instance, sustainable agriculture that is well adapted to climate change provides better nutrition and food security and reduces deforestation, while renewable energy provides income, supporting more sustainable agriculture while improving health outcomes.

Health and the Environment

- 69 In the current global development context, the issues linking human health and environment are central. One third of all deaths — 18 million people a year, most of them women and children — are due to poverty-related causes. Environmental hazards are responsible for about 25% of the total burden of disease worldwide, and nearly 35% in regions such as sub-Saharan Africa. As many as 13 million deaths could be prevented every year if environments were healthier. Poor health from environmental causes poses an economic burden for many countries (e.g., 4% of GDP in China). The key drivers of environmental change — climate change, globally interdependent economies, deforestation, agricultural intensification, and food shortages — are now also affecting human health. In addition to contributing to infectious disease emergence, these macro-drivers contribute to malnutrition, persistent vector-borne and water-borne diseases, and chronic ill-health and productivity losses.
- 70 The Centre has identified a gap in knowledge on how to link sustainable environmental and agricultural development research to improved human health. Environment influences health, but people's health also affects how they interact with their environment. These dynamics can be harnessed to improve health, restore ecosystems, and reduce poverty.
- 71 Leveraging more than a decade of field-building research, IDRC, with partners in communities of practice in Canada and around the world, has established ecohealth approaches as an effective strategy for generating useable knowledge on health problems linked to the environment in developing countries. The approach is helpful in identifying pathways for ecologically sound interventions and policies for improved health and livelihoods. It is anchored in partnership, developing regional capabilities in expertise, training, and policy influence. In a globalized world undergoing unprecedented environmental change and facing food security and emerging disease threats, the Centre can meet a crucial need in development research funding.
- 72 The Centre's past programming has established a strong basis for responding to current knowledge gaps linking environmental and social change to disease emergence and health, notably in agro-ecosystems. The Centre's research on agriculture and health and on environment and infectious diseases has garnered substantial support from other donors and attracted strategic national and international partners, such as the Consultative Group on International Agricultural Research (CGIAR) and the World Health Organization's Special Program for Research and Training in Tropical Diseases. In the 2010–2015 programming cycle, the Centre will continue its leadership in building the field of ecohealth by focusing on three areas:

1. Improving agro-ecosystems to reduce poor health from food insecurity and poor nutrition; maintain a focus building resilience to macro-level drivers such as changing climate, demographics, and economic conditions;
2. Assisting developing countries to understand the environmental and social drivers of emerging diseases and their impact on the poor; supporting the development of ecologically sound, equitable, and replicable interventions to prevent or adequately respond to emerging diseases; and
3. Strengthening the field of ecohealth in terms of methods, monitoring, and evaluation; supporting communities of practice and organizational strengthening; and dissemination.

Agriculture and Food Security

- 73 In its 2008 *World Development Report*, the World Bank argued that agriculture contributes to development in different ways: as an economic activity and source of growth; as a livelihood, by providing jobs for people; and as a provider of environmental services that can have both good and bad outcomes. Food commodity prices then spiked in July 2008, provoking widespread fears of future food insecurity. The International Food Policy Research Institute estimates that one billion people (half of them in rural areas) are hungry and a further billion people are food insecure (they cannot afford a healthy diet and suffer from vitamin and micronutrient deficiencies).
- 74 In addition, changing diet patterns as a result of growth of the middle class in many countries has brought pressure of another kind: the price of foods associated with wealth — meat, vegetables, packaged imported goods — has also risen. This has stimulated rich countries to reconsider their underinvestments in agricultural research for development, particularly because agricultural productivity growth has declined over the past 20 years. For example, the World Bank Agricultural Action Plan will increase agricultural programming by 50% during 2010–2012. The G-8 L'Aquila Food Security Initiative committed to mobilizing US\$20 billion for sustainable agricultural development over the next three years: Canada committed \$600 million in new funding.
- 75 Agricultural productivity research and development can help address some supply-side factors such as crop improvement, soil fertility, and water availability. Other supply-side factors limiting food production include land degradation, urban expansion/sprawl, the conversion of land from food to non-food crops (especially for bio-fuel), and a shortage of new land for agricultural expansion. On the demand side, the world population could rise to 9 billion by 2050. The demand for food and its supply will increasingly be mismatched in many countries: this will increase reliance on a global food system. Most analysts expect that food insecurity will continue over the medium to longer term. Others emphasize that large segments of the population will increasingly be deprived of economic opportunities, have too little to eat, and live in more degraded environments.
- 76 The Centre has a long-standing reputation for agricultural and natural resource management research. Since the 1990s, the Centre has supported research on rural populations in three key areas:

1. Safeguarding natural resources, which has contributed ideas about managing watersheds and water more effectively, conserving and using biodiversity, and adopting more sustainable land-use practices.
 2. Encouraging knowledge-sharing and development, such as promoting farmer participation, local knowledge systems, rural extension and communication, and multistakeholder platforms.
 3. Strengthening rights and access to resources, with an emphasis on marginalized populations (indigenous, women, low-income). This latter area has only partially — and mainly recently — addressed mainstream rural development issues such as increased income from crop improvement (except by participatory means), access to markets, and rural–urban linkages.
- 77 There are opportunities to build upon past Centre programming to strengthen the focus on food security. While remaining well-attuned to the activities of other donors and the development research community (notably the CGIAR, the Alliance for a Green Revolution in Africa, the World Bank, the Gates Foundation, and national agricultural research centres), Centre programming will focus on the following four elements:
1. Contribute selectively to the big push for agricultural productivity, emphasizing research that strengthens understanding of the way that technology used in farming systems interacts positively and negatively with environmental, social, and economic goals. This research will be conducted mainly in association with other research and development actors (e.g., the CGIAR, CIDA, etc.). Going to scale on technological improvement emphasizes high potential areas, but millions of the rural poor live in low-to-medium potential areas. Successful strategies to extend into these areas will require research. Improved access to markets through value chains is a key component of the productivity push. Research is needed to find ways to best ensure that new value chains provide real benefits for small-scale farmers, while ensuring that new market opportunities do not encourage environmentally unsustainable land use.
 2. Ensure that poor and marginalized people do not lose access to land and resources as a result of new profitable opportunities in commercial small-scale agriculture. If there are economies of scale in agricultural technology, agricultural development may not necessarily be pro-poor, particularly if access and rights to land and water resources are poorly defined and enforced. Agricultural technology development can also create short-term incentives to adopt monoculture (growing particular varieties with higher productivity or market preferences) that ultimately degrades land and water resources.
 3. Provide fresh options for producers and consumers excluded from the push for agricultural productivity. To meet ambitious development targets, the research focus on seeds, soil, water, pest management, and markets will emphasize regions with more production potential and ways to contribute at a suitable scale. However, the agricultural push will tend to exclude people who have a marginal land resource base, are isolated geographically or from markets, are of different ethnic groups, and have limited assets (human, social, etc.), particularly those the International Food Policy Research Institute calls the “ultra poor/hungry” — the 170 million people living on \$0.50 a day or less. Building on past programming, this research will seek to identify manageable ways to improve the food and income security of these excluded people. Emphasis will be placed on increasing the production of foods suitable to these

regions and on the identification of other sources of income. Research on new and better ways of reducing food insecurity and poverty, including human migration, will also be emphasized.

4. Support stronger policies for virtuous agricultural development. Which public policies can encourage agricultural growth with more equity and better environmental management? Emphasis will continue to be placed on populations excluded from big pushes. Factors such as environmental services, vulnerability to climate change, health, and territorial development strategies will be considered.

Climate Change

- 78 Human activities are affecting the climatic system at an unprecedented rate, leading to conditions never before experienced by humanity. Under such circumstances, unforeseen and possibly irreversible changes are to be expected. Moreover, as emerging economies grow so does their use of carbon-based energy (i.e., oil, coal) whose emissions are exacerbating climate change. The impacts of climate change are now inevitable and are expected to affect people in developing countries the most. Adaptation — or the ability of a society to adjust — to these impacts is an imperative for all countries, one that must inform current and future development research agendas.
- 79 Climate change will particularly affect ecosystems, food and fibre supply, coastal settlements, health, and water supply. Many countries are highly vulnerable to the impacts of climate change but have very limited capacity to adapt. Major emerging economies and most cities are vulnerable to some kinds of shocks. The most vulnerable regions include the Arctic, Africa, small islands, dry lands, and Asian mega-deltas. Estimates of the numbers of people likely to be affected by climate change are highly variable: for example, estimates of the number of people facing increased water stress by 2080 range from 400 to 900 million in Africa, 300 to 1 200 million in Asia, and 200 to 500 million in Latin America. Estimates of the number of additional people at risk of hunger by 2080 range from 25 to 200 million in Africa, 10 to 270 million in Asia, and 25 to 85 million in Latin America.
- 80 Responses to climate change are necessarily contextual (local, national), and need to be part of normal policy and governance discourse. Programs and policies must be flexible to be able to adapt to uncertainty, major shocks, and surprises. Substantial research gaps exist around how to effectively link climate change to development that reduces poverty and improves the well-being of the world's most vulnerable people.
- 81 Work supported through the Centre's collaboration with DFID in the Climate Change Adaptation in Africa program, as well as regional consultations in Asia and Latin America, have shown regionally distinct patterns of vulnerability. An EEPSEA vulnerability mapping initiative has shown that Southeast Asian countries vary greatly in their exposure and capacity to manage climate-induced change. Other work within the Urban Poverty and Environment program has been grounded in technical and local governance responses to severe shocks such as flooding and failing infrastructure.
- 82 IDRC's experience has shown that while research capacity exists to understand the implications of climate change, research has generally failed to effectively link with local or national policy-making. It has not yet contributed to significantly enhancing the capacity of decision-makers, government personnel, resource managers, or vulnerable populations to understand climate change and act on that knowledge.

- 83 Future investment will be concentrated on the following three thrusts:
1. Helping people and countries prepare for and recover from climate-related shocks by measuring vulnerability, and mapping and managing risk (including early warning systems). This includes cost-benefit analysis of adaptive measures in infrastructure, energy, water, health, or food systems.
 2. Contributing to maintaining stable economies and societies in the context of a changing climate by identifying effective policy and managerial interventions that improve the governance of natural resource use; supporting the design of planning responses; investing in projects that generate immediate benefits while strengthening the ability of institutions and people to respond to climate change — increasing resilience.
 3. Supporting the shift to clean development through market-based approaches and public policies that can contribute to reducing fossil-based energy use and the impact of climate change on land, water availability, and infrastructure.

Energy Supply and Use

- 84 Because energy is an area in which the Centre has not programmed intensively in recent years, the development of program thrusts is at a different stage than that of the previous three themes. A working group of staff and external experts has been struck to explore the subject in more detail and to suggest possible entry points for the Centre. What follows is an early report of this exploration.
- 85 Globally, nearly 2.4 billion people use traditional biomass fuels for cooking; nearly 1.6 billion do not have access to electricity. Energy poverty has an impact on the ability of the poor to access services and information, and to generate income and employment. It also has profound implications for health (indoor air quality, indoor lighting, clean water, refrigeration, and access to health services are direct examples). Climate change is also inextricably linked to questions of energy use. Today, the world relies heavily on non-renewable sources such as coal and oil that are key contributors to climate change. It is clear that an increase in energy demand accompanies economic growth, so it cannot be divorced from development.
- 86 This has costs that can disproportionately affect the poor. For example, while shifting to biofuel can help secure energy supplies and spur innovation, it can also change agricultural and land use patterns, with potential negative consequences for the poor. Yet the increased interest in and debate about moving to low-carbon economies to mitigate climate change also provides an opportunity. New approaches to the way that energy is harnessed and used in developing countries could provide more energy for basic needs and stimulate economic growth. Innovations in energy production, storage, distribution, and use could boost productivity and create employment. And carbon markets could create income directed to the needs of the poor and be harnessed to increase development. Research is also required to support policy debates on how to overcome barriers to effective energy policies and strategies.
- 87 Early discussion and a scoping exercise, as well as a few sponsored projects related to biofuels, fuel cells, waste management, the Clean Development Mechanism, and other similar schemes, provide the groundwork for the Centre's re-entry into this field. Preliminary considerations for entry-point themes include biofuels and biomass use, carbon

sequestration and carbon markets, low-carbon fossil fuels, and renewable energy (water, wind, and solar). Opportunities for research on demand-side efficiency could also present themselves.

- 88 Science, technology, and innovation policies that help developing countries develop, adapt, and use energy technologies for economic growth and poverty alleviation are critical. Research priorities include
- developing energy policies that place energy considerations, including their costs, in national Millennium Development Goals strategies and development planning frameworks;
 - developing national energy strategies consistent with country characteristics, including income, geography, energy reserves, and consumption patterns;
 - providing a mix of energy options, including modes of generation, distribution, and use;
 - helping develop and commercialize indigenous emerging technologies, particularly by small- and medium-size enterprises (SMEs);
 - facilitating the adaptation of technologies developed elsewhere, including supportive Intellectual Property Rights policies;
 - addressing barriers to the dissemination and use of sustainable energy technologies for households and SMEs;
 - analyzing subsidies in the development and use of different energy supplies;
 - assessing the impacts of different energy technologies and policies, particularly on the poor.

Science, Technology, and Innovation

- 89 Historically, the Centre has supported research on science, technology, and innovation (STI) policies that contribute to economic growth and poverty alleviation in developing countries. This includes mapping the players involved in science and technology policy, their roles, and linkages; developing science and technology strategies; and identifying the impacts of new and emerging technologies, including helping marginalized groups participate in such debates.
- 90 In addition, a Challenge Fund enables joint research between Canadian and developing-country researchers, primarily through partnerships between the Centre and the Canadian research granting councils — the Natural Sciences and Engineering Research Council, the Social Sciences and Humanities Research Council, and the Canadian Institutes of Health Research. The Centre typically funds developing-country researchers and the Granting Councils (tri-councils) fund the Canadian researchers. Cross-cutting activities are covered by both the Centre and the tri-councils. The Challenge Fund is the window through which all Centre program areas collaborate with the tri-councils. Since this is more a question of program architecture than of substance, a discussion of what, if any, role a Challenge Fund might play in the *Strategic Framework 2010–2015*, including the important matter of partnering with granting councils of other countries, is left to a later date.

- 91 The program's strengths include strong projects on understanding the links between national systems of innovation and development, strengthening S&T policies in several countries, identifying the impacts of genetically modified cotton, and building the capacity of science journalists (through support of the World Federation of Science Journalists, support to the SciDev platform, and other mechanisms).
- 92 Much of the work has been about innovation theory. Because national innovation systems have many components, the program has supported research covering many diverse areas. The program's objectives need to be rooted in particular sectors or thematic areas, however. In early 2009, the Innovation, Technology, and Society program (ITS) identified agricultural innovation and biotechnology as key themes upon which to focus for the remainder of the programming cycle, with energy as an emerging theme. Economic growth and poverty reduction are the overlapping goals of research supported on these themes.
- 93 Reactions to the economic crisis include a refocus on innovation by both developing countries and donors. There is an opportunity to build on this momentum, by supporting policy-relevant research that identifies how to strengthen the framework for developing, adapting, and using science, technology, and innovation for economic growth and poverty alleviation in practical ways. A key consideration will be to examine the changing behaviour of firms, public agencies, and academic institutions in the new context of the crisis, as well as the institutional arrangements that are, or should be, emerging to mobilize STI for development.
- 94 Building on past and ongoing research, biotechnology is a key theme for 2010–2015. The need for additional research on biotechnology was identified in all the regional consultations, except in Asia. In addition, four potential new themes or approaches emerged. Two relate to particular actors in national innovation systems — STI granting councils and universities; one, creative industries, is an emerging new sector; and the fourth, energy, has been treated earlier.

Science, Technology, and Innovation Granting Councils in Developing Countries

- 95 The Centre has worked with granting councils in the South, including linking science granting agencies in Southeast Asia to fund research related to avian influenza, convening the Southeast Asia Research Councils Forum, and monitoring how Brazilian research managers foster relations between grantees and the poor. However, the establishment of new STI granting councils in countries such as Côte d'Ivoire and the re-engineering of existing ones, for example in Egypt, present an opportunity.
- 96 The program will deepen work to strengthen the ability of STI granting councils in developing countries to set research agendas and fund research that responds to national priorities, including those of the poor. This will help provide a strong framework within which Southern researchers supported by the Centre and others can operate.
- 97 Research priorities include better understanding the nature of STI funding in different categories of developing countries, analyzing models for supporting STI activities in different countries and their evolution, strengthening councils' ability to help researchers close the innovation cycle, involving the poor in setting the research agenda, helping research councils act as a broker between internal and donor research funds, and pro-

moting Southern Research Council Regional Networks. Integrating work that ITS has supported in helping countries establish national S&T policies and strategies, and helping granting councils implement those strategies in particular sectors is also a possibility. Strengthening the ability to set priorities in national research was identified in the Asia Regional Consultation and South–South collaboration on science and technologies in the Latin America and Caribbean Regional Consultation.

The Role of the University within the National Innovation System

- 98 A number of Centre initiatives are exploring the role of universities within the research landscape, including an initiative in West and Central Africa on higher education and another to understand the role of business development and resource mobilization in African and Caribbean universities. Other ongoing work includes investigating whether universities do (or should) contribute to meeting development goals in addition to contributing to innovation, and university–industry linkages related to biotechnology. All four of the regional consultations identified the need to strengthen weak universities as a priority. The Middle East and North Africa Consultation added the ability to “close” the innovation cycle — that is, connect research to commercialization and development — as crucial.
- 99 The university is thus a key actor within the national innovation system upon which to focus. Research priorities include examining ways to enhance the quality and relevance of university research; the internationalization of universities, including teaching and research standards; building stronger linkages between universities and other important actors in innovation systems to close the innovation cycle; and training a new generation of STI policy researchers.

Creative Industries

- 100 Knowledge and creativity are drivers for economic growth in the information society. Creative industries include the music, film, publishing, software, photography, commercial art, and broadcasting industries. They are based on the performing and visual arts and literature (cultural industries), as well as on activities that add value to these arts, such as design, production, editing, and dissemination. Cultural industries are thus a subset of creative industries. Creative industries account for more than 7% of global GDP and are growing by an average of 10% per year. These industries also contribute to social development as they are inspired by local culture, and help promote and protect cultural diversity. Creative industries lie at the crossroads between the arts, business, and technology.
- 101 In recent years, developing countries such as India, Mexico, and China — as well as several smaller Asian countries — have developed domestic creative industries and penetrated global markets. They have focused on software, publishing, design, music, film, and electronic games. For instance, Thailand, which has been successfully developing its film and advertising industries, included creative industries as a priority in its 2010 development plan. Pontifical Catholic University in São Paulo, Brazil, aims to become a “creative university” and offers both undergraduate and graduate creative economy courses. The African Ministers of Culture agreed in 2008 to develop their creative resources as a means to create jobs, contribute to the Millennium Development Goals, and promote and protect cultural diversity. Nigeria quickly made this sector a priority and sees it as a key element

to reach its goal to be one of the world's 20 most developed countries by 2020. For some countries with a large diaspora, such as India and China, the market is not just domestic, but global.

- 102 Given the potential for creative industries to allow developing countries to diversify natural resource-based economies, this field seems worthy of IDRC exploration, the more so because many developing countries are still marginal players despite their rich cultural heritage, talent, and potential. Weak domestic policy and the strength of large international creative industries account for the underdevelopment of these industries in many countries.
- 103 Key to enhancing potential is helping to develop a regulatory framework, including legal infrastructure. This requires research on how to shape strategies for creative economies, economic incentives, and appropriate intellectual property rights regimes, as well as drawing lessons from small countries that have developed successful creative industries, increasing developing-country participation in the global creative economy value chain, and promoting international trade policy that supports developing-country industries.

Information and Communication Technologies

- 104 IDRC's recognition of the role that information, communication, and knowledge-sharing plays in the development agendas of low- and middle-income countries was made early in its history.
- 105 From an early perspective on information sciences came an understanding of how emerging information and communication technologies (ICTs) could enable researchers across the globe to carry out their work in their institutions, in global networks, and through international collaborations. The Information and Communication Technologies for Development (ICT4D) Program Area is a prime example of IDRC engaging in "field-building" as it supported programs of developing-country researchers who quickly realized that if the ICT era passed them and their organizations by — the so-called "digital divide" — it would have a dramatic impact on the process of informed policy-making, research for development, and development itself.
- 106 Thus, the early approach in ICT4D was to concentrate on research that investigated the regulatory and policy environment, and pursued innovative approaches to the physical infrastructure that was necessary to provide wide access to the technology. Rapidly diminishing technology costs, together with the opening up of code for the underlying software, has led to a rapid dissemination of technology and technical skills globally, including in the developing regions of the world.
- 107 Today, access to ICT infrastructure is much more widespread than it was a decade ago, even in poor countries. The application of ICTs in a wide array of sectors — health, agriculture, environmental management, government — is widespread. It is sometimes also taken for granted. ICTs have demonstrated that they can make some functions easier, faster, cheaper, and more efficient. But they have also demonstrated their limitations: while they make data and information more accessible, they do not increase access to knowledge and wisdom as these depend on human actions and processes, not technical fixes.

- 108 Access to information, processing that information into knowledge, and facilitating the delivery of goods and services inevitably brings about change at all levels — personal, political, economic, and social. The world of ICT4D research has evolved to ask deep questions on how these change processes affect developing countries.
- 109 Since these changes, like the technology itself, are occurring in all aspects of human activity, the logical approach to research is to examine it sector by sector while building the field of research around the drivers of these changes, the transition into a global information society and knowledge-based economy. The overarching question driving the new directions in ICT4D programming is “Do open knowledge societies lead to more equitable, innovative, and sustainable development?”
- 110 Open societies are characterized by the free flow of information both within and outside their boundaries. The outcome of this flow is a well-informed citizenry that actively participates in decision-making and, therefore, holds government accountable. The Open Society Institute characterizes this as, “... a reliance on the rule of law, the existence of a democratically elected government, a diverse and vigorous civil society, and respect for minorities and minority opinions.” The emergence of an open society is underpinned by and depends on ready, affordable access to the means by which information is widely disseminated — a robust, information and communication technology infrastructure that has the capacity to deliver information and communication services to anyone, anywhere, at any time, affordably. The exponential growth in ownership and use of mobile telephones is a good example.
- 111 Developing countries generally understand the pressing need for this infrastructure for their long-term economic and social well-being and for their active participation in the emerging global knowledge economy.
- 112 The themes that follow flow from the fundamental question posed above and describe research programs that focus on issues related to the essential relationships among development challenges, information and communication technologies, the decentralization of information sources, and the critical role that information and knowledge-sharing has in the design, delivery, and impact of both public and private services.

Knowledge Economies, Information Societies

- 113 The model of software development in a collaborative, non-proprietary manner — the open source software movement — has now been adopted in many other areas of production, including business, engineering, health, and education. The “openness” model is defined by shared ownership, collaborative methods, transparency, low cost, and — essentially — a “do-it-ourselves” approach. All these attributes have been readily taken up across the developing world as “open” products and services are usually less expensive. Importantly for IDRC, they also integrate capacity development.
- 114 This openness movement represents a clear departure from conventional business, production, and service delivery models. But while information and knowledge provide the potential for open development, it does not mean that researchers and policymakers have the capacity to find, adapt, and use such tools. The research that is needed rests on the hypothesis that these open models of development could play an important role in ensuring that the benefits of information societies reach all levels of society and in ensuring inclusive participation in a global knowledge economy.

Collaborative Technologies and Social Change

- 115 Arising from the openness issue is the question of the role ubiquitous collaborative information and communication technologies play in social innovation and change. Collaborative technologies, which harness the power of social networks, are transforming the ways in which social change takes place. For example, health workers and communities in Sri Lanka can monitor and report the emergence of infectious diseases; taxi drivers in Accra have carbon sensors in their cars and can track levels of pollution in different parts of the city at different moments of the day; Twitter-enabled flash mobs in Iran highlight how individuals can mobilize collective action in unprecedented ways.
- 116 The Internet was created out of a need for collaborative research and communication and has continued to develop along these lines with the now established Web 2.0 resources. These new platforms are designed to blur the distinction between reader and writer by providing tools to all Internet users to tell their own stories, in their own words, to a global audience. The massive growth in mobile phone ownership and use in developing countries suggests a basic need for humans to communicate and these new Internet-based social media meet that need in a more sophisticated and powerful way.
- 117 These new opportunities are not without risk, however. For instance, authoritarian states are just as capable of capturing or curtailing the power of the technology and using it for the surveillance and control of citizens; patient records could compromise individual's privacy; content vendors are able to withdraw content as easily as they transfer it, without consumer consent. Moreover, collaborative, participatory data-gathering projects run the risk of being overrun by unreliable data that makes social interventions ineffective.

Policies for Networked Societies

- 118 To build and sustain an environment for positive social change and for open development models to thrive, certain conditions need to exist. Information and communication infrastructure and services are among the most crucial. Experience has shown that an appropriate policy and regulatory environment is crucial to sustaining a networked society, which underlies an equitable and innovative knowledge society. However, sustaining this policy environment is not a given. ICT4D has successfully demonstrated how evidence is crucial to formulating appropriate policies. Without this evidence, governments in developing countries will be quick to tax sectors that are the foundation of networked societies.

Social and Economic Policy

- 119 As the first decade of the new millennium draws to a close, the outlook for social and economic development has turned more guarded, if not sombre. While progress has been made, for much of the developing world growth is more fragile, inequality more persistent, and social exclusion more daunting than optimistic forecasts of recent years had predicted. It is toward this set of issues that IDRC's Social and Economic Policy (SEP) Program Area is directed. Its mission is to inform public debate on key public policy issues related to poverty reduction, social equity, and human rights. It advances this mission by supporting research on short-term policy questions; by building longer-term analytical capability and exploring new methods and approaches; and by strengthening the voice

of researchers and civil society organizations in policy debates at local, national, regional, and international levels.

- 120 During 2005–2010, Social and Economic Policy programs have made particular progress in this regard, focusing on issues as diverse as poverty measurement and analysis, security sector reform, and the impact of decentralization on women's rights. While continuing to focus on these kinds of concerns, increased efforts will be made during the next five years to exploit linkages across programs and themes. This will be done by emphasizing institutions — that is, the set of formal and informal rules, norms, and organizations that structure social interaction and thus shape the prospects for broadly based economic and social development. As one writer has put it, institutions “make up the stuff of social life”: systems of overt or implicit rules frame much of human interaction and activity, yet at the same time are themselves the product of politics, reflecting the distribution and exercise of power within and across countries.
- 121 The current global economic crisis has brought this home forcefully, drawing renewed attention to the role of legal and regulatory institutions at the national and international level in shaping the behaviour of markets. More generally, discussions at IDRC's 2009 regional consultations emphasized issues of governance and institutions as key drivers of development whether these are the formal institutions of government that frame opportunities for democratic participation and accountability or the less formal rules and norms that continue to restrict women's full participation in economic and political life.
- 122 Institutional weaknesses underlie three more specific challenges around which Social and Economic Policy programs will be organized during the 2010–2015 period:
1. Promoting inclusive, sustainable growth;
 2. Fostering more democratic, accountable governance;
 3. Promoting the equal inclusion of marginalized groups, particularly women and girls, in the development process.
- 123 In each of these areas, research will seek both to understand the impact of existing institutions and highlight opportunities to strengthen or reform institutional frameworks at the local, national, and international levels.
- 124 Along with thematically defined activities, the SEP program will continue to invest in efforts to strengthen individual and institutional capacities for research, analysis, and policy dialogue. This includes, in particular, the Think Tank Initiative with its focus on long-term support to independent public policy research organizations, as well as a number of specific investments by other programs, geared to sustaining key partner organizations and promoting the development of less experienced scholars.

Inclusive, Sustainable Growth

- 125 As the current economic crisis spreads, its impact on poverty and human development is becoming increasingly clear. While the experience of the past decade has shown that economic growth is not a panacea for development, the current reversal of growth has devastating implications for progress toward meeting poverty reduction targets, and for broader measures of human well-being. Reinvigorating economic growth and steering it in directions of greater equity and sustainability remain arguably the greatest short- to

medium-term development challenges, and areas in which institutional innovations are sorely needed.

- 126 In the first instance, attention must be devoted to the institutional frameworks for investment, trade, and entrepreneurial activity at the national and international levels. This includes reappraising the enabling environment for business, reconsidering the regulatory role of the state (particularly in key sectors like banking, telecommunications, and energy), and promoting Southern voices in debates on international economic governance. Work in this field will also build on current IDRC support to research on competition policy and law, a critical element in ensuring growth, innovation, and improved consumer welfare.
- 127 Growth will not rapidly reduce poverty, however, unless its benefits are widely shared. Two areas are central in this regard. First, fiscal measures have key social and gender equity implications, both directly (e.g., the impact of alternative tax measures on women and other marginalized groups) and in terms of financing social protection mechanisms to protect the most vulnerable. Second, labour markets remain the main link between growth and poverty reduction, with a variety of legal and institutional obstacles continuing to limit needed increases in employment and incomes. Regional consultations have directed attention to the demographic factors at work, notably issues of youth unemployment, aging, and migration.
- 128 At the same time, developing countries must grapple with the transition to lower-carbon growth strategies. Complementing the Centre's ongoing work on adaptation to climate change (described above under the Agriculture and Environment theme), research is needed to understand the development of carbon markets, the role of fiscal policy in shifting investment toward greater environmental sustainability, and other institutional innovations to promote the uptake of cleaner products and processes. Addressing these issues poses new governance challenges at the local, national, and international levels as industrialized and developing countries work to define the institutional underpinnings of a more sustainable growth model.

Accountable Governance

- 129 As noted earlier, regional consultations have directed particular attention to the need for more democratic, accountable institutions of governance — albeit with differing emphases in each region. The challenges of democratic governance are widespread, but are particularly acute in countries emerging from conflict and other so-called fragile states. Work in this area will thus focus particularly on fragile states, while recognizing that institutional fragility is multifaceted and not limited to conflict settings.
- 130 A central concern remains that of democratic transitions both from armed conflict to (greater) peace, and from authoritarian to (more) democratic rule. As experiences as diverse as Kenya, Nepal, and West Bank and Gaza have shown, such transitions are rarely simple and linear, but instead encounter frequent roadblocks and reversals. Processes of demobilization and reintegration of armed groups, constitution-building, and more generally the role of key political actors like political parties and civil society organizations all demand continued analysis. Research will pay particular attention to the informal and “hybrid” forms of governance that emerge in transition settings, and which may offer important opportunities for greater accountability and more meaningful participation by women and other marginalized groups.

- 131 Economic governance and the rule of law also need to be improved. Measures to ensure accountability and transparency in public finances, the consistent application of laws, and legal recourse through the courts are all too frequently absent, affecting both the rights of citizens and overall economic activity. Research supported by IDRC can help to highlight the ways in which these general principles can be adapted to different geographic, cultural, and political contexts, and the varying actors and institutions — public and private, formal and informal, local and international — involved. Research will also build on past IDRC support to research on the application of information and communication technologies in government operations, and the ways in which these technologies can improve transparency and enhance public accountability.
- 132 Closely linked to “rule of law” issues are questions of public security and insecurity. While armed political conflict may have decreased in much of the developing world, other forms of public insecurity have not. As regional consultations have noted, increasing criminal violence is frequently linked to organized crime and illicit trade in drugs and weapons. This threatens not only public security, but also political stability and overall democratic governance. The impact is greatest on youth, for whom unemployment, gang, and/or gender-based violence and political alienation too often go hand-in-hand. Understanding the transformation of violence and security and its implications for development is a critical research issue for the coming decade.

Inclusion of Marginalized Groups

- 133 Rapid growth in much of the developing world over the past decade has meant broad progress in reducing overall global levels of income poverty. Despite this, multiple forms of inequality and marginalization persist, with cleavages along lines of gender, age, ethnicity, social status, geography. In some cases these have deepened in the wake of economic transformation. The current economic crisis may well deepen such rifts, eroding some of the gains of the past decade.
- 134 In light of this situation, a concern for social equity in all its forms cuts across SEP programs, and indeed IDRC’s work as a whole. Yet women continue to be the most systematically excluded. Although women represent more than half of the world’s population, inequalities in power and discriminatory institutions limit their political, social, and economic participation throughout much of the world, with devastating effects for equity and for overall development. Inclusion, in this sense, entails not simply ensuring that the fruits of development are widely shared, but also that women and other marginalized groups can participate fully and equally in steering the course of development itself.
- 135 A key area of concern is political participation and representation. Building on path-breaking research supported by IDRC on decentralization and women’s rights, future research will focus on a broader set of issues concerning participation in democratic governance, including the role of political parties, women’s participation in constitution-building processes, and the opportunities and challenges posed by democratization processes in transitional and post-conflict situations. Research will also examine the ways in which the application of information and communication technologies can help promote more open, inclusive forms of governance, reducing the barriers to the effective participation of women and other marginalized groups.

- 136 Equally important is economic empowerment, where formal and customary restrictions on women's labour rights, as well as their access to land, technology, and other productive assets, exacerbate poverty and slow overall development progress. As noted earlier, labour markets remain a key concern for SEP, with discrimination along gender and other lines continuing to act as a brake on growth and equity. Regional consultations drew attention to the particular problems of informal sector employment, in which women, youth, and other marginalized groups continue to dominate, often facing tremendous legal, social, and economic obstacles.
- 137 Finally, although in many instances there has been progress in terms of formal recognition of human rights, all too often this is not accompanied by efforts to ensure access to justice — that is, concrete measures and mechanisms to allow individuals to actively claim those rights. Once again, women face particularly daunting challenges in this regard, and further research is needed to understand the ways in which courts, police services, and other institutions of justice can be organized to advance rather than frustrate women's exercise of their rights. As noted earlier, such issues are particularly acute in post-conflict settings, but are by no means limited to them.
- 138 Taken together, these three themes — growth, governance, and inclusion — will form the fabric of Social and Economic Policy programs over the coming five years. Woven through this fabric, however, is an underlying concern for institutions. As noted above, in each of these areas institutional weaknesses impede progress toward development goals. Applied research of the kind supported by IDRC can play a key role in understanding these weaknesses, in proposing solutions, and in providing a basis for public debate on the way forward.

Health and Health Systems

- 139 IDRC has a long history of supporting research in health-related areas of development. The evolution from the early days to the present has reflected and, not infrequently defined critical areas of inquiry for global health research. IDRC's health niche today is the result of a focus on health systems research that distinguishes itself in a crowded field of global health interventions and disease-specific (i.e., stove-piped) research programs. Although not explicit nor an underpinning of IDRC's health programming, there is an implicit interest in the health-related Millennium Development Goals, including addressing the underlying reasons why there is a very real risk that the MDGs will not be met by the 2015 target.
- 140 Historically, IDRC's strength has been a systems orientation to global health research. Health systems research is a classic example of IDRC field-building that is now being increasingly adopted by researchers and research institutions in the developing world to complement intensive efforts by the international donor community to support biomedical research in a disease-specific context. Systems theory is based on early work on biological communities that investigated the dependent and independent relationships among organisms in an ecosystem. By taking such a holistic view of global health, research can address questions such as why there are ongoing polio epidemics in certain developing countries while two very effective polio vaccines are readily available.

- 141 A systems approach can be equally applied to allied fields of research in global health as they relate to the many components of complex healthcare systems. A deliberate emphasis on addressing the root causes of inequity and poor health outcomes is needed. Underserved and marginalized populations are most vulnerable to shocks and stresses within and beyond the health system (health reforms, economic recession, climate change, pandemics). Countries with robust and equitable health systems will be better able to cope with changes and pressures. However, health systems will not inherently gravitate toward greater fairness and efficiency. Accordingly, a systems approach to health research can provide much needed evidence for deliberate policy decisions, stronger and more responsive governance and financing mechanisms. They can also encourage an approach to population health that focuses on equity.
- 142 The challenges that are likely to strongly strengthen health systems and improve health outcomes for all citizens in low- and middle-income countries are outlined below. IDRC's approach is to support research that enables the preservation of health and well-being rather than focus on the treatment or management of disease.

Health Systems, Governance, and Access to Health

- 143 Market-based models for structuring, financing, and delivering health care often do not fit many societies in Asia, Africa, and Latin America that have been fundamentally challenged by globalization and social, economic, and technological change. In many of these countries there exist emergent forms of "networked governance" that are more responsive to the complexity of different contexts, characterized by the greater intermingling and blurring of the boundaries of state, market, civil society, and community institutions. Good governance is essential to ensuring the right to health. Research into what constitutes good governance in these changing contexts is critical in informing policies and practices, as well as in guiding resources to safeguard and promote the health and well-being of the poor.
- 144 As mentioned earlier, a systems approach to global health research is now widely accepted by a growing number of donors. The report of the UN Commission on the Social Determinants of Health provides compelling evidence of the need to reorient global health research to address critical determinants that lie at the core of equitable health systems, such as gender equity, poverty reduction, inclusive health policies, social justice, and rule of law.
- 145 Some researchers exclude biomedical research from the field of health systems research, but this discipline is functionally linked to it as innovation in medical sciences contributes to the overall management of health, as explained below. However, such advances in medical sciences must be integrated into holistic, systems-based research rather than be stand-alone solutions to disease.
- 146 Simply expanding existing health services — or any single intervention — is not enough. The most marginalized and disadvantaged members of society, particularly women and girls, need comprehensive, strategic, and targeted investments that address the many interconnected causes of their vulnerability. Multisectoral programs are needed that build girls' safety and assets across the board — in health, education, and livelihoods — and that provide empowering negotiating skills, social support networks, and mobility. These

programs must not only cross sectors but should operate at several levels of influence, from the individual and the community to the national government.

- 147 Pressing issues include addressing maternal mortality from a systems perspective; focusing on interventions for underserved populations; safeguarding reproductive rights through practice, policy, and civic engagement; addressing the root causes of violence against women and girls and its implications for their well-being; and encouraging a focus on the health needs and vulnerabilities of adolescent girls in particular.

Health Information Systems

- 148 To be efficient and effective, a healthcare system urgently needs accurate, real-time data. All countries face this challenge which, if met, will provide care providers throughout the system, as well as public health officials and healthcare policymakers, with the information they must have to make informed, evidence-based decisions. Health information systems in low resource environments are emerging, based on open, adaptable, low-cost technologies. The critical issues in research on health information systems include patient outcomes, policy influence, the recruitment of health professionals to underserved regions, response to emergency and outbreak situations, and the rational allocation of scarce resources in the health system.
- 149 There is an explicit connection between community-based health care and health information systems: the latter aim to get the right information to the right person in the right place and at the right time. Healthcare providers typically treat disease and injury: a well-trained community health worker, on the other hand, maintains wellness and is able to do so by being aware of the risks to health in the community and by having access to patient- and community-level information that informs effective preventative health care.

Health Human Resources

- 150 The issue of health human resources has been critical for some time. IDRC's approach must focus on strategic elements of this complex problem. There is a real need to understand alternative models of providing care that reduce the dependency on physician-delivered services. Most disease conditions can be managed by community-based healthcare workers and, yet, clear evidence of the effectiveness of such models of care is lacking. Initiatives around the world are emerging to develop training programs for such workers: it will be essential to follow these to determine their impact on general indicators of health and wellness in their communities.

Understanding the Emerging Chronic Disease Epidemic

- 151 Health workers increasingly recognize the dramatic rise in the incidence and prevalence of chronic diseases in the developing world, including mental health problems, cancer, diabetes, and substance abuse. The roots of this epidemic are complex and involve the growing use of tobacco and tobacco products; lifestyle transitions in, for example, the fastest growing economies; nutritional deficiencies, especially in children; environmental degradation and climate change; and workplace occupational hazards, among many others. A transdisciplinary research program is urgently needed to explore the underlying causes and to develop new knowledge across conventional boundaries to address this situation.

- 152 The multidisciplinary approach to tobacco control is an excellent example of this type of program: it explores the complexity of tobacco from its health effects to national taxation and tobacco control policies, to healthcare financing and agricultural practice. The Framework Convention on Tobacco Control, the world's first and only global public health treaty, stands as an example of a broad mix of evidence-based public policy that requires whole-of-government attention for successful implementation.
- 153 Tobacco control has been described as a "Blue Chip Investment" in public health as many of the most effective interventions are low-cost and, as in the case of taxation, generate sustainable revenues that can be earmarked for health and development.

Demographic Changes

- 154 An efficient and affordable health system must be tailored to the "wellness profile" of its citizens. That profile is a function of age and gender, as well as of the impact of urbanization on urban populations and on rural communities experiencing increasing migration to the cities. Research in this field includes a focus on actuarial science, which is essentially a quantitative epidemiological approach to estimating risk to health as a consequence of demographic shifts and profiles.
- 155 Support of actuarial science research would also contribute to the complex and challenging area of health financing. An efficient and effective system of payment (public, private, and community-based micro-insurance schemes, for example) is essential to health program sustainability: expenditures must match need and revenues must be generated in a way that does not impede equitable access to either the healthcare system or to preventative programs. Demographic data obtained through actuarial science research can help identify health risks and the need for specific health programs.

Biomedical Research

- 156 There is real value in supporting biomedical research that is focused on and is directly connected to broader health systems activities. The Development Innovation Fund (DIF), the first phase of which will focus on health, presents opportunities in this field: for example, a research program in public health information systems in Latin America could be integrated into a laboratory-based biomedical program investigating new pharmaceutical agents for the treatment of Chagas disease. DIF-Health presents enormous opportunities to address fundamental gaps in global health research, particularly in the "bench-to-bedside" model that has never been adequately addressed. DIF-Health and the work of the Global Health Research Initiative are well placed to address this gap.

Complementing Thematic Programs

- 157 Centre programming will be determined primarily by the research themes that have been presented above. In addition, the Centre will maintain a small number of non-thematic programs to ensure that
1. the Centre actively participates with Canadians and supports them as they review and expand their relationships in international development and on global issues;
 2. the Centre supports formal training of Southern and Canadian researchers; and

3. the Centre has an “open window” to act very selectively on emerging issues that do not fit into the research themes or that require exploration and incubation.

Canadian Partnerships — Universities, Research Institutions, and Non-governmental Organizations

- 158 The Centre will continue its direct support to and maintain relationships with the Canadian constituency, focusing on organizations and activities engaged in knowledge-led work for international development: the Canadian Partnerships program will continue to respond most directly to proposals from Canadians. The goal is to help create knowledge and practice that respond to the realization that Canada’s own security and prosperity, in a just and peaceful world, are linked to ideas, knowledge, and innovation. These are increasingly generated around the world, including and especially in developing countries. Institutional links will include leading Canadian institutions, such as the Association of Universities and Colleges of Canada, the Canadian Council for International Co-operation, relevant Canadian learned societies, universities, and non-governmental organizations (NGOs). Where possible, the Centre will continue to explore opportunities to enhance collaboration between universities and NGOs within Canada so as to build on their complementary international development skills and experience. Support through the Canadian Partnerships program will continue to respond to a wide range of proposals and will not be arranged a priori around themes. Activities are expected to complement those supported by other Centre programs.
- 159 Support will focus on
 - strengthening Canadian capacity to work on international development issues, usually in collaboration with developing-country partners;
 - building and facilitating contacts between Canadian and developing-country researchers and institutions through seed money for partnerships, joint participation in workshops, visiting fellowships, and other mechanisms; and
 - funding research projects that look at mutual interest and influence among Canada and developing countries, such as in corporate social responsibility or the way in which diaspora communities can contribute to development in their countries of origin.
- 160 Running through all Centre-supported activities will be a preoccupation with the optimal conditions for South–North partnership in research. Learning about this is also likely to remain a focus.
- 161 The Centre will examine opportunities for increased institutional support to selected Canadian research centres. Program support to the International Institute for Sustainable Development and The North-South Institute has been provided to reduce the transaction costs of supporting individual projects. There may be a limited number of cases where a similar approach could be envisaged. Some policy research institutions working on international development and global issues could also warrant a more corporate relationship with the Centre: opportunities to do so will be explored.
- 162 The Centre will support a number of small research projects and knowledge-related activities undertaken by Canadian organizations concerned with international cooperation. Small grants projects and activities enable a wide range of Canadians to connect

with the Centre and its mission. The mechanism encourages experimentation and new ideas. The relationship between small grants and research will be closer than in the past.

- 163 The Canadian Partnerships program will communicate the results of its funding so that Canadians are aware of the contribution their fellow citizens make to development research, and of the ways in which the Centre supports those efforts.

Fellowships and Awards

- 164 Since 2005, the Centre has increased its support for the professional development of young Canadian and developing-country scholars. This is expected to continue through research and study awards along with the IDRC internship program, targeted support to journalism graduates wishing to report directly on development issues, and a limited number of awards and fellowships for mid-career and more seasoned professionals.
- 165 The Centre's primary mechanism for support to doctoral research at Canadian universities covers field research costs for Canadians and developing-country students. In reviving its direct support to early-career researchers in developing countries during the last several years, the Centre has chosen African institutions to manage competitions and allocate funds to support research required for an advanced degree. In a limited number of cases it has covered full support for a master's or doctoral degree at an African institution. Subject areas complement those of Centre thematic programs. With further funding, this kind of training support will be expanded in Africa and extended to Asia and Latin America.
- 166 The Centre will also explore opportunities for young researchers in developing countries to use and develop their research skills after graduation. Some schemes should allow for exposure to policy research so that junior researchers familiarize themselves with the conditions under which some of their findings can influence development decisions.

Special Initiatives

- 167 The Centre will maintain a capacity to explore and encourage new directions in research, a function that could be incubated in the Special Initiatives Division. This function will by its very nature be flexible and respond to ideas as they emerge and are debated. An example might be forward-looking research that seeks to identify and spark reflection on aspects of future development challenges.
- 168 The Centre will also accept, where appropriate, to manage research-related initiatives proposed by the Government of Canada, such as the past program of research on the Palestinian refugee issue. In cases where the Centre wishes to distinguish these from mainstream programming, they may most appropriately be taken on as "special initiatives."

Part 3

Delivering on Grants-Plus — Aspects of the Business Model

169 In addition to IDRC's programs, other aspects of its operations are no less central for delivering on its mandate and implementing its "grants-plus" business model. These refer not so much to the "what" of the Centre's work — which is expressed in the program themes outlined in the preceding pages — but to the "how" of what the Centre does. Appropriate human resource policies, a strong and meaningful role for the Centre's regional offices, and solid partnerships with Canadian and other donors are vital underpinnings for the Centre's work. Drawing the right lessons from past activities is no less critical, as is reaching out to others by providing information, communicating results, and contributing to key debates. Risk management and stewardship, finally, are essential for a research donor like IDRC that prides itself on the professional management of the resources entrusted to it.

IDRC Staff

- 170 The success of IDRC's strategy depends on its people. The Centre offers a challenging and stimulating work environment that attracts an international, multilingual workforce renowned for its excellence, openness to innovation, and dedication to the challenges of international development. The Centre will provide its staff with an exceptionally rewarding professional experience in order to compete for the highly competent individuals it needs to meet current and future challenges.
- 171 IDRC's employment philosophy values productive management–employee relations, supported by professional development and learning, a competitive compensation package, and a culture dedicated to the health and wellness of all its employees. A Staff Association represents the interests of employees. Balancing work and personal lives acquires particular importance in an organization whose offices span four continents and where frequent international travel is the norm for program and related professional staff. This requires flexibility to adapt to different work schedules across the Centre.
- 172 Maintaining the Centre's reputation as a workplace of choice requires vigilance and continuous improvement, as well as a willingness to challenge established practices and be flexible in the face of a constantly changing environment. Over the next five years, the Centre will continue to invest in its employees.

Regional Presence and Program Matrix

- 173 IDRC's system of matrix management combines thematic priorities with sensitivity to local research priorities and needs. Thematic expertise is vested in IDRC's program staff. IDRC remains engaged in local and regional contexts by maintaining regional offices across the developing world—in Latin America, the Middle East, Africa, and Asia.
- 174 As in previous years, IDRC will use its regional offices for gathering strategic intelligence, managing information, developing and implementing programs, establishing partnerships, using research results, managing risk, and to represent IDRC to Canadian and other

field-based institutions. Much more than administrative outgrowths of headquarters, these offices represent a significant strategic asset and are part of IDRC's personality as an institution. Their role of providing a regional perspective to the Centre's programs and nurturing partnerships and resource expansion activities in the regions where IDRC works, as well as promoting the dissemination of research results, is essential to the effective management of the program matrix.

Engaging Canadians

- 175 As elsewhere, research in Canada contributes to national prosperity and quality of life. Canadian research is becoming increasingly international and thus informs Canada's relations with the developing world, helping to understand and address common challenges. At the same time, Canada is reaching out to connect with scientific excellence throughout the world.
- 176 IDRC encourages Canadian interest in international development. It funds research and collaboration among civil society, academics, business, and governments within Canada, including support for a small number of partner institutions and professional associations.
- 177 IDRC helps prepare a new generation of Canadian and foreign researchers. It provides awards and opportunities for talented minds from Canada and the developing world. These opportunities include support for doctoral studies, field research, and mentoring through term employment within the Centre.
- 178 The Centre also engages Canadian talent through its regular research programs. The aim is to promote genuine collaboration with developing-world scientists, rather than just support research on the developing world. These programs also help developing-world researchers, analysts, and practitioners tap into and influence relevant global debates, as well as relate these back to inform change locally.
- 179 IDRC brokers partnerships between Canada and developing countries by funding the participation of developing-world researchers in innovative collaborations. This will take on more importance in the coming years. For example, the Centre works with the Canadian granting councils to provide new opportunities for Canada's top talent to team up with their peers in the developing world to confront issues of common concern. Good examples are the International Research Chairs Initiative, in collaboration with the Canada Research Chair Program, and the International Community-University Research Alliance program, a partnership with the Social Sciences and Humanities Research Council.

Donor Partnerships

- 180 IDRC works with a wide variety of organizations. These include government agencies, granting councils, the private sector, and philanthropic foundations. IDRC seeks to create opportunities that are unique or add value to those provided by others. IDRC collaborates with others to learn from them, extend the reach of the ideas its supports, and bring particular innovations to scale. It does not act solely as an implementing agency. Collaborations can take different forms, ranging from informal information sharing, to joint conferences and parallel funding of projects, to formal donor partnership agreements. IDRC partners with others by pooling technical, scientific, and/or financial resources to further

a shared research interest. Partnerships create opportunities to improve the coordination and increase the impact of global research for development.

- 181 IDRC's partnerships with other donors have grown substantially in both number and size over the last years. They are an important tool to enhance the scope and impact of the Centre's investments, and also expand the resources available to developing-world researchers. The Centre engages in partnerships that fit with and further its strategic goals and the interests of its partners. IDRC takes part in the design of these programs, ensuring that they follow Centre policies and procedures.
- 182 IDRC has a well-developed process to design and manage donor partnerships. Strategic and technical support, as well as coordination, are provided by its partnerships division, but partnering is a Centre-wide responsibility and very much part of the corporate culture. IDRC's approach is described in its brochure *Partnering by Design*. In 2010, IDRC's Board of Governors will adopt IDRC's first Partnership Strategy.
- 183 Partnerships build upon IDRC's key strengths and are an external validation of the quality of the research support provided by the Centre. IDRC is recognized for excellence in research and innovation, including the expertise of its staff, which creates opportunities for influencing others.⁹ The Centre is present on the ground in the developing world through a network of regional offices as well as through links to communities of researchers that can generate or adapt knowledge to respond to local needs. IDRC is flexible and can adapt to changing priorities over time, while providing a strong measure of stability by investing its own resources in donor partnerships.
- 184 The Government of Canada, and above all the Canadian International Development Agency (CIDA), remains IDRC's largest funding partner. The Department of Foreign Affairs and International Trade is another valued ally. CIDA's and IDRC's different approaches complement each other. Working with Canadian research funders will continue to be a priority.

Evaluation

- 185 Evaluation at IDRC serves two functions: accountability and learning. Evaluation promotes the proper management of funds as well as continuous improvement, helping recipients and IDRC staff alike.
- 186 All IDRC evaluations are guided by an understanding of how they will be used and by whom. Users can comprise researchers, managers, or donor agencies whose needs and requirements can be quite diverse. IDRC is therefore open to methodological pluralism in its evaluation work, using a range of methods and tools to respond effectively to particular situations and meet the needs of different users.
- 187 Evaluations at IDRC are conducted at project, program, and strategic levels. IDRC's internal project evaluation activities include Project Completion Reports for all medium-sized and large projects, among others. All Centre programs are externally evaluated at regular intervals to assess results and management practices, draw lessons, and reflect on what could be improved or done differently, as well as to help decide future program directions. The Centre also commissions evaluations of strategic or cross-cutting issues, such

⁹ Globescan (2008). See footnote 5.

as the management of research networks, capacity building of individuals and organizations, and the influence of research on policy.

- 188 IDRC works in complex and changing contexts that constantly require the development of new or the adaptation of existing evaluation approaches and frameworks. IDRC therefore supports research on evaluation itself and works with partners to build theory and relevant methodologies, as well as to promote networking and capacity building. IDRC has spearheaded innovative and influential evaluation methodologies, such as Outcome Mapping, which have been adopted by many of its research and funding partners.
- 189 The Centre is committed to meeting international standards of excellence in evaluation, using four internationally recognized principles (utility, feasibility, technical accuracy, and ethical propriety) and to reporting annually to the Board of Governors.
- 190 In the coming years, evaluation work will focus on how research can be designed and carried out in ways that are likely to contribute to broader research areas or fields. This will help discern how, at the conceptual, methodological, and implementation level, the Centre can contribute more often and more systemically to producing significant results, outcomes, and impacts.

Communications

- 191 IDRC's communications strategy furthers its corporate objectives. It aims to
- create awareness and build support for the Centre in Canada;
 - guide and undertake the dissemination of research results; and
 - improve the ability of IDRC staff and recipients to communicate effectively.
- 192 Effective and timely communications also enhance IDRC's public image as a transparent and accountable institution.
- 193 Successful dissemination of research findings is critical for IDRC and its partners to achieve their shared goal of informing policy and practice through applied research. Research capacity building must therefore address the ability of recipients to communicate their findings to relevant and often very diverse audiences, including research communities, policymakers, practitioners, opinion leaders, and the informed public in Canada and the developing world, as well as IDRC donor partners. IDRC will work to increase staff's and research partners' ability to communicate their research findings by providing training tools and advice.
- 194 The Chairman of the Board of Governors, the President, and senior managers represent IDRC to external audiences, promote IDRC's mandate, and respond to requests to appear in front of parliamentary committees. Program staff work with grant recipients to disseminate research results and connect them to broader debates in the field, thereby building awareness of IDRC and its work, often with help from the Centre's communications specialists. IDRC's Communications Division also plays a key role in gathering intelligence on current trends and debates that could influence future Centre directions.
- 195 In the coming years, the Centre will more effectively communicate its approach and the results it achieves, in ways adapted to key audiences, using clear and straightforward language. Means to be employed include private briefings with key officials, public meetings and conferences in Canada and elsewhere, marketing and outreach activities, work-

ing with media, print and Web-based publications, the use of social media, and others as appropriate. IDRC will ensure that the relevance of its work for overall government priorities, and for influencing policies and practices more generally, is understood by a variety of audiences in Canada and in the developing world. All staff members will contribute to developing and communicating compelling stories and effective materials about IDRC's work.

Information Management

- 196 IDRC's communications functions rely on the way it manages information. Easy access to the Centre's corporate memory is essential to demonstrate the relevance of IDRC-supported research, extract and communicate lessons learned, and build the capacities of both the Centre and its recipients. Mechanisms are in place to ensure that corporate memory is captured, made accessible to staff, and disseminated across the organization and beyond.
- 197 IDRC's approach to information management responds to Canadian legislation and government policy, advancing the Centre's firm commitment to transparency and accountability. But it also goes further: proper information management supports IDRC's corporate objectives, helping the Centre ensure that knowledge is accessible, used, and shared within research communities, by decision-makers, and the general public, in a timely manner and across geographic regions.
- 198 IDRC preserves the results of the research it supports: access to this knowledge contributes to advancements that help developing countries — as well as Canada — now and in years to come. IDRC will continue to ensure that appropriate technologies and methods are in place. For example, the IDRC Digital Library is a cornerstone in IDRC's commitment to public accountability, providing long-term open access to research results, as well as contributing to the global movement to remove barriers — economic, social, geographic, or other — to the sharing and use of knowledge.

Risk Management and Innovation

- 199 Research is an inherently risky business, more so in the developing world. Supporting research and capacity building in the developing regions of the world sometimes means working in contexts where research infrastructure is weak, institutions are fragile, and political and economic conditions are unstable. Yet the flipside of risk is the potential for reward.
- 200 The Centre is not risk averse; it takes risks knowingly. This is essential for IDRC to achieve its corporate objectives. Embracing risk as a necessary part of IDRC's work is something that the Board and management do with due diligence.
- 201 IDRC's approach to risk management is systematic, proactive and continuous. Risk management involves identifying, assessing, and mitigating risks. Effective risk management assigns responsibilities, defines policies, embeds procedures, and openly communicates and receives information about risks to the Centre's objectives. IDRC's risk management policy clearly assigns roles for risk management to its Board, management, and staff. A "one size fits all" approach to risk management is not effective. Instead, risks are identified, mitigated, and managed across the organization through a number of different processes.

At the organizational level, senior management engages in a risk assessment exercise to determine IDRC's annual Corporate Risk Profile, which is vetted by the Board's Finance and Audit Committee. The process allows management the opportunity to reflect and identify key risks to the achievement of IDRC's objectives and to consider the effectiveness of its mitigation strategies and processes in place to manage risk and capitalize on innovations. Throughout the organization these risks are managed through specific and tailored risk management approaches. IDRC continually strives to improve how its risk management processes are documented and integrated. IDRC management will communicate with staff, providing direction on tolerance for risk and in receiving important information on changing risk profiles.

Strategic Risks

- 202 The first element of IDRC's Corporate Risk Profile highlights the importance of managing strategic risks with our stakeholders. These strategic risks cover risks related to the Centre's reputation, the continued relevance of its work, the accountability for program and financial results, and the provision of necessary and reliable information on performance. Beyond operational and other risks arising from IDRC's own business model, there are always wider risks deriving from the Canadian and international funding environments, arising from Canadian and international fiscal constraints, market fluctuations that affect the endowments of those foundations with which IDRC partners, and other developments that can be anticipated to a degree in the Centre's annual budgeting exercise but not completely guarded against. To address these, IDRC is in constant contact with other funders and within the Canadian government.

Programmatic Risks

- 203 Because of the nature of IDRC's work, programmatic risks form the core of the Corporate Risk Profile. The majority of the Centre's formal risk management processes deal with programmatic risk. IDRC's fundamental program risk management processes cover the management of risks with respect to
- the countries where IDRC works;
 - the donors, research partners, and recipient institutions IDRC works with;
 - the research methodologies used; and
 - the potential for results.

Corporate Risks

- 204 IDRC faces a number of key risks with respect to the management of its operations and its financial, human, and information resources. A key risk to IDRC is the stability of funding and the effect that changing or uncertain funding patterns can have on IDRC operations. IDRC mitigates this risk through the budget and resource allocation function, donor funding approval mechanism, and managing IDRC's role in the International Assistance Envelope allocation process.
- 205 Other corporate risk areas include ensuring the adequacy of controls over financial management; maintaining an adequate staffing complement to achieve IDRC's objectives; ensuring a healthy and safe work environment; and providing effective systems to capture, secure, and disseminate information for decision-making.

Risk and Innovation

- 206 The professional expertise of IDRC staff deployed in a systematic, proactive, and continuous manner allows innovative approaches and their associated risks to be managed to achieve the best results. IDRC relies on its staff to apply their specific knowledge and skills to particular situations: it is this key element that allows IDRC to both innovate and manage risk. While responsibility for risk management is embedded in all work units, a Risk Management and Internal Audit Unit provides specialized support and training on risk management issues. This unit exists to assist IDRC in achieving its objectives through the advisory and facilitative nature of its risk management work and the evidence-based analysis and assurance provided by its internal audit function.
- 207 IDRC's internal audit function focuses on strengthening risk management capacity. It carefully considers in its long-term audit plan the risks identified by management and the Board's Finance and Audit Committee in the Corporate Risk Profile. It has and will continue to audit areas that mitigate key corporate risks including the institutional risk assessment process, information management, financial controls, IDRC's regional offices, and project management and monitoring functions.

Stewardship

- 208 IDRC provides effective stewardship of the resources entrusted to it by the Government of Canada and by its donor partners. The challenges and opportunities facing the developing world are constantly evolving. The Centre thus keeps its operations flexible enough to respond to changing needs. IDRC continually assesses why, where, and how to intervene to have the greatest impact. Program funding is allocated on an annual basis to reflect the Centre's priorities.
- 209 IDRC maintains a close relationship with its recipients. The Centre remains engaged throughout the research process, understanding the problem, context, and application. Mechanisms for project selection, grant disbursement, and project monitoring are in place to ensure the quality, timeliness, and completion of supported research, policy, and capacity work. Responsibility for program coordination, administration, and management is often devolved to recipient institutions but the Centre applies rigorous controls. IDRC adjusts the financial and technical conditions of projects in accordance with a recipient's ability to manage its resources.
- 210 IDRC has an excellent record in managing resources effectively. Every year over the last four decades, the Auditor General of Canada has issued unqualified opinions on the Centre's annual financial statements. Special Examinations by the Office of the Auditor General, most recently in 2008, have been positive, with no significant deficiencies found. Resources are more than money: they include people, knowledge, and research results. The Centre's systems and practices have been recognized to provide assurances that its assets are properly used, safeguarded, and controlled; all its resources are managed economically and efficiently; and its operations are effective. Beyond management, IDRC counts on a Board of Governors with the independence, ability, skills, and talent to meet its responsibilities for financial oversight and corporate governance. The Centre will endeavour to maintain exemplary performance on both counts.

Conclusion

- 211 In 2010, the year of its 40th anniversary, Canada's IDRC remains as relevant as ever, and perhaps more so, as an increasing number of developing countries are allowing research results to influence policy and as their capacity to generate high-quality research grows. The challenges facing international development have not gone away, but rather are changing, in part because new health and other global threats and opportunities have emerged. Knowledge remains fundamental to finding ways out of poverty, towards more prosperity and equity, greater sustainability, and less discrimination and exclusion.
- 212 People in developing countries themselves have to drive these changes: they need to identify their needs and propose ways of addressing them. But IDRC is well-placed to assist in this venture: the Centre can and will help to devise intelligent solutions, build bridges, and produce results. Doing so even better than before, and continuously adapting to new demands and challenges, will be the core of the Centre's work in the next five years.

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