

**INFORMATION  
AND  
COMMUNICATIONS  
MANAGEMENT  
STRATEGY (ICMS):**

***AN OVERVIEW AND PROPOSAL  
FOR ACTION***

The International Development Research Centre  
Le Centre de recherches pour le développement international  
El Centro Internacional de Investigaciones para el Desarrollo

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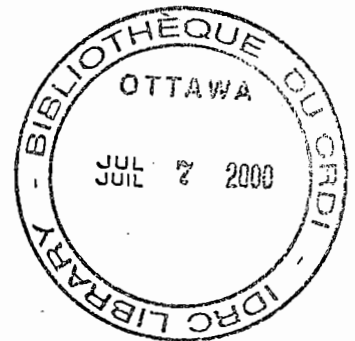
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**Advisory Committee on Information Management  
July 5, 1996 (Revised January 17, 1997)**

Cette publication est aussi disponible en français

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# ***Executive Summary***

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## ***Information and Communications Management Strategy (ICMS):***

### ***An Overview and Proposal for Action***

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Information, and the ability to access, distribute, manage, and package it, are integral to IDRC's mission of "Empowerment Through Knowledge." At the global level, IDRC's ability to communicate, coordinate, and influence effectively is thus dependent upon modern information and communications systems and methods.

IDRC's first corporate Information and Communications Management Strategy (ICMS) is an enabling document in the ongoing process of identifying and responding to IDRC's evolving information and communications needs while providing a guide to related investment decisions and management practices.

The vision of the ICMS is:

***To utilize effectively the full capabilities and potential of information, communications, and enabling technologies to meet the Centre's corporate objectives.***

In practice, the strategy gives the Centre a common vocabulary for information and communications management and highlights the relationships between internal information and communications policies, other policy domains within IDRC, and those of its partners and clients. The ICMS presents a set of helpful assumptions, signposts, questions, issues, and recommendations to enable decisions concerning current and future key technologies to be evaluated in relation to the Centre's Corporate Mandate and the needs of its staff. Specifically, the Centre's decisions about key technologies should be guided by informed self-knowledge concerning:

- Its diverse and dynamic needs and responsibilities (technical, financial and developmental)
- The best methods of delivering programs, especially in the regions
- The best means of providing effective training and support to its staff

- The evolving role of information itself and information and communication technologies (ICTs) in the development process.

### ***Leadership and Organizational Perspectives***

From the *leadership perspective*, IDRC requires an ICMS that ensures reliable global communications links and effective management of its knowledge base so that it can continue its tradition of excellence as a world-class knowledge broker in development research. From the *organizational perspective*, IDRC needs an ICMS that will guide the effective and cost-conscious management of the Centre's information and communications resources and contribute to the discussion of IDRC's future role and its future modalities of operation.

### ***Objectives***

The ICMS has a number of objectives, briefly stated as:

- maximizing impact and effectiveness of IDRC's investments in information and the enabling ICTs;
- ensuring the currency of IDRC's knowledge base and infrastructure in ICT while maintaining significant technological synergy with IDRC's partners and clients to optimize delivery of its programs;
- encouraging coordination and integration;
- clarifying responsibilities;
- identifying training requirements;
- contributing to the discussion of IDRC's future role and modalities of operation in a "digital world"; and
- demonstrating vision, leadership, and approach in this field to the Canadian government and other stakeholders.

### ***Principles***

The ICMS sets forth principles to guide the choice and adoption of the new Information and Communications Technologies to enhance the work of the Centre. Guiding principles deal with both positive and negative technological change; balance the enthusiasm for the opportunities with a consideration of human factors; and balance the Centre's need for best practice as a "modern" corporation with a concern for the partner/client organizations scattered around the globe, many in situations where there is currently no easy access to the new ICTs.



***Proposal for action***

The ICMS document presents both an overview and a proposal for action. It addresses why IDRC needs an ICM strategy, proposes a strategy elements, provides guidelines to responsibility centres for implementation of the ICMS, and suggests a initial list of initiatives to "kick-start" the full implementation process.

Successful implementation of the ICMS is not the sole responsibility of any one unit or committee at IDRC. Success will require firm staff commitment and active participation throughout the Centre. Departments within the Centre wanting to initiate information-related projects will find in the ICMS the guidelines and framework they need to ensure their projects meet overall corporate objectives.



# ***WHY IDRC NEEDS AN INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY (ICMS)<sup>1</sup>***

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Over the last decade, the significance of information, communications, and related enabling technologies has increased dramatically in development and development research. Information is now recognized as a key resource for development. Information and communication technologies (ICTs) are not only changing the means of undertaking research activities, but in some cases are transforming the very ends of development research.

In Asia, for example, IDRC's clients are shifting priorities to encompass developing networking infrastructure and skills and facilitating access to and participation in global information services and resources. It is not unrealistic to assume that the generation, dissemination, and application of knowledge will become even more important in the development process in the years to come.

These trends have had, and will continue to have, a direct influence on the programs, operations, and investments of IDRC, as well as on those of its partners and clients. As a knowledge organization and a global actor, IDRC can benefit from advances in information and communication technologies but, at the same time, it must avoid the pitfall of assuming that technology equals effective information and communication management. Instead, the Centre's decisions about key technologies should be guided by informed self-knowledge concerning:

- Its diverse needs and responsibilities (both technical and developmental),
- The best methods of delivering programs in the regions,
- The best means of providing effective training and support to its staff, and
- The evolving role of information and ICTs in the development process.

So that it does not approach these decisions ill-prepared, IDRC needs a set of helpful assumptions, signposts, questions, issues, and recommendations—in short, an Information and Communications Management Strategy (ICMS). This strategy will enable decisions to be evaluated in relation to the Centre's Corporate Mandate and to the needs of its staff.

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<sup>1</sup>The draft version of this ICMS was distributed to Senior Management Committee and Centre Staff in the summer of 1996, with an invitation to provide comments and feedback. The ICMS was also discussed during the Program Review Meeting, October 1996. SMC met on 9 January 1997 to review the ICMS and formally endorsed the document as updated and amended in the present text.

## ***2 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY***

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The ICMS is not a rigid plan, which would become out-of-date within months, but an enabling document in the ongoing process of identifying and responding to IDRC's evolving information and communication needs. This strategy gives the Centre a common vocabulary for information and communication management, and highlights the relationships between internal information and communication policies, other policy domains within IDRC, and those of its partners and clients.

IDRC has always possessed a strong comparative advantage within the donor and development community in its understanding and utilization of information and communication systems. This status is not protected however.

As more and more information is exchanged using new and emerging media, IDRC must maintain its capability of accessing, distributing, and managing its knowledge and information resources within these new systems if it is to remain a leader in this field and a resource for many of its development partners and clients.

IDRC's ICMS, then, will address leadership and organizational issues:

### ***THE LEADERSHIP PERSPECTIVE***

IDRC requires a strategy to ensure reliable global communication links and effective management of its knowledge base so that it can continue its tradition of excellence as a world-class knowledge broker in development research.

### ***THE ORGANIZATIONAL PERSPECTIVE***

IDRC needs a strategy to guide the effective and cost-conscious management of the Centre's information and communication resources and to contribute to discussions of IDRC's future role and its future modalities of operation.

## ***IDRC'S CURRENT STATE OF INFORMATION MANAGEMENT***

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### ***GOVERNMENT OF CANADA INFORMATION LEGISLATIVE AND POLICY ENVIRONMENT***

As a Canadian crown corporation operating in the federal sphere, IDRC is governed by such information-related legislation as the Official Languages Act, Access to Information and Privacy Acts, National Library Act (deposit), and the Copyright Act. It has also entered into agreements with the National Archives to comply with requirements of the National Archives Act.

IDRC must take into account the policies and practices of the Government of Canada. The *Management of Government Information Holdings*, *Management of Information Technology Policy*, and the *Blueprint for Renewing Government Services Using Information Technology* provide guidelines for the design and implementation of IDRC's information-handling strategies.

The Blueprint was issued as a discussion draft by the Chief Informatics Officer of Treasury Board in 1994. Its goal was to establish a "framework for using information technology to support government-wide service renewal." The Blueprint emphasizes technology as the enabler in developing an integrated approach to the delivery of government services at reduced cost. It rightly states, however, that the leveraging of information technology is the final step after the business rationale, the information content, and the work processes are examined and possibly redesigned. The Blueprint's vision of direct, transparent, standardized and interconnected tools, shared solutions, and shared information is relevant to the application of information technology to IDRC's information and communication needs.

IDRC's strategy should go beyond the framework developed by the Treasury Board and adopted by many government departments and agencies. IDRC's corporate knowledge resources cannot be effectively managed by an Information Management Plan that treats information largely as a static commodity that is captured, stored, and reused. Nor can IDRC's mandate be fulfilled with a strategy that overlooks the valuable, distributed knowledge and information possessed by its own staff and its partners.

Good information management does not mean all information must be brought under central control; rather, it requires opening channels of communication to enable the appropriate knowledge and information to come together at the right instances. This is not incongruent with the need to organize structured "pockets" of information, but the administration of these "pockets" (or more distributed knowledge elements) requires the integration of information, communication, and human resources.

## **4 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY**

### ***CURRENT STATE OF INFORMATION MANAGEMENT AND RESOURCES***

Annexes to this document are descriptive of evolving information resources in IDRC:

- ***Annex I: Inventory of Existing Information Systems and Responsibility Centres.*** This table provides an overview, by Branch, of the many information resources and responsibilities within the Centre, highlighting the distributed nature of information management.
- ***Annex II: Information and IDRC.*** The Abstract and Contents of a review of the information systems, services, products, and programs of IDRC by Paul McConnell and Bev Chataway.
- ***Annex III: Current and Potential Initiatives.*** This annex describes some initiatives under way that illustrate the Centre's support for and use of ICT both in programs and internal information management. It also lists some potential initiatives that would be consistent with the ICMS.

### ***CORPORATE CULTURE — CHANGES IN THE WAY WE DO THINGS***

#### ***ORGANIZATIONAL CHANGE***

Since 1992, the Centre has undergone revolutionary organizational changes. Just months after having adjusted to a 20% downsizing and restructuring; the launch of its new strategy, *Empowerment Through Knowledge*; and the further strengthening of programming responsibilities of the Regional Offices in 1991-92, IDRC found itself acting as an "Agenda 21 implementing agency" after the Rio Summit in June 1992. This led to some revision of the corporate strategy and the formulation of program delivery around six core themes and about 20 programs for sustainable and equitable development.

Continuing budget reductions, a domestic political climate less supportive of foreign aid, and the ongoing revolution in information and communication technologies have driven further changes and self-questioning in the past year regarding the way IDRC delivers its programs, organizes its workforce, and exploits new technologies.

The summer of 1995 saw another corporate reorganization and refocusing. Within a reaffirmation of the mission of IDRC, a new framework was established for the management of "excellence in science" and multidisciplinary teams. The six divisions were changed to three branches, projects were clustered into self-directed teams (Program Initiatives or PIs) each with a team leader, and the PIs were grouped into five themes each led by a Chief Scientist. Staff reductions and an emphasis on revenue generation and revenue diversification were implemented to meet fiscal realities. Regionalization, workforce adjustment, alternate work arrangements, and a possible further restructuring of the organization and its evolving role in the context of Canada's delivery of development assistance are new issues that the Centre and its staff are grappling with today within a context of organizational and personal survival and growth. The excitement of seizing the opportunity to use the technologies to leapfrog into the 21st century is matched by anxieties, both personal and organizational, of how to do it.

### ***SOCIAL/TECHNOLOGICAL CHANGE***

In the midst of the organizational upheaval that IDRC has been experiencing are its staff — the human link that facilitates or slows down, leads or follows, or simply drops out of the organizational (r)evolution. The ACIM Communications Study conducted in 1994 within the Centre revealed a staff that is willing but tired, positive about the gains made possible by the new ICTs but wanting more training and coaching support to keep up. In these times of a changing workforce, is the staff made up of "employable engines" pursuing their own career goals or are they committed to the goals of the organization — or can they be both? The human questions must be addressed in developing a strategy that will maximize the benefits of the new ICTs for the Centre.

### ***IDENTIFICATION OF "GAPS"***

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An important element in developing a strategy is understanding the gaps that exist between where IDRC is today and where it would like to be. The following are some of the areas that should be addressed within the strategy or in the plans to be developed from the strategy document:

- Our Regional Offices do not have the same access to information and communication resources as Headquarters.
- Many of IDRC's information systems are not integrated or interconnected.

## **6 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY**

- There are different interfaces for virtually every application.
- Many staff do not know how to access the information sources within the Centre.
- There are not enough information tools to add value to the data and corporate memory stored within the Centre.
- There is a gap between the abilities of the staff and the organizational goals.
- The possibility of revenue generation through information and communication products and services needs further exploration, yet few staff have practical experience in this area.
- Training capabilities of the Centre lag behind the staff's demands and needs.
- There are inconsistencies in a number of the Centre's internal databases.



# ***DEFINING AN ICM POLICY***

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## ***IDRC'S MISSION AND OBJECTIVES***

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Created by the Parliament of Canada in 1970, the International Development Research Centre (IDRC) was the first development assistance institution to focus exclusively on supporting research and building scientific capacity in developing countries.

The headquarters of IDRC is located in Ottawa, Canada, where most of its staff are based. Staff are also located in IDRC's regional offices in Africa (Cairo, Dakar, Johannesburg, and Nairobi), Asia (Singapore, New Delhi), and Latin America (Montevideo), and at other locations as well such as Phnom Penh. This regional presence allows IDRC to strengthen its linkages to researchers and policymakers in developing countries and helps ensure that IDRC remains sensitive to local needs and priorities. Indeed, many of the Centre's professional staff either have roots in the developing world or have acquired a familiarity with the problems and challenges of development; many are also authorities in the research fields supported by IDRC.

IDRC's mission is stated succinctly as "Empowerment Through Knowledge." Through support for applied research in developing regions as well as Canada, IDRC helps communities in the developing world to make informed choices and to find solutions to their social, economic, and environmental problems.

IDRC's research partners include universities, governments, private businesses, and non-governmental organizations (NGOs). The Centre's investments in scientific knowledge and technology are aimed at improving quality of life through development initiatives that are both sustainable and equitable. In so doing, IDRC encourages the effective use of local resources and the strengthening of human and institutional capacity.

The official corporate objectives of IDRC are to initiate, encourage, support, and conduct research in the developing regions of the world and to stimulate the means for applying and adapting scientific, technical, and indigenous knowledge to sustainable economic and social advancement.

## **8 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY**

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In pursuit of these objectives, IDRC's mandate allows it to:

- Enlist the talents of natural and social scientists and technologists of Canada and other countries;
- Assist the developing regions to build up the research capabilities, the innovative skills, and the institutions required to solve their problems;
- Encourage generally the coordination of international development research; and
- Foster cooperation in research on development problems between the developed and developing regions.

(From the International Development Research Centre Act, Assented to 13th May 1970.)

To do so, IDRC must provide the necessary organizational structure to enable staff at all levels to "take responsibility, to innovate, experiment, and learn, thereby developing a far greater range of their capacities." (From *Empowerment Through Knowledge*, page 18.)

The culture of IDRC is one of learning, requiring an affirmation of the entrepreneurial nature of the organization and the staff.

### ***THE ROLE OF INFORMATION IN IDRC'S MISSION***

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Information, and the ability to access, distribute, manage, and package it, is integral to IDRC's mission and is reflected daily in the Centre's activities. As a knowledge broker, IDRC is in continuous dialogue with a large number of donors, universities, scientific communities, and with a large network of Canadian and developing-country researchers. Because IDRC works at the global level, its ability to communicate, coordinate, and influence effectively is dependent upon modern information and communication systems.

As evidenced by IDRC's mission statement, "Empowerment Through Knowledge," information is a vital resource for empowering individuals and communities to make informed decisions about social, environmental, and economic transformation. IDRC is still the main donor agency to have placed special emphasis on the value of information as an essential fuel, catalyst, and product of development research. From the outset, it has recognized the need to increase support for information and communication infrastructures in developing countries and for research into information and communication issues. For example, more than CAD140 million has been provided to support over 600 projects related to the information field. IDRC has also endeavoured to build up its own information systems and services and has encouraged synergistic interactions, transfers, and support between the "external" and "internal" programs whenever appropriate.

The 1970 IDRC Act empowers the Centre to "establish, maintain, and operate information and data centres and facilities for research and other activities relevant to its objects." Over time, this statement has been translated into four main objectives to guide its participation in the field of information for development:

***BETTER ACCESS AND USE OF INFORMATION***

To work for and encourage more equitable access to the knowledge required for effective development research and to design and help implement sustainable information and communication systems, services, and networks that fully meet the needs of users.

***IMPROVED COLLABORATION***

To stimulate South-South and South-North cooperation and coordination in development research and development action by promoting the exchange of information and experiences.

### **CAPACITY BUILDING**

To build human and technical capacities within developing countries, thereby stimulating the dissemination and application of scientific and indigenous knowledge and improving management of information.

### **INFORMATION INNOVATIONS**

To enable developing countries to benefit from applied research that improves the sharing and use of knowledge in the developing-country context and to support initiatives that improve and adapt appropriate systems, methods, and technologies.

These objectives are supported by numerous internal information services within IDRC, including the Research Information Management Services and Corporate Communications Group, which stimulate and facilitate information sharing about development research and maintain a significant portion of IDRC's "corporate knowledge."

### **NAVIGATING IDRC IN A "DIGITAL WORLD"**

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IDRC will require some very good navigational skills to find its way among the opportunities and dangers, currents and trends in the new digital world. The globalization of information and communication technologies (ICTs) is one of these trends. ICTs and the possibilities these systems may offer for reorganizing work are already affecting IDRC, as well as the research priorities and interests of IDRC's partner research organizations and co-funding institutions. For IDRC to remain relevant within the research development community, as well as to remain competitive for dwindling development-assistance funding, the Centre must not only be knowledgeable about many aspects of ICTs (including technical, policy, social, and economic aspects), but must also be capable of translating this knowledge into a form that is both useful and in demand within the development community.

The development challenges in the "information age" will continue in many regions of the world. Moreover, the "information gap" between the North and South is increasing yearly (at the aggregate level), and access to the world's information resources is becoming increasingly stratified and often controlled by those with the financial and technical means to exploit them. There is a great need for further research and thinking in the field of information policy. There are also many opportunities for researchers to use ICTs to tackle long-standing development problems.

Information and communication technologies are now almost inseparable from the new vocabulary of organizational theory. "Team-based," "interdisciplinary," and "flattened management" approaches, once considered counter-productive and against the norm of top-down managerial control, have emerged with the proliferation of distributed information networks and personal computers. Although some of these approaches and concepts have long been part of IDRC's culture, newer, technology-assisted methods of organizing and streamlining the Centre's operations may become more attractive, particularly as traditional funding continues to shrink. Generating revenue through alternative arrangements will also require extensive networking and communications skills and technology. Technology, however, does not mean immediate or automatic success. Team work, be it with colleagues, co-funders, or partners, requires new ways of thinking, interacting, trusting, and sharing. Although technologies provide the conduit, IDRC staff must develop the skills to use these tools to their advantage and to the advantage of our partners.

Information and communication technologies and systems can be costly investments, particularly in terms of the human resource component (including training, development, and content production), so IDRC needs to be sure it is making the best choices at any given time. It should carefully consider the impact technological choices will have upon the Centre's work, staffing requirements, internal support services, and program policies and implementation.

### ***THE EVOLVING CORPORATE ENVIRONMENT***

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The Centre has a well-established institutional culture that regulates relationships between the many elements that make up the corporation. Changes in information and communication technologies that enable these relationships will offer opportunities to change the way in which the Centre does its work. Changes in the Asia Regional Office through the Pan-Asia Networking (PAN) initiative already foreshadow the nature and direction of the choices for change offered by the technology.

## ***12 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY***

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At this juncture, ACIM is not in a position to set out a definitive set of signposts and milestones. As a result of the Scouting Party on Information Technology held in July 1994, there are questions to which Senior Management of the Centre must direct its attention when it makes its choice of technology to carry out the Centre's business:

### ***ORGANIZATIONAL CHANGE***

- How will the new information technologies change both the nature of the work, its location and the number and types of people needed to implement the Centre's mandate?
- Will the long-term planning and day-to-day management of the Centre require an enhanced and expert MIS unit equivalent in stature to the current Divisions?
- Will the Centre want/need to maintain a large, centrally located headquarters operation? Could it reinvest the operating budget for rent, travel, etc., to support a workforce working from home but linked through computers (teleworking)?
- Will the Centre want/need a set of regional offices as we know them today or will these be converted into listening posts and information-gathering posts ensuring equitable access to data, analysis, and packaged knowledge?
- Will the Centre want/need to staff and fund in-house administrative services when service firms will offer customized support services, (i.e., outsourcing)?

### ***REDEFINING LEARNING AND RESEARCH***

- How will new information technologies open up new possibilities for the provision of education/training and support for learning and knowledge generation?
- Will grants for research continue to be the core activity of IDRC or will there be a new opportunity/niche for IDRC in using its funds: to broaden participation in research; support innovative knowledge collaboration; to enable selected key institutions (working in the Centre's priority areas) to network more effectively making communication links to global sources of information; or to sponsor

knowledge products (e.g., multimedia products, CD-ROM, Internet resources, TV programming)? Will the Centre continue to produce books and other printed products?

- Will the Centre seek new partners in the Canadian information and communication industry to develop tools for sharing knowledge for use in knowledge-poor communities?

### **CONTENT**

- Who will determine how the new conduits of information will be used and what content will be transmitted?
- Will the Centre continue to work through a mix of internal priority setting and respond to external research proposals or will it form new donor coalitions (such as BELLANET) to identify and address inequities and lacunae in the choice of what knowledge is sought and shared using the new technologies to ensure accurate identification of "gaps" and equitable participation in the search for data, objective analysis, and shared results?

### **ACCESS**

- Who will have access to the new technologies, and the information available through them, and how do the issues of access relate to poverty alleviation and the development process?
- How much of its funds will the Centre commit to ensure that the new hardware, software, and connections and services are made available to disadvantaged research institutions and individuals?

### **GLOBAL ECONOMY**

- What impact will the rapid growth in the performance capabilities of information technologies have on the nature of economic growth, global markets, labour pools, development, and income distribution worldwide?

#### **14 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY**

As global changes oblige dramatic rethinking of the nature of development, devalue traditional lines of research, and suggest new directions, how will the Centre use the new technologies to stay relevant?

For each of the foregoing questions, a strategic statement could indicate where decisions will be needed if the status quo is to be reconsidered in the light of advances in the new technologies.



# ***DEFINING AN ICM STRATEGY***

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## ***VISION OF THE ICMS***

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The Vision of the ICMS is to utilize effectively the full capabilities and potential of information, communications, and enabling technologies to meet the Centre's corporate objectives.

## ***OBJECTIVES OF THE ICMS***

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Specifically the IDRC ICMS is intended:

- To manage the ICT technology cycle to maximize the impact of IDRC's investments in ICT and the enabling technologies.
- To ensure the currency of IDRC's knowledge base and infrastructure in ICT while maintaining significant technological synergy with IDRC's partners and clients to optimize delivery of its programs.
- To encourage the coordination or integration of all information activities and to mobilize all information processes in support of IDRC's corporate mandate.
- To clarify the roles of responsibility centres falling under the scope of the ICMS.
- To develop criteria for assessing the effectiveness of investments in and changes to IDRC's information and communication processes.
- To identify the communication and training requirements for encouraging interdisciplinary and team-driven project development and delivery.
- To contribute to the discussion of IDRC's future role and modalities of operation in a "digital world."
- To demonstrate to the Canadian government and other stakeholders IDRC's vision, leadership, and approach in this field and, thus, in part, to help explain and justify its investments.

### ***PRINCIPLES FOR ICMS IMPLEMENTATION***

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The choice and adaptation of the new Information and Communications Technology (ICT) to enhance the work of the Centre will be guided by a set of principles. ICT has the potential to blur traditional boundaries in the workplace. The resulting permeability affects all levels of workers and all aspects of business practice — administrative operations and program management. Guiding principles must deal with both positive and negative technological change. Enthusiasm for the opportunities for innovation, increased productivity, and other benefits for people in their work that can be realized through the technology must be balanced by a consideration of human factors. Technology choice and adaptation for the Centre is also a balance between the need to relate its immediate concern for best practice as a "modern" corporation and a concern for the partner/client organizations scattered around the globe, many in situations where there is currently no easy access to the new ICTs.

To ensure that the promises and pitfalls of a stronger commitment to the new technologies are factored into the choices to be made, the principles are grouped under five key issues that the strategy will address: Guiding Philosophy, Leadership, Human Resources, Business Practice, and Program Integrity.

#### ***GUIDING PHILOSOPHY***

Because the new ICTs have the potential to change every aspect of the culture and practice of the organizations that adopt it, it is essential to work within a robust overall frame of reference to guide choices:

- The Centre will practice what it preaches: it will harmonize the adaptation of the new ICT in its own activities and those of its partners/clients;
- Everyone (all levels of IDRC staff and partners/clients)<sup>2</sup> is a stakeholder and must enjoy equitably the benefits and accept the responsibilities of the new technology; stakeholders have a right to demand or criticize to the extent that they are actively involved in the definition, implementation, evolution, and evaluation of the systems and concepts offered by the new technology;

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It is, of course, understood that access to Centre information will be subject to policies for data security. External clients, recipients, and partners would not have routine access to Centre information resources connected with its administration, financial management, personnel, etc.

- The Centre will be transparent with respect to the costs and benefits associated with its adoption of ICT over the full life cycle of any system being considered;
- The Centre will seize the opportunity to learn from its experience with the new technology and the knowledge gained will be shared with staff and partners/clients; and
- The Centre will manage the risks involved in the choice of ICT for its work through a systematic review and evaluation of new technologies.

### **LEADERSHIP**

Successful adaptation of technology requires leadership that, although committed to and encouraging technological change, remains in touch with the change process and with the people most affected:

- Senior Management will play a leadership role in the adoption of ICT into the work and culture of the Centre — it will lead by example;
- ACIM will play an active role in coordinating the introduction of new ICTs; and
- Staff will be encouraged to take a team approach to the new ICTs to ensure that the most enthusiastic and skilled will coach those who are less at ease with the technology and the change it engenders. Coaches can also play a valuable role in channeling feedback, problems, and issues back to those responsible for the management of the ICMS.

### **HUMAN RESOURCES**

As for any corporation, the Centre's choice of technology is a business decision; it is motivated, among other things, by the search for the same or higher productivity for lower cost while optimizing efficiency relevant to achieving corporate objectives. But the successful adaptation of the technology depends on the management of the people affected.

## **18 INFORMATION AND COMMUNICATIONS MANAGEMENT STRATEGY**

Recognizing that the management of its human resources will determine the extent to which it benefits from the investment in ICTs, the Centre will:

- Regard ICTs primarily as "tools" to aid people in the performance of their work. The Centre will achieve higher productivity through improving the productivity of each of its employees;
- Ensure that the adoption of ICTs improves the quality of work life for its staff and partners/clients;
- Accept a corporate responsibility to encourage and promote computer literacy and the related communication and information skills, through a continuous investment in training;
- Encourage and empower staff and partners/clients to accept individual responsibility for best practices with respect to ICT; and
- Provide incentives and rewards for staff and partners/clients who accept individual accountability for the adaptation of ICTs.

### ***BUSINESS PRACTICE***

To achieve and benefit from the more robust "business" structure and functionality that will maximize the return on investments made in ICT, the Centre will:

#### ***(a) Establish and adhere to corporate standards:***

- To avoid inefficiencies and incompatibilities resulting from a lack of corporate standards;
- To ensure quality control of data;
- To meet the requirements of the Official Languages Act;
- To provide the base for accurate accounting for the resource allocation to (and performance of) ICT hardware, software, and human resources;

- To promote a "netiquette" for Centre staff and partners/clients using Centre systems; and
- To adhere to international standards.

**(b) *Build "intelligent systems" that:***

- Interconnect data from all currently supported subsystems to facilitate dynamic sharing of information among business processes and information systems;
- Integrate program-specific and administration-specific data/information; and
- Reflect corporate structure and information/data flow and harmonize these with the current decision-making process.

**(c) *Make a conscious effort to decrease the technology gap between the Centre and its recipients by:***

- Supporting equal access to external data/information resources for all staff and partners/clients;
- Supporting partner/client access to Centre systems;
- Avoiding proprietary/closed solutions;
- Where possible, choosing affordable technology from the public domain, which is upward compatible with more sophisticated commercial versions; and
- Supporting the authors/publishers of the selected public domain technologies to develop further their products and better respond to the needs of IDRC and its partners/clients.

***PROGRAM INTEGRITY***

The Centre has 25 years of leadership in the development and application of information and communication technology to promote international development. It has been observed, ironically, that the Centre has promoted and supported ground-breaking ICT with its Southern partners well in advance of adopting it for use in the corporation. Recent organizational changes in the Centre provide an opportunity to continue to provide leadership in ICT while ensuring integration/parity of the technology by partners/clients and the Centre itself.

The following principles will facilitate this integration/parity and encourage the search for innovation:

- The Centre will recognize that ICT has caused a fundamental shift in focus from a responsibility to disseminate information to a duty to ensure open, affordable access by a growing number of partners/clients to ever-increasing and diversified sources of data/information/knowledge;
- The Centre will strive to ensure that location is not a limiting factor for access to data/information/knowledge;
- The Centre will support efforts both within the corporation and among its partners/clients to "add value" to the data/information resources and services in which it has a proprietary interest to transform itself from a broker of data into a value-added repackager of information as well as a producer of knowledge in the areas of its accumulated expertise;
- Program staff at all levels in the Centre will accept the individual responsibility to come to terms with the program changes engendered by the new ICT, will make a best effort to enrich the Centre's data/information/knowledge resources, and will strive to increase accessibility (of their contributed information and resources) to benefit the Centre's partners/clients, as well as the Centre's staff in general; and
- Staff at all levels of the Centre will accept responsibility for the quality of the data that in the course of their work they are required to enter into the Centre's data bases.

# ***IMPLEMENTING ICMS***

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## ***GUIDELINES FOR ICMS IMPLEMENTATION***

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The overlying principle for ICMS implementation is that the strategy itself and the objectives it strives to achieve be completely clear. A clearly understood target is needed against which any new ICT initiative can be self-judged to assess its compatibility with and expected contribution to corporate ICMS goals. Given the resource constraints we must live with, we must ensure that our focus is on initiatives that will offer the greatest return on meeting strategic objectives.

The following guidelines provide a means for consistent and coordinated assessment of information and communication systems and technologies. When measured against the objectives of the ICMS, they should help IDRC both understand where to concentrate its resources as well as how to maximize the benefits for those ICT investments it must make.

### ***BUSINESS CASE RATIONALE***

Any major introduction or upgrading of information and communications technologies within IDRC should follow a methodology and be supported by a comprehensive business case rationale. A detailed assessment of overall impact and benefit to the organization is essential to rational decision-making regarding new initiatives.

Proposals for ICT investment would therefore be expected to include:

- (a) An indication of how the particular initiative fits within current corporate policy and strategic objectives;
- (b) The business function(s) to be served and what specific qualitative enhancements should result from implementation;
- (c) A description of the participating sponsors of the project and the contributions they expect to make, as well as the identification of any known resistance anticipated;
- (d) A quantification of any operational resource savings (including personnel and financial) to be realized; and

- (e) What alternatives to the proposed initiative exist with respective costs, including the costs of continuing with possibly uneconomical or inefficient existing processes.

Senior management requires sufficient information on all new ICT initiatives to determine priorities and allocate funding effectively according to IDRC policy and current strategic objectives. To gain further management confidence, sponsorship of new proposals should be from relevant organizational units and not only the MIS sector (unless the target pertains exclusively to technological infrastructure). This sustains the Centre's user-driven approach to applications development.

### **MARKET ANALYSIS**

New proposals should involve a comprehensive market analysis. This exercise will identify potential off-the-shelf solutions to fulfill a *buy* versus *build* approach, essential to a small organization with limited support capacity. Obviously, such analysis should include the Regional Offices and, possibly, IDRC's partners/clients, because any acquisition or development, as well as ongoing support requirements, will impact them too.

The market analysis, although not intended to inhibit an innovative approach that contributes to corporate goals, will help validate the proposed solution against industry norms (i.e., what are other organizations doing to address similar issues). In addition, it offers the opportunity to identify and develop links to relevant expertise and experience.

### **SYSTEMS DEVELOPMENT METHODOLOGY**

Adherence to a systematic approach to developing and implementing new information systems would confer numerous benefits. Such a Systems Development Methodology (SDM) would assist in identifying priorities and permit timely, consistent, and informative updates on ICT project development. This methodology would provide a framework for systems development to ensure that:

- Project scope and benefits are clearly understood;
- Project deliverables are identified in specific detail;



- Roles and responsibilities are defined and appropriate individuals assigned;
- Other required resources properly identified and allocated; and
- The process itself is repeatable and satisfies current organizational needs and constraints.

Although the level of detail of the SDM applied may vary from project to project, management best practices dictate that a common baseline discipline govern all such activity. (IDRC's SDM guidelines are available from ACIM and MIS.)

### ***EVALUATION***

In keeping with the Centre's approach to development projects, any ICT venture should have a built-in program for evaluation that will produce a clear analysis of the impact of information technology investments, citing both positive and negative results. Such evaluative reporting should also indicate whether or not initial assumptions and the rationale driving a particular initiative were valid and the extent to which objectives have been met.

### ***LIFE CYCLE***

Information and communications systems should be conceived and developed within a defined life-cycle framework. Given the fact that change is not only a constant in the technological world but will most certainly continue to be characteristic of IDRC, any technological or systems proposals should clearly recognize a time frame within which they are to serve (i.e., a time to live). Aside from the value of helping to establish realistic expectations among all stakeholders involved, this approach will also trigger future planning cycles.

### ***AWARENESS***

To ensure user acceptance of new ICT developments, each project activity should pursue a reasonable public relations program to promote awareness of the expected outcomes and the impact they will have on existing operations and staff. Such a public relations program would complement the initial acceptance achieved by involving concerned user communities in the developmental stages of the initiative.

### ***NEW TECHNOLOGIES***

Although IDRC wishes to take advantage of information technology to further program delivery, its operational environment should not be dominated by "bleeding-edge" technology. A general guideline for ICT introduction should be that IDRC will not rush to purchase new versions/ releases of ICT products.

Any evaluation of new technologies should take into account not just acquisition but complete life-cycle cost as well. Pilot testing, conducted in isolation from the production systems used in day-to-day Centre operations, should also be included in any assessment, as the experience gained will influence implementation plans and, quite possibly, longer term strategy.

IDRC must ensure the overall stability of its technological infrastructure by pursuing a common practice of acquiring appropriate technology with proven reliability. (Just as this criterion is used to evaluate projects of our clients, so should we be applying it to our own initiatives.)

### ***STANDARDS***

To protect IDRC's ICT investment, new developments should take into account current and evolving corporate infrastructure standards. Aside from maximizing the integration factor of different systems, this also avoids complicating ongoing support.

Defined standards should guide specific initiatives, although it is crucial that there be regular and systematic review of the suitability of existing standards. Where the planned time, however, to implementation is quite long, due consideration must be given to proposed standards. The management of change should include a process for evolving corporate standards including those for interfacing with the Centre's users, its partners, and its clients.

### ***INTEGRATION***

ICT development should be pursued with due regard for integration with other corporate systems and processes with which there may be shared information elements. Although it may not always be possible to share sponsorship of particular initiatives, careful consideration should be given to information links and potential resource implications within other sectors of IDRC.

## ***MANAGEMENT, MONITORING, AND EVALUATION OF ICMS***

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Successful implementation of the ICMS is not the sole responsibility of any one unit, or committee, at IDRC. Each member of IDRC's staff will be affected in some way, directly or indirectly, by the ICMS. Success will require firm commitment and active participation throughout the Centre. It will also depend on regular interaction among staff, smooth coordination, timely feedback, effective troubleshooting, good communications, awareness of individual and group responsibilities, and other critical factors. Furthermore, because the ICMS is not intended to serve as a static document, there must be the opportunity to review progress, learn from experience, and further improve the ICMS.

These are important considerations when designing how the strategy should be *managed* (i.e., promoted as a whole and coordinated with respect to activities undertaken to meet its objectives), *monitored* (i.e., observed routinely to ensure its implementation and performance are proceeding smoothly and meeting expectations), and *evaluated* (i.e., subjected to formal, periodic examination to determine the extent to which implementation of the ICMS is achieving its intended objectives and having a positive impact on IDRC). Criteria for monitoring and evaluation must be derived from the strategic objectives described in the ICMS document.

The ICMS is a comprehensive undertaking that cuts across the Centre's structure and functions. It is dependent on active input from different components of the Centre, which are often located in different organizational units and bring varying perspectives and priorities to the task. To prevent fragmentation of efforts, consideration should be given to options for the overall responsibility for managing the implementation, monitoring, evaluation and improvement of the ICMS. Meanwhile, ACIM will endeavour to play this role. As requested by Senior Management Committee, (i) ACIM will review its Terms of Reference to ensure that they properly reflect the Centre's current needs; and (ii) ACIM will provide SMC with annual updates on the progress of the ICMS.



## ANNEXES

### **ANNEX I: INVENTORY OF EXISTING INFORMATION SYSTEMS AND RESPONSIBILITY CENTRES** (JULY 1996)

| BRANCH    | UNIT  | SERVICE/<br>APPLICATION | SOFTWARE<br>(if applicable)                                | PERSON<br>RESPONSIBLE | DESCRIPTION   |
|-----------|-------|-------------------------|--|-----------------------|---|
| RESOURCES | ADMIN | Travel -- TRIPS         | Proprietary, Ada-based database engine developed by E-Form | Marc Gohier           | Database of information on IDRC travellers. On Admin Y drive. Access Centre-wide through X drive. |
|           |       | Telephone — Voice Mail  |  | Bernie McDonald       |   |
|           |       | Policy Manuals          | WordPerfect  | Judy Cray             | Paper-based manuals. Updates are being created in WordPerfect and filed on the W: drive.          |
|           | MIS   | RADIUS                  | Paradox  | Ted Murray            | Program management information system   |
|           |       | E-Mail                  | Banyan Blue (Beyond Mail coming)                           | Ted Murray            |   |
|           |       | Help Desk               | Lotus Notes  | Richard Côté          |   |
|           |       | Internet                | Netscape   | Ted Murray            |   |

| BRANCH    | UNIT | SERVICE/<br>APPLICATION          | SOFTWARE<br>(if applicable)     | PERSON<br>RESPONSIBLE | DESCRIPTION   |
|-----------|------|----------------------------------|---------------------------------|-----------------------|---|
|           | OHR  | HURMIS                           | Focus                           | Rachelle Malone       | Personnel information — personal info, salary, benefits, position, etc. Access levels to HR staff defined by need<br>Access to 20 users at a time |
|           |      | HRMS                             | Under development               | Alison Scott          |   |
|           |      | Info. on courses and consultants | Word Perfect tables             | Jean-Claude Dumais    |   |
|           |      | Training Records                 | HRD                             | Jean-Claude Dumais    | DOS-based database<br>Resides on Y: drive and C: drives of Training staff   |
|           |      | Health Records                   |                                 | Pauline Delorme       | Manual filing system  |
| RESOURCES | OT   | Payroll                          | High Line: Personality          | Charles Morin         | One-way link into HiFi  |
|           |      | General Ledger                   | High Line: HiFi<br>PostAll      | Charles Morin         | When link is established between GL and Radius, will no longer keep Radius-type info in GL, eg: grants, appropriations, etc.                      |
|           |      | Accounts Payable                 | High Line: HiFi:<br>PayOut      | Charles Morin         |   |
|           |      | Risk Assessment                  | DBaseIII+                       | Ray Robinson          | Now on shared drive in OT — will disappear when incorporated into RADIUS  |
|           |      | Regional Office GL               | SBT (Small Business Technology) |                       | In use in ASRO. EARO now testing. Linked to HiFi. RO sends in file of transactions, uploaded into Hdqtrs' GL                                      |
|           |      | Fixed Assets                     | DBaseIII+                       |                       | Inventory and depreciation of goods and assets over \$1000. On OT shared drive.   |

| BRANCH                | UNIT                          | SERVICE/<br>APPLICATION                  | SOFTWARE<br>(if applicable) | PERSON<br>RESPONSIBLE | DESCRIPTION   |
|-----------------------|-------------------------------|--|-----------------------------|-----------------------|---|
|                       |                               | Closure Database                         | DBaseIII+                   |                       | Tracks the closure of projects, DAPs. Eventually will be in RADIUS.             |
|                       |                               | Sub-Ledger Database                      | DBaseIII+                   |                       | Listing of account codes for employees and consultants                          |
|                       | Minisis Group                 | Minisis                                  | Minisis                     | Terry Gavin           |   |
|                       |                               | Indix/DAI                                | CD-ROM                      | Mary Campbell         |   |
|                       |                               | IDRIS                                    | Minisis                     | Mary Campbell         | Database describing IDRC's research projects                                    |
| CORPORATE<br>SERVICES | Centre Training<br>and Awards | CENTRA                                   | Minisis                     | Constance Lim         | Database for training and awards. To be linked to RADIUS.                       |
|                       | CCP — Corp.<br>Comm. Program  | Publishing — print,<br>electronic, video |                             | Robert Charbonneau    |   |
|                       |                               | Public Information                       |                             | Jean-Marc Fleury      |   |
|                       |                               | Internet                                 |                             |                       |   |
|                       |                               | Spectrum                                 | Paradox (RADIUS)            | Diane Hardy           | Database listing of IDRC program staff and their expertise                      |
| CORPORATE<br>SERVICES | Evaluation                    | EVIS                                     | Powerhouse                  | Terry Smutylo         | Full-text database of evaluation reports  |
|                       |                               | PCR Database                             | Paradox                     | Terry Smutylo         | Project completion reports prepared by program staff upon completion of project |
|                       | RIMS                          | Research Information                     |                             |                       |   |
|                       |                               | BIBLIOL                                  | Minisis                     |                       | Bibliographic database of IDRC's Centre Library holdings                        |
|                       |                               | IDB                                      | Paradox                     |                       | Corporate authority file of core information on institutions (part of RADIUS)   |

| BRANCH | UNIT               | SERVICE/<br>APPLICATION     | SOFTWARE<br>(if applicable) | PERSON<br>RESPONSIBLE | DESCRIPTION   |
|--------|--------------------|-----------------------------|-----------------------------|-----------------------|---|
|        |                    | IMAGES                      | Microsoft Access            |                       | Descriptions and digital images of<br>IDRC project slides |
|        |                    | Internet                    |                             |                       |   |
|        |                    | EDMS                        |                             |                       |   |
|        |                    | W: Drive                    | WordPerfect                 |                       |   |
|        |                    | Biscom                      |                             |                       |   |
|        |                    | FAX                         |                             |                       |   |
| PO     | OSGC               | Legal and contractual info. |                             |                       |   |
|        |                    | Legal opinions database     | WordPerfect                 |                       |   |
|        | President's Office | Correspondence Tracking     | DOMUS                       |                       |   |



## ***ANNEX II: INFORMATION AND IDRC***

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### ***INFORMATION AND THE INTERNATIONAL DEVELOPMENT RESEARCH CENTRE***

by Paul McConnell and Bev Chataway May 1995. Published in the electronic journal *Government and Information in Canada*, vol.2, no. 1 (Summer 1995). Accessible on the Internet at <http://www.usask.ca/library/gic/v2n1/mcconnell/mcconnell.html>.

### ***ABSTRACT***

The International Development Research Centre (IDRC) is a Crown corporation based in Ottawa. It was created in 1970 to fund and promote research on effective, sustainable, and equitable solutions to development problems. This article describes the range of information functions and resources (databases, systems, services, and products) at IDRC, and how to access them. It also describes IDRC's extensive program of support for research and capacity building in the management and use of information in the developing world. It concludes with some notes on trends and opportunities in the information environment at IDRC.

### ***CONTENTS***

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#### *Foreword*

#### *I Introduction*

#### *II Information Management within IDRC*

#### *III IDRC Library*

#### *IV IDRC as a Publisher*

#### *V IDRC Support for Development Information*

#### *VI Looking Ahead*

#### *Figure 1 Organizational Chart of IDRC*

#### *Figure 2 Sample Printout from IDRIS*

#### *Figure 3 Some Recent IDRC Publications*

#### *Figure 4 The Development Activities Information CD-ROM*

## ***ANNEX III: CURRENT AND POTENTIAL INITIATIVES***

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Over the past 25 years, support for research information networks, research on advanced information technologies, and early adoption of telecommunication networks have placed IDRC in the forefront as a development agency in the use of information and communication technology. Gaps exist in connectivity and staff training; constant follow-up and encouragement are necessary to promote a learning organization.

While Annex I, *An Inventory of Existing Information and Responsibility Centres*, focuses primarily on internal systems that have been designed to respond to administrative and information support needs, Annex III describes some initiatives under way that illustrate the Centre's support for and use of ICT both in programs and internal information management. It also lists some potential initiatives that would be consistent with the ICMS.

### ***CURRENT INITIATIVES***

#### ***(a) ELADA21***

Using Geographic Information Systems and hypermedia, this electronic atlas on CD-ROM presents the data and information of Chapter 15 of Agenda 21 as well as related ecological information. The presentation is in a rich array of text, maps, graphics, animation, and photographic images. The technology promotes capacity building and is a learning tool.

#### ***(b) BELLANET***

IDRC has taken the lead with the participation of several donor agencies to use information and communication technology to facilitate collaboration among members of the international development community. Members use the available tools of e-mail, listservs, electronic conferencing, and electronic bulletin boards to share ideas, exchange information, and develop partnerships.

#### ***(c) Internet***

The Centre is using the capabilities of the World Wide Web and the Internet to communicate to the world, to our partners and clients, and among colleagues within the organization.

The IDRC Home Page presents a window to the world, carrying information on the organization and its research programs, providing some full-text documents, allowing access to IDRIS and the IDRC Research Library databases and providing e-mail access to IDRC employees.

Individual Program Initiatives have created their own informative and illustrative Home Pages that can be accessed through the IDRC Home Page. The Internet Working Group coordinates, guides, and monitors IDRC Internet activities both in Headquarters and in the Regional offices.

***(d) PAN***

Through innovative partnering with donor agencies and corporations, the Pan-Asia Networking (PAN) program was established to facilitate and extend electronic networking among Asian research organizations. First striving to connect individuals and institutions to electronic networks, PAN promotes collaboration in research and development through information access, use, and exchange. The electronic tools of e-mail, electronic bulletin boards, and conferencing are used to link to a multiple of content-based subnetworks.

***(e) Radius Reliability***

A joint effort by MIS and the Client Services Group is working to ensure the technical soundness of the RADIUS application and the integrity and relevance of the data. Consolidation of the application is being given first priority through data cleanup, enhancements to the Pipeline database, and in-depth user training. Technical improvements will be implemented as resources permit.

***(f) Electronic Document Management***

Acting on an identified need to find an integrated management solution for its own paper and electronic records while facilitating information flow and collaboration, IDRC has recently conducted an electronic document management project. An electronic document management system (EDMS) will provide Centre-wide access from any desktop or location to Centre information resources through efficient filing, location, retrieval, extraction, and sharing procedures while meeting the appropriate administrative, financial, and legal requirements for corporate information holdings.

***(g) Digitization of IDRC's Corporate Memory***

A project to digitize a selection of documents from IDRC's corporate memory is under way. This initiative to convert a number of technical reports, project publications, and evaluations, etc., to electronic form will facilitate the sharing of research results through the Internet.

## **POTENTIAL INITIATIVES**

To move the Centre rapidly toward meeting the ICMS objectives, ACIM should from time to time propose a number of key initiatives. Examples of such initiatives currently being considered are included in the following:

**(a) ACIM's ICM skills development program: Establishing a comprehensive "ICM skills development program for IDRC staff," which may translate into some or all of the following activities:**

- Expert presentations to expand staff awareness of ICT developments and motivation for change;
- Promoting ongoing in-house information sharing via Echogramme notices, lunch-time get-togethers, Friends of the Internet meetings, availability of self-study packages to upgrade individual performance, etc.;
- Establishing in-house coaching/mentoring facility to expand learning options (virtual and other);
- Raising the level of information-handling skills and responsibility for quality through in-house, short-term secondments; job swaps; and awareness-raising by existing user groups such as PUG, the Internet Working Group, etc.;
- Encouraging a proactive/challenging approach to ICT application(s) in the Centre, especially in the regions, through an active and responsive ACIM leadership;
- Offering to (interested) staff Internet connection from home for one year at a reduced rate (to be negotiated with a local provider);
- Reviving the Computer Club/Employee Purchase Plan; and
- Coordinating information-related training needs identification and evaluation of the foregoing program with OHR.

**(b) Significantly expanding electronic connectivity and networking support for Centre PIs and their partners and clients;**

**(c) Making all Centre information systems accessible in one regional office on a pilot basis to evaluate use/costs;**

- (d) *Developing a mechanism for negotiating and establishing corporate standards;*
- (e) *Constructing a uniform user interface to all Centre systems (i.e., opening screen at beginning of day);*
- (f) *Putting together a comprehensive, laptop-based travel kit to ensure easy and reliable access to many Centre information and communication resources while staff are travelling;*
- (g) *Developing a package/kit for partner/client use, e.g., connectivity, financial reporting, access to selected Centre information resources, etc.;*
- (h) *Reviewing Centre systems, find out what doesn't work, and take measures to fix both systems and data as required; and*
- (i) *Machine translation — undertaking a pilot project to explore machine translation to meet Official Languages requirements for Internet-based information.*

Through support for research, Canada's **International Development Research Centre (IDRC)** assists scientists in developing countries to identify long-term, workable solutions to pressing development problems. Support is given directly to scientists working in universities, private enterprise, government, and nonprofit organizations.

Priority is given to research aimed at achieving equitable and sustainable development worldwide. Projects are designed to maximize the use of local materials and to strengthen human and institutional capacity.

Led by the dedication and innovative approach of Third World scientists — often in collaboration with Canadian partners — IDRC-supported research is using science and technology to respond to a wide range of complex issues in the developing world.

IDRC is directed by an international Board of Governors and is funded by the Government of Canada. At the United Nations Conference on Environment and Development (UNCED), IDRC's mandate was broadened to emphasize sustainable development issues. IDRC's international network and expertise will be used to help the world move toward implementation of UNCED's Agenda 21 program of action.

**Le Centre de recherches pour le développement international (CRDI)** soutient des travaux et des activités de recherche dans les pays en développement de manière à assurer un développement durable et équitable à l'échelle mondiale.

Les recherches sont menées par des scientifiques affiliés à des institutions, à des entreprises, à des gouvernements ou à des organismes de développement. Des partenaires canadiens y contribuent régulièrement.

Les projets soutenus financièrement ou techniquement par le CRDI privilégient le recours aux ressources locales et s'appuient sur le génie, l'intelligence et le sens de l'innovation des chercheurs des pays en développement.

Le CRDI contribue au renforcement des connaissances et des capacités de recherche des pays en développement pour lutter contre la pauvreté et pour améliorer les conditions de vie et l'environnement des populations affectées.

Le CRDI est dirigé par un Conseil des gouverneurs international. Ses fonds proviennent du gouvernement du Canada. La Conférence des Nations unies sur l'environnement et le développement (CNUED) a choisi le CRDI pour participer à la mise en oeuvre du développement durable à l'échelle planétaire. Le CRDI verra à concrétiser le programme Action 21 élaboré lors du Sommet de la Terre.

Con el fin de asegurar un desarrollo sostenible y equitativo a escala mundial, el **Centro Internacional de Investigaciones para el Desarrollo (CIID)** financia trabajos y actividades de investigación en los países en desarrollo. Las investigaciones están a cargo de científicos que trabajan en instituciones, empresas, gobiernos u organismos dedicados al desarrollo. Estos científicos reciben regularmente la colaboración de sus colegas canadienses.

Los proyectos apoyados financieramente o técnicamente por el CIID favorecen el uso de recursos locales y se apoyan en el talento, la inteligencia y el sentido de innovación de los investigadores de los países en desarrollo.

El CIID contribuye al fortalecimiento de los conocimientos y a la capacidad investigativa de los países en desarrollo para luchar contra la pobreza y mejorar las condiciones de vida y el medio ambiente de las poblaciones afectadas.

Un Consejo de Gobernadores Internacional tiene a su cargo la dirección del CIID, cuyos fondos provienen del Gobierno de Canadá. La Conferencia de Naciones Unidas sobre el Medio Ambiente y el Desarrollo (CNUED) ha seleccionado al CIID para participar en la realización del desarrollo sostenible a escala mundial. El CIID se encargará de hacer realidad el programa Agenda 21, elaborado durante la Cumbre de la Tierra.

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