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The International Development Research Centre's
Intervention in the Field of Microenterprises
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THE INTERNATIONAL DEVELOPMENT RESEARCH CENTRE'S INTERVENTION IN THE FIELD OF MICROENTERPRISES

Prepared by: Mousseau Tremblay, Eng.

The International Development Research Centre (IDRC) is a corporation created by the Parliament of Canada in 1970 to stimulate and support scientific and technical research done by developing countries to their own benefit in pursuit of their development goals.

Although IDRC is funded entirely by the Canadian Parliament, to which it reports annually, its operations are guided by an international 21-member Board of Governors. Under the IDRC Act, the chairman, the vice-chairman, and nine other governors must be Canadian citizens; in practice, six of the remaining ten governors are from developing countries. The Centre's headquarters are in Ottawa, with regional offices in Bogota, Cairo, Dakar, Nairobi, New Delhi, and Singapore.

The areas of investigation supported by IDRC affect directly and indirectly the day-to-day lives of people in the developing world. For administrative purposes, these fields of activity are grouped into seven main areas: agriculture, food and nutrition sciences; health sciences; information sciences; social sciences; earth and engineering sciences; fellowships and awards; and communications.

A major criterion used by IDRC in selecting research projects is that the proposed work fit within a priority expressed by a developing country government or research institution. Most of the 3000 research and research-related projects funded by IDRC since 1970 have been identified, designed, and managed by Third World researchers. Institutions in more than 100 countries have received IDRC grants.

The programs that the Centre supports help developing countries build the scientific competence and research capacity of their institutions and their researchers so that these countries can work to find solutions to these developmental problems that can be solved through scientific and technological research. Opportunities are given to researchers to broaden their experience through further specialized study or on-the-job training. The word institution includes academic, governmental, and organizations of the private sector; non-profit and for profit, which carry out research of developmental moment.

IDRC not only provides funding but also, through its program officers, gives technical advice to researchers and monitors their progress. It also helps to create and maintain international research networks and promotes collaboration between research groups in developing countries and their Canadian counterparts. In the final analysis, the beneficiaries of the research and the application of its results must be the poor of the developing countries.

RESEARCH PROGRAMS

Agriculture, Food and Nutrition Sciences (AFNS)

In this group of related sciences, emphasis is on crops, farming systems, and afforestation in arid and semi-arid lands. Other major areas of support include previously neglected food sources such as root crops, food legumes and oilseeds; agroforestry (growing trees, crops, and livestock together); multiple-cropping systems; improvement of pasture lands; use of agricultural wastes and by-products in animal feed; artisanal fisheries and fish and shellfish farming; postproduction systems for the protection, processing, and distribution of food crops, fruit, and fish; and the needs of the rural homemaker and family.

Social Sciences (SS)

Research supported by the division is designed to improve understanding of the social and economic issues related to international development, permitting researchers and policymakers to formulate policy options in several thematic areas. These include: education, population, science and technology, energy, urban development, economics, and rural development. Support is also given to a limited number of national and regional institutions in the social sciences and to research on problems of special regional concern.

Health Sciences (HS)

The division's support is concentrated in applied research in three broad program areas: Health and the Community; Health and the Environment; and Health Systems Research. The last involves every facet of health-systems research such as the training of personnel and health economics.

Earth and Engineering Sciences Division (EES)

The division was previously known as the Cooperative Programs Division. The three programs supported by the division are earth sciences; technology for local enterprises, small and medium size; and building industry, materials and technology. The division deals with programs and projects in the following areas of concentration: hydrogeology, hydrology, earthquake engineering, slope stability, protection from volcanic eruption, agrogeology, industrial minerals, new technology adoption, development of new small to medium scale technologies, improvements to and adaptation of traditional technologies; improvement of the local working environment, products improvement and innovation, process improvement and innovations; management of technological change; low-cost building materials; low-cost building design and technology.

INFORMATION PROGRAMS

Information Sciences (IS)

Support given by the division helps developing countries to: establish regional and national information systems and improve library infrastructures at these levels; participate in international information networks; create specialized information centres (serving the region or world) on development-related subjects, especially in agriculture, health, population, industry, the environment, cartography, and social issues; and develop information tools and methods. The division's computer-systems group provides internal services and distributes MINISIS, a software package designed by IDRC, to developing countries. In addition, a library and micrographics unit serve IDRC staff, the Canadian development community, and IDRC-supported projects.

Communications (COMM)

Services provided by the division include: the publication and dissemination of the results of IDRC-supported research via print and film media; public affairs; and translation. The division also supports projects aimed at strengthening the ability of research institutions and communications media in developing countries to prepare and disseminate scientific and technological information.

IDRC-SUPPORTED RESEARCH FOR SMALL ENTERPRISE DEVELOPMENT

The funding of research programs and projects pertaining to the development of the small, or microenterprise, and of entrepreneurship, is available through a number of programs and sub-programs located within a number of different divisions.

Agriculture, Food and Nutrition Sciences (AFNS)

Postproduction Systems (PPS)

Postproduction systems comprise all the stages through which a crop passes from harvest to consumption. The program is complex, embracing a wide range of topics in agricultural engineering, food science and technology, and nutrition. It also includes an appreciation of the physical and socioeconomic environment in which postproduction systems operate. Emphasis is given to applied research and to **small enterprise improvement and development.**

The program consists of three sub-programs: food processing and utilization; food handling, drying, and storage; and equipment design, adaptation, and testing.

Food- or other commodity-processing projects focus mainly on improving traditional processes. This may involve product stabilization or conversion to more desirable forms consistent with consumer tastes and income. Research activities also encompass analysis of nutritional quality and test marketing of products.

The reduction of food losses is the underlying objective of research on technical and management systems to improve food handling. Harvesting, field handling, transportation, testing of new equipment, product-quality control, and commodity grading are all components of this sub-program.

The development of machines, tools, other relevant equipment, and their associated operating and management systems are the major components of the third sub-program. The equipment is small scale, appropriate for small farms, for rural agroindustry, and for small village or urban food-processing enterprises.

Social Sciences Division (SS)

Economics

The title economics provides a unifying theme for a program that is, in fact, an amalgam of many topics and issues. In common to the projects supported under this program is an emphasis on the importance of economic goals and objectives.

Historically, the program has concentrated much of its research support in the field of rural development through studies at both the micro and macro levels of analysis. Principal project areas have included research on the economics of **production**, resource allocation, and employment. Although the agricultural sector has been the focal point of this support, increasing attention is now being paid to such nonfarm activities as fisheries economics and **small-scale industry**.

Savings and capital investment represent another field in which the economics program activity is expanding, again with particular emphasis on the rural areas. Support has been given to projects investigating such areas as savings and asset acquisition, and **the workings of informal and experimental lending operations**.

Domestic **marketing research** is a relatively new field of support for the economics program. Project activities in this area focus on the broad impact of domestic pricing, marketing and storage policies with emphasis on the effects of these policies on **producers** and consumers in different socio-economic groupings. International trade and marketing research with reference to the agricultural sector is an area of possible support in the near future.

Macro-economics is also a relatively new field of support for the economics program, but one which is seen to be of increasing importance. Research in the area is designed to improve the quantitative basis for macro-economic decision-making in developing countries.

Cost-benefit analysis of public sector investments and policies with particular emphasis on impact studies is yet another area of continuing interest to the economics program. This reflects the increasingly apparent need to increase indigenous research skills to carry out social and economic assessments of large-scale development projects.

Science and Technology Policy

IDRC defines science and technology policy research for development as any research that adds to the body of knowledge on how science and technology contribute to development. This knowledge should lead to better decisions and policies, and benefit not only government policymakers, **but all those who use technology in their work - from factory managers to farmers, from urban decision-makers to peasants.** It is to be noted that an interdisciplinary approach to the issues of technology and development is a relatively new phenomenon, and continues to be particularly relevant to the needs of developing countries **as they face employment, management and market choices** that are affected directly or indirectly by the selection and performance of technology.

Broadly speaking, research activities supported by the program can be divided into two categories: **technology policy for industrialization** and technology policy for meeting the needs of the rural areas.

Thus with IDRC support, the Andean Pact investigated a range of technology policy issues including **the effect of relatively simple changes in production techniques on medium-sized firms; the use of skilled and unskilled labour in specific industries; and the sources of information about foreign technology which are needed in the bargaining process with a foreign investor.** Another large activity receiving IDRC support was a nine-country study on Science and Technology Policy Instruments (including Latin America, Central America, Asia and Europe). This was designed to collect and to provide information to government policymakers about the effectiveness of different policy instruments which might be used to improve the application of science and technology to socio-economic development, **as well as to examine policies designed both to promote indigenous technological skills and to ensure the greatest benefits from foreign technology.**

Other activities which illustrate the scope of the program to date include an examination undertaken by the University of the West Indies and the University of Guyana of the ways technology has been transferred to the Commonwealth Caribbean and an assessment of the effects of this transfer. Institutions in Pakistan, Sri Lanka, Korea, Bangladesh and the Philippines have explored **ways in which imported technology, principally in the industrial sector, is transferred and used by national firms.** The University of the South Pacific received a grant for research into the existing and potential energy needs of rural Fiji.

Careful consideration is also given to proposals from researchers in developing countries to investigate such areas as national technology choices, the effects of technical change, **the diffusion of technology and markets for technology.** The program is also expected to respond to the needs of the Third World expressed at the United Nations Conference on Science and Technology, held in Vienna in 1979.

Information Sciences Division (IS)

Science and Technology Information

Activities funded by the Science and Technology Information Program also focus on repackaging and disseminating research information for decisionmakers, researchers, and extension agents, particularly in the crop and animal production sectors. Priority is given to services that can have a multiplier effect through being a model for other information centres or through participation in cooperative networks. **Specialized information centres are established that select, consolidate and analyse the literature on important crops, commodities or processes.** Information transfer and sharing by networks are emphasized. Similar projects are funded which deal with earth and marine sciences; agroclimatology, fisheries, forestry, geology, hydrological sciences, soil, natural resources and energy.

Those programs that **deal particularly with small enterprises are:**

Science and Technology Information Systems

The Science and Technology Information Systems subprogram deals with multisectoral science and technology information. An example of such a project is a national or regional science and technology information system.

Industry and Technology

Information on industry and technology for small- and medium-scale enterprises includes technical data on marketing, quality control, personnel planning, and patents and standards information. **Small-scale industries also need technical consulting services where experts can be made available through extension services.**

Technology dissemination as well as capacity and resource building at the national level are priorities and **networking is emphasized.**

Industrial Extension

In many developing countries, there are thousands of **small entrepreneurs with factories based largely on local raw materials.** While some attempt to reach a larger market, most are concerned with **providing products for local use.** In the past, such factories have usually lacked any access to technical advice. The processes have been handed down within the entrepreneurs' family, and the work force has been trained only within the plant itself. For such enterprises, even a small input of technical advice, often at quite a primitive level, can effect big changes - **by reducing waste of raw materials or by enhancing the quality of the product.**

In 1972, we decided to help national institutions in Southeast Asia that were seeking to put **industrial extension people at the disposal of these small enterprises.** Under the sponsorship of IDRC, cooperative training programs were established and the extension people were enabled **to exchange their experiences through an association known as Technonet-Asia.**

Recently the 11 participating institutions (from nine countries) decided to put the program on a continuing basis, and Technonet-Asia has been formally incorporated under the laws of Singapore. The participating institutions are themselves contributing to the cost of operating Technonet-Asia, which is now widely seen as a model that might be useful in other parts of the world.

Health Sciences Division (HS)

Occupational and Environmental Health

This sub-program is becoming more active as developing countries continue to **industrialize**. Encouragement is given to projects that examine specific occupational areas to determine the extent of the problems and the testing of corrective measures.

Earth and Engineering Sciences Division (EES)

Technology for Local Enterprises Program

This program is intended to support applied research in order to solve the problems of productivity, efficiency and profitability of **small and medium size enterprises** presently operating or to be newly created in developing countries. It aims at the solutions of technological problems in priority industrial sectors and the building up of indigenous research capabilities to achieve existing and future national industrial development goals.

The program provides support for the research projects only when a problem has been clearly defined and after demonstrating that the proposed approach has the potential for **producing technical and economic viable solutions** with promising wider scale applications.

In addition, this program emphasizes the following:

- the development of **small or medium scale technologies** requiring relatively low capital investments, using indigenous raw materials and holding promise of enhancing employment opportunities

- **the refinement of existing production techniques and equipments** for the improvement of products quality, waste minimization and the improvement of local working environment
- **the improvement of existing products and the development of new ones** that could improve the quality of life of rural and urban poors
- **the application of appropriate managerial and operational procedures** for the improvement of productivity, quality control, marketing and distribution of existing, improved or new products, and to ensure the healthy development of local enterprises.

In order to provide the flexibility required to respond to the different priority issues and needs of individual countries and regions, the program was defined in horizontal terms and four areas of research cutting across the various economic sectors has been designated for support. These areas reflect major groupings of technology oriented research dealing with the problems of local enterprises and they are:

Products Improvement and Innovation

This involves materials research including metals, non-metals and composites of local origin as well as product design, development, testing, manufacturing and quality control for the improvement of existing intermediate and end-products and the creation of new ones.

Process Improvement and Innovation

This involves:

- **the improvement of existing or traditional manufacturing or production processes as well as the development of new ones** suited to local economic and technical conditions
- **the improvement and modernization of existing equipment as well as the design, development, field testing and local manufacturing of new ones**

- **the adaptation, downsizing, introduction and use of technologies** suited to local technical and socio-economic conditions.

Management of Technological Change

This involves:

- the development of proper mechanisms for the evaluation and selection of **new technologies appropriate to local enterprises** needs and conditions
- the evaluation and analysis of organizational systems and structures, and technical skills required for the effective use of new technologies

Environmental Concerns of Local Enterprises

This involves research concerned with **the reduction or elimination of industrial pollution emanating from small and medium size enterprises** through the improvement of manufacturing processes, the recovery, recycling and utilization of industrial wastes and by-products and pre-disposal pollution treatment.

Collaborative Programs and Projects with Canadians

IDRC funding can be applied to collaborative research carried out between scientific research groups in developing countries and their counterparts in Canada - whether academic, governmental, or **private; the latter being small and medium size enterprises**. By establishing channels of communication among scientists, the division helps improve the transfer of research results from Canada to the Third World for projects that contribute to Third World economic or social development and in which there is recognized Canadian expertise. It is important, however, that the developing-country research group play a significant role in formulating a scientifically sound project proposal and in planning and executing the project, thereby strengthening its research capacity.

Fellowships and Awards (FAD)

The division provides support to train junior and senior Third World scientists, managers, and planners working in sectors covered by IDRC's program divisions. The emphasis is on formal training as support to individual researchers. In

addition, the division supports nondegree or informal group training to improve technical research, and administrative skills of individuals through practical courses and informal training. Generally, fellowships and awards are granted to researchers involved in IDRC-funded projects and programs **including those dealing with microenterprises**. A portion of the division's funds is also used to encourage the involvement of young Canadian researchers in scientific areas of concern to IDRC and to expose them to the problems of the developing world. These doctoral students are posted to a Third World country for studies, research or placement.

Project Criteria

To obtain funding from IDRC, any proposal for a research project must meet certain criteria. These are kept as flexible as possible to permit consideration of a wide range of research proposals, but the following questions give an indication of the Centre's basic funding philosophy.

Development priority: Is the proposal consistent with national or regional development goals of the country?

Regional applicability: Are the research findings likely to be applicable in developing countries or regions other than the one in which the research takes place?

Usefulness: Will the research help close gaps in living standards or lessen the imbalance in development between rural and urban areas? Will the research in all cases contribute to alleviate poverty?

Local resources: Will the project make maximum use of local resources and research workers from the region?

Training: Will the project result in better trained and more experienced researchers and more effective research institutions?

Research area: Does the research fall within IDRC's areas of concentration?

When IDRC agrees to support a project, it enters into an agreement with the developing-country institution. The agreement stipulates the project's purpose, research methods, payments, and a schedule for the submission of progress reports. In many countries, the state, through its scientific research grant screening agency or planning authority, has to approve the receipt of the grant for the purpose specified.

Funding, of course, is limited by the budget of the different divisions and the approval of the Centre's annual grant by the Parliament of Canada. The 1988-89 grant is in the order of CAD 100 million. An IDRC grant covers the main research expenses including some salaries and all necessary travel. It includes allocations for on-the-job training as well as provisions for some essential project-related equipment.

Institutions receiving an IDRC grant are themselves expected to make a substantial contribution to the project, proportional to their ability to provide such support. This often takes the form of staff time, use of facilities, and support services.

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More detailed information about IDRC's programs may be obtained from any of the Centre's offices.

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