

IDRC ANNUAL REPORT 1981/1982



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The International Development Research Centre is a public corporation created by the Parliament of Canada in 1970 to support research designed to adapt science and technology to the needs of developing countries. The Centre's activity is concentrated in five sectors: agriculture, food and nutrition sciences; health sciences; information sciences; social sciences; and communications. IDRC is financed solely by the Parliament of Canada; its policies, however, are set by an international Board of Governors. The Centre's headquarters are in Ottawa, Canada. Regional offices are located in Africa, Asia, Latin America, and the Middle East.

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INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
CENTRE DE RECHERCHES POUR LE DEVELOPPEMENT INTERNATIONAL

Chairman of the Board
Hon. Donald S. Macdonald, P.C.

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June 30, 1982

The Honourable Mark MacGuigan
Secretary of State for External Affairs
Lester B. Pearson Building
Ottawa, Ontario

Dear Minister:

I have the honour to transmit herewith the Annual Report of the International Development Research Centre for the fiscal year ending March 31, 1982, for submission to Parliament as required by Section 22 of the International Development Research Centre Act (Revised Statutes of Canada, 1970, 1st Supplement, Chapter 21).

Yours sincerely,

Donald S. Macdonald

Hon. Donald S. Macdonald, P.C.,
Chairman of the Board

Introduction

The International Development Research Centre has now funded more than 1250 projects, and the resulting research findings constitute a body of knowledge that is unique in the development field. Several steps have been taken during the past year to ensure that maximum use is made of these results and that the Centre remains in close touch with the needs of the nations it serves. For example, a former senior UN diplomat has been retained as a consultant to visit developing countries to discuss with their leading policymakers how IDRC-funded research can best help alleviate their particular problems and to determine how the Centre can aid them more effectively in meeting their development goals.

Also, the title of the Office of the Vice-President Planning has been changed to Office of Planning and Evaluation (OPE). This more accurately reflects the increasingly important role of the Office, which is to ensure that the Centre remains alert and responsive, both to changes in research priorities within developing countries and to new ways of improving the contribution of research.

The Office oversees the activities of the five regional offices — in Bogota, Cairo, Dakar, Nairobi, and Singapore — whose staff provide valuable insights into changing priorities and needs in the regions. They also encourage countries to build their own research planning and evaluation capability by supporting national and sectoral studies and research-resource inventories. These studies help to define priorities and identify strengths and weaknesses in research systems.

A series of resource inventories focusing on agricultural research culminated in 1981 in a workshop on resource allocation to agricultural research, the proceedings of which have been published in the IDRC monograph series (IDRC-182e).

OPE's links with the regional offices and its staff expertise equip it particularly well to coordinate, strengthen, and apply the principles of planning and evaluation throughout the Centre. Although all the divisions in IDRC plan and evaluate their own operations, OPE can ensure that lessons learned are systematically assessed and utilized. A common weakness of evaluations is that often they are not built into the "corporate memory" of an organization, with the result that the experience is not used effectively when new programs are designed. Staff of OPE are promoting the concept of evaluation as an integral part of informed management.

They are responsible for developing an integrated planning and evaluation process based on a review of all completed projects and supplemented by selective evaluations of projects that appear to be most relevant for refining Centre policies. The results of this work are reflected in the Centre's annual review of policies and programs projected over 4 years.

One policy study currently under way reflects the Centre's concern with the level of utilization of the projects it supports and the need to investigate and

to demonstrate the various ways in which research contributes to development. Another study, completed during the past year, examined various forms of training support provided by the Centre to scientists and technicians. A questionnaire was sent to 1000 of about 4000 individuals who received some form of organized training through IDRC support during the Centre's first 10 years.

The results confirmed the validity of employing a wide variety of training mechanisms and indicated the advantages of providing on-the-job training through practical, applied-research projects. The Centre intends to increase its relative support for training as recommended in the study, using the general guidelines as a framework.

In a world where often it seems that change is the only constant, the Centre has always maintained a flexibility that has enabled it continually to meet new challenges, to adapt its programs to serve changing priorities.

Thus, when the Centre was asked, following the 1979 United Nations Conference on Science and Technology for Development, to devise a new program that would enable developing countries to share in the benefits of research carried out by Canadian institutions, the response was positive and prompt. Today, the Cooperative Programs Unit is an established part of the Centre's structure that is opening new avenues of collaboration between scientists in Canada and their colleagues in the Third World.

In August last year, there was another United Nations conference, this one to discuss new and renewable sources of energy. More than 1000 delegates attending the Nairobi conference heard Canadian Prime Minister Pierre Trudeau announce a \$10 million commitment to support research into developing countries' energy problems. Once again, IDRC was asked to take responsibility for the new program, and again the Board of Governors agreed.

This will not be a new activity for the Centre. Over the years, the four program divisions have supported more than 50 energy-related projects — ranging from development of low-cost solar technology to studies of the impact of energy-price increases on national industries. What the Governors approved was an expanded program of support for energy research in Third-World countries, and, although funding begins only in the 1982-83 fiscal year, a good deal of preparation has taken place since the Board's October decision.

The program will be responsible for the coordination and expansion of IDRC's energy activities during the 4-year grant. An international, research-advisory group has been established to review energy-research needs, priorities, and resources. The group will include researchers and planners from the Third World and will serve as a valuable independent source of information to assist developing countries and donor agencies in making decisions on energy programs.

The increase in emphasis on energy will not mean a reduction in any of the Centre's existing programs, however. As can be seen from the brief reports on the following pages, the four program divisions and the Cooperative Programs Unit are, in fact, maintaining a healthy growth and are continually adapting their programs to meet changing requirements in their specific fields.

During the 1981-82 fiscal year, 243 grants totaling \$36.5 million were approved by the Centre's Board of Governors. Most of these grants were for the support of new projects, but a good many were for second- or even third-phase research in projects that continue to break new ground. The majority of the projects are the responsibility of the Centre's four program divisions,

although the Cooperative Programs Unit, now in its second year, is increasingly active. A complete listing of projects approved in the fiscal year begins on page 15. The following describes a few of the projects in more detail and puts them in the context of each division's continuing programs of activity.

Agriculture, Food and Nutrition Sciences **56 projects, \$14.5 million**

Research into improved *crops and cropping systems* remains the largest component of the AFNS program. The main emphases are the major subsistence crops of the tropics and ways to increase small-farm production. One new project is in Zimbabwe, where agricultural research is well established, but little attention has been paid to the needs of the small-farm families who make up 90% of the rural population. The project will establish a breeding program to produce improved varieties of sorghum and millet — important grains for the small farmers — and will link Zimbabwe with a network of other small grain-research projects supported by IDRC around the world.

Root crops and plantains are major food sources in the lowland humid tropics, and these crops have recently gained recognition in development research. In Costa Rica, for example, a new project is under way to develop cropping systems based on plantain, in combination with root crops such as yam, taro, and sweet potato. The aim is to help small farmers in the region to improve and increase their food production. The 3-year project will be carried out in farmers' fields to ensure that the systems developed meet the farmers' needs.

Oilseeds such as sesame, rapeseed, sunflower, and groundnuts are also being recognized as deserving research support because of their potential and current contribution to developing regions. Egypt, for example, currently imports 70% of its edible-oil requirements, but an IDRC-supported project may reduce this dependence. Egyptian researchers have succeeded, in the past 3 years, in developing high-yielding oilseed crops, and in the second phase of the project, now under way, they will develop and evaluate techniques for expanding the cultivation of these new varieties. This project, too, is part of a network of similar research supported by IDRC.

The *fisheries* program continues to emphasize aquaculture, including projects related to breeding, disease control, cageculture, management systems for freshwater and brackish-water species, and mariculture, particularly the cultivation of molluscs and aquatic plants. In Thailand, where fish supplies more than 50% of the population's animal protein requirements, a permanent fish-genetics unit is being established as part of a project that is aimed at overcoming the problems resulting from inbreeding of fish stocks. Selection and genetic management, by developing faster-growing and hardier strains, may increase the production of freshwater fish such as carp and tilapia by as much as 20%. On the Caribbean island of St. Kitts, musselculture is expected to contribute income as well as a valuable food to the depressed fishing community. The researchers in this new project will be able to draw on the experience of several other Centre-supported projects for the cultivation of molluscs in the Caribbean region, and, if successful, the project may lead to the development of other sea "farming" systems on the island.

In the field of *animal sciences* research, a new project in Guyana will also

benefit from the results of Centre-supported projects in the region. This large, 3-year project will identify pasture legumes, other forage crops, and agricultural by-products suitable for animal feed, as well as devising improved management systems, with the aim of increasing meat and milk production on the savanna grasslands of the Guyanese interior. In Egypt, researchers have identified “elephant grass” as an excellent summer-forage crop for dairy and beef cattle. In the second phase of the project, they will conduct further testing of this and other forage crops from the nutritional, economic, and agronomic points of view. Training programs will be devised in this phase of the project for farmers and extension workers to ensure the widespread adoption of the new summer-forage management systems.

Animals and their fodder requirements are also an important consideration in many of the forestry program’s projects. In India, the Centre is supporting a major new 4-year project to help overcome some of the serious environmental problems caused by the enormous demand for firewood and fodder. The project will experiment with combinations of fodder trees and pasture grasses, a practice known as silvipastoral farming. The aim is eventually to rehabilitate millions of hectares of degraded land, while providing feed for animals and fuel and jobs for people. The concept of “social forestry” — using tree plantations as tools to meet the needs of rural communities — is now a primary element of the forestry program.

Other than wood, one of the main sources of energy in developing countries is sunlight, which is used in its simplest form to dry crops that are simply spread on the ground or on rooftops for a few days. The sun’s energy can be used much more efficiently — and hygienically — if the food is enclosed in a simple dryer, and the losses (up to 20%) caused by spoilage can be drastically reduced. In Bangladesh, the *postproduction systems* program is supporting the testing of two dryer prototypes with the objective of developing an inexpensive model that villagers can use year round to dry a variety of food-stuffs. One of the dryers to be tested is based on a type developed in Thailand with IDRC support.

The postharvest process includes not only drying, but threshing, milling, and storage. In Mauritania, where rice is a relatively new crop, a recently approved project has the objective of establishing a model village postharvest centre. Such cooperatively managed centres could increase the farmers’ productivity by reducing postharvest losses. The project will benefit from experience gained in earlier IDRC-supported postharvest work.

Health Sciences

37 projects, \$5.9 million

In recent years, research into *communicable and noninfectious diseases* has doubled its budget to become one of the most important areas in the Health Sciences Division program. It includes various aspects of communicable diseases, tropical diseases, and malnutrition. Many diseases that have virtually been eliminated from the industrialized countries are still prevalent in the developing world, such as tuberculosis, which results in a million deaths every year, primarily because it is associated with poverty, malnutrition, and overcrowding. A project in Indonesia will study the disease and its relationship to present socioeconomic conditions, and, in India, researchers will evaluate

the applicability and efficacy of new short-term, intermittent drug regimens.

In Mexico, researchers are beginning a study of the frequency, distribution, and transmission of diarrheal diseases. Such diseases are, like tuberculosis, associated with environmental and socioeconomic conditions and result in 5–10 million deaths among children every year. The study will concentrate on children under age 2 because they are at greatest risk and will involve 100 children and their families. A similar study in Peru will seek to relate findings on the epidemiology of diarrheal diseases to the nutritional status and dietary intake of children.

The Division's *water supply and sanitation* program is giving greater emphasis to public health and management. In the Gambia, a village water supply and sanitation program combines community participation and health education in an effort to ensure that the rural people obtain maximum benefit from the improvements. This 2-year project will also provide training opportunities for students at the Gambia College School of Public Health and will serve as a model for similar projects in other villages. In Thailand, a study is to be made of village water-treatment plants to find out how well they are working, to develop a simple user's manual, and to recommend methods of improving and expanding such low-cost systems. Training of personnel is important in the area of water supply and sanitation. Projects in Guatemala and Indonesia will train middle-level, rural-water technicians and then evaluate their training, field performance, and utilization. The findings will be used to improve the training curriculum and personnel support in the field.

Training is also a focus of the Division's *health-care delivery* program. In the People's Republic of China, there is an acute shortage of trained scientific personnel in some areas, one of which is epidemiology. A project has been developed in cooperation with the Centre's Fellowship Program whereby 30 young Chinese medical researchers will receive training in Canada during the next 3 years. It is expected that, when they return to China, they will strengthen the nucleus of research and training activities in their respective institutions. In a project in Indonesia, the Centre is supporting an assessment of the training and utilization of nurses. The researchers will make recommendations to assist the country's Ministry of Health in its efforts to meet the basic health needs of the widely scattered population.

The Division's *fertility-regulation* program has continued to expand its scope of research and now supports investigations into sexually transmitted diseases, which are a major public-health problem throughout the world. Many developing countries are keen to establish appropriate control programs.

Projects supported in this field include a screening program for syphilis in pregnant women in Zambia and a study on chancroid in Kenya. The emergence of drug-resistant gonorrheal infections increases significantly the implications of projects in Nigeria, Argentina, Brazil, Chile, and Jamaica. These projects constitute a network of gonorrhea-screening programs, which will form the basis for future national-surveillance programs. Research on contraceptive development continues to represent a substantial portion of the fertility-regulation program and includes renewed support (3-year grant) for the International Committee on Contraceptive Research (ICCR), which gathers top-class researchers from developed and developing countries. As well, a number of grants have gone to individual countries. In Colombia and India, for example, studies are being supported on the sociocultural acceptability and

the effectiveness of a subdermal contraceptive implant, called Norplant, that, it is hoped, will overcome many of the side-effects among women taking oral contraceptives. Similar field testing is already under way in other countries of Latin America, Asia, and the Middle East.

Support for research in the *occupational health* field was begun in 1980–81, and, although this is a relatively new field of research for most developing countries, it is attracting proposals for research relating mostly to industry but also to agriculture. In India, where coal production is being substantially increased and mechanized, researchers from the National Institute of Occupational Health are studying the incidence and severity of disorders caused by the inhalation of coal dust, as well as related environmental factors. In Hong Kong and in Indonesia, where the textile industry has expanded considerably, researchers are studying the incidence and the factors related to byssinosis, a disease caused by the inhalation of cotton dust. In Honduras, where bananas are a major export and some of the large producers have introduced new technologies, such as mechanization and pesticides, the Centre is supporting a study that will examine the incidence of occupational diseases and injuries among a group of banana workers.

Information Sciences **24 projects, \$4.7 million**

Many development programs are hampered by a lack of relevant information and by a shortage of libraries, information centres, and trained information staff. The Information Sciences Division helps developing countries overcome this problem by encouraging the sharing of information and cooperation to make the best use of scarce information resources. The mechanism still most favoured for bringing this about is the *international cooperative information system* operated by an international agency on behalf of its member countries. The Division has paid particular attention to AGRIS, the global information system for the agricultural sciences and technology, operated by the Food and Agriculture Organization of the UN, and to DEVSIS, a system handling the socioeconomic information needed by development planners and growing as a set of interacting regional systems.

The key component of the international cooperative information system is the national information centre, which collects and organizes the documents domestically produced in a particular sector or subject and, through the system, makes them available to other member countries. The global and regional coordinating centres for these systems have been very effective in establishing the procedural rules, in introducing new techniques, and in providing training, but the limiting factor is ultimately the strength or weakness of individual national centres, which are, therefore, receiving more attention. In the Division's support for AGRIS, projects to help national centres in Chile, Costa Rica, Dominican Republic, Egypt, Sri Lanka, and Thailand have continued a trend begun several years ago, and in the DEVSIS program a second grant to the UN Economic Commission for Africa emphasizes the training of staff for the national centres taking part in the Pan-African Documentation and Information System (PADIS). In the field of educational information, a second grant has been provided to a regional information service for Latin America and the Caribbean (REDUC) linked to Unesco's International Educational Reporting

Service (IERS). The original network encompassing eight countries is being extended with support from the US Agency for International Development to seven more countries, and the IDRC grant will assist in strengthening and restructuring the coordinating centre to handle the increased load.

The Division's support for international cooperative information systems is not confined to financial assistance. An increasingly important contribution is advice and often basic work in the development of the procedures, rules, and manuals needed to ensure that all the participants work in a consistent fashion so that their information may be readily exchanged. In the past year, a meeting sponsored by the Division within the framework of DEVSIS brought together representatives of socioeconomic information systems in Africa, Latin America, the Caribbean, West Asia and the Arab states, Asia and the Pacific, and the UN, who agreed upon common methods for bibliographic description and subject indexing.

The Division has made a major impact on the handling of large numbers of documents through its MINISIS, a computer, software package for database management, which has now been adopted by about 45 licencees and sublicensees in developing and developed countries. The MINISIS team continues to devote much of its efforts to refining the package and training new users. In the past year, an improved version of the software has been released, and it includes a program to handle non-Roman scripts such as Arabic and accented Roman scripts such as French.

The Division has also continued its support for *specialized information-analysis centres*, in which information specialists and subject specialists cooperate to evaluate and consolidate information in narrowly defined subject areas to meet the expressed needs of users. Many such centres have been established, and, in the past year, grants have been provided for international information centres in Syria on field beans and lentils, in India on sorghums and millets, and in Panama on bananas and plantains. The Division has also moved into the field of health with a grant to an international centre in Bangladesh to help it establish a diarrheal-disease information service and documentation centre (DISC). DISC will concentrate upon literature generated in Asia, which often does not reach Western scientific journals, and an important component of the project will be the publication of an Asian journal of diarrheal-disease research.

The Division's *cartography* program has already supported several projects to assist developing countries take advantage of the data collected by Landsat in making maps that would be prohibitively expensive to produce by traditional survey methods. Through the Regional Centre for Services in Surveying and Mapping (RCSSM) in Kenya, a new project will enable nine member countries to improve their production of thematic maps, which are important in the development of resources in remote areas. The project will concentrate on techniques for printing maps that combine Landsat "photographs" with conventional drawing.

The Division also operates the *Centre Library*, which serves not only IDRC staff but also the Canadian development community at large. The Library's data base is maintained through MINISIS, as are two expanding data bases — one on socioeconomic planning information (Devindex) and the other on low-cost, rural health-care delivery services (Salus). These data bases, together with several others obtained from international organizations, can now be interrogated from computer terminals across Canada.

Social Sciences

108 projects, \$8.6 million

How and why the developing countries choose the technologies they need is a concern of the Social Sciences Division's *science and technology policy* program. In Tanzania, for example, a grant will support a study of the apparent weakness of that country's public enterprises in bargaining for technology and the effect this may have on the national economy. The research will be headed by a law professor from the University of Dar es Salaam and will examine several poor purchases by state-run enterprises. The aim of the study is not to identify culprits, or allocate blame, but to strengthen negotiating abilities by providing practical lessons for future negotiators.

Another study, with far-reaching implications for developing countries, will examine the economic policies adopted by several Latin American countries in their dealings with multinational corporations (MNCs). These huge business enterprises account for 40–50% of world trade, and many wield more economic power than some Third-World governments. Seven countries will be involved in the study, which will be based in Mexico. The researchers will analyze national policies toward MNCs and will study the impact of the corporations' activities in the financial sectors of host countries.

In India, an investigation of the country's energy industries will focus on the technical factors required for their efficient operation and expansion, as well as the relationship between technology and the economics of the industries. Coal, oil and gas, and electricity will be studied individually, and the conclusions of the three sectoral studies will be reviewed for major problem areas — actual and anticipated — so that policies that tackle the problems may be recommended.

In the field of *education research*, the Division is concerned with learning at all levels, but particularly during the crucial preschool and primary years. Many Third-World nations are developing or expanding preschool programs, and the Division recently sponsored a conference on early childhood education that brought together 25 experts from around the world, including the leaders of six IDRC-supported projects.

In Turkey, there is no widespread system of preschool education, but, in 1981, it was decided to begin a 1-year preprimary program. The Division is now supporting a 4-year study of several different types of preschool education programs, including one developed by Turkish researchers. The study's findings should help clarify some of the questions surrounding the theory and practice of comprehensive, preschool education and should be of considerable significance to many developing countries. Two new projects with similar objectives at the upper-primary level are being funded in Nigeria and Thailand. Both are investigating how various teaching methods and classroom environments affect the achievement of students, reflecting the education program's increasing concern for the quality of education.

During the past several years, the Division's *population and development* research program has funded several studies in the relatively neglected area of child mortality. Two new projects were begun in the past year. In Sierra Leone, researchers will probe factors that may be responsible for that country's high mortality, particularly among infants and children. In Egypt, researchers will

seek to establish whether there is a relationship between fertility and child mortality, both of which show a declining trend over the past 2 decades.

The movement of peoples is another concern of this program, particularly the socioeconomic impact of migrations. A new project based in Barbados is one of several in the Caribbean Basin region studying the phenomenon of international migrations. This 2-year study will focus on emigration from Barbados, St. Lucia, St. Vincent, and Grenada to Canada, which is an increasingly popular destination for migrants from these islands. The researchers' final report should provide some of the basic information needed by planners and policymakers in the eastern Caribbean.

The *economics and rural-development* program supports a number of studies bearing on employment both on and off the farm. A new project in Nicaragua will examine the importance of rural off-farm employment in the complex rural economy of that country. A household survey and a series of in-depth studies of business enterprises will provide information about the links between agriculture and rural industry and should assist in the design of policies and programs for the expansion of rural-employment opportunities.

Agricultural- and rural-development policy is another area of concern for this program. A major research project is being funded to provide the analytical material needed by the Indonesian government to draw up the agricultural component of its next Five-Year Development Plan. There is also support for research at the macroeconomic level and for international-trade policy studies. The Division is supporting a network of institutes in South Asia to research the possibilities of trade expansion and monetary cooperation within the region.

Cooperative Programs

15 projects, \$1.7 million

The Cooperative Programs Unit provides funding for projects that involve direct collaboration between research institutions in the developing countries and their counterparts in Canada. The past year was the first complete fiscal year for this new program, which was established in October 1980. The year witnessed a steady increase in the number of inquiries and project proposals, both from the Canadian research community and from developing-country institutions. The Cooperative Programs budget supports two kinds of projects: those that fall within the scope and expertise of the four program divisions, which are managed by the appropriate division, and projects relating to other fields of research, which are managed by Cooperative Programs staff.

Chile's forestry industry is growing rapidly, but little is known about the socioeconomic effects of this growth on the small communities of the country's forest areas. Social scientists from Grupo de Investigaciones Agrarias and from the Centre for Research on Latin America and the Caribbean at Toronto's York University are undertaking a joint study of the situation. Data gathered in field surveys will be computer-analyzed in Canada and the final report prepared in booklet form for distribution to local government officials and community leaders in the forestry regions.

At the University of Guelph, two young Thai scientists are involved in a project to develop animal feeds from cassava through a process of microbiological fermentation. The root crop cassava is widely grown in the developing world, and Thailand is one of the world's leading producers. The develop-

ment of a practical technique to convert cassava by-products into protein for animals could have a significant impact on food production, not only in Thailand, where it is expected that the more applied aspects of the research will later be conducted, but also in other major cassava-producing countries.

A project in the information-science field will link the University of Saskatchewan with the International Center for Agricultural Research in the Dry Areas (ICARDA), based in Lebanon. The two institutions will cooperate in the production of a newsletter on lentils research for the benefit of scientists in developing countries, where this oft-neglected legume is an important protein source. The two institutions will also combine their information resources on lentils and begin a question-and-answer service to assist them in their work.

Two island communities are linked through a project that involves Newfoundland's Memorial University and the South Pacific Commission. The researchers will study the effectiveness of an integrated, mosquito-control program, utilizing improved sanitation, biological agents, and selected pesticides, in several island villages. If the project is successful, the findings will be valuable for many developing countries where mosquito-borne diseases such as malaria and yellow fever are endemic.

Cooperative Programs will make a significant contribution to an internationally financed earth-sciences project in Cyprus. Canada's Dalhousie University and the Cyprus Geological Survey are both members of the International Crustal Research Drilling Group and are playing leading roles in a scientific drilling project that will help Cyprus find new sources of minerals and groundwater. The Centre's contribution to the project will enable 20 young geologists and engineers from many parts of the developing world to spend several months in Cyprus as part of the project, gaining practical training and experience in geology, hydrogeology, and drilling technology. Some of the trainees will also spend several months at analytical laboratories in Canada. Follow-up will determine how much of the experience gained is put to use in the participants' home countries.

More information

This has been a necessarily brief description of the highlights of the Centre's work during the past year. A more in-depth presentation is available in the illustrated annual review, *Searching* (IDRC-192e). On the following pages is a list of project grants approved in the past fiscal year. A complete, indexed list of all Centre-supported projects is also available on request.

Board of Governors

- Allison A. Ayida
Lagos, Nigeria
- *Pierre Bauchet
Paris, France
- Gelia T. Castillo
Manila, Philippines
(Term expired 25 March 1982)
- *Norman T. Currie
***Toronto, Canada*
- *Frank A. DeMarco
Windsor, Canada
- *Liliane Filion-Laporte
***Vice-Chairman of the Board of Governors*
Montreal, Canada
- Allan E. Gotlieb
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(Retired 17 May 1981)
- *Ivan L. Head
***President and Chief Executive Officer*
Ottawa, Canada
- *Carl-Göran Hedén
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(Term expired 25 March 1982)
- Felipe Herrera
Santiago, Chile
- *Francis Keppel
***Cambridge, USA*
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Winnipeg, Canada
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Montreal, Canada
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Oxford, England

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(Resigned 31 August 1981)

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(Resigned 21 May 1981)

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Asia (Singapore)

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East Africa (Nairobi)

Lumpungu Kamanda

West Africa (Dakar)

Fawzy Kishk

Middle East and North Africa (Cairo)

L. Fernando Chaparro

Latin America and Caribbean (Bogota)

Projects for which funds were approved during the fiscal year 1981-1982

Agriculture, Food and Nutrition Sciences

79-0086 Fish genetics (Thailand)

For the Ministry of Agriculture and Cooperatives, Bangkok, to establish a fish genetics unit at the National Inland Fisheries Institute to improve fish stocks for aquaculture and inland-water stocking programs. \$306 000 — 36 months.

80-0097 Musselculture (St. Kitts)

For the Ministry of Agriculture, Basseterre, to establish a pilot mariculture system for cultivating mussels in the protected bays of St. Kitts. \$210 200 — 36 months.

80-0161 Food legumes (IRRI/UPLB)

For the International Rice Research Institute (IRRI), Philippines, to develop dryland crop varieties adapted to wetland conditions where grain legumes can be grown before or after a crop of rice. \$550 300 — 36 months.

80-0183 Cropping systems (Indonesia)

For the Brawijaya University, Malang, to undertake cropping systems research in conjunction with local farmers and to test the new technologies under actual farming conditions. \$310 100 — 36 months.

80-0185 Forestry cooperative research (Africa) — phase II

For the IDRC regional office for East Africa, Nairobi, to continue to provide technical advice to the national research workers in forestry projects in Africa and the Middle East. \$432 000 — 24 months.

80-0189 Bananas (Philippines)

For the Philippine Council for Agriculture and Resources Research (PCARR), Los Baños, to promote increased production and utilization of nonexportable banana varieties as a new and supplementary source of income for small growers and small- to medium-scale processors. \$352 600 — 36 months.

80-0210 Household grain processing (India) — phase II

For the Indian Council of Agricultural Research (ICAR), New Delhi, to compare the nutritive value of mechanically dehulled grain with that of grain dehulled by hand. \$122 300 — 36 months.

80-0211 Dairy/beef feeding systems (Panama) — phase II

For the Instituto de Investigación Agropecuaria de Panamá (IDIAP), Santiago de Veraguas, to continue its efforts to increase dairy and beef production in Panama. \$388 600 — 36 months.

81-0001 Cassava (Zanzibar) — phase II

For the Ministry of Agriculture, Zanzibar, to continue to screen and select improved cassava varieties. \$150 500 — 36 months.

81-0002 Food legumes (IITA) — phase III

For the International Institute of Tropical Agriculture (IITA), Nigeria, to continue to develop stable high-yielding cultivars in Sudan and the Sahelian areas of Upper Volta and other semi-arid African countries. \$449 500 — 24 months.

81-0006 Food legumes (Sierra Leone) — phase II

For the University of Sierra Leone, Freetown, to continue to undertake research aimed at improving and increasing the country's legume crop. \$173 000 — 36 months.

81-0009 Aquatic weeds (Thailand)

For the Prince of Songkla University, Haad Yai, to develop an environmentally and economically sound system of raising fish fed on aquatic weeds. \$138 700 — 36 months.

81-0015 Silviculture (India)

For the Indian Council of Agricultural Research (ICAR), New Delhi, to select the most suitable tree species to be planted on different sites for maximum production of fuelwood and leaf fodder. \$341 900 — 48 months.

81-0016 International Council for Research in Agroforestry (ICRAF) — phase V

To continue support for the programs of the International Council for Research in Agroforestry (ICRAF). \$300 000 — 12 months.

81-0024 Inland fisheries (Sarawak) — phase II

For the State Ministry of Agriculture and Community Development, Sarawak, to continue to develop specific data on the levels and trends of fishing in the Baram. \$175 000 — 36 months.

81-0025 Cereals (Rwanda) — phase II

For the Ministry of Agriculture, Kigali, to breed, select, and test sorghum, maize, wheat, triticale, and sunflower for high and stable yield, disease and pest resistance, and adaptability to the various agroecological conditions of Rwanda. \$290 000 — 36 months.

81-0026 Mariculture (Panama)

For the Ministry of Agricultural Development, Santiago de Veraguas, to develop the technology required for the economical culture of indigenous fishes in earthen brackish-water ponds. \$163 200 — 36 months.

81-0028 Alley cropping (Nigeria)

For the International Livestock Centre for Africa (ILCA), Addis Ababa, to determine the technical and economic feasibility and merits of alley cropping. \$188 300 — 36 months.

81-0057 Millet and sorghum (Zimbabwe)

For the Ministry of Agriculture, Harare, to develop and provide to smallholders improved varieties of pearl millet and sorghum. \$337 700 — 36 months.

81-0058 Food processing centres (Thailand) — phase II

For Mahidol University, Bangkok, to develop an economically and socially feasible system for processing and marketing infant food from a centralized food-processing plant. \$120 000 — 30 months.

81-0059 Crop drying (Guatemala) — phase II

For the Instituto Centroamericano de Investigación y Tecnología Industrial (ICAITI), Guatemala City, to establish the operational and economic feasibility of a new method developed during phase I of the project. \$92 700 — 21 months.

81-0060 Passive cooling (Thailand)

For the Chiang Mai University, Chiang Mai, to develop a passive-cooled storage system for fruits and vegetables grown in the highlands of northern Thailand. \$151 900 — 42 months.

81-0061 Process improvement (Thailand)

For the Thailand Institute of Scientific and Technological Research (TISTR) to improve operations in small-scale food-processing plants in Thailand. \$107 500 — 36 months.

81-0062 Village postharvest centres (Mauritania)

For the Société nationale pour le développement rural (SONADER), Nouakchott, to identify a post-production system appropriate for introduction into rice-producing areas of Mauritania. \$151 100 — 36 months.

81-0063 Legume utilization (Philippines)

For the University of the Philippines at Los Baños (UPLB) to increase the utilization and consumption of legumes at the home and community level. \$74 900 — 24 months.

81-0064 Soybean seeder (Thailand)

For the Asian Institute of Technology (AIT), Bangkok, to improve a manual mechanical soybean seeder and evaluate its performance and farmer acceptance at various locations in Thailand. \$32 900 — 12 months.

81-0079 Sweet potatoes (Philippines)

For the Visayas State College of Agriculture (VISCA), Pasay City, to produce sweet-potato varieties suitable for Filipino farmers and consumers. \$76 200 — 24 months.

81-0081 Cropping systems (Bangladesh) — phase III

For the Bangladesh Rice Research Institute (BRRI), Dacca, to undertake the third phase of a project to develop improved rice-based cropping systems. \$253 100 — 36 months.

81-0082 Milk production systems (Guyana)

For the Caribbean Agricultural Research and Development Institute (CARDI), St. Augustine, Trinidad, to promote the development of milk-production systems in the Caribbean region. \$397 700 — 36 months.

81-0084 Afforestation (Bolivia) — phase II

For the Ministry of Rural Affairs, Agriculture, and Cattle, La Paz, to undertake the second phase of an afforestation program in the arid coastal zone. \$247 700 — 36 months.

81-0089 Peas and maize improvement (Burundi) — phase II

For the Ministry of Agriculture, Animal Husbandry, and Rural Development, Bujumbura, to enable the Institute of Agronomic Sciences of Burundi to undertake the second phase of a project to improve production of peas and maize. \$307 000 — 24 months.

81-0096 Quinoa production (Ecuador)

For the Instituto Nacional de Investigaciones Agropecuarias (INIAP), Quito, to improve the technology of quinoa production and to adapt the results to farmers' fields. \$273 900 — 36 months.

81-0101 Grain legumes (ICARDA) — phase III

For the International Center for Agricultural Research in the Dry Areas (ICARDA), Syria, to undertake a third and final phase of a grain-legumes improvement project. \$950 000 — 24 months.

81-0113 Striga (Upper Volta) — phase II

For the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India, to undertake second-phase research into means of controlling the parasitic weed striga. \$500 000 — 24 months.

81-0114 Food legumes (Upper Volta) — phase III

For the Ministry of Rural Development, Ouagadougou, to continue research to develop high and stable-yielding cultivars and management practices for cowpeas and groundnuts. \$182 700 — 24 months.

81-0116 Groundnuts (Malawi)

For the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India, to increase groundnut production by small farmers throughout the eastern and southern regions of Africa. \$590 000 — 24 months.

81-0117 Oilseeds (Egypt) — phase II

For the Agricultural Research Centre, Cairo, to undertake second-phase research in a project to increase production of oilseed crops in Egyptian agriculture. \$279 500 — 36 months.

81-0120 Dry zone afforestation (Zimbabwe)

For the Zimbabwe Forestry Commission, Harare, to establish tree plantations in the arid and semi-arid

zones of Zimbabwe in order to provide fuelwood to the local population. \$297 200 — 36 months.

81-0126 Grain storage (Tanzania)

For the University of Dar es Salaam, Morogoro, to increase maize and sorghum production through introduction of improved storage facilities for Tanzanian farmers. \$174 300 — 36 months.

81-0128 Solar crop dryers (Bangladesh)

For the Bangladesh Agricultural University, Mymensingh, to develop efficient village-level, food-drying techniques acceptable to the farmers of Bangladesh. \$53 100 — 24 months.

81-0129 Groundnut dryers (Thailand)

For Khon Kaen University, Khon Kaen, to introduce improved drying techniques for groundnuts. \$118 400 — 30 months.

81-0130 Bamboo (China)

For the Chinese Academy of Forestry, Beijing, to undertake research activities aimed at increasing the production of bamboo in China. \$265 500 — 36 months.

81-0131 Root crop storage (Philippines)

For the Visayas State College of Agriculture (VISCA), Pasay City, to develop storage technologies in order to reduce postproduction losses of cassava and sweet potato at farm and village levels. \$162 100 — 36 months.

81-0132 Pasture legumes (Belize) — phase III

For the Ministry of Natural Resources, Belmopan, to continue to improve the productivity of pastures in Belize. \$270 700 — 36 months.

81-0133 Tropical pastures network (CIAT — Colombia)

For the Centro Internacional de Agricultura Tropical (CIAT), Cali, to improve livestock production in underprivileged areas of tropical America. \$354 400 — 24 months.

81-0134 Summer forage (Egypt) — phase II

For the Ministry of Agriculture, Cairo, to improve animal production in the Egyptian Delta. \$287 700 — 36 months.

81-0135 Rattan (Thailand)

For Kasetsart University, Bangkok, to undertake research activities aimed at increasing the production and utilization of rattan. \$134 200 — 36 months.

81-0154 Bamboo (Thailand)

For the Ministry of Agriculture and Cooperatives, Bangkok, to introduce new species and to develop improved silviculture management methods for natural bamboo stands and plantations in Thailand. \$187 800 — 36 months.

81-0162 Farming systems and phosphate rock (IFDC/CIAT)

For the International Fertilizer Development Center (IFDC), USA, to undertake research on the use of phosphate rock as a low-cost source of phosphorus fertilizer for small farmers. \$396 200 — 24 months.

81-0169 Cropping systems (Thailand) — phase III

For the Ministry of Agriculture and Cooperatives, Bangkok, to undertake the third phase of a coordinated research program to increase production and family incomes of small-scale farmers in rain-fed and partially irrigated rice-growing areas. \$168 400 — 36 months.

81-0170 Cagiculture (Sri Lanka) — phase II

For the Ministry of Fisheries, Colombo, to undertake the second phase of a project to increase freshwater fish production by cultivating suitable species in floating cages in inland waters. \$238 300 — 36 months.

81-0171 Milkfish (SEAFDEC) — phase III

For the Southeast Asian Fisheries Development Center (SEAFDEC), Rizal, Philippines, to continue research to develop the technology of spawning milkfish in captivity and to effect the transfer of milkfish-breeding technology to other developing regions of Asia. \$458 600 — 36 months.

81-0174 Plantain cropping systems (CATIE — Central America)

For the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, Costa Rica, to study and develop improved cropping systems based on root crops and plantains in Central America. \$197 000 — 36 months.

81-0175 Root crops (Liberia)

For the Ministry of Agriculture, Monrovia, to undertake research aimed at increasing production of sweet potato, cassava, yam, and cocoyam. \$192 200 — 36 months.

81-0191 Sorghum milling (Ethiopia)

For the Addis Ababa University, Addis Ababa, to enable the Institute of Development Research to study the acceptability of simple mechanical sorghum-milling systems in rural communities. \$109 600 — 24 months.

81-0199 Wood adhesives (China)

For the Chinese Academy of Forestry, Beijing, to develop a wood adhesive binder for use in the manufacture of particleboard from spent sulfite liquor from pulp mills. \$210 300 — 36 months.

Cooperative Programs

81-1001 Microbial protein (Guelph)

For the University of Guelph, Canada, in cooperation with the Centro Internacional de Agricultura Tropical (CIAT), Colombia, to develop an economically viable, practical process for the conversion of cassava starch and inorganic nitrogen into microbial protein suitable for animal feed. \$133 850 — 24 months.

81-1002 Bio-control of mosquitoes (South Pacific)

For Memorial University, Canada, in cooperation with the South Pacific Commission, New Caledonia, to study the use of sanitation measures, biological agents, and a pesticide in an integrated mosquito-control program and to determine the effects of these

control measures on the density of mosquito vectors. \$33 500 — 12 months.

81-1003 Regional cooperation research program

For Carleton University, Canada, to continue its assessment of the responses of the North to new international economic order (NIEO) proposals and to participate in the cooperative network conducting studies on regionalism, with special emphasis on North-South cooperation. \$72 000 — 24 months.

81-1004 Fish deboner (Halifax)

For the Technical University of Nova Scotia and the Atlantic Bridge Company Limited, Canada, in cooperation with the Fisheries Technological Development Division of the Ministry of Agriculture and Fisheries, Thailand, to develop a small-scale machine for mechanically deboning fish from small, under-utilized species, suitable for use in developing countries. \$137 800 — 24 months.

81-1005 Yellow dwarf fever (Laval)

For Laval University, Canada, to undertake a genetic study on resistance to yellow dwarf fever in cereals. \$160 000 — 36 months

81-1007 Bivalve training project (Dalhousie)

For Dalhousie University, Canada, to establish an improved means of training field supervisors from developing countries in the basics of bivalve culture. \$87 500 — 12 months.

81-1008 Lentil News and Information Service (LENS)

For the University of Saskatchewan, Canada, and the International Center for Agricultural Research in the Dry Areas (ICARDA), Lebanon, to cooperate in the collection and dissemination of information on lentils. \$97 000 — 36 months.

81-1009 Enterprise performance (Egypt)

For Alexandria University, Egypt, in cooperation with Concordia University, Canada, to undertake a systematic examination of the relationship between managerial and organizational factors influencing the effectiveness of public and privately owned enterprises in Egypt. \$205 700 — 24 months.

81-1010 Labour and forestry policy (Chile)

For the Centre for Research on Latin America and the Caribbean, Canada, in cooperation with the Grupo de Investigaciones Agrarias, Chile, to study the effect of sectoral trade and social-service policies on migration, domestic production, and service needs in the Chilean forestry sector. \$24 500 — 12 months.

81-1012 Cyprus crustal study

For Dalhousie University, Canada, in cooperation with the Cyprus Geological Survey, to participate in scientific investigations that will produce significant new evidence on the formation and evolution of oceanic crust and to provide training as part of the project for young geoscientists and technicians from several developing countries. \$305 800 — 24 months.

81-1014 Aquatic pollution in the Caroni River (Trinidad)

For the University of Waterloo, Canada, and the Caribbean Industrial Research Institute, Trinidad and Tobago, to develop and apply an analytical methodology for the identification and quantification of the broad spectrum of trace organic pollutants in the Caroni River. \$78 760 — 24 months.

81-1015 Economic strategy (Tunisia)

For the University of Montreal, Canada, and the Quantitative Economy Institute, Tunisia, to help develop an economic strategy for Tunisia by analyzing the impact of changes in policies on prices, productivity, and incomes. \$260 590 — 24 months.

81-1016 CASAFA Secretariat

For IDRC to support a secretariat for the Commission on the Application of Science to Agriculture, Forestry, and Aquaculture, enabling it to promote research collaboration among scientists in developed and developing countries. \$38 000 — 12 months.

81-1017 Secretariat for International Development (1982-83)

For the Secretariat for International Development, Canada, to pursue its work on increasing the role of Canadian universities in the field of international development cooperation. \$46 400 — 12 months.

81-1018 Domestication of aquaculture stocks (Dalhousie)

For Dalhousie University, Canada, in cooperation with researchers in Indonesia and Thailand, to undertake research on methodologies for broodstock selection and control of inbreeding aimed at improving aquaculture stocks in developing countries. \$30 550 — 6 months.

Health Sciences

81-0003 Tuberculosis (Indonesia)

For the Indonesian Tuberculosis Association, Jakarta, to investigate the potential relationship between underweight and active tuberculosis in humans. \$19 660 — 12 months.

81-0014 Chagas' disease (Latin America)

For the Instituto de Investigaciones en Ciencias de la Salud, Paraguay, and the Children's Hospital Ricardo Gutierrez, Argentina, to develop a simple, rapid, sensitive, and specific method for the screening of Chagas' disease for use in the field by primary health-care personnel. \$113 100 — 24 months.

81-0023 Time-temperature indicators (Global) — phase II

For the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT), USA, the Institut Armand-Frappier, and the University of Quebec, Canada, to complete the necessary steps to mass-produce time-temperature indicators as well as to test and introduce them into public immunization programs in developing countries. \$163 100 — 12 months.

81-0041 Chancroid (Kenya)

For the University of Nairobi to define the clinical features of genital ulcer disease, develop simple and reliable methods to simplify diagnosis of this infection, and to find the most appropriate treatment. \$37 510 — 12 months.

81-0045 Epidemiology training (China)

To enable IDRC's Health Sciences Division to identify appropriate scientists from the People's Republic of China who will undergo a training course in epidemiology in Canada. \$429 450 — 30 months.

81-0065 Enteric infectious diseases (Mexico)

For the Instituto Nacional de la Nutrición (INN), Mexico City, to study the pathogens and epidemiological factors of diarrheal diseases, particularly the transmission mechanisms among household members, in a group of Mexican children from low-income families. \$104 870 — 16 months.

81-0068 Training evaluation (Guatemala)

For Agua del Pueblo, Antigua, to evaluate the training, performance, and utilization of the first group of rural-water technician graduates. \$67 440 — 22 months.

81-0072 Endemic goitre/cretinism (Global)

For the Organisme national de la recherche scientifique, Algeria; the Fundación Ciencia para el Estudio del Hombre y de la Naturaleza, Quito, Ecuador; and the University of Brussels, Belgium; to detect developmental abnormalities associated with endemic goitre and make recommendations for their prevention. \$485 410 — 36 months.

81-0074 Sexually transmitted diseases (Chile)

For the Instituto de Salud Pública, Santiago, to study the diagnostic and therapeutic aspects of gonorrhea, in particular the penicillin-resistant aspects of this disease. \$57 200 — 12 months.

81-0094 Syphilis (Zambia)

For the Ministry of Health, Lusaka, to determine the prevalence of syphilis in pregnant women and assess the prevalence of congenital syphilis in selected areas of Zambia. \$125 500 — 24 months.

81-0100 Environmental sanitation (the Gambia)

For the Gambia College, Banjul, to demonstrate that a program of community participation supported by a health-education component will promote the understanding, motivation, and cooperation necessary for the successful implementation of improved water-supply and sanitation facilities. \$54 850 — 24 months.

81-0103 Water-supply survey (Thailand)

For Mahidol University, Bangkok, to conduct a study to determine the various problems and constraints related to the operation, maintenance, and efficiency of small water-treatment facilities in Thailand. \$42 850 — 12 months.

81-0105 Hygienic habits/food preparation (Chile)

For the Instituto de Nutrición y Tecnología de los Alimentos (INTA), Santiago, to evaluate changes in specific health habits following improvement of living conditions and to correlate the results with origin of

habits, educational level, and occupational history. \$8660 — 19 months.

81-0106 Sexually transmitted diseases (Argentina)

For the Instituto Nacional de Dermatología Sanitaria, Buenos Aires, to evaluate the effectiveness of the antibiotics procaine penicillin, sodium penicillin, and dioxycycline in the therapy of acute, uncomplicated gonorrhea and to determine the levels of antibiotic resistance of the isolated *Neisseria gonorrhoeae* strains. \$49 460 — 12 months.

81-0108 Skin diseases (Thailand)

For the Ministry of Public Health, Bangkok, to carry out a national baseline survey to determine the extent of skin diseases and infections and to identify an effective control program. \$52 700 — 18 months.

81-0109 Subdermal implants (Colombia)

For the Corporación Centro Regional de Población (CCRP), Bogota, and the Population Council, New York, to introduce and evaluate the levonorgestrel subdermal contraceptive implant in clinics offering family planning services. \$96 950 — 24 months.

81-0143 Contraceptive development (Global)

For the Population Council, New York, to continue its activities in the development of new and improved contraceptives. \$1 815 000 — 36 months.

81-0144 Pneumoconiosis (India)

For the Indian Council of Medical Research (ICMR), New Delhi, to study the incidence and severity of pneumoconiosis in underground coal miners and its related environmental factors. \$168 000 — 36 months.

81-0145 Tuberculosis (India)

For the TB Demonstration Training Centre and Chest Institute, Uttar Pradesh, to evaluate short-term intermittent chemotherapy in the management of pulmonary tuberculosis in India. \$165 700 — 48 months.

81-0150 Implants (India)

For the Population Council, New York, to carry out a small pilot study with the contraceptive implant, Norplant, in Indian women. \$8250 — 12 months.

81-0159 Health manpower development (Indonesia)

For the Ministry of Health, Jakarta, to evaluate the current training program for and utilization of *perawap kesehatan* nurses. \$59 000 — 12 months.

81-0176 Respiratory diseases in children (India)

For the King George Medical College, Lucknow, to conduct a hospital-based study of the etiology and clinical course of acute respiratory-tract infections in children. \$175 700 — 36 months.

81-0180 Oral rehydration (Southeast Asia) — phase II

For the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT), USA, to develop additional support materials for oral rehydration programs and to test a modified oral rehydration mixture. \$260 300 — 15 months.

81-0181 Water project training (Indonesia)

For Yayasan Dian-Desa (Dian-Desa), Yogyakarta, to develop an appropriate syllabus, curriculum, and training manual designed as a guide for non-governmental organizations faced with local water problems and for personnel learning about rural water-supply technologies. \$128 000 — 18 months.

81-0197 Infection/malnutrition in weanlings (Peru)

For the Instituto de Investigación Nutricional (IIN), Lima, to study the epidemiology of diarrhea and its relationships with feeding practices and growth patterns of children, from birth to age 1 year. \$243 000 — 36 months.

81-0198 Efficacy of vaccination (Colombia)

For the Fundación para la Educación Superior (FES), Cali, to monitor the incidence of poliomyelitis, measles, diphtheria, whooping cough, tetanus, and tuberculosis in previously immunized children and determine, according to their nutritional status, whether these children benefited from the protection conferred by the vaccines. \$230 500 — 36 months.

81-0206 Byssinosis (Hong Kong)

For the University of Hong Kong, Hong Kong, to estimate the extent of the problem of byssinosis and chronic obstructive airway disease in cotton-textile workers. \$102 600 — 20 months.

81-0208 Antenatal health care (Malaysia)

For the University of Malaysia, Kuala Lumpur, to examine the records of obstetric patients to assess the degree of complications that occurred during standard antenatal care and the outcome of pregnancy with the aim of determining whether an abbreviated schedule of antenatal visits would adequately meet the health needs of low-risk obstetric cases. \$37 300 — 24 months.

81-0209 Sexually transmitted diseases (Brazil)

For the Secretaria de Saude e do Meio Ambiente, Rio Grande do Sul, to study the efficacy of ampicillin and procaine penicillin in the therapy of acute uncomplicated gonorrhea. \$95 200 — 12 months.

81-0210 Occupational injuries (Korea)

For the Catholic Medical College, Seoul, to study causative factors of occupational injuries and to recommend preventive measures. \$56 400 — 18 months.

81-0211 Health/banana workers (Honduras)

For the National Autonomous University of Honduras, Tegucigalpa, to carry out a retrospective study of the health records of the workers in the banana plantations of the United Fruit Company in Honduras. \$84 380 — 19 months.

81-0212 Sexually transmitted diseases (Nigeria)

For the University of Nigeria Teaching Hospital, Enugu, to determine the incidence of gonococcal infections in a female population in Nigeria and to evaluate the effectiveness of antibiotic treatment with a view to formulating effective national control programs. \$54 300 — 15 months.

81-0215 Perinatal health (Brazil)

For the Catholic University of Pelotas, Rio Grande do Sul, to determine the perinatal mortality in hospital-born babies in Brazil and to study the associated social and medical factors. \$51 800 — 15 months.

81-0219 Byssinosis (Indonesia)

For the University of Indonesia, Jakarta, to study the incidence and severity of byssinosis and chronic obstructive airway disease in Indonesia. \$94 200 — 24 months.

81-0223 Health inspectorate (Malaysia)

For the Public Health Institute, Kuala Lumpur, to investigate trends in the development of the health inspectorate in Malaysia in relation to other environmental programs and to identify factors influencing the effectiveness of health inspectors in solving current and newly emerging environmental health problems. \$60 800 — 24 months.

81-0232 Mobile nursing clinic (Philippines)

For the Saint Louis University, Luzon, to evaluate existing and improved mobile nursing clinic services and help to determine the feasibility of implementing this approach in other parts of the country. \$53 300 — 18 months.

81-0240 Sexually transmitted diseases (Jamaica)

For the University of the West Indies and the Ministry of Health, Kingston, to study the efficacy of ampicillin and procaine penicillin in the therapy of acute, uncomplicated gonorrhea. \$65 000 — 12 months.

Information Sciences

80-0020 Dates and Palms Information Centre (NENADATES)

For the Food and Agriculture Organization of the United Nations (FAO) to enable its Regional Project for Palm and Dates Research Centre in the Near East and North Africa (NENADATES), Iraq, to collect relevant literature on date palms, establish an appropriate storage and retrieval system, and provide document delivery services. \$135 300 — 24 months.

80-0054 National AGRINTER centre (Dominican Republic)

For the Secretary of State for Agriculture, Santo Domingo, to assist the Dominican Republic to organize its agricultural information network, to capture and control its agricultural literature, and to participate more effectively in regional and global agricultural information systems. \$68 600 — 24 months.

80-0175 Southeast Asian Fisheries Information Service for Extension Materials (SAFIS)

For the Southeast Asian Fisheries Development Center (SEAFDEC), Thailand, to set up an information clearinghouse for extension materials for small-scale fishers and fish farmers in Southeast Asia. \$210 650 — 36 months.

80-0190 International Serials Data System — Southeast Asia (ISDS-SEA) — phase II

For the International Serials Data System (ISDS), Thailand, to undertake the second-phase development of an international serials data system for Southeast Asia. \$51 700 — 36 months.

81-0020 Faba Beans Information Service (FABIS)

For the International Center for Agricultural Research in the Dry Areas (ICARDA), Lebanon, to organize a specialized information analysis centre on faba beans. \$486 150 — 36 months.

81-0022 AGRIS Egypt — phase II

For the Ministry of Agriculture, Cairo, to develop more effectively its capacity to collect, store, and disseminate current agricultural information. \$159 500 — 24 months.

81-0056 National agricultural bibliographies

For FAO, Rome, to enable up to 18 developing countries participating in AGRIS to produce annual national bibliographies. \$24 000 — 24 months.

81-0080 Thai national AGRIS centre

For the Kasetsart University, Bangkok, to strengthen the Thai national agricultural information network, to increase the capture and control of national agricultural literature, and to provide improved user services. \$37 400 — 24 months.

81-0086 Sudan Agricultural Literature Service (SUDALS)

For the Agriculture Research Corporation, Wad Medani, to strengthen the Sudan national agricultural information service; to increase the capacity to collect, store, and disseminate agricultural documents; and to improve services to users. \$115 500 — 24 months.

81-0087 Latin American education documentation (CIDE) — phase II

For the Centro de Investigación y Desarrollo de la Educación (CIDE), Chile, to strengthen the general coordination centre of its educational documentation system (REDUC). \$266 000 — 24 months.

81-0090 Sorghum and Millets Information Centre — phase II

For the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India, to continue the activities of a specialized information centre on sorghum and millets. \$308 875 — 36 months.

81-0092 National AGRIS centre (Sri Lanka)

For the Department of Agriculture, Peradeniya, to strengthen the Central Agricultural Research Institute library so that it can function as a national resource and referral centre for agricultural information and as the Sri Lankan national AGRIS centre. \$175 600 — 30 months.

81-0095 Agricultural thesauri

For the Information Sciences Division of IDRC to retain the services of a thesaurus expert and an assistant to carry on agricultural thesaurus work, particularly in connection with specialized agricultural information centres and with the International Infor-

mation System for the Agricultural Sciences and Technology (AGRIS). \$349 000 — 24 months.

81-0099 Landsat photomapping (Eastern and Southern Africa)

For the Regional Centre for Services in Surveying and Mapping (RCSSM), Kenya, to support local research and application work for the production and publication of thematic maps from Landsat imagery. \$325 000 — 30 months.

81-0102 National AGRINTER centre (Costa Rica)

For the Ministry of Agriculture and Livestock, San Jose, to strengthen Costa Rica's capacity to capture and control its agricultural literature and to participate more effectively in regional and global agricultural information networks. \$68 622 — 24 months.

81-0107 National AGRINTER centre (Chile)

For the Instituto de Investigaciones Agropecuarias (INIA), Santiago, to improve the collection and bibliographic control of Chilean agricultural literature by introducing mechanization. \$68 600 — 24 months.

81-0149 International Diarrhoeal Disease Information Service and Documentation Centre (DISC)

For the International Centre for Diarrhoeal Disease Research, Bangladesh, to establish an international diarrheal diseases information service and documentation centre, to be located in Dacca. \$370 596 — 36 months.

81-0157 DOCPAL participating centre (Brazil)

For the IDRC Latin American region office (LARO) so that it may assist the state data processing system (SEADE) to implement ISIS computer software and to participate in Sistema de Documentación sobre Población en América Latina (DOCPAL). \$53 030 — 24 months.

81-0178 DEVSIS (Guinea)

For the Institut central de coordination de recherche et de la documentation (ICRD), Guinea, to help improve national documentary infrastructures by training some Guinean professional staff in documentation and collaborating in the publication of two experimental issues of *Devindex*, a current bibliography of socioeconomic literature about development. \$240 000 — 24 months.

81-0195 PADIS-DEVSI — phase II

For the United Nations Economic Commission for Africa (ECA), Ethiopia, to continue the development of a regional cooperative information system to support social and economic development planning in Africa. \$408 000 — 24 months.

81-0202 Bananas and Plantains Information Centre (BAPIC)

For the Unión de Países Exportadores de Banano (UPEB), Panama, to extend its banana and plantain information service. \$171 167 — 24 months.

81-0203 AGRINTER output services

For the InterAmerican Institute for Cooperation

on Agriculture (IICA), Costa Rica, to establish mechanized output services from the AGRIS/AGRINTER data bases in five selected Latin American countries. \$423 260 — 36 months.

81-0214 Macrothesaurus management (ISU)

For the UN Department of International Economic and Social Affairs, New York, to establish, in co-operation with the UN regional economic commissions, a program for the management and maintenance of the *Macrothesaurus* of economic and social-development terms. \$87 000 — 24 months.

81-0222 Microcomputer-based package for information networks

For the Information Sciences Division of IDRC to develop a small bibliographic software package that would operate on selected microcomputers. \$53 900 — 12 months.

Secretary's Office

**81-0160 Royal Society of Canada/
International Foundation for Science (1982)**

For the Royal Society of Canada, Ottawa, to continue its support for the efforts of the International Foundation for Science (IFS) in assisting Third World scientists and technologists to undertake research designed to benefit their regions and to enable the society to continue to participate in international scientific meetings. \$250 000 — 12 months

Social Sciences

80-0165 Tracer studies (Tunisia)

For the Institut supérieur de gestion (ISG), Le Bardo, to develop a methodology for, and to examine the feasibility of, implementing a tracer study of Tunisian secondary-school students. \$18 000 — 6 months.

80-0188 Low-cost housing and urban services (Philippines)

For the National Housing Authority (NHA), Quezon City, to monitor and evaluate three different methods of urban redevelopment. \$200 000 — 36 months.

81-0004 Reproductive behaviour in low-income families (Brazil)

For the Centro de Desenvolvimento e Planejamento Regional (CDEPLAR), Minas Gerais, to expand knowledge of reproductive and contraceptive behaviour among low-income residents of a rapidly growing Brazilian metropolis. \$66 000 — 18 months.

81-0005 Colonization and demographic response (Bolivia)

For the Centro de Estudios de la Realidad Económica y Social (CERES), La Paz, to analyze the nature of economic diversification and colonization in a rapidly developing region of Bolivia and their consequences for demographic behaviour. \$66 500 — 15 months.

81-0007 Correlates of mortality (Sierra Leone)

For the University of Sierra Leone, Freetown, to determine the factors responsible for the high mortality in Sierra Leone and to suggest policy measures in order to reduce it. \$105 000 — 24 months.

81-0008 Small rural centres (Chile)

For the Academia de Humanismo Cristiano, Santiago, to analyze the emergence of small rural centres in Chile's central valley. \$117 000 — 21 months.

81-0010 The Canadian connection (Canada) — phase II

For the Social Sciences Division of IDRC to continue a program of small grants to researchers trained in Canadian universities who seek to undertake educational research projects when they return to their home countries. \$100 000 — 24 months.

81-0011 Advisory committee for education research — phase II

For the Social Sciences Division of IDRC so that the Research Review and Advisory Group can continue to review the content and state of educational research as it relates to the educational problems of developing countries. \$150 000 — 24 months.

81-0012 Exchange-rate policy and economic adjustment (Uruguay)

For the Centro Investigaciones Económicas (CINVE), Montevideo, to provide a detailed assessment of the impact of a range of exchange-rate policies on various sectors of the Uruguayan economy. \$72 700 — 18 months.

81-0013 Economic policy toward multinational corporations (Latin America)

For the Instituto Latinoamericano de Estudios Transnacionales (ILET), Mexico, to conduct a comprehensive economic analysis of the principal features of national policies toward multinational corporations in Brazil, Mexico, Argentina, Colombia, and Peru. \$368 000 — 24 months.

81-0018 Rural nonfarm employment (Nicaragua)

For the Instituto Centroamericano de Administración de Empresas (INCAE), Managua, to analyze rural nonfarm employment in Nicaragua. \$152 500 — 18 months.

81-0019 PSSC consortia program (Philippines)

For the Philippine Social Science Council (PSSC), Manila, to strengthen the capability of provincial research centres through the consortia mechanism. \$135 000 — 36 months.

81-0029 Technology use in Andean indigenous communities (Ecuador)

For the Centro de Arte y Acción Popular (CAAP), Quito, to develop a methodology to describe and analyze the technical practice and behaviour of a peasant farming community. \$70 000 — 12 months.

81-0030 Correlates of child mortality and mortality-fertility relationships (Egypt)

For the Cairo University, Cairo, to study mortality differentials and correlates in Egypt and to assess the relationships between mortality and fertility. \$28 000 — 12 months.

81-0031 Rural social sciences: planning and research (Africa)

For the International Service for National Agricultural Research (ISNAR), Netherlands, to study training in the rural social sciences in sub-Saharan Africa. \$60 000 — 8 months.

81-0032 Classroom environment and student achievement (Thailand)

For the Ministry of Education, Bangkok, to focus on teaching methods and environments as they affect achievement and attitudes. \$59 500 — 48 months.

81-0034 Migration, remittances, and rural development (Kenya)

For the University of Nairobi to ascertain urban-to-rural remittances and to assess their impact on rural development. \$38 700 — 18 months.

81-0035 Education to work transition (Argentina)

For the Centro de Estudios de Estado y Sociedad (CEDES), Buenos Aires, to focus on technical and vocational institutions outside the school system and to explore the transition between education and work. \$51 500 — 12 months.

81-0036 Sociocultural dimensions of fertility and mortality (Bolivia)

For the Ministry of Planning and Coordination, La Paz, to investigate the influence of cultural factors upon fertility and mortality. \$55 000 — 12 months.

81-0037 Peasant organization and rural development (Ecuador)

For the Centro de Planificación y Estudios Sociales (CEPLAES), Quito, to study peasant organizations in Ecuador as potential participants in rural-development programs. \$57 000 — 15 months.

81-0038 Popular education (Latin America)

For the Social Sciences Division of IDRC to analyze approaches to and experiences in the field of popular education in Latin America. \$24 000 — 6 months.

81-0039 Urban preschool environment studies (Guatemala) — phase II

For the Institute of Research, University of the Valley of Guatemala, to continue a study of elements in the life of the urban poor that may cause learning difficulties in the first 6 years. \$71 200 — 12 months.

81-0042 Regional energy systems (Argentina)

For the Instituto de Economía Energética, Rio Negro, to contribute to the improvement of energy planning in Latin America. \$62 000 — 12 months.

81-0043 Urban-energy survey (Fiji)

For the Ministry of Energy, Suva, to identify and quantify the pattern of energy supply and consumption in the greater Suva area and to determine consumers' perceptions of future energy requirements. \$73 750 — 24 months.

81-0044 Aymaran radio programs (Bolivia)

For the Catholic University of Bolivia, La Paz, to describe the characteristics of Aymaran radio programs and to assess their impact on rural communities. \$20 100 — 6 months.

81-0047 Employment policy and technical change (Colombia)

For the Oficina de Investigaciones Socio-Económicas y Legales (OFISEL), Bogota, to analyze the effects of government policy and technical change on employment since 1969. \$38 000 — 9 months.

81-0048 Educational research awards (Kenya)

For Kenyatta University College, Nairobi, to encourage research that can contribute to an understanding of the interaction between education and social development in Kenya. \$73 300 — 39 months.

81-0049 Agrarian reform and technological change (Peru)

For the Instituto de Estudios Peruanos (IEP), Lima, to examine the impact of agrarian reform on farming methods and technology. \$53 000 — 12 months.

81-0050 Internal migrations (Haiti)

For the Centre de recherches en sciences humaines et sociales (CRESHS), Port-au-Prince, to attain a deeper knowledge of the phenomenon of internal migrations in Haiti. \$34 000 — 12 months.

81-0051 Technology and the development of energy industries (India)

For the National Council for Applied Economic Research (NCAER), New Delhi, to investigate the coal, oil and gas, and electricity industries in India. \$74 000 — 24 months.

81-0052 Traditional knowledge and farm technology (Peru)

For the Social Sciences Division of IDRC to enable a Peruvian researcher to complete research on traditional knowledge in four Peruvian coastal communities. \$4800 — 3 months.

81-0053 Technical education and technical work (Argentina)

For the Centro de Investigaciones Educativas (CIE), Buenos Aires, to unravel some of the strands in the complex transition from technical school to technical skill, and to sift out, through case studies, the essence of the Argentinian mode of work preparation in small enterprises. \$54 000 — 12 months.

81-0054 Effectiveness of primary education (Tanzania)

For the University of Dar es Salaam to examine the quality and effectiveness of the primary-education system in Tanzania. \$56 000 — 16 months.

81-0055 Small-scale industries (Pakistan)

For Quaid-i-Azam University, Islamabad, to compare the economic performance of small-scale and large-scale industrial units in the agricultural machinery sector. \$72 700 — 24 months.

81-0066 TV participation and development (Colombia)

For the Fundación para la Educación Permanente en Colombia and Centro para el Desarrollo de la Educación No Formal (FEPEC-CEDEN), Bogota, to examine legislation regulating television and to formulate policy recommendations concerning its further development. \$17 500 — 8 months.

81-0067 Classroom environment and student achievement (Nigeria)

For the University of Ibadan, Ibadan, to determine which teaching methods and classroom environments have an impact on the achievement of students. \$62 000 — 36 months.

81-0069 Trade expansion and monetary co-operation (South Asia)

For the Marga Institute, Sri Lanka, to study trade expansion and monetary cooperation in Bangladesh, India, Maldives, Nepal, Pakistan, and Sri Lanka. 178 200 — 18 months.

81-0070 International cargo transport (Southern Asia)

For the Marga Institute, Sri Lanka, to study the question of whether regional cooperation in the provision and use of national shipping and air cargo capacity will lead to more efficient and orderly development of international cargo-transport services. \$69 000 — 15 months.

81-0071 Small research grants (East Africa) — phase II

For the Social Sciences Division of IDRC to continue to provide support for the 1981-82 East African Social Sciences Research Competition in an effort to enhance social-science research capacity in the region. \$114 000 — 15 months

81-0073 CODESRIA: social-science networks in Africa — phase III

For Council for the Development of Economic and Social Research in Africa (CODESRIA), Senegal, to continue its activities designed to strengthen research capacity in Africa and to promote communication among social scientists on a regional basis. \$223 000 — 36 months.

81-0075 Ethnicity and adult education (Latin America)

For Artes y Ciencias, Argentina, to conduct a study on the conditions of educational services and opportunities rendered to Latin American native populations. \$15 000 — 6 months.

81-0076 Status of primary schoolteachers (Egypt)

For Ain-Shams University, Cairo, to evaluate the present status of primary schoolteachers in Egypt. \$73 200 — 12 months.

81-0077 FLACSO transitional support grant (Chile)

To provide the Facultad Latinoamericana de Ciencias Sociales (FLACSO), Santiago, with a second 1-year transitional grant to support its research and teaching activities in the social sciences. \$60 000 — 12 months.

81-0083 Comprehensive preschool education (Turkey)

For Bogazici University, Istanbul, to study the impact of comprehensive preschool education designed to support the overall development of the child. \$127 000 — 48 months.

81-0085 ADC Regional Research and Training Program (Asia) 1982

For the Agricultural Development Council (ADC), Thailand, to enable the Regional Research and Training Program to continue support for training and research by young professionals in Asia dealing with social and economic problems of rural development. \$350 000 — 12 months.

81-0093 International migration (eastern Caribbean)

For the University of the West Indies, Barbados, to study international migration from Barbados, St. Lucia, St. Vincent, and Grenada to Canada, with respect to the economic and social impact on the sending societies. \$164 440 — 24 months.

81-0097 Urban food markets (Mexico)

For the Sistema Alimentario Mexicano (SAM), Mexico City, to conduct a socioeconomic study of the portion of Mexico City's food system that links consumers to wholesalers. \$157 000 — 18 months.

81-0098 Sociodemographic impact of basic services program (Pakistan)

For the East-West Population Institute, Honolulu, and the University of the Punjab, Lahore, so that the university can evaluate basic-services programs designed to meet the needs of urban families in Lahore and so that two Pakistani researchers can undertake training at the Institute. \$80 000 — 18 months.

81-0104 The role of the scientific community (Peru)

For the Grupo de Analisis para el Desarrollo (GRADE), Lima, to describe and analyze the professional behaviour of scientists in Peru. \$63 000 — 18 months.

81-0110 Institutional support grant — AHC (Chile)

For the Academia de Humanismo Cristiano (AHC), Santiago, to strengthen its financial and administrative stability. \$150 000 — 36 months.

81-0111 Institutional support grant — PIIE (Chile)

For the Programa Interdisciplinario de Investigación en Educación (PIIE), Santiago, to improve its research programs. \$100 000 — 36 months.

81-0112 Individual academic assistance program (CLACSO) — phase II

For the Consejo Latinoamericano de Ciencias Sociales (CLACSO), Argentina, to continue its regional program of individual research support for young researchers. \$192 000 — 24 months.

81-0119 Poverty redressal programs (Philippines)

For the University of the Philippines, Quezon City, to evaluate existing poverty-redressal programs in the Philippines designed to improve the well-being of the urban poor. \$46 000 — 18 months.

81-0121 Comparative study of the People's Schools (Philippines)

For the International Institute of Rural Reconstruction (IIRR), Manila, to describe, evaluate, and compare selected People's School Approach (PSA) training programs in various parts of the Philippines. \$150 000 — 30 months.

81-0122 Infant mortality (Nigeria)

For the University of Ife, Ile-Ife, to assess the impact of antenatal care and maternity centres on the reduction of infant mortality and to identify socioeconomic conditions responsible for variations in infant mortality in the Ile-Ife area. \$60 000 — 12 months.

81-0123 Public action and population distribution (Central America)

For the Confederación Universitaria Centroamericana (CSUCA), Costa Rica, to achieve a greater understanding of the relationship between public action and population distribution in Costa Rica, Honduras, and Nicaragua. \$24 000 — 13 months.

81-0124 Bargaining for technology (Tanzania)

For the University of Dar es Salaam, Dar es Salaam, to analyze the bargaining policies and position of Tanzanian public enterprises. \$26 500 — 24 months.

81-0125 Women's participation in community organizations (Peru)

For the Equipo de Asesoramiento a Actividades Productivas en Sectores Populares (EDAPROSPO), Lima, to examine the socioeconomic conditions of women in Peru. \$29 600 — 12 months.

81-0136 Technology and employment (Chile)

For the Centro de Estudios Sociales (CES), Santiago, to examine the social impact of technical change on the composition, organization, and education of the nonagricultural work force. \$55 000 — 12 months.

81-0137 Technical change in the dairy sector (Uruguay)

For the Centro de Investigación Económica (CINVE), Montevideo, to review the influence of technical change on the dairy industry. \$32 000 — 10 months.

81-0139 Urban food markets (Thailand)

For the Thai University Research Association (TURA), Bangkok, to gain a deeper understanding of the practical operation of the system of food markets in greater Bangkok. \$63 700 — 18 months.

81-0140 Agricultural research: organization and performance (Latin America)

For the Proyecto Cooperativo de Investigación sobre Tecnología Agropecuaria en América Latina (PROTAAL), Costa Rica, to describe and analyze the performance of national agricultural research systems in Argentina and Brazil. \$200 000 — 18 months.

81-0142 Education and society research program (Argentina)

For the Facultad Latinoamericana de Ciencias Sociales (FLACSO), Buenos Aires, to create a research and training program to study the relationship between education and society. \$79 200 — 12 months.

81-0146 Agricultural development policy (Indonesia)

For the Ministry of Agriculture, Jakarta, to develop a set of strategies for formulation of future agricultural-development policies and to improve public-sector research on agricultural-development planning. \$177 000 — 30 months.

81-0148 Rural radio programs (Peru)

For the Centro Peruano de Estudios Sociales (CEPES), Lima, to describe the range of radio programming aimed at rural populations and to evaluate its impact. \$28 500 — 7 months.

81-0151 Urban waste management (Korea)

For Seoul National University, Seoul, to review and analyze the urban waste-management system in the five largest cities in Korea. \$73 500 — 12 months.

81-0153 Social awareness and rural development (Colombia)

For the Fundación Punta de Lanza, Bogota, to write and revise local histories that will be used by teachers, peasant cadres, and priests as implements of change and development. \$32 000 — 18 months.

81-0155 Rice economy (Zaire)

For the Institut facultaire des sciences agronomiques, Yangambi, to provide data bases for the design of an adequate agricultural policy to promote rice production in the Zairian basin. \$30 400 — 24 months.

81-0156 Railway impact (Morocco)

For the Institut Agronomique et Vétérinaire Hassan II, Rabat, to study the socioeconomic dynamics in the Ounein region prior to the building of a railway. \$46 000 — 36 months.

81-0158 Perinatal and maternal mortality (Zaire)

For the Department of Demography of the National University of Zaire to study the existing relations between the issue of pregnancy and the social, economic, and cultural characteristics of a pregnant woman and her family environment. \$23 500 — 36 months.

81-0161 Urban land and housing (Ecuador)

For the Centro de Investigaciones (Ciudad), Quito, to analyze the land and housing situation and recommend ways of improving their provision for the urban poor. \$37 000 — 10 months.

81-0163 Fertility and family structure (Bangladesh)

For Rajshahi University, Rajshahi, to investigate the influence of family-related factors upon fertility and family planning. \$36 500 — 18 months.

81-0164 Agricultural colonization (Ecuador)

For the Centro de Investigaciones y Estudios Socio-Económicos (CIESE), Quito, to analyze agricultural colonization policies and programs in relation to demographic and socioeconomic development. \$88 000 — 18 months.

81-0165 Low-cost housing (Ivory Coast)

For the Centre des recherches architecturales et urbaines (CRAU) of the University of Abidjan to analyze the low-cost housing situation in Abidjan. \$17 500 — 18 months.

81-0166 Schooling and the formation of adolescent values (Morocco)

For the University Mohamed V, Rabat, to investigate the impact of schooling on the values and attitudes held by Moroccan youths. \$34 000 — 36 months.

81-0168 Child-to-child training program (Colombia)

For the Fundación para la Educación Permanente en Colombia and Centro para el Desarrollo de la Educación No Formal (FEPEC-CEDEN), Bogota, to design and evaluate an intervention program focused on the role of older siblings as agents in the physical and cognitive development of the younger child. \$80 000 — 24 months.

81-0172 Social-accounting matrix (Swaziland)

For the University College of Swaziland, Luyengo, to construct a social-accounting matrix for Swaziland. \$47 000 — 24 months.

81-0173 Student achievement in mathematics (Dominican Republic)

For the Catholic University Madre y Maestra, Santiago de Los Caballeros, to assess the teaching and learning of mathematics at the high-school level. \$67 000 — 12 months.

81-0184 Collaborative research in secondary education (Sierra Leone)

For Milton Margai Teachers' College, Freetown, to increase national educational research capacity through the active involvement of administrators, teacher educators, principals, and teachers in the research process. \$150 000 — 24 months.

81-0185 National development banks and technological development (Global) — phase II

For the University of Abidjan, Ivory Coast; the Management Development Institute, India; the Korean Institute of Science and Technology, Seoul; and the Federal University of Rio de Janeiro, Brazil, to explore the relationship between investment and technology by examining the behaviour of national development banks in a second phase of the National Development Banks and Technological Development (Global) Project. \$345 000 — 18 months.

81-0186 Socioeconomic determinants of infant mortality in Rosario (Argentina)

For the Centro de Estudios Sanitario y Sociales (CESS), Rosario, to provide information on levels of mortality and morbidity in the city of Rosario. \$66 000 — 24 months.

81-0188 Macroeconomic research (Kenya)

For the Ministry of Economic Planning and Development, Nairobi, to study the structural readjustment of the Kenyan economy and to estimate the economic parameters of the country's 1984-88 development plan. \$156 400 — 24 months.

81-0189 The cost of children (Thailand)

For the Chulalongkorn University, Bangkok, to assess the economic costs of children in select rural and urban areas of northeast Thailand. \$69 000 — 18 months.

81-0190 Social demographic research for planning (Colombia)

For the Corporación Centro Regional de Población (CCRP), Bogota, to expand knowledge and develop new research methodologies for incorporating demographic considerations in national, regional, and municipal social and economic planning. \$210 000 — 20 months.

81-0193 Rural-energy survey methodological review (India)

To enable the Social Sciences Division of IDRC to contribute to the development of methodologies for rural-energy surveys in developing countries. \$32 500 — 10 months.

81-0194 Fisheries economics research program (Malaysia)

For the Agricultural Development Council (ADC), Bangkok, Thailand, and the University Pertanian, Serdang, Malaysia, to develop an institutional capacity to conduct a sustained program of social-science research on small-scale fisheries. \$90 000 — 15 months.

81-0196 Infant mortality and morbidity (Bangladesh)

For the International Centre for Diarrhoeal Disease Research (ICDDR), Dacca, to apply and evaluate a simple methodology for measuring social and economic conditions and health-related practices that affect diarrheal morbidity and mortality and to analyze the data collected in a rural area of Bangladesh. \$54 000 — 20 months.

81-0200 Population and development awards — MEAWARDS (Middle East) — phase II

For the Population Council, New York, to continue its MEAWARDS program designed to improve research on population and development in the Middle East by funding research proposals of young scholars, coordinating study groups, and distributing research findings. \$155 000 — 24 months.

81-0201 Migration and housing in medium-sized cities (Nigeria)

For the University of Ife, Ile-Ife, to examine and establish the pattern of migration to medium-sized cities. \$71 500 — 18 months.

81-0205 Oilseed production and marketing (Tanzania)

For the University of Dar es Salaam, Morogoro, to identify and investigate factors that affect the performance of oilseed production and marketing in Tanzania. \$16 900 — 30 months.

81-0207 Fisheries policy (Costa Rica)

For the University of Costa Rica, San Jose, to describe and analyze the impact of government policies on the development of Costa Rican fisheries between 1970 and 1981. \$76 700 — 21 months.

81-0213 Refugee education (Thailand)

For the Chao Surin Association, Bangkok, to encourage refugees to take greater responsibilities for the development of educational materials for their communities. \$50 000 — 10 months.

81-0221 Technology and female employment in the leather-goods sector (Uruguay)

For the Centro de Investigaciones y Estudios Sociales del Uruguay (CIESU), Montevideo, to explore the technological implications for the Uruguayan leather-products industry of the growth of domestic female labour in that country. \$14 000 — 10 months.

81-0225 Nontraditional exports (Nicaragua)

For the Instituto Centroamericano de Administración de Empresas (INCAE), Managua, to collect information on nontraditional products being produced or utilized by parastatal and private organizations in Nicaragua. \$16 000 — 6 months.

81-0226 Stratum-two economics research (Indonesia)

For the Gadjah Mada University, Yogyakarta, to continue its 2-year MA program in economics, primarily for young faculty members teaching at provincial universities, and specifically to cover the thesis-research costs of the first group of 11 students. \$30 700 — 6 months.

81-0227 Kafue fisheries (Zambia)

For the Institute for African Studies (INSAS) of the University of Zambia, Lusaka, to provide a detailed economic analysis of the operation of the Lake Kafue fisheries and analyze the indigenous technology being used there. \$92 000 — 24 months.

81-0228 Urban services and national development (Korea)

For the Institute of Economic Research of Seoul National University, Seoul, to analyze and compare the types, amount, and trends of urban services in medium-sized and small cities in Korea. \$57 100 — 18 months.

81-0229 Organization and advancement of low-income women (Ecuador)

For the Centro de Planificación y Estudios Sociales (CEPLAES), Quito, to investigate the socioeconomic conditions of women in low-income communities, paying particular attention to their strategies for subsistence, self-help, and collective action. \$31 000 — 18 months.

81-0230 School failure in Chile

For the Programa Interdisciplinario de Investigación en Educación (PIIE), Santiago, to discover what factors within the Chilean primary-school system contribute to the success or failure of pupils as assessed by the formal requirements of the educational bureaucracy. \$34 000 — 12 months.

81-0231 Agriculture, food, and inflation (Peru)

For the Instituto de Estudios Peruanos (IEP), Lima, to study the relationships between agriculture, food, and inflation in Peru, with special emphasis on the last 2 decades. \$54 500 — 12 months.

81-0233 Urban-development policies (Colombia)

For the University of Antioquia, Medellín, to analyze urban-development policies and the pattern of urbanization in Colombia over the past 3 decades, with

particular emphasis on intermediate centres. \$20 000 — 12 months.

81-0234 Technology transfer and balance of payments (Mexico)

For the College of Mexico, Mexico City, to describe and analyze the relationship between the transfer of technology, the balance of payments, and the manufacturing structure in order to show the costs and benefits of recent technology policy. \$65 000 — 18 months.

81-0235 Determinants of infant-mortality decline (Chile)

For the Academia de Humanismo Cristiano (AHC), Santiago, to provide detailed information on the demographic and socioeconomic factors contributing to Chile's infant-mortality decline over the past 10 years. \$35 300 — 12 months.

81-0236 Informal employment in Lome (Togo)

For Benin University, Lome, to analyze the extent and significance of informal employment in Lome. \$24 200 — 10 months.

81-0237 CEDES — Institutional grant 1982 (Argentina)

For the Centro de Estudios de Estado y Sociedad (CEDES), Buenos Aires, to strengthen its administrative and financial stability. \$34 000 — 12 months.

81-0238 Small-farm economics (Uruguay)

For the Centro Latinoamericano de Economía Humana (CLAEH), Montevideo, to analyze the economics of small-farm operations in Uruguay. \$53 200 — 18 months.

81-0239 Urban services and urban planning (Sudan)

For the University of Khartoum, Khartoum, to examine and analyze the conceptual and administrative nature of existing urban policy in Sudan's triple capital. \$10 800 — 15 months.

81-0241 Provincial education planning (Thailand)

For the National Education Commission (NEC), Bangkok, to develop, implement, and evaluate experimental mechanisms for decentralized planning and management at the provincial level. \$53 200 — 24 months.

Special Governing Board Activities

81-0046 The Futures Secretariat

For The Futures Secretariat, Ottawa, to increase the awareness of Canadians about international development. \$50 000 — 12 months.

81-0187 Energy research group (Global)

To enable IDRC to establish an independent energy-research group to review and evaluate selected areas of energy-related research relevant to developing countries. \$800 000 — 36 months.

Division activity projects

In addition to the projects listed on the preceding pages, the Centre funds numerous relatively small projects that are in one way or another supportive of the ongoing activities of the program divisions. For instance, some are to support workshops or seminars to identify priority-research areas in a particular region or field of activity. Others are to enable developing-country researchers to attend international meetings of experts in other parts of the world. Still others are to provide funds for a specialist from one country to visit and assist a project team in another.

The great majority of such projects are in fact to cover the cost of meetings and consultancies directly or indirectly related to Centre-supported research projects in developing countries. During the past fiscal year, 340 division activity projects were approved at a total cost of \$2 585 416. Project grants ranged from a few hundred dollars to twenty thousand or more. A few examples of activities funded under this program follow:

- A consultancy for three researchers at the University of the Philippines to develop a proposal for the study of the aged in that country, where the number of people over age 65 is reaching a significant level.
- Transportation costs for 15 participants in a conference on rural-development planning in Zimbabwe and partial costs of publishing and disseminating conference materials.
- A visit by staff from several institutions in the People's Republic of China to organizations in Asia affiliated with the TECHNUNET program for training industrial extension officers and for providing advice to Asian small-scale industries.
- A consultancy for a senior Egyptian scientist to prepare a report reviewing current activities and trends in pest-control research in Egypt and listing research priorities in this field.
- A symposium on breast-feeding, contraception, and health for the leaders of IDRC-supported projects in Chile, Egypt, Indonesia, Korea, and Mexico.
- A workshop in Peru to bring together Latin American researchers involved in IDRC-funded studies of household demographic behaviour, to discuss their research and to explore potential areas of cooperation.
- Provision of materials and resources in connection with activities planned in Canada to mark the first observance of World Food Day, established to alert public opinion to the gravity of the world food situation.
- The attendance of 13 specialists from institutions in Africa, Asia, Canada, and Latin America at a global conference in Guyana on the potential utilization of millions of tonnes of fish by-catch from tropical shrimp-trawling operations.
- A meeting of personnel from several information centres dealing with grain legumes to discuss ways of improving cooperation and communication and avoiding wasteful duplication of effort.
- A symposium in Bolivia to bring together researchers from four countries of the Andean region, involved in IDRC-supported projects on Andean crop production systems, to present recent papers and discuss results and common problems.

Financial commentary and highlights

The financial results for the 1981-82 fiscal year indicate that the International Development Research Centre has entered a period of growth, in terms of financial resources, consistent with its long-term potential. One can appreciate the full extent of this growth by comparing the Centre's operating results for 1981-82 with its budget objectives for 1982-83, as reflected in the tabulations following this text. The results to date, as well as the budget plans for 1982-83, represent the Centre's assessment of the most effective use of its resources toward the attainment of its objectives in continued assistance to Third World research endeavours.

One must keep in mind that the Centre's limited financial and human resources must support new project development, monitor some 500 active projects, and confront such persistent economic realities as inflation, both in Canada and, more importantly, in the Third World, the decreasing value of the Canadian dollar, and locally legislated increases in research project operating costs.

The increase in the Centre's Parliamentary grants signals an end to a period of reduced growth experienced over the past 3 years. It indicates confidence in IDRC, provides the opportunity for internal assessment of some current systems and procedures, and will permit the establishment of new initiatives within the Centre. This growth will require continued use of the Centre's planning skills so that IDRC expands in the directions needed by developing countries, as well as strict financial controls to ensure funds are well spent.

Revenues

The Parliamentary grant for 1981-82, set at \$47.2 million, including \$1.0 million for cooperative programs, represented a 12.4% increment over the previous year. Total Centre revenues, excluding funds for contract research, amounted to \$50.5 million for 1981-82, a 14.3% increase over 1980-81 and 3.1% greater than the budgeted level.

Interest rates remained at high levels during 1981-82 and were consistently ahead of the Centre's conservative estimates. The Centre was able to generate investment and other income of \$3.3 million, 83.7% greater than the budgeted level. The actual average rate of return on Centre investments was 17.9%, compared with the budgeted return of 12.0%. Other income pertains mostly to MINISIS licencing fees, \$100,000, and a gain, \$54,000, on disposal of fixed assets; neither of these items was budgeted.

The total 1982-83 Parliamentary grant to IDRC is expected to increase by 18.4% to \$54.7 million. In 1982-83, the Centre will also receive an initial allotment of \$2.0 million for energy research as announced by the Prime Minister of Canada at the United Nations Conference on New and Renewable Sources of Energy. In addition, the cooperative programs grant is anticipated to be \$2.5 million or 150% greater than in the current year. Finally, during 1982-83, the Centre has estimated that it will earn approximately 15% on its investment portfolio, a level slightly lower than the current year. Thus, the overall increase in Centre revenues is expected to be 22.8%.

Development research and related expenditures

The level of expenditures and their distribution are the true indicators of how well IDRC has achieved its financial objectives. During the 1981-82 fiscal year, the Centre increased its overall expenditures 15.7% to \$49.6 million and, as evidenced by the following table, continued to maintain one of its most important standards — to maximize the proportion of Centre expenditures directed to research and research support.

EXPENDITURES (millions of dollars)

	Budget				Actual					
	1983	% of total	1982	% of total	1981	% of total	1980	% of total	1979	% of total
Development research	\$38.7	61.1	\$30.3	61.1	\$26.8	62.5	\$24.4	62.2	\$25.0	63.5
Research-related activities	5.2	8.2	4.1	8.3	3.3	7.7	2.9	7.4	2.6	6.6
Technical support and regional office operations	10.8	17.1	8.2	16.5	6.6	15.4	6.1	15.6	6.0	15.2
Total research and research-related	\$54.7	86.4	\$42.6	85.9	\$36.7	85.6	\$33.4	85.2	\$33.6	85.3
Division management	2.8	4.4	2.3	4.6	2.2	5.1	2.2	5.6	2.2	5.6
Administration	5.8	9.2	4.7	9.5	4.0	9.3	3.6	9.2	3.6	9.1
Total overall	\$63.3	100.0	\$49.6	100.0	\$42.9	100.0	\$39.2	100.0	\$39.4	100.0

Above data do not include amounts related to contract research.

Development-research expenditures in 1981-82, those concerned with payments directly to research projects and to a limited number of Centre projects, increased 13.1% to \$30.3 million. Research-related activities increased 24.2% to \$4.1 million in 1981-82. The Centre continues to maintain a series of ratios and key indicators, based on the interrelationships between project appropriations, commitments, and expenditures. Close and regular monitoring of these factors during 1981-82 assisted the IDRC in achieving most of its budgetary objectives.

Appropriations for 1981-82 totaled \$60.8 million, 97.7% of the budgeted target and a 21.8% increase over the level experienced in 1980-81. Project commitments at \$55.2 million represented 95.2% of budget as well as a 14.7% increase over the prior year.

In 1981-82, the ratio of funds being disbursed on previously approved projects continued to decrease. Such funds were forecast to be \$22.5 million, whereas actual expenditures amounted to \$22.0 million. At the same time, the amount dedicated to new projects was \$12.4 million while the related budget was \$11.9 million.

The increase in Centre revenues for 1982-83 will allow the Board of Governors to approve a total appropriation budget of \$77.0 million, an increment of 26.7%. The largest portion of this increase, 74.1%, will continue to be allotted to the support of new research projects, 16.5% will be assigned to technical support and regional office operations, and the remaining 9.4% to division management and administration.

Technical support and regional office operations

Expenditures on the infrastructure utilized by the Centre in achieving its mandate include support for its overseas regional and liaison offices, which facilitate contact with grant recipients and enhance the Centre's ability to respond to Third World development issues. Technical support refers to the costs of program personnel, who provide technical support, monitoring project development and advising on project management. An

increase of 24.2% occurred in this category for 1981-82, resulting in expenditures of \$8.2 million. As an allocation of total expenditures, this represents an increase to 16.5% from 15.4%.

Centre growth in direct research support, to a large degree, is dependent upon recruitment of professional staff, especially those involved in new project development and the provision of technical services to existing projects funded by the Centre. As a result, this category is expected to increase 31.7% to \$10.8 million in 1982-83.

Division management

This category of expenditures pertains to the costs of operating the IDRC program divisions and, in particular, the costs involved in program management, development, monitoring, and control; \$2.3 million in expenditures was recorded for 1981-82, an increase of 4.5%.

For 1982-83, division management expenditures are expected to total \$2.8 million, a 21.7% increase over the current year. As a proportion of total Centre expenditures, however, this will represent a *decrease* to 4.4% from 4.6% in 1981-82. Most of the planned increase pertains to a growth in personnel strength.

Administration expenditures

To support its overall operations, the Centre requires certain policy, executive, as well as administrative and service functions. Within the context of IDRC, such functions are represented by the Board of Governors, Chairman, President, Secretary and General Counsel, Director of Human Resources, and Comptroller General and Treasurer.

For 1981-82, administration expenditures increased 18.7% to \$4.7 million and represented only a nominal, proportionate increase to 9.5% from 9.3% in overall expenditures. This growth can be attributed primarily to the budgeted growth in numbers of administrative staff.

The upcoming fiscal year will see a budgeted increase in administration expenditures of 23.4% to \$5.8 million, but, in terms of total Centre expenditures, this will represent a *decrease* to 9.2% from the current 9.5%.

Contract research

IDRC continues to administer research projects on behalf of other donor organizations. Funds for such projects are provided by the donor and are reported in the Centre's financial records when project disbursements occur. Donor funds in excess of recorded expenditures are reported as a liability on the Centre's balance sheet. For the 1981-82 fiscal year, contract research expenditures totaled \$1.0 million and represented primarily continued support for the International Council for Research in Agroforestry (ICRAF) as well as a number of other projects supported by CIDA.

Equity of Canada

The equity account increased by \$0.9 million to stand at \$5.0 million as of March 31, 1982, whereas the budgeted level was estimated to be \$3.5 million. This variance can be attributed almost solely to excess investment and other income earned during the year. Undepreciated capital value of property and equipment (\$2.3 million) represented the major portion of this equity balance.

The Centre manages the use of its equity balance in such a manner as to allow a consistent level of research expenditures. This management practice is expected to continue for 1982-83 in that \$1.3 million of the equity balance will be required to fund projected levels of Centre activities in the forthcoming year. The practice will allow total expenditure levels to increase 27.6%, whereas total revenues are expected to rise by 22.8%.

Personnel strength

As at March 31, 1982, Centre person-years totaled 340, representing a 5.9% increase over the total of 321 reported last year. These results represent only 96% of the approved 1981-82 budget, the underutilization primarily reflecting difficulties in staff recruitment.

For 1982-83, overall person-year levels are budgeted to increase 14.4% to a level of 389. This increase should provide the technical expertise and administrative support needed to maintain the Centre's high level of quality in both its research program and administration. The interrelationship between staff and Centre grant levels is visualized in a number of the schedules and charts following this text.

Cooperative programs

During the 1981-82 fiscal year, IDRC agreed to accept management responsibility, at the request of the Government of Canada, for cooperative programs between developing country researchers and Canadians. The goal is to establish links between research needs in developing countries and recognized technical expertise in Canada. The acceptance of this responsibility was given on the understanding that such programs were not to divert the Centre from its own objectives nor involve financial or personnel resources beyond grant funds specifically received for such programs.

In order to comply with these conditions, the Centre has adopted a reporting basis that reflects direct expenditures for cooperative programs as well as allocations for Centre support and investment income. The amount allocated as investment income is based on actual cash flows related to the operations of the cooperative programs and the actual rate of return experienced by the Centre on its investment portfolio. The amount allocated as part of research operational support, to cover services provided by the IDRC program and administrative divisions participating in cooperative programs, has been based on the ratio of Centre program-support costs to direct Centre program research and research-related expenditures.

As noted earlier, in 1982-83, cooperative programs will receive a Parliamentary grant of \$2.5 million. It is expected that this level of funding will support an appropriation level of \$4.8 million, an increase of 107.2% over the current year. A complete financial reporting of the cooperative programs follows; the net revenue balance is available for future cooperative program activities:

EXPENDITURES	<u>\$1,039,197</u>
Direct research and research-related	\$ 638,676
Cooperative Programs Unit	316,700
Incurring by program divisions:	
Agriculture, Food and Nutrition Sciences	227,962
Health Sciences	31,486
Information Sciences	25,578
Social Sciences	36,950
Research operational support	\$ 303,317
Administration expenditures allocation	\$ 97,204
REVENUES	<u>\$1,053,667</u>
Grant from Parliament of Canada	\$1,000,000
Investment income allocation	53,667
BALANCE FORWARD 1982-83	<u>\$ 14,470</u>

COOPERATIVE PROGRAMS — CENTRE SUMMARY

SUMMARY OF APPROPRIATIONS (thousands of dollars) as at March 31, 1982

	Approved budget 1981-82	Approved appropriations	Balance	Approved budget 1982-83
Cooperative projects	<u>\$ 2,000</u>	<u>\$ 1,711</u>	<u>\$ 289</u>	<u>\$ 3,525</u>
Agriculture, Food and Nutrition Sciences	450	500	(50)	750
Health Sciences	100	33	67	100
Social Sciences	225	285	(60)	600
Information Sciences	225	97	128	300
Cooperative Programs Unit	1,000	796	204	1,750
Communications	—	—	—	25
Division activity projects	<u>\$ 250</u>	<u>\$ 251</u>	<u>\$ (1)</u>	<u>\$ 400</u>
Agriculture, Food and Nutrition Sciences	10	22	(12)	35
Health Sciences	10	7	3	15
Social Sciences	20	20	—	50
Information Sciences	15	8	7	25
Cooperative Programs Unit	195	194	1	275
Technical support	<u>\$ 71</u>	<u>\$ 97</u>	<u>\$ (26)</u>	<u>\$ 408</u>
Cooperative Programs Unit	71	48	23	229
Other divisions (imputed)	—	49	(49)	179
Division management	<u>\$ 167</u>	<u>\$ 206</u>	<u>\$ (39)</u>	<u>\$ 286</u>
Cooperative Programs Unit	167	190	(23)	232
Other divisions (imputed)	—	16	(16)	54
Administration (imputed)	<u>\$ —</u>	<u>\$ 66</u>	<u>\$ (66)</u>	<u>\$ 210</u>
Total	<u><u>\$ 2,488</u></u>	<u><u>\$ 2,331</u></u>	<u><u>\$ 157</u></u>	<u><u>\$ 4,829</u></u>

CENTRE TOTALS

FINANCIAL HIGHLIGHTS (thousands of dollars)

	Budget 1982	Actual 1982	Budget vs actual (% variance)	Actual 1981	1981 vs 1982 (% change)
FINANCIAL ACTIVITY					
Revenues	\$ 49,000	\$ 50,507	3.1	\$ 44,181	14.3
Grant from Parliament of Canada	46,200	46,200	—	42,000	10.0
Cooperative programs	1,000	1,000	—	—	—
Investment and other income	1,800	3,307	83.7	2,181	51.6
Expenditures	\$ 50,000	\$ 49,612	(0.8)	\$ 42,875	15.7
Existing projects	22,500	21,976	(2.3)	20,428	7.6
New projects	11,900	12,434	4.5	9,323	33.4
Regional and liaison offices	2,600	2,340	(10.0)	2,066	13.3
Technical support	6,000	5,787	(3.6)	4,888	18.4
Division management	2,300	2,340	1.7	2,180	7.3
Administration	4,700	4,735	0.7	3,990	18.7
Excess of revenues over expenditures (expenditures over revenues)	\$ (1,000)	\$ 895	—	\$ 1,306	—
PROGRAM ACTIVITY					
Appropriations	\$ 62,225	\$ 60,784	(2.3)	\$ 49,892	21.8
New projects	46,638	45,582	(2.3)	36,768	24.0
Regional and liaison offices	2,573	2,340	(9.1)	2,066	13.3
Technical support	6,000	5,787	(3.6)	4,888	18.4
Division management	2,322	2,340	0.8	2,180	7.3
Administration	4,692	4,735	9.2	3,990	18.7
Commitments	\$ 57,982	\$ 55,216	(4.8)	\$ 48,123	14.7
Projects	42,395	40,014	(5.6)	34,999	14.3
Regional and liaison offices	2,573	2,340	(9.1)	2,066	13.3
Technical support	6,000	5,787	(3.6)	4,888	18.4
Division management	2,322	2,340	0.8	2,180	7.3
Administration	4,692	4,735	9.2	3,990	18.7

Above data do not include amounts related to contract research.

CENTRE TOTALS
FINANCIAL HIGHLIGHTS
(thousands of dollars)

	Budget 1983	Actual 1982	Actual 1981	Actual 1980	Actual 1979
RESULTS OF OPERATIONS					
Revenues	\$ 62,000	\$ 50,507	\$ 44,181	\$ 38,581	\$ 38,203
Grant from Parliament of Canada	56,700	46,200	42,000	36,867	36,867
Cooperative programs	2,500	1,000	—	—	—
Investment and other income	2,800	3,307	2,181	1,714	1,336
Expenditures	\$ 63,300	\$ 49,612	\$ 42,875	\$ 39,217	\$ 39,356
Development research	38,700	30,276	26,766	24,422	24,972
Research-related activities	5,200	4,134	2,985	2,907	2,606
Research operational support	13,600	10,467	9,134	8,332	8,213
Administration	5,800	4,735	3,990	3,556	3,565
Excess of revenues over expenditures (expenditures over revenues)	\$ (1,300)	\$ 895	\$ 1,306	\$ (636)	\$ 1,153
PROGRAM ACTIVITY					
Appropriations	\$ 77,000	\$ 60,784	\$ 49,892	\$ 41,783	\$ 42,944
New projects	57,600	45,582	36,768	29,895	31,166
Regional and liaison offices	2,900	2,340	2,066	2,032	2,165
Technical support	7,900	5,787	4,888	4,100	3,790
Division management	2,800	2,340	2,180	2,200	2,258
Administration	5,800	4,735	3,990	3,556	3,565
Commitments	\$ 73,500	\$ 55,076	\$ 48,123	\$ 35,428	\$ 45,763
Projects	54,100	39,874	34,999	23,540	33,985
Regional and liaison offices	2,900	2,340	2,066	2,032	2,165
Technical support	7,900	5,787	4,888	4,100	3,790
Division management	2,800	2,340	2,180	2,200	2,258
Administration	5,800	4,735	3,990	3,556	3,565
Outstanding commitments	\$ 55,000	\$ 41,380	\$ 39,800	\$ 34,500	\$ 39,100

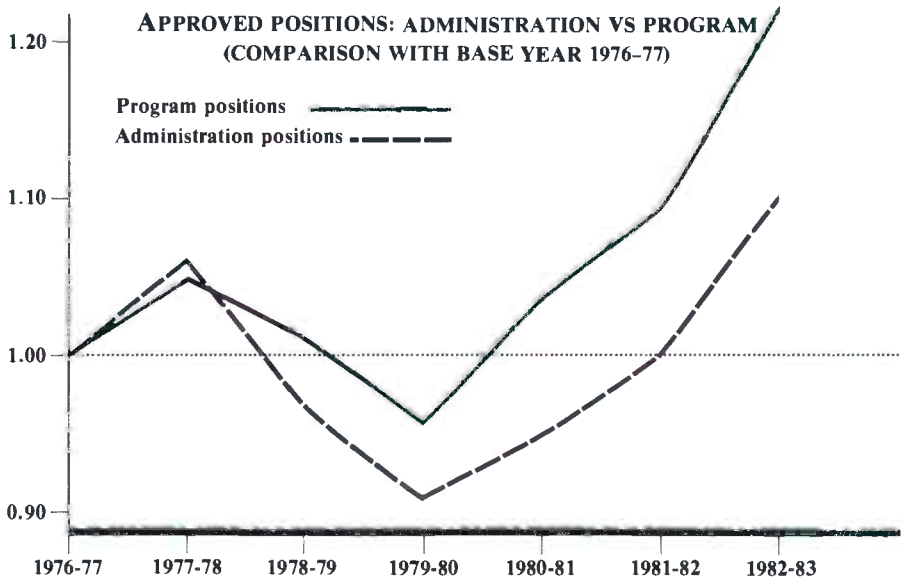
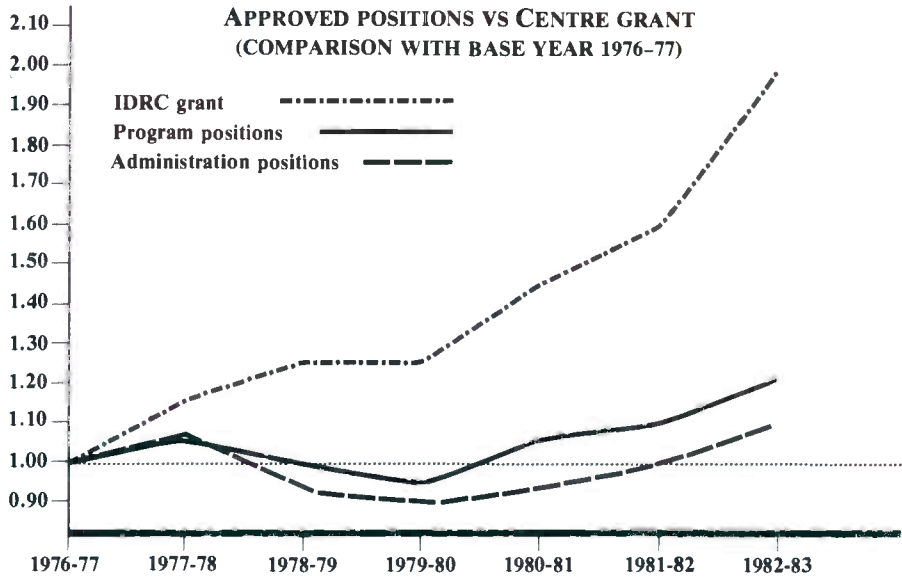
Above data do not include amounts related to contract research.

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

PERSONNEL LEVELS AND PROJECTIONS

	Actual March 31, 1981		Approved 1981-82		Actual March 31, 1982		Approved 1982-83	
	Personnel strength	Person- years	Personnel strength	Person- years	Personnel strength	Person- years	Positions	Person- years
Program support	216	216	237	236.5	226	222.25	265	258
Agriculture, Food and Nutrition Sciences	37	37	43	42	42	39.5	48	45
Health Sciences	18	18	21	21	17	19	24	23
Social Sciences	35	33	38	38	38	37	44	42.25
Project-related staff	-	0.5	-	-	-	-	-	-
Information Sciences	21	20.5	23	23	23	21.25	31	31
Project-related staff	43	43.5	47	47.5	42	44.25	42	42
Special Governing Board Activities	-	-	-	-	-	-	2	2
Cooperative Programs Unit	3	2	4	4	4	4	8	8
Office of Planning and Evaluation	10	9	10	10	9	8.5	11	10.75
Regional offices	7	7.5	7	7	7	7	7	7
Office of the Senior Vice-President	1	2.5	-	-	-	-	-	-
Fellowship Program	6	6.5	6	6	6	6	7	6.5
Communications	35	36	38	38	38	35.75	41	40.5
General management	106	103	118	115.5	119	115	130	127.5
Chairman's Office	-	-	1	1	-	-	-	-
President's Office	8	7.5	9	9	10	9.25	9	9
Office of the Secretary and General Counsel	17	17	18	17.5	18	17.75	19	18
Office of the Comptroller General and Treasurer	71	68.5	77	76.5	77	76.5	89	88.5
Human Resources Division	10	10	13	11.5	14	11.5	13	12
Secondments	2	2	2	2	2	2.75	2	2
Sabbatical study leave provision	-	-	-	-	-	-	-	1.5
TOTAL	324	321	357	354	347	340	397	389

Above data exclude employees hired locally by regional offices and project advisers. Prior year figures have been reclassified for comparative purposes.



Auditor's report

To the International Development Research Centre
and
The Honourable Mark MacGuigan, P.C., M.P.
Secretary of State for External Affairs

I have examined the balance sheet of the International Development Research Centre as at March 31, 1982 and the statements of operations, equity and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Centre as at March 31, 1982 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Kenneth M. Dye

Auditor General of Canada

Ottawa, Ontario
June 11, 1982

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
(Established by the International Development Research Centre Act)

BALANCE SHEET
as at March 31, 1982

	1982	1981
ASSETS		
Current assets		
Cash	\$ 178,927	\$ 144,834
Investments (Note 3)	10,707,651	11,386,591
Amounts receivable (Note 4)	940,311	574,657
Prepaid expenses	212,762	192,866
	<u>12,039,651</u>	<u>12,298,948</u>
Recoverable deposits	110,039	81,390
Property and equipment (Note 5)	2,320,529	1,593,721
	<u><u>\$ 14,470,219</u></u>	<u><u>\$ 13,974,059</u></u>
LIABILITIES AND EQUITY		
Current liabilities		
Accounts payable and accrued liabilities (Note 6)	\$ 7,039,125	\$ 7,374,467
Funds provided for contract research	190,125	329,744
	<u>7,229,250</u>	<u>7,704,211</u>
Provision for employee separation benefits	2,215,115	2,138,683
Total liabilities	<u>9,444,365</u>	<u>9,842,894</u>
Equity of Canada	<u>5,025,854</u>	<u>4,131,165</u>
	<u><u>\$ 14,470,219</u></u>	<u><u>\$ 13,974,059</u></u>

Approved:

R.J. Audet
Comptroller General
and Treasurer

Ivan L. Head
President

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF OPERATIONS for the year ended March 31, 1982

	1982	1981
EXPENDITURES		
Development research		
Project grants	\$ 26,186,534	\$ 21,974,523
Centre projects	4,090,038	4,791,256
	<u>30,276,572</u>	<u>26,765,779</u>
Research related activities		
Project development and support	1,907,076	1,068,809
Information dissemination	1,377,697	1,136,223
Development research library	848,822	780,038
	<u>4,133,595</u>	<u>2,985,070</u>
Research operational support		
Technical support	5,787,408	4,888,217
Regional and liaison offices	2,339,939	2,066,131
Division management	2,339,773	2,180,022
	<u>10,467,120</u>	<u>9,134,370</u>
Contract research		
Project grants	1,008,424	927,704
Total research and support expenditures (Schedule 1)	45,885,711	39,812,923
Administration expenditures (Schedule 2)	4,734,914	3,990,243
	<u>50,620,625</u>	<u>43,803,166</u>
REVENUES		
Grant from Parliament of Canada		
General	46,200,000	42,000,000
Cooperative programs (Note 7)	1,000,000	-
Investment and other income	3,306,890	2,180,807
Contract research	1,008,424	927,704
	<u>51,515,314</u>	<u>45,108,511</u>
EXCESS OF REVENUES OVER EXPENDITURES	\$ 894,689	\$ 1,305,345

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF EQUITY
for the year ended March 31, 1982

	1982	1981
EQUITY OF CANADA — BEGINNING OF THE YEAR	\$ 4,131,165	\$ 2,825,820
Excess of revenues over expenditures	<u>894,689</u>	<u>1,305,345</u>
EQUITY OF CANADA — END OF THE YEAR	<u>\$ 5,025,854</u>	<u>\$ 4,131,165</u>

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF CHANGES IN FINANCIAL POSITION for the year ended March 31, 1982

	1982	1981
SOURCE OF FUNDS		
Operations		
Excess of revenues over expenditures	\$ 894,689	\$ 1,305,345
Add (deduct) items not requiring funds		
(Gain) loss on disposal of property and equipment (53,931)		4,897
Depreciation and amortization	373,681	302,355
Provision for employee separation benefits	410,488	402,159
	<u>1,624,927</u>	<u>2,014,756</u>
Decrease in recoverable deposits	—	3,634
Proceeds from disposal of property and equipment	175,932	13,438
Increase in current liabilities	—	1,466,080
	<u>1,800,859</u>	<u>3,497,908</u>
USE OF FUNDS		
Increase in current assets other than cash and investments	385,550	49,958
Increase in recoverable deposits	28,649	—
Additions to property and equipment	1,222,491	262,273
Decrease in current liabilities	474,961	—
Payment of employee separation benefits	334,055	284,429
	<u>2,445,706</u>	<u>596,660</u>
(DECREASE) INCREASE IN FUNDS	(644,847)	2,901,248
FUNDS — BEGINNING OF THE YEAR	11,531,425	8,630,177
FUNDS — END OF THE YEAR	\$ 10,886,578	\$ 11,531,425
Represented by:		
Cash	\$ 178,927	\$ 144,834
Investments	10,707,651	11,386,591
	<u>\$ 10,886,578</u>	<u>\$ 11,531,425</u>

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

NOTES TO FINANCIAL STATEMENTS

March 31, 1982

1. Nature and objective

The International Development Research Centre is a Corporation, without share capital, established by the Parliament of Canada through the International Development Research Centre Act which received Royal assent on May 13, 1970. The annual grant received from the Parliament of Canada is pursuant to External Affairs Votes 55 and 65 for the years ended March 31, 1981 and 1982 respectively.

The objective of the Centre is to initiate, encourage, support, and conduct research into the problems of the developing regions of the world and into the means for applying and adapting scientific, technical, and other knowledge to the economic and social advancement of those regions.

2. Significant accounting policies

The financial statements have been prepared in accordance with Canadian generally accepted accounting principles and reflect the following policies:

Property and equipment

Property and equipment are stated at cost and are depreciated over their estimated useful lives. Leasehold improvements are amortized over the terms of the respective leases.

The methods and rates employed annually to provide for the depreciation and amortization of property and equipment are as follows:

	Method	Rate
Computer hardware and systems		
software	Straight line	20%
Leasehold improvements	Straight line	6 2/3 - 20%
Office furniture and equipment	Diminishing balance	20%
Vehicles	Diminishing balance	30%
Residence	Straight line	4%

Research expenditures

Certain expenditures for development research, research-related activities, and contract research are charged to the accounts at the time of disbursement and as they become due under the terms of contractual agreements. All research expenditures are recorded in the accounts on an accrual basis.

Contract research

The Centre enters into agreements to undertake contract research on behalf of various donor agencies. The Centre recognizes contract research revenue at the time related expenditures are incurred. Funds received in excess of contract research expenditures incurred are reflected in current liabilities.

Pension costs

Employees of the Centre are covered by the Public Service Superannuation Plan administered by the Government of Canada. Contributions to the Plan are required from the employees and the Centre. These contributions represent the total liability of the Centre and are recognized in the accounts on a current basis.

Income taxes

The Centre is exempt from any liability for income taxes.

Foreign currency translation

Monetary assets and liabilities are translated into Canadian dollars at the rate of exchange in effect at year end. Nonmonetary assets are translated at rates prevailing at the respective transaction dates.

Foreign currency transactions are translated into Canadian dollars by the use of an exchange rate which closely approximates the rate in effect at the transaction date. Exchange gains and losses are reflected in the results of operations for the current period.

3. Investments

Investments consist of short-term notes and deposits and treasury bills.

	<u>1982</u>	<u>1981</u>
Canadian chartered banks	\$ 8,281,836	\$ 7,156,133
Commercial enterprises	1,926,210	2,889,000
Provincial government	—	960,950
Exchange certificates in a foreign bank	499,605	380,508
	<u>\$10,707,651</u>	<u>\$11,386,591</u>

4. Amounts receivable

	<u>1982</u>	<u>1981</u>
Accrued interest income	\$ 313,004	\$ 241,999
Costs recoverable from other organizations	235,708	84,142
Staff travel advances	183,019	110,061
Operating advances	127,862	70,380
Other	80,718	68,075
	<u>\$ 940,311</u>	<u>\$ 574,657</u>

5. Property and equipment

	<u>Cost</u>	<u>Accumulated depreciation and amortization</u>	<u>1982 Net</u>	<u>1981 Net</u>
Computer hardware and systems software	\$ 1,505,447	\$ 488,445	\$ 1,017,002	\$ 376,100
Leasehold improvements	1,344,286	659,766	684,520	700,300
Office furniture and equipment	908,427	512,174	396,253	263,206
Vehicles	369,483	146,729	222,754	152,556
Residence	—	—	—	76,559
Land	—	—	—	25,000
	<u>\$ 4,127,643</u>	<u>\$ 1,807,114</u>	<u>\$ 2,320,529</u>	<u>\$ 1,593,721</u>

6. Accounts payable and accrued liabilities

	<u>1982</u>	<u>1981</u>
Accrued liabilities — projects	\$ 4,465,174	\$ 5,201,327
Other liabilities	1,392,076	854,176
Accrued annual and other leave benefits	1,181,875	1,318,964
	<u>\$ 7,039,125</u>	<u>\$ 7,374,467</u>

7. Grant from Parliament of Canada — Cooperative Programs

The 1981-82 annual grant from the Parliament of Canada includes \$1,000,000 for Cooperative Programs to support research collaboration between groups in Canada and those in developing countries with the aim of enhancing their indigenous capabilities. This additional grant was accepted on the understanding that the Cooperative Programs do not divert the Centre from its own objectives nor involve financial or staff resources beyond grant funds specifically received for such programs.

In 1981-82, Cooperative Programs revenues totaled \$1,053,667, including interest earned of \$53,667, while research and allocated administrative expenditures totaled \$1,039,197. The balance of \$14,470 is carried forward to support Cooperative Programs in 1982-83.

8. Operating leases

The Centre has entered into various lease arrangements for office premises, equipment, and staff accommodation, in Canada and in various countries. The total liability over the next five years under such lease arrangements is as follows:

1983	\$ 1,992,370
1984	1,550,064
1985	1,152,138
1986	1,045,557
1987	942,619
	<u>\$ 6,682,748</u>

9. Contractual commitments — Project grants and project development

The Centre is committed to make payments totaling \$41,380,000 during the next four years subject to funds being provided by Parliament and subject to compliance by recipients with the terms of project agreements.

The Centre has also submitted formal grant offers to prospective recipients totaling \$5,125,000 and is awaiting acceptance of these offers.

10. Contingent liabilities

The Centre is a defendant in an action for damages and costs allegedly sustained by a plaintiff. Management and counsel are of the opinion that the Centre has defences against any significant claim and accordingly no provision has been made in the financial statements in respect of this claim.

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
SCHEDULE OF RESEARCH AND SUPPORT EXPENDITURES
for the year ended March 31, 1982

	Development research	Research related activities	Research operational support	Contract research	1982 Total	1981 Total
Programs						
Agriculture, Food and Nutrition Sciences	\$ 11,853,972	\$ 222,448	\$ 2,129,740	\$ —	\$ 14,206,160	\$ 12,846,324
Social Sciences	8,014,402	463,682	1,986,065	—	10,464,149	9,243,339
Information Sciences	3,800,125	341,055	1,292,121	—	5,433,301	4,486,627
Health Sciences	4,112,811	84,852	1,045,183	—	5,242,846	3,947,498
Fellowship Awards	2,184,137	—	—	—	2,184,137	2,409,744
Cooperative Programs Unit	179,000	137,700	303,317	—	620,017	114,574
Program related activities						
Regional and Liaison offices	—	124,199	2,339,939	—	2,464,138	2,129,796
External Liaison and Relations	32,699	148,159	435,618	—	616,476	868,909
Information Dissemination	—	1,377,697	935,137	—	2,312,834	1,926,201
Development Research Library	—	848,822	—	—	848,822	780,038
Special Governing Board Activities	99,426	384,981	—	—	484,407	132,169
Contract research						
	—	—	—	1,008,424	1,008,424	927,704
	<u>\$ 30,276,572</u>	<u>\$ 4,133,595</u>	<u>\$ 10,467,120</u>	<u>\$ 1,008,424</u>	<u>\$ 45,885,711</u>	<u>\$ 39,812,923</u>

Schedule 2

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

SCHEDULE OF ADMINISTRATION EXPENDITURES
for the year ended March 31, 1982

	1982	1981
Salaries and benefits	\$ 3,158,311	\$ 2,602,145
Rent and accommodation	394,535	405,157
Travel and relocation	283,699	206,283
Office expenses	244,258	236,668
Professional and special services	172,901	204,189
Depreciation and amortization	163,903	97,673
Governors' meetings	144,704	98,192
Telecommunications	99,934	87,178
Insurance	72,669	52,758
	<u>\$ 4,734,914</u>	<u>\$ 3,990,243</u>

Fellowship Program

The general objective of the Fellowship Program is, simply stated, to improve the competence of individuals in the field of international development. This is achieved through a varied program of grants for study, travel, and training.

The primary focus is on training and upgrading scientists and professionals from developing countries in fields that parallel the research interests of IDRC. However, support for Canadian professionals in development-related activities remains an important element of the program, particularly in the context of the Centre's commitment to place Canadian expertise at the service of the developing countries through cooperative research projects.

The award categories in 1981-82 were:

- Senior fellowship;
- Pearson fellowships;
- Professional development awards (Canada);
- Professional development awards (developing countries);
- Pre- and post-project awards.

In addition to the individual awards listed below, the Centre supported the enrollment at the Hague Academy of International Law of 20 young trainees from developing countries, who will benefit both from the training and from the exposure to international law. Also, during the year under review, the Centre provided a grant to the International Foundation for Science that will enable 25 young scientists from developing countries to carry on individual research projects in their own study environment.

Senior fellowship

The senior fellowship award enables a senior researcher from a developing country or Canada to spend a 12-month sabbatical producing a work of mutual concern and benefit to IDRC and the fellow. During the year under review, one award was granted:

Subhi Qasem, Jordan

To carry out a study on agricultural research and food productivity in developing countries — progress, issues, and constraints. Location: Amman, Jordan

Pearson fellowships

The Pearson fellowships are designed for young public servants from developing countries so that they may pursue their professional interest in Canada. The Canadian missions in developing countries are responsible for nominating candidates. The fellowships are concentrated each year in a particular field. During 1981-82, eight fellowships were awarded in the field of agriculture:

G.B. Chirwa, Malawi

To undertake studies in planning for agricultural development.

Location: Winnipeg, Canada

A.A. El-Banna, Egypt

To work on a project on *Staphylococcus aurea* and to learn various microbiological techniques.

Location: Ottawa, Canada

A.S. Gedeo, Liberia

To undertake studies in planning for agricultural development.

Location: Winnipeg, Canada

T.F. Holo, Tonga

To undertake studies on research management and project evaluation in the agricultural sector.

Location: Morden, Manitoba, Canada

M. Kourouma, Guinea

To study fisheries management and to undertake practical training.

Location: Shippegan, New Brunswick, Canada

J.M. Mdadila, Tanzania

To undertake a study of marketing farm products.

Location: Winnipeg, Canada

R. Mendez, Chile

To undertake studies in fisheries management.

Location: Vancouver, Canada

V.S. Jon Yogiyo, Papua New Guinea

To undertake studies on research management and project evaluation in the agricultural sector.

Location: Morden, Manitoba, Canada

Professional development awards (Canada)

Professional development awards provide sabbaticals for Canadian professionals at midcareer to undertake training, personal study, or investigation. The aims are:

- To allow professionals already involved in international development to improve or update their skills and knowledge; or
- To permit professionals with no specific exposure in the field of international development to investigate the possibility of adapting their skills to development efforts through study or on-the-job training.

Eight awards (person-years) are awarded annually to Canadian citizens or landed immigrants with 3 years residence in Canada. This program will not be offered in 1982-83. The recipients in 1981-82 were:

A. Ambrosi, Quebec

To develop evaluation techniques for the training of community group leaders in Latin America.

Location: Lima, Peru, and Managua, Nicaragua

administration of the central hospitals.

Location: Causeway, Zimbabwe

Paul Preault, Quebec

To undertake a program of study in rural economics.

Location: Iowa State University, USA

Michel Chossudovsky, Ontario

To carry out research on the opening of trade with the People's Republic of China and on the "new international division of labour."

Location: University of Hong Kong

Susan M. Ringrose, Ontario

To carry out research on the development of an ecological land classification from Landsat imagery for humid tropical coastal areas.

Location: University of Sierra Leone

W.A. Jones, Ontario

To work with the Gambia Teachers' Union in implementing the use of curriculum materials in schools in the Gambia and to organize a program to upgrade unqualified teachers.

Location: Banjul, Republic of the Gambia

John R. Rogge, Manitoba

To undertake an investigation of the problem of urban refugees in Sudan and an evaluation of strategies being employed in their settlement and absorption.

Location: University of Khartoum, Sudan

Pran Manga, Ontario

To study various aspects of health care in Zimbabwe, in particular the financing of municipal health services and the financial

Frieda Schellenberg, Saskatchewan

To complete a Master's degree in community health.

Location: Liverpool School of Tropical Medicine, England

Professional development awards (developing countries)

The objective of these professional development awards is to improve and upgrade senior personnel in developing countries. The awards consist of a sabbatical of 4-12 months in which midcareer professionals pursue further training, personal study, or investigation closely related to the needs and development of their career.

During 1981-82, 21 award holders took up tenure. This program will not be offered in this form in 1982-83.

- Alula Abate, Ethiopia**
To prepare teaching material on the study of urbanization in developing countries.
Location: University of Toronto, Canada, and University of London, England
- Boubacar Barry, Senegal**
To carry out research in preparation for the publication of an economic history of Senegambia.
Location: France, England, USA, and Canada
- Marie Consuelo Benoit, Mauritius**
To complete thesis work for admission as a fellow of the Library Association, London.
Location: Reduit, Mauritius
- Carlos Brockmann, Bolivia**
To study the latest developments in multispectral numerical analysis and to undertake research in digital information systems.
Location: Purdue University, USA
- Robert Dodoo, Ghana**
To carry out research on institutional infrastructure for development in Ghana.
Location: University of Arizona, USA
- Maxime Fayon, Seychelles**
To complete studies toward a Master's degree in public administration.
Location: University of Victoria, Canada
- E.Y. Gü-Konu, Togo**
To gather the data required to complete a doctoral thesis on the modernization of the Togolese peasantry.
Location: France, Togo, and East Africa
- M.M. Hossain, Bangladesh**
To study the impact of rural credit on agricultural production and the degree of management problems related to different credit systems in developing countries.
Location: University of the Philippines at Los Baños
- Wang Jian-Liang, People's Republic of China**
To undertake studies in educational statistics, administration, and planning in the advanced training program of the IIEP.
Location: International Institute for Educational Planning, Paris, France
- I.K. Kigatiira, Kenya**
To complete field research on the biology and behaviour of the honey bee in Kenya toward a PhD degree from Cambridge University.
Location: Nairobi, Kenya
- Celso B. Lantican, Philippines**
To prepare a manual of statistical procedures for forestry researchers in Asia and the Pacific.
Location: Philippines
- S. Nallainathan, Sri Lanka**
To undertake a program of studies in fisheries management.
Location: University of British Columbia, Canada
- H.A. Marroquin, Guatemala**
To carry out a project on the importance and the limitations of international financing for the improvement of human settlements.
Location: Instituto Nacional de la Vivienda, Bolivia
- J.F. Martín, Colombia**
To undertake a program of guided research on regional industrial enterprise and government industrial policy in Argentina, Brazil, and Colombia.
Location: Centro Brasileiro de Analise e Planejamento, Brazil
- Joseph K. Mukiibi, Uganda**
To compile an atlas on diseases of tropical legumes.
Location: University of Nairobi, Kenya
- L.A. Parkins, Jamaica**
To complete studies toward a Master's degree in business administration.
Location: University of Western Ontario, Canada
- Direk Pornsima, Thailand**
To complete a thesis on the legal status of teachers in Thailand.
Location: Bangkok, Thailand
- Ruhakana Rugunda, Kenya**
To complete a program of study for a Master of Medicine in pediatrics.
Location: University of Nairobi, Kenya
- Belayneh Seyoum, Ethiopia**
To pursue studies toward a Master's degree in the field of technology law.
Location: McGill University, Canada
- J.S. Sindhu, India**
To carry out research on cytogenetic analysis of interspecific hybrids in the genus *Lens*.
Location: University of Saskatchewan, Canada
- A. Teferi, Ethiopia**
To undertake courses in epidemiology, biostatistics, microbiology, and parasitology.
Location: University of Toronto, Canada

Pre- and post-project awards

The IDRC program for pre- and post-project awards is intended to provide training for developing-country personnel who either are slated to participate in an IDRC-supported project or have already been associated with one. Nominations and selection for this award are made by the program divisions in cooperation with the Fellowship Program. The number of grants awarded annually varies, as does the amount of each grant. The nature and location of training are dependent upon the individuals selected. For 1981-82, 11 individuals received pre-project awards and 10, post-project awards:

Pre-project awards

P. Aroonrungrerng, Thailand

To undertake a special training program in ethnographic and qualitative research methods.

Location: University of Illinois, USA

F. Carden, Canada

To receive research training in preparation for working on a collaborative project between the Co-operative College of Tanzania and York University, Canada.

Location: York University, Canada

S. Chantarasuk, Thailand

To undertake a special training program in ethnographic and qualitative research methods.

Location: University of Illinois, USA

J.R.N. Govinden, Mauritius

To undertake studies in partial fulfillment of the requirements for a PhD degree in biology.

Location: University of Ottawa, Canada

N. Kaseke and E. Katsukinya, Zimbabwe

To undertake a training program on the operation and maintenance of the RIIC/PRL sorghum dehuller.

Location: Rural Industries Innovation Centre, Botswana

C.G. Koori, Kenya

To undertake a Master's degree program in macroeconomics.

Location: University of Nairobi, Kenya

A. Mathur, India

To prepare a project proposal on acute respiratory diseases in children.

Location: London and Newcastle, England

J.N. Mushonga, Zimbabwe

To attend a course in sorghum and millet improvement.

Location: International Crops Research Institute for the Semi-Arid Tropics, India

G. Mwau, Kenya

To undertake a Master's degree course in macroeconomics.

Location: University of Nairobi, Kenya

C. Wright, Sierra Leone

To undertake an intensive training program in qualitative research into teacher effectiveness and the potential role of teachers as collaborators in classroom research.

Location: England and France

Post-projects awards

A.K. Bhattacharyya, India

To spend a year at the Population Studies and Training Centre, visit the Population Council, and attend the Population Association of America annual meeting.

Location: Brown University, USA

S.A. Chowdhury, Bangladesh

To complete the computer analysis of project data.

Location: Sylva Medical Center, USA

M.Z. Hoque, Bangladesh

To collect data on cropping systems in preparation for the second phase of a Centre-supported research project.

Location: International Rice Research Institute, Philippines

P. de Mermelstein, Colombia

To undertake studies toward a Master's degree in behavioural sciences with emphasis on research and educational programs.

Location: Centro Internacional de Educación y Desarrollo Humano, Colombia

O. Peralta, Chile

To undertake an intensive training course in breast pathology with special emphasis on fibrocystic breast disease and on breast cancer.

Location: Universidade Estadual de Campinas, Brazil

U.L.J. Perera, Sri Lanka

To complete work toward a PhD degree in development studies.

Location: University of Sussex, England

C.P. Rivera, Philippines

To undertake studies leading to a PhD in

educational policy research and evaluation.
Location: Florida State University, USA

S.M.B. Sam, Sierra Leone

To undertake studies toward an MSc degree
in agricultural economics.

Location: Ahmadu Bello University, Nigeria

K.P. Sibuga, Tanzania

To undertake studies toward a PhD degree in
weed science.

Location: University of Nairobi, Kenya

D.J. Watson, Canada

To complete studies toward a Master's
degree in fisheries.

Location: University of Guelph, Canada

Communications

The Centre's Communications Division is primarily responsible for disseminating the results of IDRC-supported research projects. It is also concerned with promoting the importance of international development research, both in Canada and overseas, and with improving scientific communication in the developing world.

Under its publications program, the Division produces not only scientific monographs and technical studies but also a wide range of publications of a more popular nature, aimed at informing nonspecialists of research findings and their implications. A quarterly development-oriented magazine, produced in three language editions, and a monthly science features service for the news media are among the materials produced for a general readership.

The Division distributed more than 100 000 publications around the world during 1981-82. Many of these were provided free to researchers and institutions in developing countries. In other parts of the world, IDRC publications are distributed through arrangements with commercial booksellers.

The Division also produces films for both educational and training purposes to demonstrate research techniques and illustrate the work supported by the Centre. During the past fiscal year, agreement was reached with Canada's Department of External Affairs to make IDRC films available through Canadian missions in 46 countries. This arrangement will give the films wider exposure than has previously been possible. The Division also produces a variety of other audiovisual materials and maintains an extensive photo library.

Two week-long training workshops were held during the year in East and West Africa for journalists interested in learning some of the techniques of science reporting. These were part of a continuing program to meet the need for this kind of specialized training in the developing countries. Both workshops resulted in the formation of regional associations of science journalists. In Canada, the Division organized and supported two regional seminars designed to inform Canadian researchers of the research needs of the Third World and to seek their input.

A list of publications and films produced by the Division during the past fiscal year follows. Catalogues of all current materials are available from the Communications Division, IDRC, P.O. Box 8500, Ottawa, Canada, K1G 3H9.

Centre Publications Publications du Centre

IDRC annual report 1980-1981/Rapport annuel CRDI 1980-1981, Ottawa, IDRC/CRDI, 1981. 143 p. (IDRC-003/81 e, f)

L'impératif alimentaire : exposé du programme de cultures vivrières subventionné par le Centre de recherches pour le développement international, A.D.R. Ker, Ottawa, CRDI, 1981. 79 p. (IDRC-143f) (Also available in English, IDRC-143e)

Systèmes alimentaires : description du

programme "Systèmes post-production" subventionné par le Centre de recherches pour le développement international, R.S. Forrest, W. Edwardson, S. Vogel et G. Yaciuk, Ottawa, CRDI, 1981. 74 p. (IDRC-146f) (Also available in English, IDRC-146e)

Consulting and engineering design in developing countries, A. Araújo, editor, Ottawa, IDRC, 1981. 140 p. (IDRC-161e)

Tropical root crops: research strategies for the 1980s: proceedings of the first triennial root crops symposium of the International Society for Tropical Root Crops — Africa

Branch, 8-12 September 1980, Ibadan, Nigeria, E.R. Terry, K.A. Oduro, and F. Caveness, editors, Ottawa, IDRC, 1981. 279 p. (IDRC-163e)

Salus: Low-cost rural health care and health manpower training, an annotated bibliography with special emphasis on developing countries (volume 7), R.M. Bechtel, editor, Ottawa, IDRC, 1981. 142 p. (IDRC-165e)

Devindex 1979, index to 1979 literature on economic and social development/Index de la littérature sur le développement économique et social produit en 1979, G. Morin-Labatut and/et Lois Fitzpatrick, editors/rédactrices, Ottawa, IDRC/CRDI, 1981. 172 p. (IDRC-166e, f)

Rural water supply in developing countries: proceedings of a workshop on training held in Zomba, Malawi, 5-12 August 1980, Ottawa, IDRC, 1981. 144 p. (IDRC-167e)

Sanitation in developing countries: proceedings of a workshop on training held in Lobatse, Botswana, 14-20 August 1980, Ottawa, IDRC, 1981. 172 p. (IDRC-168e)

Techniques de reboisement dans les zones subdésertiques d'Afrique, G.R. Ferlin, Ottawa, CRDI, 1981. 46 p. (IDRC-169f)

A decade of learning: International Development Research Centre: Agriculture, Food and Nutrition Sciences Division: the first ten years, Ottawa, IDRC, 1981. 180 p. (IDRC-170e)

Une décennie d'expérience : Centre de recherches pour le développement international : La Division des sciences de l'agriculture, de l'alimentation et de la nutrition : bilan des dix premières années, Ottawa, CRDI, 1981. 200 p. (IDRC-170f)

The future of pastoral peoples: proceedings of a conference held in Nairobi, Kenya, 4-8 August 1980, J.G. Galaty, D. Aronson, P.C. Salzman, and A. Chouinard, editors, Ottawa, IDRC, 1981. 396 p. (IDRC-175e)

Induced fish breeding in Southeast Asia: report of a workshop held in Singapore, 25-28 November 1980, F.B. Davy and A. Chouinard, editors, Ottawa, IDRC, 1981. 48 p. (IDRC-178e)

Wildlife disease research and economic development: proceedings of a workshop held in Kabete, Kenya, 8 and 9 September 1980, L. Karstad, B. Nestel, and M. Graham,

editors, Ottawa, IDRC, 1981. 80 p. (IDRC-179e)

International Development Research Centre: projects 1970-1981, Ottawa, IDRC, 1982. 384 p. (IDRC-180e)

Centre de recherches pour le développement international : projets 1970-1981, Ottawa, CRDI, 1982. 416 p. (IDRC-180f)

Resource allocation to agricultural research: proceedings of a workshop held in Singapore, 8-10 June 1981, D. Daniels and B. Nestel, editors, Ottawa, IDRC, 1981. 170 p. (IDRC-182e) (Disponible également en français, IDRC-182f)

Nutritional factors involved in the goitrogenic action of cassava, F. Delange, F.B. Iteke, and A.M. Ermans, editors, Ottawa, IDRC, 1982. 100 p. (IDRC-184e)

Teaching yourself in primary school: report of a seminar on self-instructional programs held in Quebec, Canada, 12-15 May 1981, Ottawa, IDRC, 1981. 108 p. (IDRC-185e)

L'auto-enseignement au cours primaire : compte rendu du séminaire sur les programmes d'auto-enseignement tenu à Québec (Canada) du 12 au 15 mai 1981, Ottawa, CRDI, 1981. 120 p. (IDRC-185f)

Computer-based conferencing systems for developing countries: report of a workshop held in Ottawa, Canada, 26-30 October 1981, D. Balson, R. Drysdale, and B. Stanley, editors and compilers, Ottawa, IDRC, 1982. 43 p. (IDRC-190e)

Searching: review of IDRC activities 1981, Ottawa, IDRC, 1982. 40 p. (IDRC-192e)

Quêtes d'avenir : rapport d'activité du CRDI en 1981, Ottawa, CRDI, 1982. 40 p. (IDRC-192f)

Búsqueda: informe anual de actividades del CIID 1981, Ottawa, CIID, 1982. 40 p. (IDRC-192s)

Science of the culture of freshwater fish species in China, Ottawa, IDRC, 1981. 1632 p. (IDRC-TS16eM) (Available in microfiche only)

Les huîtres sous les tropiques : culture et méthodes, D.B. Quayle, Ottawa, CRDI, 1981. 80 p. (IDRC-TS17f) (Also available in English, IDRC-TS17e)

Ostras tropicales: cultivo y métodos, D.B. Quayle, Ottawa, CIID, 1981. 84 p. (IDRC-TS17s) (Also available in English, IDRC-TS17e)

Uniendo los mundos de la investigación educativa, R.G. Myers, Ottawa, CIID, 1981.

96 p. (IDRC-TS35s) (Also available in English, IDRC-TS35e)

Rol de los bancos en la comercialización de tecnología, STPI background paper no. 5, Informe preparado por el Equipo Venezolano del Proyecto STPI sobre instrumentos de política científica y tecnológica, S. Barrio, Ottawa, CIID, 1982. 74 p. (IDRC-MR38s)

Comportamiento tecnológico de las empresas mixtas en la industria petroquímica, STPI background paper no. 6, Informe preparado por el Equipo Venezolano del Proyecto STPI sobre instrumentos de política científica y tecnológica, Ottawa, CIID, 1981. 104 p. (IDRC-MR39s)

Interrelación entre la variable tecnológica y las variables horizontales: comercio exterior, financiamiento e inversión: STPI background paper no. 7, Informe preparado por el Equipo Peruano del Proyecto STPI sobre instrumentos de política científica y tecnológica, Oficina de Investigación y Capacitación, Instituto Nacional de Planificación, Ottawa, CIID, 1981. 125 p. (IDRC-MR40s)

A planned approach for the growth of electronics industry — a case study for India: STPI background paper no. 8, a report submitted to the Dept. of Science and Technology for S.T.P.I. Programme, Electronics Commission, IPAG Technology Development and Implementation Division, Ottawa, IDRC, 1981. 165 p. (IDRC-MR41e)

A current awareness bibliography for IDRC-supported fisheries projects, D. Turnbull, compiler, Ottawa, IDRC, 5(1), 1981. 25 p. (IDRC-MR43e)

Asignación de recursos para investigación agrícola en América Latina: Proyecto "Arial" Brasil: estudio de caso, Ottawa, CIID, 1981. (IDRC-MR45s)

Siganidae (the rabbitfish): a bibliography, W.E. Vanstone and D. Turnbull, compilers, Ottawa, IDRC, 1981. 16 p. (IDRC-MR46e)

A current awareness bibliography for IDRC-supported fisheries projects, D. Turnbull, compiler, Ottawa, IDRC, 5(2), 1981. 25 p. (IDRC-MR47e)

Proceedings of a workshop on approaches to process improvement for small food industry in developing countries, W. Edwardson and C. MacCormac, Ottawa, IDRC, 1981. 38 p. (IDRC-MR48e)

Teacher effectiveness: research in West Africa, prepared for the Research Review and Advisory Group in conjunction with the Anglophone West African Regional Educational Research Consortium (AWARERC), Ottawa, IDRC, 1981. 116 p. (IDRC-MR49e)

The impact of research on educational change, J.-P. Vielle, prepared for the Educational Research Review and Advisory Group, Ottawa, IDRC, 1981. 39 p. (IDRC-MR50e)

Current awareness bibliography for IDRC-supported fisheries projects, D. Turnbull, compiler, Ottawa, IDRC, 5(3), 1981. 31 p. (IDRC-MR51e)

Egg incubation and larval rearing of marine teleosts: a bibliography, G. Barlow and D. Turnbull, compilers, Ottawa, IDRC, 1981. 32 p. (IDRC-MR52e)

Research for development — Atlantic Canada and the Third World: proceedings of a seminar organized by St. Francis Xavier University and the International Development Research Centre, Antigonish, Nova Scotia, 1-2 June 1981, Ottawa, IDRC, 1981. 98 p. (IDRC-MR54e)

A current awareness bibliography for IDRC-supported fisheries projects, D. Turnbull, compiler, Ottawa, IDRC, 5(4), 1982. 21 p. (IDRC-MR55e)

Approaches to process improvement for small-scale food industry in developing countries: a manual prepared by workshop teams at the Thailand Institute of Scientific and Technological Research in February 1981, A.M. Anderson, compiler, Ottawa, IDRC, 1982. 176 p. (IDRC-MR56e)

Integrated family planning programs: rationale, concepts and methodology for evaluation, L.B. Seward and Fong Chan-Onn, Ottawa, IDRC, 1982. 40 p. (IDRC-MR57e)

A current awareness bibliography for IDRC-supported fisheries projects, D. Turnbull, compiler, Ottawa, IDRC, 6(1), 1982. (IDRC-MR59e)

The IDRC Reports/Le CRDI Explore/El CIID Informa, Michelle Hibler, editor-in-chief/rédactrice en chef.

Published in three separate language editions, IDRC Reports is a quarterly magazine of report and comment on the work supported by IDRC and on related activities in the field of international development. Total circulation of the English, French, and Spanish editions is about

17 000 per issue, of which slightly more than 50% is to developing countries, 40% within Canada, and the remainder to other industrialized countries. The magazine is published in January, April, July, and October.

Le CRDI Explore est une revue trimestrielle consacrée aux recherches financées par le Centre de recherches pour le développement international et aux activités connexes dans le domaine du développement international. Son tirage est de 17 000 exemplaires — éditions anglaise, française et espagnole — dont à peu près 50 p. 100 sont distribués dans les pays en développement, 40 p. 100 au Canada et le reste dans des pays industrialisés. Cette revue paraît en janvier, avril, juillet et octobre.

IDRC Feature/Reportage CRDI

A monthly news features service on scientific, technical, and educational subjects related to development is provided free of charge to newspapers and magazines in the developing world. During the past year, 38 articles, written by IDRC staff and other selected contributors, were distributed in English and French to some 500 publications in 86 countries. Although it has not been possible to obtain a complete record of the number of articles from this service actually published, it is known that the series is widely used and appreciated, with clippings and comments being received from Antigua to Zimbabwe.

Un bulletin mensuel d'information sur l'actualité scientifique, technique et éducative relative au développement est distribué gracieusement aux principaux journaux et revues publiés dans le monde en voie de développement. Au cours de l'année écoulée, 38 articles, écrits en français et en anglais par des employés du Centre et des correspondants choisis, ont été distribués à environ 500 publications dans 86 pays. Bien qu'il soit impossible de connaître le nombre exact d'articles reproduits à l'étranger, nous pouvons affirmer qu'ils sont largement utilisés et lus avec intérêt, si on en juge par l'abondant courrier qui nous arrive de l'Antigue au Zimbabwe.

Films

(Produced by/Réalisés par Neill McKee)

Harnessing the monsoons: improved cropping systems in Asia, 16 mm, 27 min, shows how researchers and farmers are working together to bring new life to the dry zone of Sri Lanka.

Project IMPACT: the overview, 16 mm, 27½ min, describes a successful experiment in low-cost mass primary education in Indonesia and the Philippines.

IDRC staff are frequently called upon to participate in workshops and seminars, to speak at conferences, and to contribute to scientific journals. In addition, many of the research projects supported by IDRC generate their own publications — reports, texts, and newsletters — that, although not produced or distributed by the Centre, form an important part of the effort to disseminate research results as widely as possible. The following sections list as many of these documents as were available at the time of publication of this report. Anyone interested in obtaining copies of the documents should contact the normal sources (authors, institutions, libraries, bookstores), although IDRC will try to supply copies of items not available elsewhere. In case of short supply, preference will be given to researchers in developing countries.

Il est souvent fait appel au personnel du CRDI pour participer à des ateliers et séminaires, pour prendre la parole à des conférences et pour collaborer à des revues scientifiques. De plus, un grand nombre de projets de recherche subventionnés par le CRDI débouchent sur la publication de documents, rapports ou bulletins qui, bien que non publiés et distribués par le Centre, constituent une part importante des efforts déployés pour diffuser aussi largement que possible les résultats obtenus par les chercheurs. Les sections suivantes donnent la liste de toutes publications parues au moment de la rédaction du présent rapport. Toute personne désireuse de se procurer des exemplaires de ces documents est priée de s'adresser à la source (auteurs, institutions, bibliothèques, librairies) bien que le CRDI s'efforcera de fournir ces documents lorsqu'ils ne seront pas disponibles ailleurs. Les documents en voie d'épuisement seront adressés de préférence aux chercheurs des pays en développement.

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