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IDRC ANNUAL REPORT 1985/1986



The map on the front cover is based on the Peters' Projection rather than the more familiar Mercator Projection.

The Peters' Projection introduces several innovative characteristics: an accurate rendition of the proportion of the land surface area; graphical representation of the entire world surface, including the polar regions; and the Equator is placed at the centre of the map. The distortions that do appear are distributed at the Equator and the Poles; the more densely settled earth zones, it is claimed, appear in proper proportion to each other.

The map is printed courtesy of Dr Arno Peters of the University of Bremen.

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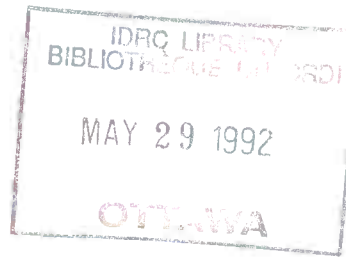
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Annual Report 1985–1986

International Development Research Centre

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

The fields of investigation to which IDRC gives its financial and professional support include: farming; food storage, processing, and distribution; forestry; fisheries; animal sciences; energy; tropical diseases; water supplies; health services; education; population studies; economics; communications; urban policies; science and technology policy; and information systems.

Although IDRC is funded by the Canadian Parliament, its operations are guided by an international 21-member Board of Governors. Under the IDRC Act, the chairman, the vice-chairman, and nine other governors must be Canadian citizens; in practice, 6 of the remaining 10 governors are from developing countries.

The programs that the Centre supports help developing countries build the scientific competence of their institutions and their researchers so that these countries can work to solve their own problems. Research projects supported by the Centre are, therefore, identified, designed, conducted, and managed by developing-country researchers in their own countries, to meet their own priorities.

IDRC helps to create and supports international research networks through which developing countries can learn from each other, share common experiences, and conduct similarly designed studies in areas of mutual concern. The Centre also promotes cooperation between researchers in developing countries and their counterparts in Canada.

IDRC has its headquarters in Ottawa, with regional offices in:

- Singapore (Southeast Asia, East Asia, and the Pacific);
- New Delhi, India (South Asia);
- Nairobi, Kenya (Eastern and Southern Africa);
- Cairo, Egypt (Middle East and North Africa);
- Dakar, Senegal (West and Central Africa); and
- Bogotá, Colombia (Latin America and the Caribbean).

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INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
CENTRE DE RECHERCHES POUR LE DEVELOPPEMENT INTERNATIONAL

Chairman of the Board
Président du Conseil

July 14, 1986

The Rt. Hon. Joe Clark, P.C., M.P.
Secretary of State for External Affairs
Lester B. Pearson Building
Ottawa, Ontario

Dear Minister:

In accordance with Section 22 of the International Development Research Centre Act, I have the honour to transmit herewith the Annual Report of the International Development Research Centre for the fiscal year ending March 31, 1986 which includes the financial statements of the Centre and the Auditor General's report thereon.

Yours sincerely,

Janet M. Wardlaw

Introduction

When Parliament created IDRC in 1970, it did so with some excitement and with a clear sense of purpose. Members of Parliament were dedicated to the design of an unusual organization, one with an international character and an unprecedented degree of independence. During the House of Commons debates, they indicated that they wanted this new assistance vehicle not only to focus on science and technology, but also to take on a distinctive character.

In the process, Parliament left no doubt that what was being conceived to help solve the complex problems facing the developing countries was something quite novel: a mechanism that would utilize innovative approaches, would emphasize the advantages of flexibility, and would exhibit sensitivity and responsiveness to the priorities of the developing countries.

Never before had a country of the Organisation for Economic Cooperation and Development (OECD) publicly declared its intention to create — and to finance entirely — an international institution, to free it from the burden of domestic bureaucratic constraints, and to encourage it to pursue development effectiveness single-mindedly. At once, a new standard of development cooperation was set, and new expectations created within Canada and abroad about the quality of the assistance to be offered. Those expectations were reflected in 1981 by the Auditor General of Canada when he undertook a comprehensive examination of the Centre's effectiveness. In his report to Parliament the following year, the Auditor General stated: "IDRC operates with highly qualified, experienced, and dedicated professional staff, many of whom are internationally renowned in their fields. Most project recipients we interviewed considered the IDRC approach superior to that of other international aid agencies."

Distinguished board

One of the keys to the Centre's effectiveness continues to be its international Board of Governors. The Board has evolved as one of the world's most distinguished groups of scientists and now enjoys an unquestioned reputation as the single most competent and experienced council of development research experts to be found anywhere.

The Centre's superbly qualified natural and social scientists represent the comparative advantage of IDRC. Their advice and their views are continuously sought by scientific institutions, by international organizations, and by governments. They function from Ottawa and from six regional offices located in Africa, Asia, and Latin America. Centre employees blend a distinctive mix of sectoral and geographic qualifications and experience, possess in total hundreds of university degrees and technical certificates, speak fluently more than 60 languages, and come from more than 50 countries. Most important, IDRC scientists without exception work in the field.

IDRC views development as a process for the benefit of people — in largest number, rural; in greatest need, women. The Centre has learned that development is a complex matrix of ingredients and problems, none of which is unrelated to others. It understands that development is investment — of people and resources — and that development decisions are investment decisions. Those most capable of identifying the problems, assessing the risks, and fixing the priorities are the peoples of the developing countries themselves. They are the engines of development and the instruments of change. They are the partners and the beneficiaries of IDRC activity.

The Centre is well aware that development is a qualitative exercise much more than a quantitative one. Quality of life and individual human dignity are the goals. Raw economic statistics can be confusing and tempt short-term, quantifiable activities at the expense of genuine development accomplishment. IDRC endeavours to blend judiciously and sensitively its own experience with the identified long-term needs of the developing countries, and to act both as a catalytic and a supportive agent among other actors in the development community.

Research to solve real problems

All these things IDRC has endeavoured to do in the past 15 years. Its goal in the future is to be even more effective, to be more responsive, to draw the correct lessons from the circumstances it encounters. It will remain emphatic in its insistence that research projects must address real problems and that research results must be utilized for the benefit of those most in need. Central to all else, however, IDRC will remember that its role is a subsidiary one: to help developing countries to help themselves.

IDRC in 1985–1986

This document, the IDRC *Annual Report* for the fiscal year 1985–1986, meets the requirements of the Act that established the Centre. The following pages describe major aspects of the activities of the Centre's divisions. A narrative, less detailed description can be found in *Searching*, another annual Centre publication.

IDRC's principal activity is the allocation of research grants. The *Annual Report* contains a complete and detailed listing of these under the heading *Projects*. The next section, *Division activity projects*, shows by the use of examples how funding was provided to assist in the development or start-up of research projects. This is followed by two sections dealing with the Centre's finances, *Financial commentary and highlights* and the *Auditor's report*.

The Report ends with lists of the *Fellowships* awarded in 1985–1986 and *Publications and films*, both those produced by the Centre as well as those by Centre staff.

Agriculture, Food and Nutrition Sciences Division 100 projects, \$21.8 million

The activities of the Agriculture, Food and Nutrition Sciences Division are grouped under five programs.

During the fiscal year 1985–1986, the new *agricultural economics* program, which was established in the previous year, went into full swing. In all,

17 projects were approved, 10 in Latin America, 6 in Asia, and 1, a major one, in Africa.

Although most of these were the exclusive responsibility of the agricultural economics program, a number were jointly financed with other divisional programs. In many cases, agricultural economics projects constitute an essential socioeconomic complement to projects that already have IDRC support. In Indonesia, for example, the Centre has already funded the design of rice- and corn-drying machinery. The impact of this research, however, has been limited because the real problems went far beyond the simple technical issue that had absorbed all the scientists' energies. A companion agricultural economics project will take into account the cost of labour and compare the relative effectiveness of the service provided by cooperatives and private mills.

In Latin America, a series of studies of various systems of agricultural production will make it possible to construct a typology of small farms. Socioeconomic factors — ownership, credit, labour, and marketing — will be studied alongside the methods and techniques applied. Once the numerous technological options have been understood, multidisciplinary teams will be in a position to suggest those options most likely to increase both the agricultural output and the income of farmers. The end result will be that Latin American peasants will have access to precise information about the advantages to be expected from new agricultural systems.

From the start, the Division has stressed the importance of improving postproduction techniques to decrease losses during storage, transportation, and processing of foodstuffs. The agricultural economics program rounds out work done in this area by undertaking research into the economic aspects of postproduction systems. These include such topics as the marketing of fish in Sri Lanka and the cold storage of vegetables in the Philippines.

In Africa, where per-capita food production has been declining for about 15 years, governments need to develop policies based on a genuine national consensus. Even in a country such as Ivory Coast, which has a dynamic agricultural sector, farming is running out of steam and the government expects a lot from agricultural economists before adopting new policies. Experts at the Centre ivoirien de recherches économiques et sociales (CIRES) in Abidjan have, therefore, decided to specialize in agricultural and rural development. Through its agricultural economics program, the Division has linked up with the Social Sciences Division to help endow CIRES with the means of becoming a true centre of excellence in agricultural economics in West Africa.

The *crops and animal production systems* program makes a crucial contribution to the improvement of several food crops that are generally neglected by research. World production of bananas and their cousins, plantains (which must be cooked or boiled), amounts to 63 million tonnes annually, of which only 7 million are for export. Most research so far has concentrated on production in plantations and this has left small producers helpless in the face of such scourges as sigatoka disease. In Central America, controlling it requires dozens of applications of fungicide that cost, altogether, about \$100 million every year.

To protect what is an important source of nutrition in the tropics, IDRC has already funded a number of research projects on plantains in Cameroon, Costa Rica, Jamaica, Honduras, the Leeward Islands (Lesser Antilles), and

the Philippines. In 1985, acting for a number of donors, IDRC agreed to guide the establishment of the International Network for the Improvement of Banana and Plantain (INIBAP). A board of trustees has been set up and a director appointed. IDRC's Board of Governors has also approved two separate grants for the Division to support INIBAP.

Since 1971, the Division has been a leader in funding research into root crops and tubers: cassava, cocoyams, potatoes, sweet potatoes, and yams. Visayas State College of Agriculture in the Philippines has created three new varieties, which have already been released and distributed. A major project of the Division has helped to develop a national program in Cameroon for research into cassava, yams, and sweet potatoes. In East Africa, IDRC has renewed its support for research into tubers in Rwanda and Zanzibar (part of Tanzania).

Since 1976, IDRC has also contributed to the work of the Commonwealth Institute of Biological Control. Its research led to the identification of a wasp that preys on the cassava mealybug. The wasp has been introduced into Africa where it is beginning to destroy the mealybug population. The Division also approved grants for two other biological-control projects in 1985: one on the use of a parasitoid insect to control several lepidopterous pests in China and another on the use of bacteria to control pests on oilseed crops in Egypt. Both are cooperative projects, the first with Guelph University, the second with Agriculture Canada's Winnipeg research station. (Cooperative projects involve a partnership between Canadian and Third World scientists.)

The research funded by the Division in the area of livestock has focused on neglected species, particularly sheep and goats. In 1985, the Division recruited an expert on small ruminants so as to provide better guidance in this area of research. Two projects have been approved: one on goats in Mexico and the other on sheep in Egypt.

Support for a number of projects on minor species has continued. Research on indigenous breeds of pigs in El Salvador, conducted in cooperation with McGill University, has received a second grant. A completely new project on the genetic improvement of breeds of buffalo has been approved. This will be jointly executed by the Universiti Malaya and Guelph University. During the past year, the Division has begun to fund research into small meat-producing animals: rabbits, in Tanzania, and guinea pigs, in Peru.

The Division continued its support to two important livestock research networks. The first one is based at the International Livestock Centre for Africa in Addis Ababa; the other, centred on three Latin American research institutions, links 13 IDRC-funded projects and numerous others supported by other donors. The network has greatly encouraged livestock research in Latin America. Panamanian scientists who received an IDRC grant for the third phase of their work have experimented with "protein banks" for cattle based on the use of leguminous fodder. These new methods, developed in collaboration with a dozen small farmers, show that it is possible to increase farm income by US\$5500/year.

The fisheries program is broadly divided into two subprograms, aquaculture/mariculture and artisanal fisheries. In 1985-1986, the first of these received the larger share of grants.

In Asia, it has been common practice for the past 2500 years to breed several species of fish in the same pond. This is referred to as polyculture. The Ministry of Fisheries of Malawi is conducting research with the objective of introducing Asian fish-farming methods in Africa, but using five species of fish common in Malawi. Scientists from Malawi will have an opportunity to study polyculture in China thanks to a contribution from the Fellowships and Awards Division. Meanwhile, an IDRC grant will help Chinese specialists obtain a scientific understanding of their ancestral fish-farming methods.

In the area of artisanal fisheries, the Division approved a request from Bangladesh and agreed to finance research into the migratory fish *Hilsa* (*ilish* in Bengali). Between 100 000 and 200 000 people make their living by fishing for *Hilsa* but almost nothing is known about it.

Some of the projects straddle the two subprograms mentioned above. In Chile and Peru, two research projects on seaweed, scallops, and other native species of mollusc have been designed to develop new methods of breeding species on the verge of extinction. One of the most promising aspects of the research is the enthusiasm with which fishermen and scientists are collaborating. Eventually, the results will be disseminated to several other Latin American groups who are already benefiting from a network of projects in aquaculture and artisanal fisheries supported by the Centre.

The *forestry* program continues to support social forestry designed to meet the needs of village communities and small landowners. Research into improving the supply of firewood in the countryside and the cities, and integrating trees into crop and livestock systems, is a priority. The purpose is to find simple methods that rural communities can easily apply themselves.

The Division has also funded research into the genetic improvement of trees, an activity directly related to the priorities mentioned above. New techniques for in vitro tissue culture have already helped to accelerate work on the genetic improvement of some of the woody plants. The same techniques also make it possible to multiply clones of superior trees rapidly. Two tissue culture projects were approved in 1985–1986.

The Division has supported research into bamboo and rattan in Asia for some years and this activity has expanded into a 14-project network. More than 90 specialists from 15 countries met in a workshop on bamboo in Hangzhou, China, in October 1985. This afforded an opportunity for a valuable exchange of information at an international level and also emphasized the importance that IDRC attributes to work on bamboo.

The success of the Asia bamboo research network led the Division to try a similar approach with eight reforestation projects in Latin America. As in Asia, the network has been strengthened by the appointment of a part-time coordinator based in one of the national projects.

A new approach to funding was tried in East Africa in 1985–1986. Instead of funding projects presented by research organizations, the Division decided to grant individual scholarships to young forestry researchers. This should help create a pool of specialists in forestry research who will devote their energies to studying problems they themselves select.

In 1985–1986, the *postproduction systems* program supported two important cooperative projects on beans. The first is an in-depth study of the hardening of beans in storage. A team from Guelph University in Canada is

studying the biochemistry of hardening while chemical engineers at the Pontificia Universidad Católica de Chile are testing simple and inexpensive methods of roasting to prevent hardening. The second project brings together the Department of Foods and Nutrition at the University of Manitoba and the Instituto de Nutrición de Centro América y Panamá, in Guatemala City, to compare the characteristics of different types of beans and to survey consumer preferences.

In March 1986, a workshop was convened to discuss the grain dehuller that was developed as a result of research funded by the Division. The participants suggested that the machine was well suited to the needs of the people of the African Sahel region. The first prototype went into service in Nigeria in 1973 and since then more than 100 dehullers have been installed in 14 countries. Five countries manufacture a variety of models. One of these is a mini version that, because it is adapted for village use, has turned out to be even more popular than the original larger models. Designed in Africa, the dehuller is now catching on in India.

After evaluating those projects with an important nutritional component, the postproduction systems program concluded that more significance should be attached to consumer tastes and product marketing constraints. A project on household grain processing in Hyderabad, India, is the first step in this direction. As part of an Indian government scheme, a number of women have undertaken to set up enterprises to manufacture food for children. All aspects of the management, marketing, and relationship of the scheme to others operated by the government will be examined by the IDRC-supported project.

Social Sciences

96 projects, \$9.9 million

The Social Sciences Division funds a large number of projects in economics, education, demography, and urban policy. Initially, projects are widely diversified and independent of each other because each arises from a distinctive context. Subsequently, the Division creates a variety of opportunities for scientists to meet each other. In a number of areas of research, mechanisms for exchanges are put in place and give rise to more or less structured networks. These networks break the isolation of researchers and encourage the emergence of new theories and concepts. They also serve to maximize the impact of the results obtained.

In 1985–1986, the *economics* research program continued its efforts to support macroeconomic research in East and Central Africa. The Division is seeking to help expand the role of researchers at the national level by supplying them with the most recent publications and providing them with regular opportunities to meet each other in workshops. The Division has also assembled a team of researchers and senior officials to study the foreign debt renegotiation process in Latin America. In Asia, an international conference in November 1985 brought together representatives from six projects on handicrafts. Its purpose was to bring the research results to the attention of governments and funding agencies.

During the fiscal year 1985–1986, the *education* program designed strategies adapted to the various regions in which it operates. In Ghana, Mali,

and Sierra Leone, the Division supported a number of major projects involving West African institutions whose research potential is restricted by inadequate funding. In Eastern and Southern Africa, the Division maintained its policy of giving small individual grants and financed a network of teams from eight countries.

The networks set up in Asia, where the scientific infrastructure is much stronger, led to the creation of a group of specialists in the evaluation of education research. Other clusters of projects on private tutoring and early childhood education are taking shape.

In Latin America, the objectives of projects, governments, and independent national research institutions tend increasingly to converge. This trend is particularly apparent in the studies done on training and employment and on the formal- and nonformal-education needs of marginal groups such as peasants, Indians, and women.

On the international level, the education program has continued to support the Consultative Group on Early Childhood Care and Development and has begun a wide-ranging review of innovative teacher-training programs for the International Working Group on Education.

The *population and development* research program supported projects in several new areas of research. Some of these investigations were financed in cooperation with the Health Sciences Division. These included a study of the reactions of women to the Norplant® contraceptive implant, which releases hormones when inserted beneath the skin, and another on the social attitudes and practices associated with illness and malnutrition in Peruvian children. Considerable support was given to studies on migration of female labour and its effects on social, economic, and demographic attitudes and behaviour.

A number of research projects dealing with the conditions and adaptation of refugees in Africa were begun. The countries involved include Botswana, Lesotho, the Sudan, Swaziland, and Tanzania. In Thailand, a workshop to discuss the same topic was also funded.

The population program also took the lead, on behalf of the Division, in organizing a number of reviews of the scientific literature on the socioeconomic impact of drought in Africa. In East Africa, this work has led to a number of recommendations for research with a practical orientation. On completion of the West African reviews before the end of 1986, the Division plans to organize a workshop to design research strategies that can be applied to all areas of Africa affected by drought.

In the *urban policy* research program, the emphasis continues to be on studies to improve income and employment in the informal sector of urban economies. The Division is supporting several projects of this type. They include one by the Centro de Estudios para el Desarrollo y la Participación, in Lima, Peru, as well as projects on women street vendors of food in Jamaica and on small apparel enterprises in Uruguay.

The Division also supported a number of research groups working in urban policy and in economics, to enable them to share the results of their work at the International Conference of Handicrafts in Singapore in November 1985.

Finally, the Division provided support for the evaluation of industrial development promotion programs in Argentina; the use of traditional construction materials in Kenya; the improvement of urban transit systems in Thailand; and research on planning for urban growth in Turkey. Activities in West and Central Africa took the form of a series of small grants awarded individually to promising researchers.

Health Sciences

62 projects, \$10.2 million

The improvement of health conditions in developing countries depends as much on laboratory research as on field studies. This is the view on which the Health Sciences Division's programs are based. The Division is especially active in the area of health needs in rural and suburban communities.

Throughout 1985–1986, the Division gave priority to research projects dealing with the needs of these groups. Special attention was also paid to studies designed to shed light on the dynamics and impact of community health projects.

The *health services* research program, established in 1983, supports studies of this kind. For example, it has funded research on the health services provided to villagers, on the organization of health services in various communities, and on the impact of development programs on community health services. These studies are part of a network of six projects in four countries. In each case, the researchers are studying the effectiveness of community health workers and services. Some of the experimental services under study are themselves projects funded by other programs of the Division. The Division has funded an evaluation of the graduate training offered to various categories of health personnel in the West Indies and another of the efficiency of mobile dispensaries in the Philippines.

The *maternal and child health* research program has maintained its focus on perinatal health and on the identification of high-risk pregnancies and the most vulnerable mothers and children. Research in this area has been funded in India, Jamaica, Peru, Thailand, and Zimbabwe. The Division cofinanced a workshop in research methods in perinatal health in Latin America from which several research projects requiring community participation emerged.

Several of the other projects approved under this program deal with community nutrition. The results of this research have been useful in designing new programs that have been implemented. These projects may even lead to the development of new research methods.

The program has also continued its support for research into family planning and contraception techniques such as the development of contraceptive vaccines. A project on the management of family-planning programs in Asia and Latin America was also approved in 1985–1986.

The *tropical and infectious diseases* program has funded activities in four major areas: tropical and infectious diseases, of course, but also sexually transmitted diseases and vaccines. Fifteen projects took shape in 1985–1986. The research covers worldwide problems such as bilharziasis and respiratory infections in children and other more restricted problems such as snakebites in Burma.

The Division attempts to distribute its funds equitably between research in communities and laboratory work. Each activity needs the support of the other as demonstrated by a number of recent achievements in immunology and biotechnology. A number of the projects approved in 1985–1986 are intended to simplify diagnostic methods to increase their use in the field where they are most needed. In Brazil, the Division has funded the use of *in vitro* tissue culture to improve the manufacture and quality of yellow-fever vaccine.

However, it would merely arouse false hopes to implement health strategies based on local participation if one had no prior understanding of the epidemiology of infectious diseases such as leishmaniasis, dengue, tuberculosis, and intestinal parasites. The results of such research are absolutely essential to health planners if they are to put effective programs in place for the prevention and treatment of these diseases.

The *water supply and sanitation* program funds research into the provision of potable water and sanitary facilities to create healthy rural and suburban environments. The program gives priority to experiments in new technologies, the evaluation of intervention strategies, and applied research in the field. In 1985–1986, a significant proportion of the funds were allocated to strengthen the research capabilities of national nongovernmental organizations (NGOs).

In funding research projects on handpumps, water analysis, and rainwater catchment, the Division has tried to encourage “networking,” that is, the creation and strengthening of links and exchanges among developing country researchers. The Division has also tried to foster the formation of networks among those water and sanitation projects involving active participation of the beneficiaries, especially women. A seminar on the role of women in water supply and hygiene stimulated the formulation of several research projects on the crucial role of mothers and housewives in ensuring the success of community health projects.

The success of the PVC (polyvinyl chloride) pump, now manufactured in Malaysia under the name UNIMADE, set the seal on the achievement of this program. In August 1985, the Universiti Malaya and IDRC signed an agreement to market the pump, which was developed with IDRC support. The three reports published and the film on the development of the pump exemplify IDRC’s efforts to disseminate the results achieved.

The water supply and sanitation program has also given priority to research into waste treatment. In Singapore, the Division continued its support to a major research project on biogas and algae production from piggery waste — the algae can be used for feeding cattle. The project site has become a regional centre for training in recycling techniques and pollution control.

The Division has also supported work on environmental diseases such as dracunculosis (guinea worm) and bilharziasis, and into the design and development of strategies to control water-borne and waste-related diseases.

The Division’s fifth program, *occupational health and environmental toxicology*, recognizes the social importance of workers: their welfare is critical to the social fabric and productivity of any community.

In practice, the program focuses on the evaluation of the working conditions of disadvantaged labourers. The objectives are to correlate such

conditions with work-related accidents and to recommend ways to improve health and safety. In some instances, specific groups were the subject of investigation, and one project in particular, involving female workers, could even become a model for other research projects.

Almost everywhere, development is synonymous with industrialization. All too often industrial processes result in pollution of the environment by toxic effluents. In 1985–1986, the Division funded numerous projects demonstrating the damage that can result from environmentally negligent industrial development. An extensive regional study will describe the effects of industrial pollution of waterways on the population of six Latin American countries. The program also supports research in Peru into the purification of wastewater for use in irrigation and a project on lung cancer in communities located close to cemeteries.

In the area of noninfectious diseases, the Health Sciences Division, in cooperation with the Information Sciences Division, has contributed to the creation of a Poisons Information Service in Sri Lanka.

In general, during the fiscal year 1985–1986, the Health Sciences Division strengthened its links with Canadian university and government research organizations and with the international agencies, donors, and NGOs. This has resulted, among other activities, in the setting up of a consortium of NGOs that fund large-scale health research programs.

Information Sciences

48 projects, \$7.2 million

During the fiscal year, the Information Sciences Division maintained national projects as its priority. This policy enabled a number of countries to take advantage of the services provided by the existing major international information networks and to adapt current methods to meet their own information needs. Through other projects, the Division assisted countries in trying out new technologies or new applications of existing technologies.

Despite this focus on national activities, the Division has not neglected the international information systems, particularly where they fill important gaps or favour the introduction of new technologies and methods. On the international level, the Division has given priority to setting up regional information systems in areas such as the South Pacific and the West Indies where the existence of small, scattered populations and restricted financial resources prevent individual countries from running their own systems.

Several grants have been made to innovative national projects. In Thailand, a study of transborder data flows will provide new information on what is an important subject of international discussion. It is also hoped that the results will be extremely useful to other developing countries. Another innovative national project is one in Cuba, where an attempt is being made to set up a low-cost, decentralized, national data network using microcomputers. Again, the results will be made available to other countries wishing to learn from the experiment.

The study of occupational health and safety is a recognized discipline in Canada and elsewhere, but it is only just beginning to attract attention in numerous developing countries. A contribution by the Cooperative Programs Division will make Canadian experience available in setting up a national

occupational health and safety information system in Thailand. Because of increasing industrialization in many countries, the Division expects to receive numerous other requests in this area.

In 1985-1986, the Information Sciences Division not only helped countries master new techniques but also collaborated for the first time with certain countries — Burma and Syria, for example — in setting up, respectively, a national health information system and agricultural information services.

Other projects will help national institutions to make further progress in a number of areas by giving them the opportunity to apply new technologies. After preliminary work last year, a course is being designed in cooperation with the Commonwealth Secretariat to train personnel from small countries in the use of a microcomputer-based system for managing foreign debts.

Generally speaking, projects carried out in response to requests from individual countries are smaller than those undertaken in the context of international information systems. There are, however, exceptions to this. A grant to the Chinese Agricultural Information Service, for example, is considered to be national in scope; however, because of the large area covered by the system, the undertaking is, in practice, a regional one.

Two projects already mentioned briefly illustrate the Division's strategy for responding to regional needs. The first is the Pacific Information Centre at the University of the South Pacific in Suva, Fiji, which is now going into its second phase. The Centre coordinates the limited resources available in the area so as to provide a multidisciplinary information service to the whole South Pacific. In the West Indies, the Market Information System, also in its second phase, supplies agricultural producers with current information about prices for their crops. In both cases, it would be impossible to set up systems of this type on a purely national basis.

DEVSI (Development Sciences Information System) projects continue to be a major component of the Division's programs. In 1985-1986, the Southeast Asian DEVINSA network began setting up a DEVSI-type data base. For the first time, the system will be used by a network of independent socioeconomic research organizations instead of being restricted exclusively to government agencies. Another project with regional repercussions involves the African Intellectual Property Organization. It will, for the first time, disseminate patent information in French-speaking Africa. A similar project in the West Indies has already received funding. During 1985-1986, the Division approved its first grant to the Information Network on New and Renewable Energy Resources and Technologies for Asia and the Pacific. This is based at the Energy Research and Development Centre in Manila, Philippines.

A number of these projects have required close consultation with other IDRC divisions and, in some cases, joint funding. The Poisons Information Service in Sri Lanka, for example, is funded jointly with the Health Sciences Division. The project will provide both divisions with valuable information about the utility of such services to doctors and health workers confronted by emergencies.

To summarize: an increasing number of the Information Sciences Division's projects are designed to supply information directly to users —

doctors, agricultural extension workers, farmers, and planners. This orientation, coupled with an increased emphasis on new methods and technologies, is in keeping with the Division's continuing efforts to find better ways to respond to the needs, priorities, and changing opportunities of a developing world anxious to improve its access to information.

Fellowships and Awards **27 projects, \$3.0 million**

The Fellowships and Awards Division, established in 1983, has become an active partner in the training and upgrading of administrators, researchers, and research managers. This is its contribution to increasing national research capabilities in the Third World. Through its share of the Cooperative Programs budget, it also coordinates the awarding of scholarships to young *Canadian researchers* working on the problems of developing countries.

The purpose of the Fellowships and Awards Division's various programs is to respond to the training needs identified by specialists in IDRC's program divisions, both in Ottawa and in the regional offices. The greater part of the Division's funds is spent on individual *fellowships*. Most of these are awarded on the suggestion of program officers. (A full list of the fellowships awarded during the fiscal year 1985–1986 appears on pages 68–77.)

In 1985–1986, the *group training* program once again demonstrated its flexibility by enabling the Division to cooperate with an increasing number of instructional institutions. Grants to small groups generally serve to fund short, one-time upgrading courses; in contrast, those made under the *institutional development* program provide longer-term support to recognized institutions. Grants under this program also facilitate experimentation with new methods of training over longer periods. The Centre ivoirien de recherches économiques et sociales, in Ivory Coast, for example, received a grant to set up a new doctoral program in rural economics. Another grant was made to an experimental organization, the Consortium Graduate School for Social Science, operated jointly by the universities of Guyana, Surinam, and the West Indies.

The Fellowships and Awards Division has continued to encourage the joint funding of upgrading projects in collaboration with the program divisions. In 1985–1986, the Division approved a joint project with the Health Sciences Division that will enable the Institut national de recherche en santé publique, an agency of the ministère de la Santé publique et des Affaires sociales in Mali to organize and operate a course on applied research methods. Subsequently, the course will be offered to science and health professionals in the French-speaking Sahelian countries.

Cooperative Programs **23 projects, \$6.2 million¹**

The cooperative programs were instituted in 1980–1981, and became a full-scale program division in 1983–1984. The objective of the Cooperative Programs Division is to promote collaboration between Canadian and Third World research institutions to find solutions to problems of international development. Beyond this basic purpose are two other aims: to

¹In addition, a further 26 projects for a value of \$6.6 million funded by Cooperative Programs are administered by other program divisions.

contribute to the development of the scientific and technical research potential of Third World institutions and to encourage Canadian research teams to take a practical interest in the numerous and varied problems of developing countries. In practice, all research projects funded from the Cooperative Programs budget must be jointly executed by a Third World and a Canadian institution.

The Division's overall budget is shared between two categories of grants: cooperative research projects under the guidance of IDRC's other program divisions and research projects that are the exclusive responsibility of the Cooperative Programs Division.

The cooperative programs are consistent with IDRC's mandate and policies and, at the same time, complement the work of the other program divisions. So far, research in the areas of nutrition, water, housing, and health, as well as studies designed to increase income in the Third World, have been given priority. In effect, the Division emphasizes those areas of research that developing country institutions themselves recognize as priorities. There must also be Canadian expertise available in the discipline of the proposed research and the project should promote on-the-job training of scientists and technologists.

The first area of specialization in which the Division has instituted a program is *earth sciences*. This involves a number of disciplines: geology and the geophysics of deposits, hydrology, engineering geology, hydrogeology, nonmetallic mineralogy, small-scale mining technology, environmental geology, and associated technologies.

The second area of specialization to be approved by IDRC's Board of Governors is referred to as the *technology for local enterprises* program. The program was designed to promote the development of small- and medium-sized enterprises. Projects provide entrepreneurs with an opportunity to modernize and also to improve the skills and technical potential of their enterprises. Research funded in this area focuses on the improvement of products and operations, the management of technological innovation, and environmental problems. So far, research has been carried out on plastics, composite materials, chemical products, metals, glass, ceramics, waterproof coatings, and problems related to corrosion and to the analysis of materials.

The Division's third program of activity, "*other fields*," covers a variety of research topics, enabling IDRC to respond to requests that do not fall under either of the other two programs. A research project on housing is taking shape in this last sector.

During 1985-1986, the earth sciences program concentrated mainly on the study of the hydrogeological problems of large cities. Mexico City, for example, gets its water from underground aquifers. The Division is funding the development of a computerized model of these aquifers, an isotopic analysis of the water, and a range of hydrogeochemical tests to determine the origin, flow, and age of groundwater in the aquifers. The results of the study, which has been jointly undertaken by the Universidad Nacional Autónoma de México and Waterloo University in Canada, will show the authorities how to exploit the aquifers without worsening the subsidence of urban areas. Research into similar problems in Bangkok, Thailand, and Montevideo, Uruguay, has also received funds. In addition, the Division is supporting two

other hydrogeological research projects: one in Swaziland, the other in the north of Uganda.

In general, builders in numerous developing countries have neglected stone as a construction material in favour of concrete, despite the large amount of energy needed to manufacture the latter. Tanzania, however, now wishes to extract building blocks from a large stone quarry in the Kilimanjairo region. A single research project, but one involving all three of the Division's programs, will facilitate the identification of the most promising areas of the quarry, the improvement of cutting techniques, and the testing of a variety of stone-built structures. A building code for masonry construction suitable for local conditions will also be drawn up. This project is a joint undertaking by three groups: the Tanzanian Ministry of Energy and Mines; Agricola Minerals of Navan, Ontario, a private firm; and the Prairie Masonry Research Institute of Canada, a nonprofit organization.

Several projects have been approved for 1985–1986 in the technology for local enterprises program. These include the design of a circulating fluidized bed boiler to permit the exploitation of Indian coal, which has an excessive ash content. The research is being done by the Indian Institute of Technology, the Indian firm Bharat Heavy Electricals, and the Technical University of Nova Scotia, in Canada. Two other projects under this program deal with the manufacture of low-cost building materials from blast furnace slag, in Argentina, and the design of earthquake-resistant adobe housing, in Peru.

In the "other fields" program, the Division has funded work at the Solar Research Institute in Beijing, China, and the Canadian Gas Research Institute into a refrigerator designed to run on biogas. The manufacture of a refrigerator of this type would provide a boost to numerous small- and medium-sized enterprises in China.

Lastly, the Division has provided support for a study of the living conditions of sailors by specialists at the Institute of Southeast Asian Studies, a regional institution located in Singapore, in association with Dalhousie University's Ocean Research Program in Nova Scotia. The researchers will study the impact of the internationalization of merchant shipping and the effect of the new regulations, working conditions, and recruiting methods on the life of sailors, many of whom are recruited in Southeast Asia.

Communications

13 projects, \$0.54 million

For the fiscal year 1985–1986, the Communications Division had a relatively modest sum available to it for funding program work. The projects it supported fell mainly within the scope of two programs with the same basic objective: better dissemination of scientific results achieved by Third World researchers.

Most of the *scientific communications* projects consisted of contributions to scientific and technical publishing in developing countries. The Division funded two training workshops for 15 professionals in scientific publishing in French-speaking Africa. They were held at the Université d'Abidjan in Ivory Coast at the beginning of 1986. This divisional initiative aroused sufficient interest to convince the Agence de coopération culturelle et technique to

organize a third workshop in France. In addition, three African scientific periodicals with regional distribution were able to make a fresh start thanks to IDRC.

The Communications Division also collaborated with a number of research centres to help them to communicate the results of their work more effectively to different groups of potential users. One such project will enable the Kenya Rangeland Ecological Monitoring Unit (KREMU) to find out what use is made of its publications. KREMU will then be able to produce documents containing exactly the information requested, presented in a manner that will facilitate its use.

The objective of the *media development* projects is to promote better coverage of national scientific news in the Third World. In Latin America, the Division provided support for the Grupo de Estudios para el Desarrollo of Lima, Peru, to hold a series of training workshops for journalists, teachers of journalism, and editors of government bulletins. In East Africa, a workshop organized by the Zimbabwe Institute of Mass Communication is likely to prove influential: it provided an introduction to science popularization for a group of 20 journalism teachers. A similar project launched by the Press Foundation of Asia in the Philippines also received IDRC support.

Finally, the Division provided grants to enable two regional news feature services, one in Southeast Asia and the other in Latin America, to disseminate articles on science.

By promoting a better flow of information between scientists and the general public, the Communications Division is trying to foster Third World scientific activity that responds to the real needs of people.

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Projects for which funds were approved during the fiscal year 1985–1986¹

Agriculture, Food and Nutrition Sciences

85-0007 AFFORESTATION NETWORK (CHILE)

For the Instituto Forestal (INFOR), Santiago, to establish a network to provide effective liaison, coordination, and technical guidance to existing Centre-supported afforestation research projects in Latin America and explore the potential for expanding the research with other institutions. \$48 500 — 12 months.

85-0008 FERTILIZER NETWORK (IFDC–WEST AFRICA)

For the International Fertilizer Development Center (IFDC), Muscle Shoals, AL, USA, to strengthen the West African Fertilizer and Fertilizer Management Evaluation Network (WAFFMEN), which promotes national collaboration in the evaluation of local fertilizer sources and in the development of effective integrated fertilizer use. \$300 000 — 24 months.

85-0009 TREE SEED IMPROVEMENT (COLOMBIA)

For the Corporación Nacional de Investigación y Fomento Forestal, Bogotá, to improve the supply and quality of seed of selected Colombian hardwood species for use in national afforestation programs and to conserve the national gene pool for future tree improvement. \$221 800 — 36 months.

85-0010 VEGETABLE SEED PRODUCTION (THAILAND) — PHASE II

For Chiang Mai University to enable its Faculty of Agriculture to develop appropriate vegetable seed-production technology for farmers in Thailand and train them in its use. \$245 300 — 36 months.

85-0011 *HILSA* (BANGLADESH)*

For the Directorate of Fisheries, Dhaka, to develop a better understanding of the life cycle of *Hilsa*, the most important commercial fish in Bangladesh, for use in the development of a sound management program. \$443 500 — 36 months.

85-0012 QUINOA (BOLIVIA) — PHASE III

For the Instituto Boliviano de Tecnología Agropecuaria (IBTA), La Paz, to develop improved quinoa-based production systems suitable for small farmers of the Bolivian highlands. \$339 000 — 36 months.

85-0013 PLANTAIN/BANANA IMPROVEMENT (HONDURAS)

For the Fundación Hondureña de Investigación Agrícola (FHIA), La Lima, to upgrade the agronomic characteristics of diploids with resistance to diseases and to breed plantains with resistance to black sigatoka. \$190 000 — 24 months.

85-0015 ROOT AND PLANTAIN CROPPING SYSTEMS (CATIE) — PHASE II

For the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, Costa Rica, to develop improved systems for producing root crops and bananas for farmers with limited resources in the lowland humid tropics of Central America. \$351 900 — 36 months.

85-0016 SILVIPASTORAL SYSTEMS (CATIE)

For the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, Costa Rica, to develop stable agricultural production systems, suitable for small-scale farmers in the Atlantic region of Costa Rica, to increase land productivity and farm incomes. \$612 700 — 36 months.

85-0017 BANANA AND PLANTAIN NETWORK (INIBAP) — PHASE II

To support the establishment of an International Network for the Improvement of Banana and Plantain (INIBAP), Montpellier, France. \$150 000 — 12 months.

85-0018 GRAIN LEGUMES (BANGLADESH) — PHASE III

For the Bangladesh Agricultural Research Institute, Dhaka, to strengthen the national grain legume program and thereby further the development of cultivars and cultural practices for increased pulse production in Bangladesh. \$270 400 — 24 months.

85-0019 PULSES AND GROUNDNUTS (TANZANIA) — PHASE II

For Sokoine University of Agriculture, Morogoro, to enable its Department of Crop Science to strengthen national efforts in food legume improvement by the development of varieties and agronomic practices for specific farming systems and by training a cadre of scientists in these methods. \$286 900 — 36 months.

¹Asterisks indicate that the contract between IDRC and the recipient may not yet have been signed.

85-0022 MILLETS (BANGLADESH) — PHASE II

For the Bangladesh Agricultural Research Institute, Dhaka, to strengthen interdisciplinary millet research in Bangladesh and develop a decentralized, country-wide millet improvement program. \$273 800 — 36 months.

85-0023 BAMBOO (CHINA) — PHASE II

For the Chinese Academy of Forestry, Beijing, to enable the Subtropical Forest Research Institute, Hangzhou-Fuyang, to develop improved management systems that will permit the intensive cultivation and use of selected, high-yielding native bamboo species. \$246 500 — 36 months.

85-0024 PLANTATIONS IN IRRIGATED AREAS (MALI) — PHASE III

For the Institut national de la recherche zootechnique, forestière et hydrobiologique, Bamako, to determine the optimal conditions of forest plantations in irrigated areas for the production of ligneous products using forestry techniques that are simple and easy to extend to villagers of central Mali. \$174 200 — 36 months.

85-0027 FOOD LEGUMES (PAKISTAN) — PHASE II

For the Pakistan Agricultural Research Council (PARC), Islamabad, to develop improved varieties of lentil (*Lens culinaris*), mung bean (*Vigna radiata*), and black gram (*Vigna mungo*) to increase and stabilize yields in traditional and nontraditional cropping systems. \$335 600 — 36 months.

85-0028 COLD STORAGE ECONOMICS (PHILIPPINES)

For the University of the Philippines, Los Baños, Development Foundation (UPLBDF) to assess the technical, operational, and economic efficiency of icehouse and cold-storage facilities in selected provinces of the Philippines, and to develop specific recommendations for research to improve them. \$166 000 — 24 months.

85-0035 AGROFORESTRY SURVEY (CATIE)

For the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, Costa Rica, to conduct a preliminary evaluation of factors associated with agricultural productivity and stability in Costa Rica's Atlantic region and to identify sites for on-farm research. \$30 000 — 4 months.

85-0050 FOOD LEGUMES (IITA) — PHASE V

For the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria, to develop high- and stable-yielding cowpea varieties, acceptable to farmers and consumers, and suitable for monoculture and mixed/relay-cropping patterns in the semi-arid areas of Africa. \$576 800 — 24 months.

85-0064 PASSIVE COOLING (THAILAND) — PHASE II

For Chiang Mai University to evaluate the potential of passive cooling methods for the handling and storage of fruits and vegetables in the highlands of northern Thailand. \$196 700 — 24 months.

85-0065 INTEGRATED FISH FARMING (CHINA)

For the Ministry of Agriculture, Animal Husbandry and Fisheries, Beijing, to enable the Asian-Pacific Regional Research and Training Centre for Integrated Fish Farming, Wuxi, to establish the scientific criteria for successful fish production in manure-loaded ponds, to facilitate the adaptation and implementation of integrated fish, livestock, and crop farming technology in areas with different agroclimatic and socioeconomic conditions. \$319 100 — 36 months.

85-0069 INVERTEBRATES/SEAWEEDES (CHILE) — PHASE II

For the Pontificia Universidad Católica de Chile, Santiago, to develop a coastal-resource management model of marine invertebrates and seaweed species now exploited by small-scale fishermen in central and northern Chile. \$271 300 — 36 months.

85-0072 MAIZE QUALITY (COSTA RICA)

For the Universidad de Costa Rica, San José, to evaluate the levels of aflatoxin in maize in postproduction systems and identify the factors contributing to such contamination. \$53 200 — 30 months.

85-0081 CARIBBEAN RICE NETWORK (CIAT-CARIBBEAN)

For the Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia, to strengthen national program research capabilities and stimulate collaborative research in rice production and development programs in the Caribbean. \$49 200 — 12 months.

85-0086 TECHNOLOGY ADOPTION (COLOMBIA)

For the Pontificia Universidad Javeriana, Bogotá, to determine and evaluate agroeconomic factors influencing adoption of improved technology among small farmers participating in the Colombian government's Integrated Rural Development Program. \$45 400 — 18 months.

85-0092 GROUNDNUT IMPROVEMENT (THAILAND) — PHASE II

For Kasetsart University, Bangkok, and Khon Kaen University, Muang Khon Kaen, to develop improved varieties, production practices, and postharvest handling of groundnuts suitable for the different ecological regions in Thailand. \$169 900 — 36 months.

85-0104 RATTAN (THAILAND) — PHASE II

For the Ministry of Agriculture and Cooperatives and Kasetsart University, Bangkok, to increase the production and use of rattan by establishing artificial plantations of the most valuable species and by introducing other promising species into the market. \$222 800 — 36 months.

85-0105 BAMBOO TISSUE CULTURE (PHILIPPINES)*

For the University of the Philippines, Los Baños, to enable its Institute of Plant Breeding to develop effective tissue-culture techniques for the mass propagation of important bamboo species. \$74 700 — 36 months.

85-0106 WOODSTOVES (INDONESIA)

To enable Yayasan Dian Desa, Yogyakarta, to design improved woodstoves acceptable for widespread village household use in Indonesia and to develop strategies for their dissemination. \$79 500 — 22 months.

85-0112 FOREST TISSUE CULTURE (COLOMBIA)

For the Pontificia Universidad Javeriana, Bogotá, to enable its biological sciences department to increase the productivity of Colombian afforestation programs through the use of tissue-culture techniques for the mass propagation of superior genotypes of selected forest species. \$123 700 — 36 months.

85-0117 CASSAVA TECHNOLOGY (PARAGUAY)

For the Servicio de Extensión Agrícola y Ganadería, Asunción, Paraguay, to provide technology suitable for use by small farmers to enable them to improve their incomes through more efficient systems for production and use of cassava. \$107 800 — 30 months.

85-0118 FUELWOOD PLANTATIONS (BOTSWANA)

For the Forestry Association of Botswana, Gaborone, to identify suitable species and reliable establishment and management practices for fuelwood production in the semi-arid areas of eastern Botswana. \$333 100 — 36 months.

85-0121 SMALL FORESTRY RESEARCH GRANTS (AFRICA)

For the Agriculture, Food and Nutrition Sciences Division, IDRC, to strengthen the teaching and research capacities of forestry faculties and departments at Moi University (Eldoret, Kenya), Sokoine University of Agriculture (Morogoro, Tanzania), and Makerere University (Kampala, Uganda). \$146 300 — 24 months.

85-0122 AGROECONOMICS IN FARMING SYSTEMS (PERU)

For the Instituto Nacional de Investigación y Promoción Agropecuaria, Lima, to develop a methodology for joint agroeconomic-agronomic farming systems research with on-farm research in the Inca Sacred Valley region. \$77 300 — 24 months.

85-0129 FOOD LEGUMES (IRRI-UPLB) — PHASE II

For the International Rice Research Institute (IRRI), Los Baños, Philippines, to enable IRRI and the Institute of Plant Breeding of the University of the Philippines (UPLB) to improve the nutrition, income, and productivity of the small-scale Asian rice farmers in lowland, rainfed locations by allowing them to grow an additional legume crop. \$321 900 — 36 months.

85-0130 BY-PRODUCTS (SENEGAL)

For the École inter-États des sciences et de médecine vétérinaires (EISMV) in collaboration with the Institut sénégalais de recherches agricoles, Dakar, to improve beef production in agropastoral systems in the delta of the Senegal River through the develop-

ment of beef fattening-feeding systems appropriate for small-scale farmers. \$98 600 — 36 months.

85-0133 DAIRY-BEEF FEEDING SYSTEMS (PANAMA) — PHASE III

For the Instituto de Investigación Agropecuaria de Panamá (IDIAP), Santiago de Veraguas, to generate and transfer technology to improve dairy and beef production and the income of small- and medium-scale farmers in four areas of Panama. \$302 900 — 36 months.

85-0134 GRAIN LEGUMES (NEPAL)

For the Ministry of Agriculture, Kathmandu, to increase and stabilize the production and productivity of grain legumes in Nepal through the support and development of a coordinated grain legumes development program. \$280 400 — 24 months.

85-0136 CROPPING SYSTEMS OUTREACH (IRRI) — PHASE III

For the International Rice Research Institute (IRRI), Los Baños, Philippines, to generate technology through the identification of more productive rice-based farming systems that will improve the income and productivity of small farmers. \$321 500 — 24 months.

85-0137 RABBIT PRODUCTION (TANZANIA)

For Sokoine University of Agriculture, Morogoro, to introduce and evaluate rabbit production in rural areas of the Morogoro region to increase meat supplies and farmers' income. \$150 600 — 36 months.

85-0138 QUINOA PRODUCTION (ECUADOR) — PHASE II*

For the Instituto Nacional de Investigaciones Agropecuarias (INIAP), Quito, to make germ plasm of superior quinoa and other Andean crops available to small farmers, and to promote improved agronomic practices for the production of these crops. \$243 900 — 36 months.

85-0144 BY-PRODUCTS (CYPRUS)

For the Agricultural Research Institute (ARI), Nicosia, to improve the efficiency of using agricultural by-products in dairy production systems in Cyprus. \$136 800 — 36 months.

85-0167 PASTURE NETWORK FOR EASTERN AND SOUTHERN AFRICA (ILCA)

For the International Livestock Centre for Africa (ILCA), Addis Ababa, Ethiopia, to support the Pasture Network for Eastern and Southern Africa (PANESA). \$400 000 — 24 months.

85-0177 LIVESTOCK PRODUCTION SYSTEMS (NICARAGUA)

For the Universidad Nacional Autónoma de Nicaragua, Managua, to enable its Facultad de Ciencias Económicas to systematize available knowledge about cattle-production systems in the Jucalpa-Boaco Region of Nicaragua, to evaluate alternative techniques, and to propose policies to increase production. \$53 400 — 24 months.

85-0180 RURAL AGRICULTURAL SYSTEMS (COLOMBIA)*

For the Instituto Colombiano Agropecuario (ICA), Bogotá, to develop a methodology for the planning, design, adaptation, on-farm evaluation, and

dissemination of agricultural technology for small farmers in Colombia, using a multidisciplinary approach and direct participation by the farmers. \$499 600 — 36 months.

85-0181 GOAT-PRODUCTION SYSTEMS (MEXICO)

For the Instituto Nacional de Investigaciones Agrícolas (INIA), Mexico City, to develop improved goat-production systems for small farmers of the Comarca Lagunera. \$124 600 — 36 months.

85-0182 GUINEA PIG-PRODUCTION SYSTEMS (PERU)*

For the Instituto Nacional de Investigación y Promoción Agropecuaria (INIPA), Lima, to develop improved guinea pig-production practices appropriate for households and small enterprises. \$151 200 — 36 months.

85-0186 ERYTHRINA (CATIE) — PHASE II

For the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, Costa Rica, to develop improved planting stock and cultural and management techniques for selected leguminous tree species (*Erythrina* and *Gliricidia*), and promote these species' incorporation into agroforestry systems on small farms in the humid tropics of Central America. \$453 200 — 36 months.

85-0187 POSTHARVEST ECONOMICS ADVISOR (ASIA)

For the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Los Baños, Philippines, to provide an experienced scientist to develop and strengthen SEARCA's postharvest economics and agribusiness research and training capabilities. \$118 100 — 24 months.

85-0190 MINI-DEHULLERS (ZIMBABWE)

For the Environment, Development, Activities—Zimbabwe (ENDA—Zimbabwe), Harare, to provide basic information and a plan for country-wide dissemination of dehullers, and to develop the capacity to implement that plan. \$94 160 — 12 months.

85-0191 FOOD LEGUMES (TURKEY) — PHASE II*

For the Ministry of Agriculture, Forestry and Rural Affairs, Ankara, to improve food-legume research in lentils, chickpeas, and field beans in Turkey. \$198 200 — 36 months.

85-0192 CASSAVA (ZANZIBAR) — PHASE III*

For the Ministry of Agriculture, Zanzibar, to strengthen research and development efforts on root and tuber crops in Zanzibar and Pemba Islands. \$175 000 — 36 months.

85-0193 DESERT FARMING SYSTEMS (EGYPT) — PHASE III

For the American University in Cairo to enable the Desert Development Centre to improve farming systems in newly reclaimed desert lands. \$289 000 — 24 months.

85-0201 AGROECONOMICS IN FARMING SYSTEMS (GUATEMALA)

For the Universidad de San Carlos de Guatemala to

develop technological alternatives adapted to the ecological, social and economic conditions of small farms in the highlands of the Achiguate River watershed. \$60 000 — 24 months.

85-0207 DAIRY SYSTEMS IMPROVEMENT (ECUADOR)*

For the Instituto de Investigaciones Socio-Económicas y Tecnológicas, Quito, to document operating conditions of small-scale rural dairy plants producing traditional cheese in the provinces of Pichincha and Cotopaxi to identify major problems requiring improvement. \$29 700 — 12 months.

85-0213 QUINOA PROCESSING (ECUADOR)*

For the Instituto Nacional de Investigaciones Agropecuarias (INIA), Quito, in collaboration with the Universidad Técnica de Ambato, to develop, test, and transfer improved quinoa postproduction processing techniques, handling, and technology for farmers in Ecuador. \$179 700 — 42 months.

85-0215 BANGUS BREEDING (PHILIPPINES)

For the Southeast Asian Fisheries Development Center, Tigbauan, and the Bureau of Fisheries and Aquatic Resources, Quezon City, to demonstrate on a pilot scale the milkfish (*bangus*) breeding technology developed in the Philippines since 1975. \$349 600 — 36 months.

85-0221 OYSTERCULTURE (GAMBIA)

For the Ministry of Water Resources and the Environment, Banjul, to assess the potential for increasing revenues of villagers in the Gambia through mangrove oyster culture. \$140 500 — 36 months.

85-0222 CASSAVA AND SWEET POTATO (RWANDA) — PHASE II

For the ministère de l'Agriculture, Kigali, to enable the Institut des sciences agronomiques du Rwanda to strengthen Rwanda's research capacity to improve sweet potato and cassava crops for the benefit of producers and consumers. \$245 000 — 24 months.

85-0223 GRAIN DEHULLING (MALAWI)

For the Ministry of Agriculture, Lilongwe, to enable the Department of Agricultural Research to develop a plan for the dissemination of grain dehullers in rural Malawi and the capacity to implement it. \$166 000 — 30 months.

85-0224 LEGUME POSTHARVEST TECHNOLOGY (BANGLADESH) — PHASE II*

For the Bangladesh Agriculture Research Institute, Dhaka, to strengthen national research capabilities in legume postharvest technology in Bangladesh and to minimize quantitative and qualitative losses of pulses. \$257 300 — 36 months.

85-0227 AGRICULTURAL RESEARCH AND EDUCATION (NICARAGUA)

For the Ministerio de Desarrollo Agropecuario y Reforma Agraria, Managua, to enable the Dirección General de Educación e Investigación Agrícola to evaluate the agricultural research and education system, to propose improvements, and to facilitate interaction between staff of these sectors. \$47 400 — 12 months.

85-0230 FISH MARKETING (SRI LANKA)

For the National Aquatic Resources Agency, Colombo, to enable the Institute of Post Harvest Technology to evaluate the postharvest handling and marketing system for fish as a basis for defining appropriate technological improvements. \$24 100 — 12 months.

85-0250 BAMBOO/RATTAN NETWORK (ASIA) — PHASE II

For the Agriculture, Food and Nutrition Sciences Division, IDRC, to develop a liaison among and provide technical guidance to Centre-supported bamboo and rattan projects in Asia by providing a network coordinator. \$121 000 — 24 months.

85-0251 FUELWOOD (CHINA)

For the Chinese Academy of Forestry, Beijing, to enable the Research Institute of Tropical Forestry to select fast-growing, multipurpose trees and develop techniques for their use in small- and large-scale fuelwood plantations in southern China. \$152 900 — 36 months.

85-0253 SOUTH AMERICAN CAMELIDS (PERU) — PHASE II

For the Instituto Veterinario de Investigaciones Tropicales y de Altura (IVITA) of the Universidad Nacional Mayor de San Marcos, Lima, to develop improved alpaca production systems for small farms in the Peruvian highlands. \$178 100 — 36 months.

85-0254 VERTISOL CROPPING SYSTEMS (ZIMBABWE)

For the University of Zimbabwe, Harare, to enable its Faculty of Agriculture to develop technology that will permit economic use of vertisol soils by subsistence farmers in the semi-arid Sebungwe Region of Zimbabwe. \$212 000 — 36 months.

85-0255 FARMING SYSTEMS (TANZANIA) — PHASE II

For Sokoine University of Agriculture, Morogoro, to enable its Faculty of Agriculture to strengthen Tanzania's ability to conduct interdisciplinary problem-oriented crop research with small farmers of semi-arid areas. \$178 100 — 36 months.

85-0256 ANIMAL PRODUCTION SYSTEMS NETWORK (LATIN AMERICA)

For the Instituto Interamericano de Cooperación para la Agricultura, San José, Costa Rica; the Centro Agronómico Tropical de Investigación y Enseñanza, Turrialba, Costa Rica; and the Instituto Nacional de Investigación y Promoción Agropecuaria, Lima, Peru; to establish a research network to increase the efficiency of national regional and international organizations in Latin America in the generation and transfer of improved animal production systems for small-scale farmers. \$650 000 — 36 months.

85-0258 BANANA AND PLANTAIN NETWORK (INIBAP) — PHASE III

For the International Network for the Improvement of Banana and Plantain (INIBAP), Montpellier, France, to further consolidate and support its establishment and operations. \$225 000 — 18 months.

85-0259 SHEEP PRODUCTION SYSTEMS (EGYPT)

For the Ministry of Agriculture, Dokki, Cairo, to enable the Animal Production Research Institute to develop sheep breeding and management systems that will permit more profitable sheep production for the smallholders of the Nile Delta region of Egypt. \$202 400 — 36 months.

85-0260 RATTAN (PHILIPPINES) — PHASE II

For the Philippine Council for Agriculture and Resources Research and Development, Los Baños, to develop plantation techniques to increase the supply of the most valuable species of rattan and to develop uses for currently unexploited species. \$221 100 — 36 months.

85-0263 MULTIPURPOSE TREES (INDIA)

For the Bharatiya Agro-Industries Foundation, Pune, to develop suitable models for integrating multipurpose trees into existing farming systems for the production of fuelwood and fodder in Central India. \$245 000 — 36 months.

85-0264 PROSOPIS (BRAZIL)

For the Centro Nacional de Pesquisa Florestal, Curitiba, to broaden the genetic base of *Prosopis* by identifying other species of *Prosopis* suitable for the semi-arid northeastern region of Brazil, and to improve the principal species currently planted (*Prosopis juliflora*). \$241 900 — 36 months.

85-0265 POLYCULTURE (MALAWI)

For the Ministry of Forestry and Natural Resources, Lilongwe, to enable its Fisheries Department to develop polyculture techniques for small-holder aquaculture to produce higher yields. \$168 600 — 36 months.

85-0266 AQUATIC WEEDS (THAILAND) — PHASE II

For Prince of Songkla University, Haad-Yai, to develop an environmentally and economically sound system of raising fish fed on aquatic weeds. \$247 000 — 36 months.

85-0271 LARGE-SCALE MAIZE STORAGE (TOGO)

For the Université du Bénin, Lomé, to enable the Laboratoire sur l'énergie solaire to develop improved maize systems in Togo. \$192 500 — 36 months.

85-0272 SCALLOPS (PERU)

For the Instituto del Mar del Perú, Callao, and the Universidad Nacional Agraria La Molina, Lima, to develop improved seed-production technology for the scallop fishery in the Pisco region of Peru. \$273 100 — 24 months.

85-0273 TREE SEEDS (BURKINA FASO)

For the ministère de l'Environnement et du Tourisme, Ouagadougou, to enable the Direction des semences forestières to improve the quantity and quality of seed supplies needed for the plantations of Burkina Faso and other countries in the Sahel. \$191 400 — 36 months.

85-0276 PALM OIL EXTRACTION (CAMEROON)

For the Centre national d'études et d'expérimentation du machinisme agricole, Yaoundé, to develop

improved palm-oil processing equipment for middle-income farmers and cooperatives in Cameroon. \$127 300 — 36 months.

85-0286 GRAIN STORAGE (ZIMBABWE)

For the Environment. Development, Activities—Zimbabwe, Harare, to develop, test, and disseminate improved cereal postproduction handling and storage technologies with communal farmers in Zimbabwe's drier areas. \$203 500 — 36 months.

85-0287 MEAT/FISH PROCESSING (NIGERIA)

For the University of Nigeria, Nsukka, to enable its Department of Food Science and Technology to improve the traditional methods of processing fish and meat in Nigeria. \$236 500 — 48 months.

85-0292 RURAL AGROINDUSTRY SYSTEMS (CHILE)*

For the Pontificia Universidad Católica de Chile, Santiago, to evaluate potential agroindustrial opportunities for small apple producers in Chile and to devise an analytical methodology to examine industrial and marketing alternatives for them. \$96 200 — 18 months.

85-0314 FARMING SYSTEMS CLASSIFICATION (COLOMBIA)

For the Corporación de Estudios Ganaderos y Agrícolas, Bogotá, to develop a methodology for classifying small farming systems for use by national institutions in the study of farm technology. \$59 400 — 18 months.

85-0315 OYSTER MARKETING (JAMAICA)*

For the Ministry of Agriculture, Kingston, to enable the Market Research Services Ltd to determine the production costs and potential demand for cultivated oysters in Jamaica and other selected countries in the Caribbean region. \$45 200 — 7 months.

85-0336 EGUSI SHELLERS (CAMEROON)*

For the Centre National d'études et d'expérimentation de machinismes agricole, Yaoundé, to design, construct, and test an efficient, simple egusi sheller prototype for use by small producers and traders. \$92 000 — 36 months.

85-0338 GRAIN POSTHARVEST SYSTEMS (INDONESIA)*

For the National Logistics Agency, Jakarta, to identify economic alternatives for rice and maize postharvest handling and processing by village cooperatives and small privately owned mills. \$99 800 — 12 months.

85-0339 TISSUE CULTURE (COLOMBIA)*

For the Instituto Colombiano Agropecuario, Bogotá, to develop the capability to use tissue-culture techniques in handling potato, plaintain, and sugarcane germ plasm. \$50 300 — 24 months.

85-0343 STRIGA PHYSIOLOGY (ICRISAT)*

For the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India, to determine the conditions for *Striga* seed germination and its establishment in sorghum and millet plants and to identify resistant genotypes and safe cultural practices. \$99 900 — 24 months.

85-1007 ROOT SYMBIOSIS (MOROCCO-CANADA)

For the ministère de l'Agriculture et de la Réforme agraire, Rabat, and the Université Laval, Quebec, to master the techniques for mass production and inoculation of mycorrhiza to improve the viability, growth, and productivity of the main coniferous species used in reforestation in Morocco and the Mediterranean basin. \$149 000 — 36 months.

85-1010 NATIVE SWINE (EL SALVADOR-GUATEMALA-CANADA) — PHASE II

For the Ministerio de Agricultura y Ganadería (MAG), San Salvador, the Instituto de Nutrición de Centro América y Panamá (INCAP), Guatemala City, and McGill University, Sainte Anne de Bellevue, to improve the production and productivity of El Salvador's native swine by generating and transferring technology for small farmers. \$401 800 — 36 months.

85-1012 YELLOW DWARF VIRUS (CANADA) — PHASE II

For the Université Laval, Quebec, to screen cereal lines for resistance to barley yellow dwarf virus in collaboration with national programs in developing countries and with the International Maize and Wheat Improvement Center (CIMMYT), Mexico City, and the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria. \$147 400 — 9 months.

85-1017 FREE-CONVECTIVE DRYERS (SIERRA LEONE-CANADA)

For Queen's University, Kingston, to enable its Department of Mechanical Engineering, in cooperation with the Department of Mechanical Engineering of the University of Sierra Leone, Freetown, to develop a design procedure for indirect, free-convective solar crop dryers. \$51 800 — 24 months.

85-1027 APPROPRIATE MACHINERY (AFRICA-CANADA)

To enable the Lanark Highlands Technology Limited, Almonte, and the Centre canadien d'études et de coopération internationale, Montreal, to demonstrate that new and appropriate tools and machinery can be developed systematically, cheaply, and expeditiously for the needs of African agriculture. \$94 100 — 12 months.

85-1045 BUFFALOES (MALAYSIA-CANADA)

For the Universiti Pertanian Malaysia, Serdang, and the University of Guelph, Ontario, to develop improved breeding strategies for buffalo in Asia. \$273 300 — 36 months.

85-1046 FALLOW FOREST UTILIZATION (PERU-CANADA)

For the Universidad Nacional Agraria La Molina, Lima, and the University of Toronto, Ontario, to develop methods for the productive use of secondary fallow forests in the humid tropics of Peru and other countries of South America for small-scale farmers in the region. \$455 400 — 36 months.

85-1047 BIOLOGICAL CONTROL (CHINA-CANADA)

For the Biological Control Laboratory, Beijing, and the

University of Guelph, Ontario, to expand the use of *Trichogramma* subspecies for control of insect pests in China and elsewhere in Southeast Asia. \$422 700 — 36 months.

85-1048 FISH/GAMETES (SEAFDEC-CANADA) — PHASE III

For Southeast Asian Fisheries Development Center (SEAFDEC), Aquaculture Department, Tigbauan, Philippines; the University of Victoria, British Columbia; and Memorial University of Newfoundland, St John's, to continue research on improved mechanisms for maturation and spawning of important Asian aquaculture species. \$510 100 — 24 months.

85-1050 MICROBIAL CONTROL (EGYPT-CANADA)

For the National Research Centre, Dokki, Cairo, and Agriculture Canada, Ottawa, to develop *Bacillus thuringiensis* as a biological control agent against the lepidopterous pests, *Spodoptera littoralis*, *Heliothis armigera*, and *Agrotis ipsilon*, on soy bean and groundnut in Egypt to reduce the reliance on broad-spectrum chemical insecticides. \$388 400 — 36 months.

85-1051 FISH GENETICS NETWORK (ASIA-CANADA)

For the College of Fisheries, India; Shanghai Fisheries College, China; the Southeast Asian Fisheries Development Center (SEAFDEC), Philippines; the Central Luzon State University, Philippines; and Dalhousie University, Halifax; to increase aquaculture yields through genetic selection of major Asian fish species and to enhance the research capabilities in aquaculture genetics of the cooperating Asian countries. \$625 700 — 36 months.

Social Sciences

84-0310 UPLANDS RESOURCE DEVELOPMENT STUDIES (PHILIPPINES) — PHASE IV

For the Visayas State College of Agriculture's Educational Foundation, Baybay, to determine if participatory research methods are an effective way of fostering uplands community development. \$66 800 — 27 months.

84-0340 INTRAINDUSTRY TRADE (KOREA)

For Yonsei University, Seoul, to examine the characteristics of intraindustry trade among the principal trading nations in the Pacific Rim. \$67 000 — 24 months.

85-0014 EVALUATION OF THE JUNIOR SECONDARY SCHOOL PROGRAM (GHANA)

For the Ghana Education Service, Accra, to enable the Curriculum Research and Development Division to analyze and evaluate the nature, implementation, and impact of the junior secondary school program in Ghana. \$82 100 — 24 months.

85-0020 AGRARIAN CHANGE AND DEMOGRAPHICS (ECUADOR)

For the Centro Andino de Acción Popular (CAAP), Quito, to discern how the impact of structural

change in Ecuadorian peasant society has affected demographic behaviour. \$36 700 — 12 months.

85-0038 ECONOMIC RESEARCH AND TRAINING (IVORY COAST)

For the Université nationale de la Côte d'Ivoire, Abidjan, to enable the Centre ivoirien de recherches économiques et sociales (CIRES) to become a major centre for economic research and training for francophone West Africa. \$456 100 — 36 months.

85-0039 ECONOMIC RESTRUCTURING (SINGAPORE)

To enable the Institute of Southeast Asian Studies (ISEAS), Singapore, to study restructuring of the country's economy over the past two decades, with a view to drawing appropriate inferences for other industrializing countries in Asia. \$30 650 — 16 months.

85-0044 COLLABORATIVE RESEARCH IN SECONDARY EDUCATION (SIERRA LEONE) — PHASE II

For the Milton Margai Teachers College, Freetown, to enable the Centre for Research into the Education of Secondary Teachers (CREST) to continue to conduct its program of school-based research aimed specifically at analyzing problems of school quality to produce realistic recommendations for improvement. \$116 900 — 24 months.

85-0047 INFORMAL SECTOR ENTERPRISES (PERU)

For the Centro de Estudios para el Desarrollo y la Participación (CEDEP), Lima, to further analyze the data collected in the first phase, extend coverage of the study to nonmetropolitan urban centres in Peru, and further advance the design of public policies and programs aimed at improving the conditions of informal workers. \$307 000 — 20 months.

85-0052 RESEARCH SUPPORT, UNIVERSITY OF THE WEST INDIES (JAMAICA)

For the University of the West Indies, Kingston, to enable the Consortium Graduate School to implement postgraduate research exercises that will be an integral part of its curriculum. \$47 600 — 12 months.

85-0053 REGIONAL RESEARCH REVIEW AND ADVISORY PROGRAM IN EDUCATION (SOUTHEAST ASIA)

For the Social Sciences Division, IDRC, to enable the Southeast Asian Research Review and Advisory Group (SEARRAG) to promote and carry out activities that will enhance the contribution of research results to the improvement of educational policy and practice in the region. \$131 500 — 24 months.

85-0054 PSSC CONSORTIA PROGRAM (PHILIPPINES) — PHASE II

For the Philippine Social Science Council (PSSC), Manila, to enable the Visayas Research Consortium and the Eastern Mindanao Area Research Consortium to enhance social science research capacity with emphasis on the implementation of projects on regionally specific development problems and issues that have already been identified. \$220 000 — 36 months.

85-0055 MACROECONOMIC ANALYSIS PROGRAM (EASTERN AND SOUTHERN AFRICA) — PHASE II

For the Social Sciences Division, IDRC, to support research and enhance local research capacity in macroeconomics. \$394 800 — 21 months.

85-0056 INDUSTRIAL COMPETITIVENESS AND EXPORT EXPANSION (INDIA) — PHASE II

For the Indian Council for Research on International Economic Relations (ICRIER), New Delhi, to undertake detailed studies of six industrial sectors to determine the major factors contributing to the lack of international competitiveness and poor export performance of the Indian manufacturing sector. \$204 300 — 18 months.

85-0057 EASTERN AFRICA ECONOMIC REVIEW (AFRICA)

For the Kenya Economics Association, Nairobi, to reestablish the *Eastern Africa Economic Review* as a viable journal for the publication of research papers that highlight economic issues and policies relevant to the development of Africa and, in particular, the countries of Eastern and Southern Africa. \$80 400 — 24 months.

85-0058 POLICY ALTERNATIVES FOR THE BANANA INDUSTRY (COSTA RICA)

For Alternativas de Desarrollo, San José, to carry out a detailed study of the Costa Rican banana industry to assist the government in the design of both short- and long-term policies toward the industry. \$112 800 — 12 months.

85-0062 INDIAN PEASANTS' EDUCATION IN ECUADOR

For the Centro Andino de Acción Popular, Quito, to develop, implement, and evaluate with the active participation of local communities, an experimental education program for Indian peasants based upon traditional practices and beliefs. \$84 400 — 24 months.

85-0070 EDUCATION FOR TELEVISION (CHILE)

For the Centro de Investigación y Expresión Cultural y Artística, Santiago, to analyze information gathered in its previous work and design a program to educate the television audience, at the family and community level, for a more critical and active response of television messages. \$28 770 — 18 months.

85-0074 DEBT RENEGOTIATION (LATIN AMERICA)

For the Institute of Development Studies, Brighton, United Kingdom, to examine and compare how debt crises occurred and were handled in five Latin American countries in the early 1980s and to provide insights into the process of debt rescheduling, both within debtor countries and in the interaction between debtors and creditors. \$68 700 — 15 months.

85-0075 EDUCATION AND GRASS-ROOTS MOVEMENTS (CHILE)

For the Centro de Documentación de Estudios en Educación SUR, Santiago, to carry out a qualitative

evaluation of the adequacy of the curricular content and the pedagogical methods used in the education activities of SUR. \$83 330 — 18 months.

85-0078 AGROEXPORTS (PHILIPPINES)

For the University of the Philippines, Los Baños, to study recent developments in the banana and pineapple industries in the Philippines, with particular reference to the roles of foreign and local agents. \$8900 — 8 months.

85-0079 TRADE AND FINANCIAL STRATEGIES OF INDUSTRIALIZING COUNTRIES (GLOBAL)

For the Overseas Development Institute, London, United Kingdom, to conduct a comparative analysis of the financial and trade strategies available to Colombia, Malaysia, Peru, Thailand, and Zimbabwe. \$85 980 — 18 months.

85-0083 WOMEN, LAND, AND FOOD PRODUCTION (BARBADOS)

For the University of the West Indies, Cave Hill, to investigate the role of women as agricultural producers for domestic food needs in Barbados. \$27 600 — 18 months.

85-0088 TEACHERS AS DEVELOPMENT AGENTS (THAILAND)

For the Rural Friends' Association, Nonthaburi, in cooperation with the Research and Development Institute and the Udon Thani Teachers' Training College, both located in Thailand, to analyze the factors that impede or facilitate teachers acting as community development agents, with particular reference to their professional training. \$61 700 — 18 months.

85-0090 SMALLHOLDER DAIRY DEVELOPMENT AND EXTENSION (INDONESIA)

For Universitas Gadjah Mada, Yogyakarta, to compare the effectiveness of four different but overlapping extension programs designed to increase milk production and small farmers' net income. \$23 000 — 24 months.

85-0093 EVALUATION OF ALTERNATIVE SPACE-HEATING SYSTEMS (TURKEY)

For the Environmental Problems Foundation of Turkey, Ankara, to explore ways of decreasing urban air pollution and improving fuel use in Turkey by comparing alternative space-heating systems for the city of Ankara. \$48 500 — 14 months.

85-0095 KORANIC SCHOOLS (MOROCCO)

For the Institut agronomique et vétérinaire Hassan II, Rabat, to study Koranic schools (*msids*) in the northern Jébala region of Morocco. \$31 498 — 30 months.

85-0097 LEPROSY CASE DETECTION AND TREATMENT IN TANZANIA

For the Muhimbili Medical Centre, Dar es Salaam, to enable its Faculty of Medicine to obtain information on how rural communities in hyperendemic areas deal with leprosy and to make policy recommendations to improve case detection rates and treatment of the disease. \$26 740 — 12 months.

85-0100 SOCIOCULTURAL EFFECTS OF THE EXPANSION OF COMPUTERIZATION (LATIN AMERICA)

For the Instituto Latinoamericano de Estudios Transnacionales (ILET), Buenos Aires, Argentina, to carry out a bibliographical review of the current status of studies and proposals, both governmental and private, on the expansion of new information technologies in Latin America, with special emphasis on the sociocultural effects. \$41 700 — 12 months.

85-0101 IMPACT OF ENVIRONMENT AND ECONOMIC CLASS ON HEALTH IN URBAN INDIA

For the University of London, United Kingdom, to enable the School of Oriental and African Studies to assess how the health of families is affected by their physical and economic environment. \$29 100 — 12 months.

85-0102 TOGOLESE MIGRATIONS (TOGO)

For the Université du Bénin, Lomé, to enable its Population Research Unit to make a complete assessment of research activities conducted on migrations in Togo during the past 20 years. \$21 800 — 9 months.

85-0113 TEACHERS' WORKSHOPS (URUGUAY) — PHASE II

To enable the Centro de Investigación y Experimentación Pedagógica, Montevideo, to improve the quality of teaching in Uruguayan schools. \$54 920 — 18 months.

85-0123 WOMEN'S WORK AND FAMILY STRATEGIES (SRI LANKA)

For the Centre for Women's Research (CENWOR), Colombo, to assess how rising female migration and employment in Sri Lanka have affected traditional economic and reproductive behaviour. \$43 000 — 18 months.

85-0124 INFANT MORTALITY DYNAMICS IN A DECLINING-FERTILITY POPULATION (BANGLADESH)

For the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), Dhaka, to compare the mortality risk factors of family planning acceptors and nonacceptors in the Matlab area. \$41 000 — 12 months.

85-0126 TRENDS AND PROSPECTS FOR CASSAVA (GLOBAL)

For the International Food Policy Research Institute (IFPRI), Washington, DC, USA, to carry out an assessment of trends and prospects for cassava in developing countries to the year 2000. \$178 540 — 24 months.

85-0127 CHILDREN'S PLAY (LESOTHO)

For the National University of Lesotho, Roma, to enable its Faculty of Education to evaluate a play program that has been developed to enhance the cognitive and language abilities of young children in Lesotho. \$9840 — 18 months.

85-0131 POPULATION AND FAMILY LIFE EDUCATION (KENYA)

For the National Council of the Churches of Kenya, Nairobi, to examine the content and outcomes of its population and family-life education program. \$74 720 — 18 months.

85-0135 STATE ECONOMIC ENTERPRISES (TURKEY)

For the Political and Social Studies Foundation, Istanbul, to contribute to the formulation of government policies that will make Turkish state economic enterprises more efficient. \$56 900 — 15 months.

85-0141 EDUCATION AND SOCIAL STRUCTURE: ACTORS AND PROCESSES IN THE EDUCATION SYSTEM (CHILE) — PHASE III

For the Programa Interdisciplinario de Investigación en Educación (PIIE), Santiago, to continue and consolidate its research program on education and society, the school, and popular education, and to strengthen its training, research, and dissemination activities at the national and regional level. \$315 470 — 24 months.

85-0143 FEMALE AGRICULTURAL LABOUR IN NICARAGUA

For the Centro de Estudios del Trabajo (CETRA), Ministerio del Trabajo, Managua, to provide base-line information about working and living conditions of women in coffee- and cotton-production areas. \$75 500 — 18 months.

85-0145 ENERGY PLANNING (CHILE) — PHASE II

For the Universidad de Chile, Santiago, to enable the Facultad de Ciencias Físicas y Matemáticas to build upon and broaden the Phase I research by using the methods developed to carry out additional research where significant gaps have been identified, and by extending contacts with relevant public and private actors in the field. \$277 500 — 30 months.

85-0146 ASSIMILATION AND ABSORPTION OF IMPORTED TECHNOLOGY (ALGERIA, IVORY COAST, AND SENEGAL)*

For the Université de Dakar, Senegal, to enable its Centre de recherches en économie appliquée (CREA), in collaboration with the Office de la recherche scientifique et technique outre-mer, Abidjan, Ivory Coast, and the Université d'Oran, Algeria, to examine the experience of three francophone African countries in the development of local sugar industries and to establish the extent to which technological capability has been acquired in each case. \$157 800 — 24 months.

85-0151 SMALL POPULATION RESEARCH GRANTS — DEVELOPMENT AND URBAN POLICY (WEST AFRICA)

For the Social Sciences and the Fellowships and Awards divisions, IDRC, to help national institutions to reinforce their capacities to undertake research in population-development and urban policy. \$302 000 — 48 months.

85-0152 RESEARCH AND TRAINING PROGRAM: CAIRO DEMOGRAPHIC CENTRE (EGYPT) — PHASE III

To assist the Cairo Demographic Centre (CDC) to achieve its research and training objectives in 1986. \$142 520 — 12 months.

85-0153 ENERGY RESEARCH INVENTORY (TANZANIA)*

For the Ministry of Water, Energy and Minerals. Dar es Salaam. to make an inventory of current and recently completed research on energy matters in Tanzania, to identify and plan future research directions in the country based on these findings, and to disseminate the results of the research. \$25 590 — 12 months.

85-0156 ENERGY RESEARCH GROUP (GLOBAL) — PHASE II

For the Social Sciences Division, IDRC, to disseminate the results of the Phase I activity to ensure adequate impact on energy research and policy in developing countries. \$540 800 — 15 months.

85-0157 SCIENCE AND TECHNOLOGY INFRASTRUCTURE (URUGUAY)

For the Centro de Informaciones y Estudios del Uruguay (CIESU), Montevideo, to describe and analyze Uruguay's science and technology infrastructure to assist in building a framework for future policy decisions. \$149 100 — 18 months.

85-0158 WOMEN'S WORK AND SURVIVAL STRATEGIES IN THE PHILIPPINES

For the Ateneo de Manila University, Quezon City, to help the Institute of Philippine Culture establish how economic changes have affected women's productive and reproductive behaviour in rural areas of the Philippines. \$98 500 — 24 months.

85-0160 MIGRATION AND INTERNATIONAL LABOUR TRANSFERS FROM THE CARIBBEAN

For the University of the West Indies, Cave Hill, Barbados, to bring together a network of senior and junior researchers studying internal and external migration in the Caribbean to conduct in-depth analysis of research results from previous studies for comparison with other countries within and outside the region and for dissemination. \$92 600 — 12 months.

85-0161 LAND POLICIES AND THE URBAN POOR IN GUAYAQUIL (ECUADOR)

For the Centro de Estudios Regionales Guayaquil to analyze the urban land market in the metropolitan area of Guayaquil and to formulate policy recommendations with respect to improving access to urban land by the poor. \$44 500 — 12 months.

85-0163 REFUGEES (BOTSWANA, LESOTHO, AND SWAZILAND)

For the National University of Lesotho, Roma, to provide a socioeconomic and demographic profile of the refugee populations in Botswana, Lesotho, and Swaziland. \$34 300 — 12 months.

85-0164 NATIONAL TECHNOLOGY POLICY RESEARCH WORKSHOP (RWANDA)

For the ministère de l'Industrie, des Mines et de l'Artisanat, Kigali, to support a research training

exercise allowing a group of Rwandan technology policymakers to acquire data-collection and analytical skills for use in their day-to-day work. \$90 000 — 12 months.

85-0165 STUDY SEMINAR: MICROELECTRONICS, AUTOMATION, AND INDUSTRY (GLOBAL)

For the University of Sussex, United Kingdom, to enable the Institute of Development Studies to assist in developing Third World expertise to cope with the industrial policy implications of the new information technology. \$41 000 — 6 months.

85-0169 EDUCATION AND COOPERATIVES DEVELOPMENT IN LATIN AMERICA

For the Consejo de Educación de Adultos de América Latina, Santiago, Chile, to undertake an exploratory, systematic review of the nonformal educational role of cooperatives in selected Latin American countries. \$68 550 — 15 months.

85-0174 EDUCATIONAL RESEARCH NETWORK OF EASTERN AND SOUTHERN AFRICA

For the Social Sciences Division, IDRC, to support the Educational Research Network of Eastern and Southern Africa to promote collaboration and information-sharing among regional researchers and between its research community and those elsewhere in the North and South. \$79 000 — 12 months.

85-0176 ENERGY USE AND TECHNOLOGY ASSIMILATION (MEXICO)

For the Sociedad Mexicana de Física, Mexico City, to enable the Grupo de Energética of the Universidad Nacional Autónoma de México to carry out an energy survey and to develop methods for evaluating the assimilation of new energy devices in a small rural community. \$41 335 — 12 months.

85-0198 EDUCATIONAL POLICY AND TECHNOLOGICAL DEVELOPMENT IN BRAZIL*

For the Universidade Estadual de Campinas to assess the policy implications for the Brazilian educational system of the process of technology development. \$68 000 — 12 months.

85-0200 CAUSES OF LOW-LEVEL EDUCATIONAL ACHIEVEMENT (MALI)

For the Groupement d'études, recherches et actions pour le développement, Bamako, to determine the incidence of institutional, psychosociological, and economic factors on low-level educational achievement. \$34 900 — 18 months.

85-0210 TEACHING AND LEARNING STRATEGIES IN PRIMARY SCHOOLS (LESOTHO)

To enable the National University of Lesotho, Roma, to assess the quality of primary education in Lesotho. \$97 120 — 24 months.

85-0214 OPEN UNIVERSITY DROP-OUTS (PAKISTAN)*

For the Allama Iqbal Open University, Islamabad, to enable the Research and Statistical Centre to diagnose why students drop out from selected Open University courses and to develop strategies for minimizing this. \$64 000 — 21 months.

85-0216 MANAGEMENT OF HOUSEHOLD FUEL IN RURAL INDIA: THE ROLE OF WOMEN (INDIA)

For the Operations Research Group, Baroda, to analyze how changing fuel availability and the availability of energy-saving devices affect women's household activities and time-expenditure patterns in rural India. \$128 330 — 20 months.

85-0218 NORPLANT* ACCEPTABILITY (GLOBAL)

For the Program for the Introduction and Adaptation of Contraceptive Technology's (PIACT) Program for Appropriate Technology in Health (PATH), Seattle, WA, USA, to learn those factors affecting the acceptability of Norplant* implants in the Dominican Republic, Egypt, Indonesia, and Thailand. \$214 000 — 15 months.

85-0220 INSTITUTIONAL SUPPORT GRANT: FLACSO (CHILE) — PHASE II

To provide the Facultad Latinoamericana de Ciencias Sociales (FLACSO), Santiago, with institutional support for a further 3-year period to consolidate its administrative and research structure. \$310 080 — 36 months.

85-0225 ARTISANAL FISHERIES (ECUADOR)*

To enable the Centro de Planificación y Estudios Sociales, Quito, to undertake an in-depth analysis of the artisanal fisheries communities of Salanjo, Puerto Cayo, and Jaramijo, with particular emphasis on marketing. \$91 490 — 18 months.

85-0231 BALANCE OF PAYMENTS, SAVINGS, AND INVESTMENT (COLOMBIA) — PHASE II

For the Fundación para la Educación Superior y el Desarrollo (FEDESARROLLO), Bogotá, to study the role of financial variables in the management of the Colombian economy. \$90 800 — 15 months.

85-0232 RENEWABLE RESOURCE MANAGEMENT RESEARCH PROGRAM (PHILIPPINES)

For the University of the Philippines at Los Baños Development Foundation Inc., Laguna, to establish a multidisciplinary research program focusing on resource economics and management issues. \$95 000 — 30 months.

85-0234 WOMEN'S STATUS AND FERTILITY IN WEST JAVA (INDONESIA)

For the Institut Keguruan dan Ilmu Pendidikan, Yogyakarta, to determine the extent to which women's labour-force participation and sex-role attitudes influence fertility in West Java. \$66 000 — 12 months.

85-0238 SCIENCE AND TECHNOLOGY INDICATORS (MOROCCO)

For the Centre national de coordination et de planification de la recherche scientifique et technique, Rabat, to collect data and conduct the necessary analyses to develop a science and technology policy and eventually a development plan for Morocco. \$93 350 — 18 months.

85-0269 INFANT MORBIDITY AMONG THE URBAN POOR (PERU)

For the Instituto Andino de Estudios en Población y

Desarrollo (INANDEP), Lima, to examine the sociocultural practices associated with the interactive processes of acute diarrheal disease, acute respiratory infection, and malnutrition during the first 2 years of life among the urban poor in Villa El Salvador. \$179 500 — 28 months.

85-0274 IN-DEPTH FERTILITY SURVEY (CHINA) — PHASE II

For the International Statistical Institute, Voorburg, The Netherlands, in collaboration with the Department of Population Statistics of the State Statistical Bureau, Beijing, to upgrade the capability of institutions in six additional provinces or municipalities to collect and analyze information on fertility, family planning, and related factors and to provide data in nationally and internationally comparable form. \$338 200 — 36 months.

85-0275 EDUCATIONAL REFORM EVALUATION (MALI)

For the ministère de l'Éducation nationale, Bamako, to enable the Institut pédagogique national et de l'enseignement normal to study aspects of educational reform. \$78 600 — 24 months.

85-0278 THIRD AGE (ARGENTINA)

For the Centro de Estudios de Población, Buenos Aires, to examine the socioeconomic conditions of the population aged 65 and over from the poorest social strata in metropolitan Buenos Aires and to evaluate the services provided to them. \$93 000 — 18 months.

85-0280 FERTILITY TRANSITIONS IN SOUTHEAST ASIA

For Mahidol University, Bangkok, Thailand; the Ramon Magsaysay Award Foundation, Manila, Philippines; the Central Bureau of Statistics, Jakarta, Indonesia; and the Universiti Malaya, Kuala Lumpur, Malaysia; to measure the effects of socioeconomic development on fertility and fertility change in Southeast Asia. \$232 800 — 36 months.

85-0295 EDUCATIONAL REFORM (TOGO)

For the Université du Bénin, Lomé, to investigate how the continuing education administration, which is responsible for evaluating educational reform, carries out its responsibilities. \$48 800 — 24 months.

85-0296 TEACHER WORKSHOPS: INSTRUCTIONAL STRATEGIES (ARGENTINA) — PHASE II

For the Centro Rosario de Investigaciones en Ciencias Sociales, Rosario, to analyze changes in Argentine schools resulting from the introduction of policies encouraging more democratic classrooms and greater teacher participation and to analyze further the impact of workshops as a teacher-training tool. \$62 530 — 20 months.

85-0299 REFUGEE SETTLEMENTS (TANZANIA)

For the University of Dar es Salaam to measure and examine the process of social and economic integration of refugees in selected settlement areas of western Tanzania. \$60 400 — 18 months.

85-0300 ALTERNATIVE PRESCHOOLS AND PRIMARY EDUCATION IN RURAL AREAS (ECUADOR)

For the Instituto de Investigaciones Socio-Económicas y Tecnológicas, Quito, to provide comparative information on the immediate and longer-term effectiveness of two alternative preschooling experiences currently in operation: the Guaga-Huasis and the traditional rural preschool centres. \$68 765 — 21 months.

85-0303 CHARACTERISTICS OF PRESCHOOL EDUCATION (JAMAICA)

For the University of the West Indies, Kingston, to enable the Regional Pre-School Child Development Centre to provide a policy-focused analysis of the influences of preschool education on children's grade one performance and on their social and cognitive development. \$80 800 — 18 months.

85-0304 DISPLACEMENT TRENDS IN A SITES-AND-SERVICES PROJECT (KENYA)

For the University of Nairobi to enable the Department of Urban and Regional Planning to identify ways of minimizing displacement of the poor from sites-and-services projects. \$9040 — 18 months.

85-0306 LOW-INCOME HOUSING (TURKEY)*

For the Turkish Social Science Association, Ankara, to enable the Middle East Technical University to show government employers how their worker-housing policy can be made more effective by taking into account the needs, aspirations, and financial capabilities of different categories of workers. \$91 800 — 24 months.

85-0307 MANAGEMENT OF URBAN GROWTH (TURKEY)*

For the Turkish Social Science Association, Ankara, to enable Ankara University to assess the efficiency of Turkish municipalities in coping with rapid urban growth and to recommend ways to improve efficiency. \$35 800 — 18 months.

85-0308 EVALUATION OF LA RIOJA'S INDUSTRIAL PROMOTION PROGRAM (ARGENTINA)*

For the Universidad de Buenos Aires to evaluate La Rioja's industrial program and to make policy recommendations for its improvement. \$57 300 — 24 months.

85-0309 WOMEN AND STREET FOODS (JAMAICA)

For the University of the West Indies, Kingston, to enable the Department of Sociology to examine the process of street-food vending in Jamaica, emphasizing the role of women. \$74 620 — 12 months.

85-0310 INFORMAL-SECTOR ENTERPRISES IN THE APPAREL INDUSTRY (URUGUAY)

For the Centro Interdisciplinario de Estudios sobre el Desarrollo, Montevideo, to analyze Uruguay's informal-sector enterprises in the apparel industry, in particular their relationship with the formal sector. \$68 340 — 18 months.

85-0311 IMPROVING HATYAI'S TRANSPORT SYSTEM (THAILAND)*

For the Prince of Songkla University, Hatyai, to gather

and analyze information on public travel patterns in Hatyai, examine jitney operations, and recommend to concerned authorities ways to improve the city's transport system. \$25 150 — 14 months.

85-0312 TRADITIONAL MATERIALS FOR LOW-COST HOUSING IMPROVEMENTS (KENYA)*

For the National Council of Churches of Kenya, Nairobi, to develop innovative uses for low-cost building materials that meet the aspirations of the poor to upgrade their housing and are also environmentally and economically feasible. \$93 500 — 12 months.

85-0313 PREPRIMARY EDUCATION (CHINA)

For the Central Institute of Educational Research, Beijing, to investigate the status of preprimary school programs relating existing programs to factors in the surrounding community and to the developmental status of children. \$55 000 — 33 months.

85-0323 DISSEMINATION OF IMPROVED WOODFUEL COOKSTOVES (TANZANIA)*

For the University of Dar es Salaam to enable the Institute of Development Studies to examine factors relevant to successfully distributing improved cookstoves in Tanzania. \$64 490 — 30 months.

85-0325 EVALUATION OF PRESCHOOL CENTRES (CHILE)

For the Centro de Estudios y Atención del Niño y la Mujer, Santiago, to assess a preschool community program and its impact on the participant children and their mothers. \$39 100 — 14 months.

85-0331 INVENTORY OF ENERGY RESEARCH ACTIVITIES (KENYA)*

For the National Council for Science and Technology, Nairobi, to initiate the formulation of an energy research and development policy for Kenya. \$9470 — 6 months.

85-0337 SMALL URBAN INDUSTRIES (MOROCCO)*

For the Association des études et recherches économiques et sociales, Meknès, to investigate, through field surveys, four informal industries in the region of Meknès and to make policy recommendations to the authorities concerning increasing production and improving working conditions. \$13 100 — 18 months.

85-0341 DESIGN AND EVALUATION OF AN EDUCATIONAL PROGRAM FOR HIGH SOCIAL RISK GIRLS (COLOMBIA)*

For the Fundación Servicio de Orientación Juvenil, Bogotá, to develop and evaluate an educational model for school-age girls who have been prostitutes. \$48 000 — 12 months.

85-0342 INDUSTRIAL ENERGY CONSERVATION (BRAZIL)

For the Colegio da América Latina, Rio de Janeiro, to assess the impact of the Brazilian industrial energy conservation program CONSERVE. \$18 025 — 7 months.

85-0344 DETERMINANTS OF INFANT MORTALITY (BANGLADESH)*

For the Family Development Services and Research,

Dhaka, to undertake a longitudinal study of the factors underlying infant mortality in rural Bangladesh. \$49 300 — 18 months.

85-1001 TEACHING AND LEARNING MATHEMATICS (DOMINICAN REPUBLIC-CANADA)

For the Universidad Católica Madre y Maestra, Santiago, and the University of British Columbia, Vancouver, to examine the quality of mathematics education in the Dominican Republic and analyze the various factors involved. \$95 500 — 12 months.

85-1011 ISSUES IN CHINESE EDUCATION (CHINA-CANADA) — PHASE II

For the East China Normal University, Shanghai, and the University of Victoria, British Columbia, to develop teaching methods and materials that encourage students to take a more active role in learning and to apply research findings on teacher training and more general educational reform. \$174 900 — 24 months.

85-1026 SELF-HELP ORGANIZATIONS IN CHILE (CHILE-CANADA)

For the Programa de Economía del Trabajo, Santiago, and the Centre for Research on Latin America and the Caribbean, Downsview, to identify and characterize self-help organizations in Chile to obtain a clear understanding of the way in which these organizations operate, the difficulties they encounter, the way in which specific projects are implemented, and the benefits they provide to their target population. \$264 800 — 27 months.

Health Sciences

83-1024 LEUKOPENIA (CHINA-CANADA)

For the Sichuan Medical College, Chengdu, and McMaster University, Hamilton, to conduct a survey on the prevalence and distribution of leukopenia in the population of Chengdu and to determine whether certain occupational groups are at higher-than-average risk. \$63 390 — 36 months.

84-0267 CHAGAS DISEASE (LATIN AMERICA) — PHASE II

For the Hospital de Niños "Ricardo Gutierrez," Buenos Aires, Argentina, to develop a simple, rapid, sensitive, and specific screening method for Chagas disease. \$114 215 — 30 months.

84-0338 CHEWSTICKS RESEARCH (KENYA)

For the Mazingira Institute, Nairobi, to enable the Institute, in collaboration with the Kenya Medical Research Institute, Nairobi, to obtain information about the use and efficacy of *mswaki* (chewsticks) commonly used to clean the teeth in Kenya. \$44 995 — 12 months.

85-0004 LATRINE INSTALLATION PROGRAM EVALUATION (MALI)

For the ministère de la Santé publique et des Affaires sociales, Bamako, to enable the Direction nationale de l'hygiène publique et de l'assainissement, Bamako, to evaluate the program of latrine installation in rural schools and villages with a view to setting up a

program for the general adoption of more appropriate low-cost latrines for schools and villages. \$113 085 — 24 months.

85-0006 WATER QUALITY CONTROL (LATIN AMERICA)

For the Universidade de São Paulo, Brazil, the Universidad Nacional Mayor de San Marcos, Peru, and the Universidad de Chile, Santiago, to develop a rapid, inexpensive, simple, and effective bacteriological water-quality test and a classification scheme for categorizing drinking-water sources. \$257 000 — 24 months.

85-0026 EPIDEMIOLOGY TRAINING (CHINA) — PHASE III

For the Health Sciences Division, IDRC, to complete the training in Canada of the final group of Chinese scholars chosen by the Centre and to support the membership of these 30 scholars in the appropriate professional association for a period of 3 years. \$276 000 — 18 months.

85-0031 RAINWATER COLLECTION (PHILIPPINES)

To enable the Province of Capiz, Roxas, to introduce rainwater collection and storage systems to the rural inhabitants of a selected area of the Province of Capiz and to investigate the operating characteristics and social acceptability of the systems as a low-cost source of potable water. \$107 185 — 36 months.

85-0033 PERINATAL MORTALITY (JAMAICA)

For the University of the West Indies (UWI), Mona, to develop a knowledge base from which to improve maternal and child care services in Jamaica, thereby reducing perinatal morbidity and mortality. \$512 160 — 36 months.

85-0034 SOLAR DISINFECTION (LEBANON)

For the American University of Beirut to develop one or more small-scale continuous-flow solar disinfection systems, simple in design and of low cost, to produce safe drinking water. \$31 000 — 14 months.

85-0036 TUBERCULOSIS (HAITI)

For International Child Care, Port-au-Prince, to determine, in a child population aged 1–9 years from the metropolitan area of Port-au-Prince, the extent to which the bacillus Calmette-Guérin (BCG) protects against tuberculosis and the factors explaining this result. \$135 040 — 30 months.

85-0037 SOLID WASTE MANAGEMENT (PERU)*

For the Universidad Nacional Mayor de San Marcos to design an alternative system for collecting and disposing of solid wastes in the squatter settlements of Peru. \$190 440 — 24 months.

85-0040 ORGANIZATION OF PRIMARY HEALTH-CARE SERVICES (HAITI)

For the Centre de recherches en sciences humaines et sociales (CRESHS), Port-au-Prince, to obtain in-depth knowledge of the primary health-care organization in typical villages of Haiti. \$109 475 — 15 months.

85-0041 LEISHMANIASIS (KENYA)

For the International Centre of Insect Physiology and

Ecology (ICIPE). Nairobi, to determine the prevalence of visceral leishmaniasis in the West Pokot area of Kenya and to elucidate the mode of transmission. \$225 375 — 24 months.

85-0042 YELLOW FEVER (LATIN AMERICA) — PHASE II

For the Fundação Oswaldo Cruz (FIOCRUZ), Rio de Janeiro, Brazil, to develop a process for producing a yellow fever vaccine in chick embryo fibroblasts, to produce three lots of vaccine, and to test the vaccine's conformity with the World Health Organization's standards for potency, immunogenicity, stability, and low neurotoxicity. \$215 455 — 36 months.

85-0043 PRIMARY HEALTH CARE (MALAYSIA) — PHASE II

For the Universiti Malaya, Kuala Lumpur, to provide a comprehensive evaluation of the primary health-care model developed in the Phase I project and to determine whether such a model can be replicated in other remote areas of Sarawak with different social, cultural, and health-service patterns. \$190 630 — 24 months.

85-0046 HEALTH IMPACT OF SOCIAL DEVELOPMENT PROGRAMS (COSTA RICA)

For the Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud (INCIENSA), Tres Rios, to determine the impact on health and nutritional status of various health and social development programs implemented in Costa Rica during the 1970s. \$277 020 — 24 months.

85-0048 WASTE MANAGEMENT TRAINING (SINGAPORE)

For the Ministry of the Environment, Singapore, to enable its Pig and Poultry Research and Training Institute to provide practical training to environmental engineers and research scientists from the region in advanced waste treatment and resource recovery to equip them to handle environmental waste pollution problems in their respective countries. \$307 120 — 24 months.

85-0049 SNAKEBITE (BURMA)

For the Ministry of Health, Rangoon, to enable its Department of Medical Research to improve the diagnostic and therapeutic procedures with respect to victims of Russell's viper bites and to elucidate the physiopathological mechanisms of various clinical complications. \$160 350 — 30 months.

85-0076 PERINATAL MORTALITY (INDIA)*

For the Smt. NHL Municipal Medical College, Ahmedabad, to explore the association of sociodemographic and medical-obstetric risk factors with low neonatal and perinatal mortality in an underprivileged population in Ahmedabad. \$30 680 — 24 months.

85-0080 HYDRAM POTENTIAL (TANZANIA)

For the Ministry of Water, Energy and Minerals, Dar es Salaam, to assess the potential of hydram in Tanzania and examine the acceptability of existing hydrams to rural populations. \$73 000 — 12 months.

85-0084 HORIZONTAL SAND FILTRATION (THAILAND)

For Mahidol University, Bangkok, to establish design criteria for an effective horizontal sand filtration system suitable to treat surface waters used for domestic water supply in rural Thai communities. \$30 355 — 18 months.

85-0094 PREVENTION OF MALNUTRITION (BANGLADESH)

For the Program for the Introduction and Adaptation of Contraceptive Technology (Bangladesh), Dhaka, to develop and evaluate a nutrition education program appropriate for rural Bangladesh. \$186 365 — 24 months.

85-0099 MANAGEMENT OF IEC INPUTS IN POPULATION ACTIVITIES (GLOBAL)

For the International Committee on Management of Population Programmes (ICOMP), Selangor, Malaysia, to assess the management of information, education, and communication (IEC) inputs in family-planning programs in developing countries. \$29 610 — 12 months.

85-0103 SERODIAGNOSIS OF SCHISTOSOMIASIS (KENYA)

For the Kenya Medical Research Institute, Nairobi, in collaboration with the London School of Hygiene and Tropical Medicine, to conduct a study in three endemic areas and a control area that will evaluate a simplified diagnostic test for *Schistosoma mansoni* using serum from finger-pricked blood. \$45 410 — 12 months.

85-0148 TRAINING EVALUATION (THAILAND)

For Chulalongkorn University, Bangkok, to enable its Institute of Health Research to evaluate the strengths and weaknesses of the health-research training workshops conducted to date so as to recommend improvements for future personnel training in health research. \$35 400 — 15 months.

85-0149 MATERNAL RISK FACTORS FOR LOW-BIRTH-WEIGHT NEWBORNS (THAILAND)

For Chulalongkorn University, Bangkok, to enable its Institute of Health Research to identify maternal risk factors for low-birth-weight newborns in Thailand. \$71 075 — 24 months.

85-0150 ASSESSMENT OF PUBLIC HEALTH TRAINING (WEST INDIES)

For the University of the West Indies, Mona, Jamaica, to assess the University's postgraduate training programs in public health and make recommendations for making them as relevant as possible to community needs. \$131 095 — 18 months.

85-0154 RISK APPROACH IN MATERNAL AND CHILD HEALTH CARE (THAILAND)

For Khon Kaen University, Muang Khon Kaen, to estimate maternal and child mortality in a provincial population of northeast Thailand and to delineate the associated risk factors. \$102 090 — 32 months.

85-0155 EVALUATION OF THE MOBILE NURSING CLINIC (PHILIPPINES) — PHASE II

For Saint Louis University, Baguio City, to improve the effectiveness of the mobile nursing clinic as a

model health-care facility in promoting primary health care in depressed and isolated areas. \$78 645 — 18 months.

85-0183 WATER QUALITY CONTROL (MOROCCO)

For the Office national de l'eau potable, Rabat, to develop a rapid, low-cost test of drinking-water supplies by applying simple techniques for bacteriological quality control. \$72 100 — 24 months.

85-0185 WOMEN, WATER, AND SANITATION: AN ACTION-RESEARCH PROJECT (EGYPT)

For the American University in Cairo to identify shortcomings in water-supply and sanitation program management and to improve rural communities' capacity to carry out programs to overcome these problems by involving women. \$181 000 — 24 months.

85-0188 DENGUE (HONDURAS)

For the Virology and Microbiology departments of the Universidad Nacional Autónoma de Honduras, Tegucigalpa, to carry out a sero-epidemiological survey for dengue in high-risk areas of Honduras and to study dengue hemorrhagic fever (DHF) cases with a view to planning a control program. \$85 620 — 24 months.

85-0189 IMMUNOLOGY OF CHAGAS (BRAZIL)

For the Fundação Oswaldo Cruz (FIOCRUZ), Belo Horizonte, to enable the Centro de Pesquisas René Rachou to investigate, by immunological approaches, cellular tests, and parasitological methods, the chagasic patient with various clinical conditions to understand the pathogenesis of the disease and establish a reliable criterion of cure. \$58 985 — 24 months.

85-0195 PRENATAL CARE (GUATEMALA)*

For the Instituto Guatemalteco de Seguridad Social, Guatemala City, to increase prenatal-care coverage and attendance in the population under its care and to thereby improve pregnancy outcome. \$311 320 — 25 months.

85-0203 WASTEWATER REUSE (PERU)*

For the Pan American Health Organization (PAHO), Washington, DC, USA, to enable the Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente (CEPIS), Lima, to assess the sanitary and toxicological acceptability of raw and treated wastewater for irrigation as practiced in Lima. \$218 760 — 24 months.

85-0208 SOLAR LIQUID-PISTON PUMP (GHANA)

For the Department of Mechanical Engineering at the University of Science and Technology, Kumasi, to develop and evaluate an inexpensive, mechanically simple, solar-powered water pump for use in rural Ghana. \$104 595 — 24 months.

85-0209 ANEMIA SURVEY (JAMAICA)

For the University of the West Indies, Mona, to determine the prevalence and correlates of iron- and folate-deficiency anemias in specific groups in Jamaica as the basis for corrective programs and to provide

baseline data for future evaluation of any fortification program. \$287 477 — 18 months.

85-0212 PRIMARY HEALTH-CARE TECHNOLOGY (PATH-GLOBAL) — PHASE II

For the Program for Appropriate Technology in Health (PATH), Seattle, WA, USA, to develop and introduce appropriate technologies for use in primary health-care programs in the developing world. \$75 340 — 12 months.

85-0217 CHILD NUTRITION (UNICEF-LATIN AMERICA)

For the United Nations Children's Fund (UNICEF) Area Office for Argentina, Chile, and Uruguay, located in Santiago, Chile, to identify environmental and social factors that can prevent malnutrition and psychosocial retardation in poor children. \$400 825 — 18 months.

85-0244 WATER QUALITY CONTROL (EGYPT)*

For the National Research Centre, Cairo, to develop and evaluate rapid, inexpensive, technically simple bacteriological water-quality tests and a classification scheme for drinking-water sources in Egypt. \$59 080 — 24 months.

85-0248 TROPICAL DISEASES RESEARCH (GLOBAL) — PHASE VI

For the World Health Organization (WHO), Geneva, Switzerland, to continue supporting its Special Programme for Research and Training in Tropical Diseases. \$400 000 — 24 months.

85-0252 RICE HUSK FILTERS (INDIA)

For the Tata Research Development and Design Centre, Pune, to use rice husk ash to develop low-cost water-filtration devices that can be fabricated by rural populations to produce acceptable drinking water. \$113 055 — 24 months.

85-0261 ANTICONCEPTIVE TECHNOLOGY (NII/ICCR-INDIA)

For the National Institute of Immunology (NII), New Delhi, and the International Committee for Contraception Research (ICCR) of the Population Council, New York, NY, USA, to develop an immunologic contraception method that is safe, effective, long-acting, reversible, and practicable. \$1 058 000 — 36 months.

85-0262 HILOTS AND ANTENATAL CARE (PHILIPPINES)

For the Institute of Community and Family Health, Quezon City, to determine the feasibility of using *hilots* (traditional midwives) as providers of antenatal care in selected isolated Philippine rural communities. \$143 530 — 24 months.

85-0267 CEMENT DUST AND RESPIRATORY PROBLEMS (INDONESIA)

For the Ministry of Manpower, Jakarta, to enable the National Center of Industrial Hygiene and Occupational Health to evaluate the possible association between respiratory disorders and air pollution from cement factories and to develop recommendations on preventive measures. \$93 093 — 12 months.

85-0268 OCCUPATIONAL HEALTH OF WOMEN (KOREA)

For the Catholic Medical College, Seoul, to survey the health status of female workers in manufacturing industries and to assess the main occupational-health risk factors in relation to the working conditions to plan intervention strategies better. \$79 730 — 16 months.

85-0270 RAINWATER CONTAMINATION (THAILAND)

For Khon Kaen University, Muang Khon Kaen, to investigate the bacteriological and heavy-metal contamination risks associated with drinking rainwater. \$149 325 — 24 months.

85-0279 LEISHMANIASIS (COLOMBIA) — PHASE II

For the Centro Internacional de Investigaciones Médicas, Cali, to determine the incidence of leishmanial infection in the environs of Inguapi del Guadual, to identify and measure the risk factors for acquiring the disease, and to determine the recurrence rate in patients who were previously diagnosed and treated. \$290 280 — 36 months.

85-0282 DRUG SURVEY (SRI LANKA)

For the Faculty of Medicine of the University of Ruhuna, Galle, to examine patterns of drug imports, storage, distribution, and use with particular emphasis on primary health-care complexes to identify dysfunctions in the system. \$53 509 — 24 months.

84-0288 TOXOPLASMOSIS (MEXICO)

For the Universidad Autónoma de Yucatán to enable the Centro de Investigaciones Tropicales to define the relationship of toxoplasmosis to miscarriage in the Yucatán and to make recommendations to the regional health authorities. \$29 880 — 24 months.

85-0289 FILARIASIS (SRI LANKA)*

For the University of Peradeniya to characterize somatic filarial antigens and to develop immunodiagnostic techniques for field evaluation in an endemic area. \$62 590 — 36 months.

85-0290 NATIONAL POISONS INFORMATION SERVICE (SRI LANKA)*

For the Ministry of Women's Affairs and Teaching Hospitals, Colombo, to establish in the General Hospital a poison information service for physicians and medical workers and to evaluate its impact on the medical profession and community. \$46 350 — 48 months.

85-0293 CONTRACEPTIVE KNOWLEDGE AND PRACTICES OF UNIVERSITY STUDENTS (MEXICO)

For the Universidad Autónoma de San Luis Potosí, Mexico City, to determine the knowledge, attitudes, practices, and expectations of students concerning methods of birth control. \$10 820 — 9 months.

85-0294 HEALTH-SEEKING BEHAVIOUR IN MACHANG DISTRICT (MALAYSIA)*

For the Universiti Sains Malaysia, Penang, to identify and describe the determinants of health-seeking

behaviour of households in the Machang District of Kelantan State. \$86 720 — 19 months.

85-0302 INHIBITION OF SPERM MOTILITY (THAILAND) — PHASE III

For Mahidol University, Bangkok, to develop a new, safe, and effective barrier method of vaginal contraception. \$91 420 — 24 months.

85-0316 HEALTH CARE IN GEZIRA (SUDAN)

For the National Council for Research, Khartoum, to enable the Traditional Medicine Research Institute to develop policy recommendations on health-care delivery in rural Sudan for the planning and implementation of improved primary health care. \$30 650 — 12 months.

85-0330 TRAINING IN PRIORITY HEALTH PROBLEMS IN MEDICAL EDUCATION (GLOBAL)

To provide funds to McMaster University, Hamilton, to enable four fellows to attend the first study block at McMaster University of the "Priority Health Problems in Medical Education" project of the Network of Community-Oriented Educational Institutions for Health Sciences and to allow several consultants to work with the fellows in the areas of health data management, health policy analysis, and human resources development. \$79 860 — 12 months.

85-0340 FILARIASIS CONTROL (INDONESIA)

For the Universitas Indonesia, Jakarta, to enable the Department of Parasitology of the Faculty of Medicine to use *Puskesmas* or Community Health Centres as the focal points of a horizontal filariasis-control strategy involving villagers. \$77 000 — 24 months.

85-1022 ACUTE RESPIRATORY INFECTIONS (EGYPT-CANADA)

For the University of Alexandria, Egypt, and McMaster University, Hamilton, to determine the specific pathogens in the respiratory tract of children with lower-respiratory-tract infection in a trachoma-endemic area. \$235 515 — 36 months.

85-1025 HELMINTHIASIS CONTROL (DOMINICA-CANADA)

For the Ministry of Health, Roseau, Dominica; the University of the West Indies, Mona, Jamaica; and McGill University, Montreal, to identify a rational, community-based, chemotherapeutic control strategy for helminthiasis that can be incorporated into existing primary health-care programs. \$200 404 — 36 months.

85-1030 HEAVY-METAL RIVER POLLUTION (LATIN AMERICA-CANADA)

For the Secretaría Ejecutiva Permanente del Convenio "Andrés Bello" (SECAB), Bogotá, Colombia, and McGill University, Montreal, to assess the health significance of the contamination by selected heavy metals and pesticides of one major river in Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela. \$566 500 — 24 months.

85-1043 LEISHMANIASIS (PERU-CANADA)

For the Universidad Peruana Cayetano Heredia, Lima, and the University of British Columbia, Vancouver, to define the epidemiological, clinical, and parasitologi-

cal features of Andean cutaneous leishmaniasis relevant to the design of control activities. \$305 503 — 36 months.

Information Sciences

85-0025 PRELIMINARY PROJECT: INFORMATION SERVICES (SACCAR-AFRICA)

For the Southern Africa Centre for Cooperation in Agricultural Research (SACCAR), Gaborone, Botswana, to provide the services of an experienced senior adviser who will be a specialist in information services and networks to help SACCAR achieve its information goals. \$164 050 — 18 months.

85-0032 RURAL ROADS (ASIA)*

For the Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok, Thailand, to develop and publish a set of modular teaching aids for the training of local-level officials on low-cost techniques for construction and maintenance of rural roads. \$180 050 — 18 months.

85-0051 GLOSSARY OF IMPORTANT NEPALI PLANTS AND ANIMALS (NEPAL)

For the Agricultural Projects Services Centre, Kathmandu, to produce and disseminate a glossary providing the Nepali, common English, and Latin names of plants and animals of social and economic importance in Nepal. \$58 905 — 24 months.

85-0060 NORTHEASTERN BRAZIL INFORMATION NETWORK

For the Centro Josué de Castro, Recife, to promote and strengthen the study of the socioeconomic development of the northeastern region of Brazil. \$156 500 — 36 months.

85-0068 NATIONAL HEALTH INFORMATION SYSTEM (BURMA)

For the Department of Medical Research (DMR), Rangoon, to extend health information services to the health-care community in Burma by strengthening the Central Biomedical Library, improving bibliographic control of the national health literature, and providing information support to the research programs of DMR. \$58 940 — 24 months.

85-0071 ARCHIVES TRAINING WORKSHOP (EAST AFRICA)

For the Information Sciences Division, IDRC, to organize a workshop and use local resources and situations to demonstrate approaches to training that can assist in the evolution of archival training for the region. \$22 147 — 2 months.

85-0082 LATIN AMERICAN COMMUNICATIONS NETWORK FOR NONGOVERNMENTAL ORGANIZATIONS

For the Instituto Latinoamericano de Estudios Transnacionales (ILET), Santiago, Chile, to study and experiment with a regional microcomputer-based communications network among nongovernmental organizations in Argentina, Brazil, Chile, Mexico, and Peru. \$95 425 — 18 months.

85-0085 INFORMATION AND DOCUMENTATION ON PUBLIC HEALTH (SENEGAL)

For the ministère de la Santé publique, Dakar, to enable the Direction de la recherche, de la planification et de la formation to implement its policy on public-health information by strengthening and revitalizing the embryo documentation centre. \$85 500 — 24 months.

85-0087 POPIN-AFRICA (CDC-EGYPT)

For the Cairo Demographic Centre (CDC) to strengthen and extend its library's population documentation services and to prepare for eventual collaboration with the International Population Information Network (POPIN). \$79 200 — 24 months.

85-0098 OAPI AND PATENT INFORMATION (AFRICA)

To provide the African Intellectual Property Organization (OAPI), Yaoundé, Cameroon, with the necessary tools to contribute to the economic and technological development of its member states, by reinforcing the capacities of the Department of Patent-Related Documentation and Information and those of the national liaison structures. \$277 955 — 36 months.

85-0111 SOUTH-EAST ASIAN WEED INFORMATION CENTRE (SEAWIC)

For the South-East Asian Ministers of Education Organization's (SEAMEO), Bangkok, Thailand, Regional Center for Tropical Biology (BIOTROP), Bogor, Indonesia, to establish the South-East Asian Weed Information Center (SEAWIC), a specialized information centre on weed science that will provide information services on the distribution, association, ecology, management, and control and use of significant weeds in the region. \$313 270 — 36 months.

85-0114 DEVSIS GUINEA — PHASE II

For the Direction de la recherche scientifique et technique (DRST), Conakry, to establish the Centre national de documentation et d'information pour le développement, for the economic and social recovery of the country. \$199 600 — 24 months.

85-0115 PUBLIC ADMINISTRATION INFORMATION (LATIN AMERICA) — PHASE II

For the Centro Latinoamericano de Administración para el Desarrollo (CLAD), Caracas, Venezuela, to capture and disseminate information on public administration to government agencies, the academic community, and public administrators by means of an automated information system relying on a Latin American network for which CLAD's Documentation Centre is the coordinating centre. \$200 400 — 24 months.

85-0116 DECENTRALIZED MICROCOMPUTER- BASED TOOLS FOR A NATIONAL INFORMATION SYSTEM (CUBA)

For the Instituto de Documentación e Información Científica y Técnica (IDICT), Havana, to determine the feasibility and appropriateness of decentralized microcomputer-based systems that are integrated

through local area network technology for use within a national information system. \$173 000 — 30 months.

85-0119 DEVINSA: DEVELOPMENT INFORMATION NETWORK FOR SOUTH ASIA

For the Marga Institute, Colombo, Sri Lanka, to strengthen the Committee for Studies in Cooperation for Development in South Asia's information base in support of its research programs. \$332 321 — 36 months.

85-0120 AGROFORESTRY INFORMATION (SUB-SAHARAN AFRICA)

For the International Council for Research in Agroforestry (ICRAF), Nairobi, Kenya, to improve the delivery of agroforestry information services to researchers and field-workers in national forestry institutions in sub-Saharan Africa by directly providing user-oriented information packages and training in information-handling techniques to key personnel from national institutions in the region. \$201 395 — 24 months.

85-0125 POTATO INFORMATION SERVICES: POISE (GLOBAL)

For the Centro Internacional de la Papa (CIP), Lima, Peru, to develop and establish an information service unit capable of providing a wide range of information services to researchers and others involved in potato-production improvement in the developing world. \$382 915 — 36 months.

85-0147 COMPUTERIZED COMMUNICATION LINKS FOR LATIN AMERICAN BRUCELLOSIS RESEARCH NETWORK

For the United Nations University, Tokyo, Japan, to test and evaluate the use of computerized communication techniques in support of an ongoing scientific research project and network, to strengthen indigenous research capability of institutions in Latin America involved in the field of biotechnology, and to promote cooperation among researchers in this field, both in developing and industrialized countries. \$137 500 — 36 months.

85-0173 REPACKAGING FISHERIES DOCUMENTATION IN SENEGAL (REDMAPS)

For the Secrétariat d'État aux ressources animales, Dakar, to enable the Direction de l'océanographie et des pêches maritimes to reinforce the efficiency of its documentation centre in collecting, processing, and disseminating information on oceanography and marine fisheries. \$52 860 — 18 months.

85-0175 INFORMATION NETWORK ON NEW AND RENEWABLE ENERGY RESOURCES AND TECHNOLOGIES FOR ASIA AND THE PACIFIC (INNERTAP)

For the Philippine National Oil Company's Energy Research and Development Center (PNOC-ERDC), Manila, Philippines, to improve the flow of information on new and renewable sources of energy into and out of the non-Commonwealth countries of the Asia and Pacific region in coordination with similar regional activities. \$125 285 — 36 months.

85-0196 AGRICULTURAL INFORMATION NETWORK (NICARAGUA)

For the Ministerio de Desarrollo Agropecuario y

Reforma Agraria, Managua, to enable the Centro Nacional de Información y Documentación Agropecuaria to strengthen the agricultural research efforts of the Ministerio by improving the collection and dissemination of agricultural research information. \$140 690 — 30 months.

85-0197 DISC (GLOBAL) — PHASE II

For the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) in Dhaka to consolidate the activities of the International Diarrhoeal Disease Information Service and Documentation Centre (DISC) and put it on a solid footing to ensure its long-term viability. \$182 570 — 24 months.

85-0202 DEVSIS (BENIN)

For the ministère du Plan et de la Statistique, Cotonou, to support the Centre national automatisé de documentation et d'information (CENADI) in its development and smooth operation by establishing a permanent structure to serve the national territory's socioeconomic information needs. \$264 000 — 36 months.

85-0205 INFORMATION FOR DEVELOPMENT POLICIES AND PLANNING (INFOPLAN) — PHASE III

For the U.N. Economic Commission for Latin America and the Caribbean, Santiago, Chile, in collaboration with the Centro Latinoamericano de Documentación Económica y Social to promote a wider, more effective dissemination and use of INFOPLAN's services and to provide the necessary support for national information infrastructures to participate fully in network activities. \$265 919 — 36 months.

85-0206 MARKET INFORMATION SYSTEM (CARIBBEAN) — PHASE II

For the Association for Caribbean Transformation (ACT), Port of Spain, Trinidad and Tobago, to provide market information to decision-makers in the agricultural sectors of Antigua, Dominica, and Trinidad and Tobago with particular emphasis on developing an information service for small farmers and traders, and marketing, financial, and other supportive institutions. \$362 410 — 36 months.

85-0226 CARICOM TRADE INFORMATION SYSTEM: A PILOT PROJECT (CARIBBEAN)

For the Caribbean Community Secretariat (CARICOM), Georgetown, Guyana, to mount a computerized trade-information service covering trade-related information from all Caribbean countries to enhance the region's trade and marketing activities and contribute to the development process. \$87 530 — 12 months.

85-0228 PACIFIC INFORMATION CENTRE — PHASE II

For the University of the South Pacific, Suva, Fiji, to enable the University's Pacific Information Centre to consolidate the network established under Phase I, to expand services in the region, and to coordinate participation in selected cooperative international systems. \$278 000 — 36 months.

85-0233 AGRICULTURAL INFORMATION SERVICES (CHINA)

For the Chinese Academy of Agricultural Sciences (CAAS), Beijing, to assist the SCIENTECH Information Institute to develop its resources (personnel, equipment, and facilities) to better provide agricultural information to decision-makers, scientists, educators, and extension workers. \$393 704 — 48 months.

85-0239 AGRICULTURAL WASTE MANAGEMENT INFORMATION (MALAYSIA)

For the Universiti Pertanian Malaysia, Serdang, to establish a regional information centre on the management utilization of wastes that will provide information and documentation services to users in the Southeast Asia and Pacific region, and particularly to members of the Regional Network for the Management and Utilization of Wastes. \$164 148 — 36 months.

85-0240 NATIONAL AGRICULTURAL INFORMATION SYSTEM (BURKINA FASO)*

For the ministère de l'Agriculture et de l'Élevage, Ouagadougou, to enable the Centre national de documentation agricole (CNDA) to reorganize agricultural information dissemination within Burkina Faso through a national network made up of the CNDA and 10 documentation centres in countries belonging to the Organismes régionaux de développement. \$95 630 — 24 months.

85-0241 INTERDOC NETWORK (GLOBAL)

For the International Documentation and Communication Centre (IDOC), Rome, Italy, to facilitate regular, fast, and reliable information transfer within a global network of nongovernmental organizations in the INTERDOC network. \$125 000 — 24 months.

85-0242 DEVELOPMENT OF MICROCOMPUTER-BASED INSTRUCTIONAL RESOURCES (PHILIPPINES)

For the International Rice Research Institute, Los Baños, Philippines, to enable its Training and Technology Transfer Department to develop microcomputer-based instructional resources. \$93 400 — 24 months.

85-0243 AGRICULTURAL DOCUMENTATION (SYRIA)

For the Ministry of Agriculture and Agrarian Reform, Damascus, to help establish a national centre for agricultural documentation to provide technological and scientific data on agricultural development programs in the Syrian Arab Republic to planners, decision-makers, and officials in the agricultural sector. \$199 916 — 24 months.

85-0245 ARSO TRAINING WORKSHOP ON DOCUMENTATION AND INFORMATION ON STANDARDS (AFRICA)

For the African Regional Standards Organization (ARSO), Nairobi, Kenya, to help establish a regional network of standards documentation and information systems in Africa and to organize the first African training workshop on standards documentation and information. \$38 000 — 3 months.

85-0246 TRANSBORDER DATA FLOWS (THAILAND)

For King Mongkut's Institute of Technology, Bangkok, to carry out a comprehensive case study on transborder data flows in Thailand. \$70 000 — 12 months.

85-0284 INFORMATION ON PUBLIC HEALTH AND TRADITIONAL MEDICINE (CAMEROON)

For the ministère de l'Enseignement supérieur et de la Recherche scientifique, Yaoundé, to enable the Institut de recherches médicales et d'études de plantes médicinales to improve dissemination of information on public health and traditional medicine by strengthening its documentation centre. \$92 800 — 24 months.

85-0285 POPIN-AFRICA (IFORD)

For the U.N. Economic Commission for Africa, Addis Ababa, Ethiopia, to enable the Institut de formation et de recherche démographiques (IFORD), Yaoundé, Cameroon, to participate in the regional Population Information Network (POPIN-Africa) by strengthening the infrastructure of its documentation centre. \$96 000 — 24 months.

85-0290 NATIONAL POISONS INFORMATION SERVICE (SRI LANKA)*

For the Ministry of Women's Affairs and Teaching Hospitals, Colombo, to establish in the General Hospital a poison information service for physicians and medical workers and to evaluate its impact on the medical profession and community. \$46 350 — 36 months.

85-0297 REPIDISCA (ARGENTINA)*

For the Oficina Panamericana de Salud, Buenos Aires, to enable the Instituto Nacional de Ciencia y Técnica Hídricas to strengthen the National Water Supply and Sanitation Information Network (REPIDISCA-Argentina). \$87 575 — 24 months.

85-0298 ICOMP INFORMATION ACTIVITIES (GLOBAL)

For the International Committee on the Management of Population Programmes (ICOMP), Kuala Lumpur, Malaysia, to organize its small library and to expand both the coverage and circulation of the newsletter *Feedback*. \$49 015 — 24 months.

85-0301 THE ENGINEER'S ENVIRONMENTAL INFORMATION GUIDE (FRANCE)

For the World Federation of Engineering Organisations, Paris, to enable the Commission d'information et de documentation de l'ingénieur to help engineers find information on environmental problems by providing them with an appropriate methodology and by compiling a list of national and international sources. \$17 241 — 12 months.

85-0319 DEBT RECORDING AND MANAGEMENT SYSTEM: TRAINING MATERIALS (GLOBAL)

For the Commonwealth Fund for Technical Cooperation, London, United Kingdom, to enable its Technical Assistance Group to develop, produce, and test a full set of training materials for users of the Commonwealth Secretariat Debt Recording and Management System. \$96 200 — 24 months.

85-0332 RATTAN INFORMATION CENTRE (MALAYSIA) — PHASE II

For the Forest Research Institute, Selangor, to operate a question-and-answer service, to act as a referral centre, to maintain a computerized database, to establish an arboretum, and to publish materials for dissemination. \$97 145 — 36 months.

85-0333 RIALIDE (REGIONAL) — PHASE II

For the Asociación Latinoamericana de Instituciones Financieras de Desarrollo, Lima, Peru, to provide timely and correct information to development banks, international banks, businessmen, investors, and other users interested in participating in medium- and small-investment projects contributing to the economic development of Latin America and Caribbean countries. \$98 000 — 24 months.

85-0345 LAND REGISTRY INFORMATION SYSTEM (TRINIDAD AND TOBAGO)

For the Information Sciences Division, IDRC, to establish an efficient microform-based system for the storage of land-registry records with computer-generated index access for retrieval. \$49 800 — 12 months.

85-1003 DOCUMENTATION TECHNICIANS (HAITI-CANADA)

For the Institut national haïtien de la culture et des arts, Port-au-Prince, and the Collège Lionel-Groulx, Sainte Thérèse, to reinforce the documentary structures of Haiti by providing technical training to staff already filling support functions for managers of libraries, archives, and documentation centres. \$130 000 — 26 months.

85-1044 NATIONAL OCCUPATIONAL HEALTH AND SAFETY INFORMATION CENTRE (THAILAND-CANADA)

For the Department of the Interior, Bangkok, Thailand, and the Canadian Centre for Occupational Health and Safety, Hamilton, to help the Information Centre of the National Institute for the Improvement of Working Conditions and Environment to collect, manipulate, and disseminate relevant information on occupational health and safety and working conditions. \$199 820 — 24 months.

85-1052 TRAINING IN ARCHIVES RESTORATION AND CONSERVATION (SENEGAL-CANADA)

For the Information Sciences Division, IDRC, to train a small group of instructors at the National Archives of Senegal, who will in turn be trainers for francophone African technicians in the field, \$74 800 — 16 months.

Fellowships and Awards Division

85-0001 TRAINING IN TECHNOLOGY TRANSFER AND ADAPTATION (CARIBBEAN)

For the Caribbean Development Bank, Bridgetown, Barbados, to forge effective links between technical institutions and productive enterprises to close critical gaps in the range of available skills and knowledge

needed to strengthen the technical capacity of the Caribbean region. \$38 140 — 12 months.

85-0002 TRAINING IN FISHERIES ECONOMICS (CHILE)

For the Universidad Católica de Valparaíso (UCV) to support an interdisciplinary training course for social scientists and fish biologists concerned with the development of the artisanal fishery in Latin America. \$94 650 — 6 months.

85-0005 TRAINING COURSE IN APPLIED AGRICULTURAL ECONOMIC ANALYSIS (LATIN AMERICA)

For Fellowships and Awards Division, IDRC, to enable the Instituto Nacional de Investigación y Promoción Agropecuaria, Lima, Peru, to hold a training course that will strengthen the analytical capacity of members of the network to collect and process economic data relevant to animal production systems research. \$30 100 — 6 months.

85-0021 HAGUE ACADEMY OF INTERNATIONAL LAW SCHOLARSHIPS (GLOBAL)

For The Hague Academy of International Law, The Netherlands, to assist in the training of young legal scholars from developing countries in aspects of international law and to support the continuing work of the Academy. \$29 325 — 12 months.

85-0059 ENERGY AWARDS (GLOBAL) — PHASE III

For the Fellowships and Awards Division, IDRC, to provide support for individual training awards to increase the capability of researchers and institutions in developing countries to undertake energy-related research. \$150 000 — 18 months.

85-0061 RESEARCH METHODS FOCUSING ON GENDER ISSUES (AFRICA)

For the Eastern and Southern African Management Institute (ESAMI), Arusha, Tanzania, to organize a seminar with a view to increasing individual research capacities to use or conduct, or both, relevant gender-related research so as to illuminate the key role that gender plays in the implementation of economic, social, and political development activities. \$76 545 — 6 months.

85-0066 TRAINING COURSE IN MICROCOMPUTERS FOR RESEARCH (KENYA)

For the University of Nairobi to initiate a series of training activities to enable research institutions in the region to handle computer and, especially, micro-computer capabilities. \$42 840 — 6 months.

85-0067 REGIONAL TRAINING COURSE IN IRRIGATION AND WATER MANAGEMENT IN RICE CULTIVATION (SOUTH ASIA)

For the Fellowships and Awards Division, IDRC, to organize a training course to equip scientists from South Asian countries with improved knowledge and skills on farm irrigation and water-management practices aimed at increasing total rice production. \$75 080 — 8 months.

85-0073 POSTGRADUATE PROGRAM AT CIRES (IVORY COAST)

For the Centre ivoirien de recherches économiques et sociales (CIRES), Abidjan, to fund five postgraduate scholarships in the "doctorat de 3^e cycle" in rural economics to be offered in the academic year 1985-86. \$70 000 — 12 months.

85-0077 CONSORTIUM GRADUATE SCHOOL (CARIBBEAN)

For the University of the West Indies, Kingston, Jamaica, to support 10 graduate students in the 1st year of the Consortium Graduate School of the University of the West Indies, the University of Guyana, and the University of Surinam. \$50 000 — 12 months.

85-0089 TRAINING COURSE IN FISH REPRODUCTION (LATIN AMERICA AND CARIBBEAN)

For the Centro Regional Latinoamericano de Acuicultura (CERLA), São Paulo, Brazil, to provide practical and theoretical training in the subject of fish reproduction, induced spawning, and larval rearing in support of ongoing freshwater aquaculture activities in Centre-supported projects in Latin America and the Caribbean. \$55 400 — 6 months.

85-0107 TRAINING PROGRAM ON INTEGRATED FISH FARMING (CHINA) — PHASE II

For the Regional Lead Centre of China (RLCC), Wuxi, to train a core group of senior technicians from developing countries in Africa, Asia, and Latin America to plan and implement integrated fish-farming research programs. \$238 000 — 24 months.

85-0162 POSTGRADUATE TRAINING COURSE IN PRECAMBRIAN GEOLOGY (ETHIOPIA-CANADA)

For the University of Addis Ababa to enable its geology department and the Ottawa-Carleton Centre for Geoscience Studies of Carleton University to collaborate in the preparation and presentation of a training course on Precambrian geology. \$98 700 — 6 months.

85-0164 NATIONAL TECHNOLOGY POLICY RESEARCH WORKSHOP (RWANDA)

For the ministère de l'Industrie, des Mines et de l'Artisanat, Kigali, to support a research training exercise that will provide Rwandan technology policy-makers with data-collection and analytical skills for later use in their day-to-day work. \$90 000 — 12 months.

85-0168 TRAINING COURSE ON FERTILITY AMONG YOUNG AFRICANS

For the Fellowships and Awards Division, IDRC, to organize a seminar for participants to learn the methodology for developing and conducting fertility field research among young Africans. \$34 920 — 6 months.

85-0170 AQUACULTURE FOR SOCIAL SCIENTISTS (GLOBAL)

For the Fellowships and Awards Division, IDRC, to organize a 4-week course for social scientists to teach participants basic aquaculture principles and

practices and how to apply economic methodologies in the evaluation of aquaculture systems. \$28 670 — 6 months.

85-0172 INSECT IDENTIFICATION AND BIOSYSTEMATIC SERVICES FOR AGRICULTURE (AFRICA)

For the Fellowships and Awards Division, IDRC, to teach graduate entomologists in national and regional agricultural research units and institutes how to collect, prepare, and identify (at least to family level) agricultural insect pests and their predators. \$25 000 — 6 months.

85-0178 TRAINING IN HEALTH SCIENCE APPLIED RESEARCH METHODS (SAHEL)

For the Institut national de recherche en santé publique, Bamako, Mali, to organize and execute a 3-week training program on applied research methods for health sciences professionals from the French-speaking Sahelian countries in West and Central Africa. \$77 395 — 12 months.

85-0211 INTERNATIONAL FOUNDATION FOR SCIENCE (GLOBAL)

For the International Foundation for Science (IFS), Stockholm, Sweden, to provide small research grants to 40 young developing-country scientists involved in research work in their own countries. \$350 000 — 12 months.

85-0219 TRAINING COURSE IN INSECT PEST MANAGEMENT (AFRICA)

For the International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya, to organize a training course to establish a practical foundation for pest and vector management. \$58 200 — 6 months.

85-0236 THE PEARSON FELLOWSHIPS (GLOBAL)

For Carleton University, Ottawa, to provide a joint grant to Carleton University and the University of Ottawa to provide, coordinate, and administer a program of public management instruction to IDRC's Pearson Fellows. \$236 100 — 12 months.

85-0237 VARIETAL TESTING OF IMPROVEMENT OF DRYLAND LEGUME CROPS (ASIA)

For the International Rice Research Institute (IRRI), Los Baños, Philippines, to enable junior plant scientists and breeders from eight Asian countries (Bangladesh, China, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, and Thailand) to be trained in varietal testing and improvement of crops. \$111 345 — 36 months.

85-0249 IN-SERVICE TRAINING FOR EDUCATIONAL RESEARCHERS (LATIN AMERICA)

For the Programa Interdisciplinario de Investigaciones en Educación, Academia de Humanismo Cristiano, Santiago, Chile, to provide in-service training to a Centre-supported network of educational research centres, ministries of education, and universities in Latin America, using "distance education" delivery modes. \$68 555 — 18 months.

85-0318 PROFESSOR Y. NAYUDAMMA MEMORIAL FELLOWSHIP (INDIA)*

For the Central Leather Research Institute, Madras, to provide a yearly funded postdoctoral fellowship in honour of Professor Y. Nayudamma. \$72 750 — 60 months.

85-0346 SENIOR FELLOWSHIP: NICOLAS ARDITO BARLETTA

For the Fellowships and Awards Division, IDRC, to appoint Dr Nicolas Ardito Barletta of Panama as a Senior fellow to undertake a research project entitled "The small Caribbean Basin countries — an evaluation of their development prospects after three years of the Caribbean Basin Initiative." \$154 000 — 18 months.

85-1009 MEDICAL EXCHANGE PROGRAM (GLOBAL-CANADA)

For the Canadian Society for Tropical Medicine and International Health, Ottawa, to enable Canadian health personnel to serve in developing-country institutions, thereby increasing health personnel resources for international health in Canada and in Canadian-sponsored activities. \$240 250 — 12 months.

85-1021 YOUNG CANADIAN RESEARCHERS (GLOBAL-CANADA)

For the Fellowships and Awards Division, IDRC, to facilitate the involvement of young Canadians in research on Third World issues and to augment the pool of qualified Canadian researchers who have acquired research experience in Third World institutions. \$450 000 — 12 months.

Cooperative Programs

85-1002 SEAFARERS IN THE ASEAN REGION (SINGAPORE-CANADA)

For the Institute of Southeast Asian Studies (ISEAS), Singapore, and the Dalhousie Ocean Studies Program, Halifax, to study seafarers in the context of the growing maritime aspirations of the countries in the region of the Association of South East Asian Nations (ASEAN) and the currently depressed international shipping industry. \$95 915 — 24 months.

85-1005 AQUIFER DEVELOPMENT (MEXICO-CANADA)

For the Universidad Nacional Autónoma de México and the University of Waterloo, Ontario, to achieve a better understanding of the groundwater system of the Valley of Mexico, to develop an improved model of groundwater flow and quality for use in water management, and to strengthen the groundwater research capabilities at the Instituto de Geofísica of the university and Mexico generally. \$359 550 — 36 months.

85-1006 FIBRE/AGROINDUSTRIAL BY-PRODUCTS BEARING WALLS (BRAZIL-CANADA)

For the Instituto de Pesquisas Tecnológicas (IPT), São Paulo, and the University of British Columbia,

Vancouver, to reduce housing costs in Brazil and other developing countries by determining the economic and technical feasibility of using agricultural and industrial by-products (rice-husk ash and blast-furnace slag) to produce alternative cements and to develop building components reinforced with vegetable fibre. \$247 261 — 36 months.

85-1008 LEGAL AID CLINICS (COLOMBIA-CANADA)

For the Centro de Investigación y Educación Popular, Bogotá, and York University, Toronto, to determine the responsiveness and effectiveness of different legal-aid clinic models to the social, economic, and legal needs of the communities they serve. \$333 255 — 36 months.

85-1013 SEAGRASS RESTORATION (PHILIPPINES-CANADA)

For the National Environmental Protection Council, Quezon City, and the University of British Columbia, Vancouver, to develop seagrass restoration as a coastal rehabilitation/enhancement measure, and to use seagrass as a means to reduce pollution and erosion at degraded sites in the Philippines. \$214 543 — 36 months.

85-1015 BLAST FURNACE SLAG (ARGENTINA-CANADA)*

For the Instituto Nacional de Tecnología Industrial (INTI), Buenos Aires, and the Canada Centre for Mineral and Energy Technology (CANMET), Ottawa, to develop comprehensive performance data on blast-furnace slag and portland cement mixes for precast concrete components and to study the economic and technical feasibility of using them in low-cost housing construction in Argentina and other Latin American countries. \$264 765 — 36 months.

85-1016 BIOGAS REFRIGERATOR (CHINA-CANADA)

For the Beijing Solar Energy Research Institute and the Canadian Gas Research Institute, Don Mills, to develop a biogas refrigerator for use in the rural areas of China. \$269 385 — 24 months.

85-1018 SEISMIC-RESISTANT ADOBE HOUSING (PERU-CANADA)*

For the Pontificia Universidad Católica del Perú, Lima, and Concordia University, Montreal, to evaluate the seismic performance of structurally reinforced adobe dwellings constructed with improved traditional methods. \$202 450 — 30 months.

85-1019 ALUMINUM ALLOYS FOUNDRY (VENEZUELA-CANADA)*

For the Universidad Central de Venezuela, Caracas, and Queen's University, Kingston, to develop advanced casting techniques for low-grade aluminum-silicon alloys for the use of small- and medium-sized foundries in Venezuela and other Latin American countries. \$299 050 — 36 months.

85-1020 CIRCULATING FLUIDIZED BED (INDIA-CANADA)

For the Indian Institute of Technology, Bombay, the Bharat Heavy Electricals Limited, Tiruchirappalli, and

the Technical University of Nova Scotia, Halifax, to develop a base for design of circulating fluidized-bed boilers for low-grade Indian coal. \$507 009 — 36 months.

85-1023 AQUIFERS (SANTA LUCIA/URUGUAY-CANADA)

For the Dirección Nacional de Minería y Geología (DINAMIGE), Montevideo, and the Université du Québec à Montréal to identify and characterize the aquifers of the Santa Lucia River basin and the related sedimentary formations, to identify the recharge and discharge areas, to study the actual and potential impact of changes in land use, and to study the current and foreseen contamination level of the basin's groundwater. \$246 840 — 24 months.

85-1024 MICROCOMPUTER-BASED INSTRUMENTATION (SINGAPORE-CANADA)

For the National University of Singapore and SCADA Systems Incorporated, Toronto, to develop a microcomputer-based package for teaching, laboratory analysis, and research in Third World countries. \$344 469 — 36 months.

85-1029 CARMINE PRODUCTION FROM COCHINEAL (PERU-CANADA)*

For the Instituto de Investigación Tecnológica Industrial y de Normas Técnicas (ITINTEC), Lima, and Simon Fraser University, Burnaby, to develop improved carmine-extraction technology with emphasis on developing a process adaptable to the Peruvian rural-industrial environment. \$132 000 — 12 months.

85-1032 CONTAMINANT TRACING (BRAZIL-CANADA)

For the Universidade de São Paulo and the University of Waterloo, Ontario, to examine the state of groundwater contamination at previously identified landfill or waste-disposal sites in the state of São Paulo, using geophysical techniques. \$94 610 — 18 months.

85-1033 TECHNOLOGY ADOPTION SMES (MALAYSIA-CANADA) — PHASE II

For the Institut Teknologi Mara and the Universiti Pertanian Malaysia, Serdang, with the Saskatchewan Research Council and the University of Saskatchewan, Saskatoon, to provide information on the level of technology used by small- and medium-sized enterprises (SMEs) in four high-priority manufacturing sectors in Malaysia. \$262 000 — 18 months.

85-1034 POZZOLAN CEMENT (GUATEMALA-CANADA)

For the Universidad de San Carlos de Guatemala and the University of Calgary, Alberta, to increase access to adequate housing for low-income Guatemalan families by reducing construction material costs. \$237 950 — 36 months.

85-1035 COPPER-BASE ALLOYS (PERU-CANADA)

For the National University of Engineering and the Institute of Industrial Technology Research and Technical Standards, Lima, with Queen's University, Kingston, to develop improved foundry practices for

small- and medium-scale foundries in Peru working with copper-base alloys. \$260 000 — 24 months.

85-1037 DOBBY MECHANISM (PAKISTAN-CANADA)

For the Pakistan Council of Scientific and Industrial Research, Karachi, and the Industrial Technology Centre, Winnipeg, to further develop and refine a new selection mechanism for power-loom weaving. \$345 395 — 36 months.

85-1038 INDUSTRIAL WASTE MANAGEMENT BIOGAS (INDIA-CANADA)

For the Indian Institute of Technology, Madras, and the National Research Council of Canada and Carleton University, Ottawa, to develop an improved reactor to extract biogas from industrial waste. \$554 130 — 36 months.

85-1039 HYDROLOGY/HYDROGEOLOGY OF DONGAS (SWAZILAND-CANADA)

For the Ministry of Natural Resources, Mbabane, and the Water Management Services, Fredericton, to determine the effects of gullyng on surface and groundwater flow and storage, by understanding causes and mechanisms for gully development in the Swaziland Middleveld, and to recommend basin management and remedial measures to stop or ameliorate harmful gullyng. \$252 965 — 24 months.

85-1041 HYDROGEOLOGY (UGANDA-CANADA)

For the Water Development Department, Entebbe, and the University of Toronto, Ontario, to understand local groundwater systems in northern Uganda and to develop criteria for the Water Development Department in well siting and water management. \$257 175 — 24 months.

85-1042 BUILDING STONES (TANZANIA-CANADA)

For the Ministry of Water, Energy and Minerals, Dodoma; the Agrícola Mineralia, Navan; and the Prairie Masonry Research Institute of Canada, Edmonton; to develop a long-term plan for the exploitation and use of the Holili building-stone deposit and other local building materials. \$344 082 — 24 months.

85-1053 BUILDING RESEARCH CAPACITY AT UNPHU (DOMINICAN REPUBLIC-CANADA)

For the Universidad Pedro Henríquez Ureña (UNPHU), Santo Domingo, and the University of British Columbia, Vancouver, to contribute to UNPHU's plan to develop its research infrastructure. \$54 990 — 18 months.

Communications

85-0091 SCIENTIFIC PUBLISHING IN FRANCOPHONE AFRICA (AFRICA)

To enable the Université nationale de la Côte d'Ivoire, Abidjan, Ivory Coast, to provide African journalists with opportunities to familiarize themselves with new scientific publishing techniques. \$72 774 — 9 months.

85-0108 TRAINING IN SCIENCE COMMUNICATION (GREDES)

For the Grupo de Estudios para el Desarrollo (GREDES), Lima, Peru, to organize a series of workshops to train communicators in the dissemination of information on science and technology and its relationship to national development needs. \$19 446 — 12 months.

85-0109 TRAINING TEACHERS OF SCIENCE JOURNALISM (ZIMBABWE)

For the Zimbabwe Institute of Mass Communication, Harare, to hold a science-writing training program for communication educators from countries on the Southern African Development Coordination Committee. \$33 178 — 6 months.

85-0110 SCIENCE AND TECHNOLOGY FEATURES SERVICE (LATIN AMERICA)

For the Agencia Latinoamericana de Servicios Especiales de Información (ALASEI), Mexico City, to initiate a monthly science and technology features service for Latin America. \$24 846 — 12 months.

85-0166 DEPTHNEWS SCIENCE FEATURE SERVICE (ASIA) — PHASE II

For the Press Foundation of Asia, Manila, Philippines, in support of the "Depthnews Science Feature Service." \$16 029 — 12 months.

85-0179 TRAINING OF SCIENCE-WRITING TRAINERS (ASIA)

For the Press Foundation of Asia, Manila, Philippines, to hold a workshop on science-writing training for Asian journalism teachers. \$62 354 — 9 months.

85-0257 JOURNALISTS' TRAINING WORKSHOP ON POPULARIZATION OF SCIENCE (AFRICA)

For the Association interinstitutionnelle pour la communication. Dakar, Senegal, and the Studio-École de la Voix du Zaïre to provide continuous training to 12 journalists in the science popularization field. \$62 400 — 18 months.

85-0283 TRAINING IN SCIENCE BROADCASTING (CARIBBEAN)

For the University of the West Indies, Mona, Jamaica, to enable the Caribbean Institute of Mass Communications to hold two science-writing training workshops, one in Jamaica and one in St Lucia, for English-speaking radio journalists and researchers from the Caribbean. \$41 000 — 6 months.

85-0320 SCIENCE AND TECHNOLOGY FEATURE SERVICE (KENYA) — PHASE II

For the Africa Church Information Service, Nairobi, to enable the All Africa Press Service to continue its science and technology feature service and to expand the service to include a Kiswahili version. \$43 400 — 24 months.

85-0321 EAST AFRICAN AGRICULTURAL AND FORESTRY JOURNAL (EAST AFRICA)

For the Kenya Agricultural Research Institute, Muguga, Kenya, to strengthen the *East African Agricultural*

and *Forestry Journal* as an outlet for research findings in agriculture and forestry within and outside East Africa. \$35 500 — 36 months.

85-0322 SCIENTIFIC PUBLISHING (KREMU)*

For the Ministry of Planning and National Development, Nairobi, Kenya, to enable the Kenya Rangeland Ecological Monitoring Unit (KREMU) to hold three regional workshops with district planners from Western, Central, and Eastern and Coastal Kenya in August and September 1986. \$21 580 — 12 months.

85-1028 SCIENCE TELEVISION PRODUCTION TRAINING (ASIA-CANADA)

For the Asia Pacific Institute for Broadcasting Development, Kuala Lumpur, Malaysia, in cooperation with the Canadian Broadcasting Corporation, Ottawa, to train 10 television crews selected from the region's national broadcasting networks in the production of science and technology programs. \$77 265 — 12 months.

85-1031 DEVELOPMENT-TELEVISION TRAINING NEEDS SURVEY (SRI LANKA-CANADA)

For the Sri Lanka Foundation to enable the Sri Lanka Television Training Institute, Colombo, in cooperation with the Ryerson International Development Centre, Toronto, and the Asia Pacific Institute for Broadcasting Development, Kuala Lumpur, Malaysia, to identify the training needs of the Sri Lanka Rupavahini Corporation in development-television production and to define training programs to meet these needs. \$30 745 — 12 months.

Special Program Activities

85-0184 CASAFA SECRETARIAT (GLOBAL) — PHASE III

To allow the Special Program Activities-Executive Office, administered by the Vice-President of Research Programs, IDRC, to provide partial support to the scientific secretariat for the Interunion Commission on the Application of Science to Agriculture, Forestry and Aquaculture (CASAFA) to enable it to promote research collaboration between developed and developing countries. \$37 533 — 24 months.

85-0329 NEW PROGRAMS STUDIES (CANADA)*

To examine how IDRC can facilitate the application of technologies developed with its assistance, and to study ways of promoting the marketing and production of promising new technologies. \$200 000 — 24 months.

Secretary's Office

85-0235 WORKERS AND THE LAW (KENYA)

For the Public Law Institute, Nairobi, to enhance the understanding of Kenyan workers of their legal rights. \$32 200 — 18 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 researchers in developing countries 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, 555 division activity projects were approved at a total cost of \$4 669 000. This program funded activities such as:

- A workshop in Nairobi for Eastern and Southern African researchers to identify research priorities and research strategies for animal feed resources and to encourage linkages between the Pastures Network for Eastern and Southern Africa and the International Livestock Centre for Africa.
- A conference in Ottawa, following the 7th Congress of the International Association of Agricultural Librarians and Documentalists (IAALD), to bring together IDRC-supported project leaders and potential project leaders who are IAALD members to share information.
- A workshop in Delhi for Asian and Canadian researchers to define how the Centre's new Technology for Local Enterprises program might best respond to the needs of small- and medium-sized enterprises.
- A symposium in Nairobi, sponsored by IDRC and the International Federation of Scientific Editors' Associations, for African participants to examine the problems of indigenous scientific publishing in Africa and to propose plans of action.
- A workshop in Buenos Aires to allow Latin American health and social science researchers to review the approaches currently being used to study perinatal and infant mortality and health as well as their biomedical and socioeconomic determinants.
- A meeting in New York to bring together an international group of scientists to review the toxicological studies undertaken to date on Endod — a plant derivative known to kill snails that transmit schistosomiasis — and to make recommendations regarding possible large-scale use.
- A consultancy and a meeting of experts to develop a regional information policy that will permit the Caribbean Development and Cooperation Committee and Caribbean Community Ministers to make the Caribbean Information System more structurally and functionally operational.
- A meeting at McMaster University's Institute for Materials Research to bring together corrosion experts from Latin America to discuss with Canadian scientists research issues in the field of corrosion.
- A workshop in Dakar for African solar drying researchers to critically review research to date, to recommend viable drying technologies, to identify socioeconomic factors affecting the implementation of drying technologies in rural areas, and to set priorities for future research and development.

Financial commentary and highlights

In 1985-1986, the International Development Research Centre's grant from the Government of Canada increased to \$86.0 million from the previous year's \$81.0 million. This level of funding is consistent with the Government's announcement in the February 1986 budget that the Official Development Assistance (ODA) target of 0.6% of the Gross National Product (GNP) would be met in 1995 instead of 1990 as previously planned. The Centre's grant for 1985-1986 at \$86.0 million represents 4.1% of the total ODA for 1985-1986. For the 1986-1987 fiscal year, the main estimates of the Government of Canada indicate IDRC's grant level will be \$95.0 million. On May 8, 1986, the Centre was advised by the Secretary of State for External Affairs of his intention to allocate \$5.0 million from the ODA unallocated reserve to the IDRC budget, bringing the Centre's total funding to \$100.0 million for 1986-1987.

The budget papers tabled in the House of Commons by the Minister of Finance in May 1985 made necessary several adjustments to the Centre's plans for 1985-1986. The most important modifications consisted of:

- The return of \$8.0 million to the Government of Canada as part of their cash management program.
- The loss of much of its interest income.
- A reduction of \$4.4 million in 1985-1986 program appropriations.
- The elimination of 30 new positions which had been planned for 1985-1986 and a freeze on 1986-1987 person-year allocations to remain within the spirit of Treasury Board guidelines.
- The closing of two liaison offices in 1985-1986.

In addition, it was necessary to reduce our expenditures in the final quarter of 1985-1986 as a result of the Government of Canada's restraint program. Vacant positions were not filled during this period, and various planned activities were cancelled.

During 1985-1986, Centre management responded to the Board of Governors' request to place additional emphasis on the growth of the Health Sciences Division. The Division's share of total Centre appropriations increased to 12.3% in 1985-1986 from 10% in 1984-1985. Goals have been set to increase this share to approximately 16% in 1990-1991.

In view of the termination of the head office lease in 1987, the Centre invited tender calls whereby approximately 25 proposals were examined. Pension Fund Realty, under the management of Morguard Investments, was selected as the landlord. Construction is in progress and relocation is planned in late 1986.

Revenue

The Parliamentary grant for 1985-1986, set at \$86.0 million and including \$12.1 million for Cooperative Programs, represents an increase of \$5.0 million over the previous year. Total Centre revenues, excluding funds for contract research, amounted to \$88.6 million, a 5.3% increment over 1984-1985.

The \$1.9 million of investment and other income during 1985-1986 was lower than the budget target of \$2.9 million. This variance is the result of reduced available funds for investments and a lower than expected average investment yield. The change from a quarterly

to a monthly drawdown of the Centre's grant, the reimbursement of \$8.0 million to the Government of Canada, and lower interest rates all contributed to the reduced amount of funds available for investments and the lower average yield. Other income comprises \$160 000 of MINISIS licencing fees and \$134 000 for publications income. In addition, revenue from the Canadian International Development Agency (CIDA) contribution of \$729 000 is related to a \$4.8 million development research project in Peru for which the Centre is the executing agency.

Assuming the Centre receives an additional \$5.0 million from the ODA reserves, its total 1986-1987 Parliamentary grant for regular programs is expected to increase by 11.7% to \$84.0 million and the Cooperative Programs grant by 32.2% to \$16.0 million.

Development research

Development research reflects the direct costs of all scientific and technical research projects supported by the Centre in developing countries. It is, in essence, the "raison d'être" of the Centre. This category includes support for Centre projects and international research networks as well as for projects that are identified, developed, and managed by developing-country researchers.

In 1985-1986, expenditures for development research activities totaled \$53.5 million or 59.2% of the Centre's total expenditures. Expenditures on existing projects that relate for the most part to development research exceeded 1984-1985 actual expenditures by 21.3%. However, expenditures on new projects were reduced by 16.7% from 1984-1985 as a result of the lower grant level.

Research-related activities

Research-related activities lead to the start-up or the development of projects and assist the proper dissemination or application of research results. These activities also include a development research library, which serves the Canadian development community as well as IDRC staff and recipients, information dissemination of research results, and small activities that are supportive of the ongoing programs of the Centre.

In 1985-1986, expenditures for research-related activities totaled \$7.0 million or 7.7% of the Centre's total expenditures.

EXPENDITURES (\$ million)

| | Budget | | Actual | | | | | | | |
|--------------------------------------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| | 1987 | % of total | 1986 | % of total | 1985 | % of total | 1984 | % of total | 1983 | % of total |
| Development research | \$ 56.6 | 58.2 | \$ 53.5 | 59.2 | \$ 48.9 | 58.1 | \$ 41.5 | 59.2 | \$ 34.7 | 58.7 |
| Research-related activities | 8.6 | 8.8 | 7.0 | 7.7 | 7.7 | 9.2 | 6.2 | 8.9 | 5.3 | 9.0 |
| Technical support | 13.0 | 13.4 | 12.0 | 13.3 | 10.7 | 12.7 | 8.7 | 12.4 | 7.4 | 12.5 |
| Regional offices | 5.4 | 5.6 | 5.0 | 5.6 | 4.5 | 5.4 | 3.5 | 5.0 | 2.8 | 4.7 |
| Total research and research-related | \$ 83.6 | 86.0 | \$ 77.5 | 85.8 | \$ 71.8 | 85.4 | \$ 59.9 | 85.5 | \$ 50.2 | 84.9 |
| Division management | 4.4 | 4.5 | 4.2 | 4.6 | 4.0 | 4.7 | 3.3 | 4.7 | 3.0 | 5.1 |
| General management | 9.2 | 9.5 | 8.7 | 9.6 | 8.3 | 9.9 | 6.9 | 9.8 | 5.9 | 10.0 |
| Total | \$ 97.2 | 100.0 | \$ 90.4 | 100.0 | \$ 84.1 | 100.0 | \$ 70.1 | 100.0 | \$ 59.1 | 100.0 |

Above data do not include amounts related to contract research.

Technical support

The technical support category of expenditures includes the cost of program personnel, whose role is to develop new projects, monitor ongoing research projects, and provide technical assistance to recipients. Expenditures for technical support in 1985-1986 were \$12.0 million or 13.3% of total Centre expenditures. The increase in the share of these expenditures from the previous year's 12.7% is the result of reduced expenditures for new projects under development research in 1985-1986.

The number of professional program staff required for project development and technical assistance to existing projects is related to the level of development research expenditures. Because the Centre will have limited growth in development research activities, no increase in person-years for 1986-1987 is expected. Technical support expenditures are expected to increase by only 8.2% in 1986-1987 to about \$13.0 million.

Regional offices

Six regional offices play an important role in facilitating contacts with grant recipients and in enhancing the Centre's ability to respond to Third World issues. These offices are located in Colombia, Egypt, India, Kenya, Senegal, and Singapore. The total expenditures incurred in 1985-1986 to operate these offices amounted to \$5.0 million, an increase of 11.0% over 1984-1985. This category represents 5.6% of total Centre expenditures for 1985-1986.

For 1986-1987, regional office expenditures are expected to increase to \$5.4 million, an increase of 9.2% from the previous year. This category's share of total expenditures is expected to remain at 5.6% in 1986-1987.

Division management

The category of division management includes the costs of operating the IDRC program divisions, particularly the costs involved in program management, development, and control. Division management expenditures totaled \$4.2 million in 1985-1986, a 5.7% increase over 1984-1985, and represented 4.6% of the total Centre expenditures for 1985-1986.

Expenditures for division management are expected to increase by only 4.2% in 1986-1987 to about \$4.4 million. This category's share of total Centre expenditures will decrease to 4.5% from 4.6% the previous year.

General management

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

General management expenses amounted to \$8.7 million in 1985-1986, an increase of only 5.0% over the previous fiscal year. This limited increment is, in part, the result of maintaining staffing levels at the 1984-1985 level of 154 person-years. As a result, this category's share of total Centre expenditures has been reduced to 9.6% from the previous year's 9.9%.

It is expected that general management costs will again be limited to an increase of 5.0% from the previous year, a 9.5% share of total expenditures. The amount budgeted for 1986-1987 is \$9.1 million. By effectively maintaining a low increase in the level of expenditures in this category, the Centre will be able to direct more funds toward the funding of development research activity.

Contract research

IDRC administers 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 disbursement occurs. Donor funds in excess of recorded expenditures are reported as a liability on the Centre's balance sheet. For the 1985-1986 fiscal year, contract research expenditures totaled \$1.1 million.

Equity of Canada

The equity levels as at March 31, 1986 and 1985, were restated to reflect a change in the accrual policy explained in Note 3 of the financial statements.

The equity account decreased \$9.8 million in 1985-1986 from the restated amount to \$1.1 million as at March 31, 1986. Equity was reduced by \$8.0 million as a result of reimbursement to the Government of Canada and by an excess of expenses over revenue amounting to \$1.8 million.

Person-years

For 1985-1986, the Centre's person-years totaled 439.25 compared with the budget of 466.75. Vacancies were incurred primarily in the technical support area due to delays in filling vacant positions. No increase in the number of person-years at head office is expected in 1986-1987.

Cooperative programs

The overall grant from the Parliament of Canada includes an amount of \$10.8 million for Cooperative Programs to support research collaboration between scientific research groups in developing countries and their counterparts in Canada. This agreement was accepted on the understanding that the Cooperative Programs were not to divert the Centre from its own objectives nor involve financial or staff resources beyond grant funds specifically received for such programs.

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. 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. A share of the adjustments to the equity for the change in accrual policy and the reimbursement to the Government is also reflected in the calculations of expenditures and equity of Canada.

In 1986-1987, an amount of \$16.0 million will be allocated to the Cooperative Programs; this is expected to support an appropriation level of \$19.8 million. A complete financial reporting of Cooperative Programs follows. The net revenue balance is available for future cooperative program activities.

| | 1986 | 1985 |
|--------------------------------------------------------------------------|---------------------|---------------------|
| Revenue | | |
| Grant | \$ 12,134,000 | \$ 9,100,000 |
| Expenditure | | |
| Research and support activities | | |
| Cooperative Programs Division | 5,459,872 | 3,823,949 |
| Other divisions | 5,839,571 | 4,072,162 |
| Allocated general management expenses | 1,169,853 | 829,921 |
| | <u>12,469,296</u> | <u>8,726,032</u> |
| Excess of revenue over expenditure (expenditure over revenue) | <u>\$ (335,296)</u> | <u>\$ 373,968</u> |
| Equity of Canada, beginning of year | | |
| As previously reported | \$ 1,345,419 | \$ 1,000,118 |
| Prior-period adjustment — grant accruals | 209,313 | 180,646 |
| Equity of Canada as restated | <u>1,554,732</u> | <u>1,180,764</u> |
| Share of reimbursement of equity | (1,130,000) | — |
| Excess of revenue over expenditure (expenditure over revenue) | (335,296) | 373,968 |
| | <u>(1,465,296)</u> | <u>373,968</u> |
| Equity of Canada, end of year | <u>\$ 89,436</u> | <u>\$ 1,554,732</u> |

COOPERATIVE PROGRAMS — CENTRE SUMMARY

SUMMARY OF APPROPRIATIONS (\$000) as at March 31, 1986

| | Approved budget 1986-1987 | Approved budget 1985-1986 | Revised actual 1985-1986 | Approved appro- priations | Balance |
|---------------------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|-----------------|
| Cooperative Projects | \$ 14,100 | \$ 14,105 | \$ 13,500 | \$ 12,746 | \$ 754 |
| Agriculture, Food and Nutrition Sciences | 3,500 | 4,000 | 3,400 | 3,445 | (45) |
| Health Sciences | 1,050 | 700 | 1,300 | 1,371 | (71) |
| Social Sciences | 750 | 1,300 | 1,050 | 535 | 515 |
| Information Sciences | 800 | 800 | 500 | 405 | 95 |
| Fellowships and Awards | 700 | 700 | 700 | 690 | 10 |
| Communications | 100 | 105 | 105 | 120 | (15) |
| Cooperative Programs | 7,200 | 6,500 | 6,445 | 6,180 | 265 |
| Division Activity Projects | \$ 1,010 | \$ 1,035 | \$ 885 | \$ 872 | \$ 13 |
| Agriculture, Food and Nutrition Sciences | 140 | 160 | 160 | 139 | 21 |
| Health Sciences | 75 | 65 | 65 | 10 | 55 |
| Social Sciences | 60 | 130 | 130 | 92 | 38 |
| Information Sciences | 90 | 80 | 80 | 98 | (18) |
| Communications | 20 | — | — | — | — |
| Cooperative Programs | 625 | 600 | 450 | 533 | (83) |
| Technical Support | \$ 2,200 | \$ 1,360 | \$ 1,360 | \$ 1,771 | \$ (411) |
| Cooperative Programs | 820 | 820 | 820 | 785 | 35 |
| Other divisions (imputed) | 1,380 | 540 | 540 | 986 | (446) |
| Division Management | \$ 1,100 | \$ 505 | \$ 505 | \$ 558 | \$ (53) |
| Cooperative Programs | 400 | 405 | 405 | 375 | 30 |
| Other divisions (imputed) | 700 | 100 | 100 | 183 | (83) |
| General Management (imputed) | \$ 1,400 | \$ 770 | \$ 770 | \$ 1,170 | \$ (400) |
| Total | \$ 19,810 | \$ 17,775 | \$ 17,020 | \$ 17,117 | \$ (97) |

CENTRE TOTALS
FINANCIAL HIGHLIGHTS (\$000)

| | Budget 1986 | Actual 1986 | % variance from budget | Actual 1985 | 1985 vs 1986 (% change) |
|------------------------------------------------------------------------------|------------------------|------------------------|-------------------------------------------|------------------------|--------------------------------------------|
| FINANCIAL ACTIVITY | | | | | |
| Revenue | \$ 88,900 | \$ 88,610 | 0.3 | \$ 84,164 | 5.3 |
| Grant from Parliament of Canada | 73,900 | 75,200 | (1.8) | 71,900 | 4.6 |
| Cooperative Programs | 12,100 | 10,800 | 10.7 | 9,100 | 18.7 |
| Investment and other income | 2,900 | 1,881 | 35.1 | 3,164 | (40.5) |
| Contribution from Canadian International Development Agency | — | 729 | (729.0) | — | 729.0 |
| Expenditure | \$ 92,300 | \$ 90,433 | 2.1 | \$ 84,508 | 7.0 |
| Existing projects | 42,000 | 41,432 | 1.4 | 34,143 | 21.3 |
| New projects | 19,700 | 19,103 | 3.0 | 22,933 | (16.7) |
| Regional and liaison offices | 5,000 | 4,947 | 1.1 | 4,456 | 11.0 |
| Technical support | 12,600 | 12,012 | 4.7 | 10,676 | 12.5 |
| Division management | 4,200 | 4,224 | (0.6) | 3,997 | 5.7 |
| General management | 8,800 | 8,715 | 1.0 | 8,303 | 5.0 |
| Excess of revenue over expenditure (expenditure over revenue) | \$ (3,400) | \$ (1,823) | 46.4 | \$ (344) | (429.9) |
| PROGRAM ACTIVITY | | | | | |
| Appropriations | \$ 108,800 | \$ 102,199 | 6.1 | \$ 102,778 | (0.6) |
| New projects | 78,200 | 72,301 | 7.5 | 75,346 | (4.0) |
| Regional and liaison offices | 5,000 | 4,947 | 1.1 | 4,456 | 11.0 |
| Technical support | 12,600 | 12,012 | 4.7 | 10,676 | 12.5 |
| Division management | 4,200 | 4,224 | (0.6) | 3,997 | 5.7 |
| General management | 8,800 | 8,715 | 1.0 | 8,303 | 5.0 |
| Commitments | \$ 105,600 | \$ 95,383 | 9.7 | \$ 105,495 | (9.6) |
| Projects | 75,000 | 65,485 | 12.7 | 78,063 | (16.1) |
| Regional and liaison offices | 5,000 | 4,947 | 1.1 | 4,456 | 11.0 |
| Technical support | 12,600 | 12,012 | 4.7 | 10,676 | 12.5 |
| Division management | 4,200 | 4,224 | (0.6) | 3,997 | 5.7 |
| General management | 8,800 | 8,715 | 1.0 | 8,303 | 5.0 |

Above data do not include amounts related to contract research.

CENTRE TOTALS
FINANCIAL HIGHLIGHTS (\$000)

| | Budget 1987 | Actual 1986 | Actual 1985 | Actual 1984 | Actual 1983 |
|------------------------------------------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| RESULTS OF OPERATIONS | | | | | |
| Revenue | \$ 101,200 | \$ 88,610 | \$ 84,164 | \$ 70,039 | \$ 62,146 |
| Grant from Parliament of Canada | 84,000 | 75,200 | 71,900 | 62,400 | 56,700 |
| Cooperative Programs | 16,000 | 10,800 | 9,100 | 5,000 | 2,500 |
| Investment and other income | 1,200 | 1,881 | 3,164 | 2,639 | 2,946 |
| Contribution of Canadian Inter- national Development Agency | — | 729 | — | — | — |
| Expenditure | \$ 97,205 | \$ 90,433 | \$ 84,508 | \$ 70,174 | \$ 59,117 |
| Development research | 56,615 | 53,532 | 49,345 | 41,499 | 34,662 |
| Research-related activities | 8,605 | 7,003 | 7,731 | 6,175 | 5,335 |
| Research operational support | 22,835 | 21,183 | 19,129 | 15,559 | 13,255 |
| General management | 9,150 | 8,715 | 8,303 | 6,941 | 5,865 |
| Excess of revenue over expenditure (expenditure over revenue) | \$ 3,995 | \$ (1,823) | \$ (344) | \$ (135) | \$ 3,029 |
| PROGRAM ACTIVITY | | | | | |
| Appropriations | \$ 118,200 | \$ 102,199 | \$ 102,778 | \$ 93,498 | \$ 74,395 |
| New projects | 86,300 | 72,301 | 75,346 | 70,998 | 55,275 |
| Regional and liaison offices | 5,400 | 4,947 | 4,456 | 3,478 | 2,764 |
| Technical support | 13,000 | 12,012 | 10,676 | 8,704 | 7,446 |
| Division management | 4,400 | 4,224 | 3,997 | 3,377 | 3,045 |
| General management | 9,100 | 8,715 | 8,303 | 6,941 | 5,865 |
| Commitments | \$ 110,200 | \$ 95,383 | \$ 105,495 | \$ 88,011 | \$ 67,842 |
| Projects | 78,300 | 65,485 | 78,063 | 65,511 | 48,722 |
| Regional and liaison offices | 5,400 | 4,947 | 4,456 | 3,478 | 2,764 |
| Technical support | 13,000 | 12,012 | 10,676 | 8,704 | 7,446 |
| Division management | 4,400 | 4,224 | 3,997 | 3,377 | 3,045 |
| General management | 9,100 | 8,715 | 8,303 | 6,941 | 5,865 |
| Outstanding commitments | \$ 105,700 | \$ 88,900 | \$ 82,317 | \$ 64,000 | \$ 49,100 |

Above data do not include amounts related to contract research.

PERSON-YEAR LEVELS AND PROJECTIONS

| | 1986-1987 | | 1985-1986 | | 1984-1985 | |
|-------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Budget | Actual | Budget | Actual | Budget | Actual |
| Program Divisions | 308.50 | 284.25 | 309.50 | 284.25 | 298.50 | 287.25 |
| Agriculture, Food and Nutrition Sciences | 52.00 | 49.50 | 52.50 | 49.50 | 51.00 | 49.50 |
| Health Sciences | 35.00 | 30.00 | 34.00 | 30.00 | 29.50 | 29.00 |
| Social Sciences | 49.50 | 46.25 | 49.00 | 46.25 | 48.00 | 46.00 |
| Information Sciences | 40.00 | 35.00 | 38.00 | 35.00 | 34.50 | 31.75 |
| Project related staff | 39.00 | 38.00 | 42.00 | 38.00 | 44.50 | 43.75 |
| Cooperative Programs | 18.00 | 16.75 | 18.00 | 16.75 | 15.50 | 14.00 |
| Office of Planning and Evaluation | 11.00 | 9.50 | 10.00 | 9.50 | 10.00 | 10.75 |
| Regional and liaison offices | 8.00 | 7.50 | 10.00 | 7.50 | 10.50 | 9.25 |
| Fellowships and Awards | 12.00 | 10.00 | 11.00 | 10.00 | 10.50 | 10.75 |
| Communications | 44.00 | 41.75 | 45.00 | 41.75 | 44.50 | 42.50 |
| General Management | 154.75 | 152.00 | 154.25 | 152.00 | 151.25 | 153.75 |
| Executive Office | 19.00 | 20.00 | 19.00 | 20.00 | 20.50 | 19.50 |
| Office of the Secretary and General Counsel | 18.75 | 18.25 | 19.75 | 18.25 | 19.75 | 20.00 |
| Office of the Comptroller General and Treasurer | 93.50 | 92.75 | 93.50 | 92.75 | 89.50 | 93.25 |
| Human Resources | 18.50 | 16.75 | 17.00 | 16.75 | 16.50 | 16.25 |
| Internal Audit | 5.00 | 4.25 | 5.00 | 4.25 | 5.00 | 4.75 |
| Secondments | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.25 |
| Sabbatical/study leave provision | 1.50 | 1.00 | 1.00 | 1.00 | 0.50 | — |
| Total | 466.75 | 439.25 | 466.75 | 439.25 | 452.25 | 442.25 |

Responsibility for financial statements

The financial statements have been prepared by management in accordance with generally accepted accounting principles appropriate in the circumstances. Management also assumes responsibility for all other information in the annual report, which is consistent, where applicable, with that contained in the financial statements. In support of its responsibility, management maintains financial and management control systems and practices to provide reasonable assurance as to the reliability of financial information and that the assets are safeguarded and the operations are carried out effectively. The Centre has an internal audit department whose functions include reviewing internal controls and their application on an ongoing basis.

The Board of Governors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control. The Board exercises its responsibilities through the Finance and Audit Committee whose members are not employees of the Centre. The Committee meets with management, the internal auditors, and the external auditors on a regular basis.

The Auditor General of Canada conducts an independent examination in accordance with generally accepted auditing standards and expresses his opinion on the financial statements. His examination includes a review and evaluation of the Centre's system of internal control and appropriate tests and procedures to enable him to report whether the financial statements are presented fairly. The external auditors have full and free access to the Finance and Audit Committee of the Board.



AUDITOR GENERAL OF CANADA

VÉRIFICATEUR GÉNÉRAL DU CANADA

AUDITOR'S REPORT

To the International Development Research Centre
and
The Right Honourable Charles Joseph Clark, 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, 1986 and the statements of operations, equity of Canada 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, 1986 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, after giving retroactive effect to the change in the application of the accounting policy relating to method of accounting for project payments as explained in Note 3 to the financial statements, on a basis consistent with that of the preceding year.

Kenneth M. Dye, F.C.A.
Auditor General of Canada

Ottawa, Canada
June 12, 1986

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

BALANCE SHEET as at March 31, 1986

| | 1986 | 1985 |
|---------------------------------------------------|----------------------|----------------------|
| ASSETS | | |
| Current | | |
| Cash | \$ 462,316 | \$ 467,781 |
| Investments (Note 4) | 11,463,218 | 14,768,861 |
| Accounts receivable | 461,015 | 444,586 |
| Prepaid expenses | 745,523 | 827,819 |
| | <u>13,132,072</u> | <u>16,509,047</u> |
| Recoverable deposits | 455,909 | 435,329 |
| Property and equipment (Note 5) | 3,108,716 | 3,350,611 |
| | <u>\$ 16,696,697</u> | <u>\$ 20,294,987</u> |
| LIABILITIES | | |
| Current | | |
| Accounts payable and accrued liabilities (Note 6) | \$ 8,446,521 | \$ 6,536,078 |
| Due to Government of Canada (Note 7) | 4,000,000 | — |
| Funds provided for contract research | 450,027 | 268,100 |
| Deferred revenue (Note 8) | 241,110 | — |
| Obligation under capital lease | — | 69,903 |
| | <u>13,137,658</u> | <u>6,874,081</u> |
| Long-term | | |
| Accrued employee separation benefits | 2,436,272 | 2,199,784 |
| Obligation under capital lease (Note 9) | — | 275,331 |
| | <u>2,436,272</u> | <u>2,475,115</u> |
| | <u>15,573,930</u> | <u>9,349,196</u> |
| EQUITY | | |
| Equity of Canada | <u>1,122,767</u> | <u>10,945,791</u> |
| | <u>\$ 16,696,697</u> | <u>\$ 20,294,987</u> |

Approved:


Comptroller General
and Treasurer


President

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF OPERATIONS for the year ended March 31, 1986

| | 1986 | 1985 |
|------------------------------------------------------------|-----------------------|---------------------|
| EXPENDITURE | | |
| Development research | | |
| Project grants | \$ 47,057,173 | \$ 43,152,294 |
| Centre projects | 6,474,598 | 6,192,636 |
| | <u>53,531,771</u> | <u>49,344,930</u> |
| Research related activities | | |
| Project development and support | 3,794,838 | 4,543,729 |
| Information dissemination | 1,925,219 | 1,975,359 |
| Development research library | 1,283,138 | 1,212,198 |
| | <u>7,003,195</u> | <u>7,731,286</u> |
| Research operational support | | |
| Technical support | 12,012,502 | 10,675,987 |
| Regional and liaison offices | 4,946,549 | 4,456,076 |
| Division management | 4,223,966 | 3,997,117 |
| | <u>21,183,017</u> | <u>19,129,180</u> |
| Contract research | <u>1,053,126</u> | <u>494,900</u> |
| Total research and support expenditure (Schedule 1) | <u>82,771,109</u> | <u>76,700,296</u> |
| General management expenditure (Schedule 2) | <u>8,714,899</u> | <u>8,303,128</u> |
| | <u>91,486,008</u> | <u>85,003,424</u> |
| REVENUE | | |
| Grant from Parliament of Canada | 86,000,000 | 81,000,000 |
| Investment and other income | 1,880,968 | 3,164,482 |
| Contract research | 1,053,126 | 494,900 |
| CIDA contribution (Note 8) | 728,890 | — |
| | <u>89,662,984</u> | <u>84,659,382</u> |
| EXCESS OF EXPENDITURE OVER REVENUE | <u>\$ (1,823,024)</u> | <u>\$ (344,042)</u> |

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF EQUITY OF CANADA
for the year ended March 31, 1986

| | 1986 | 1985 |
|-----------------------------------------------------------------------------------------------|---------------------|----------------------|
| BALANCE AT THE BEGINNING OF THE YEAR | | |
| As previously reported | \$ 8,028,622 | \$ 7,918,711 |
| Changes in application of accounting policy relating to project grant expenditure (Note 3) | 2,917,169 | 3,371,122 |
| As restated | 10,945,791 | 11,289,833 |
| Reimbursement of equity to Government of Canada (Note 7) | (8,000,000) | — |
| Excess of expenditure over revenue | (1,823,024) | (344,042) |
| | (9,823,024) | (344,042) |
| BALANCE AT THE END OF THE YEAR | \$ 1,122,767 | \$ 10,945,791 |

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

STATEMENT OF CHANGES IN FINANCIAL POSITION for the year ended March 31, 1986

| | 1986 | 1985 |
|------------------------------------------------|----------------------|----------------------|
| OPERATING ACTIVITIES | | |
| Cash provided by (used for) operations | | |
| Excess of expenditure over revenue | \$(1,823,024) | \$ (344,042) |
| Items not affecting funds | | |
| Depreciation and amortization | 1,035,657 | 875,896 |
| Provision for employee separation benefits | 500,722 | 250,893 |
| Gain on disposal of property and equipment | (4,042) | (52,333) |
| Write-off of systems software | — | 358,378 |
| | <u>(290,687)</u> | <u>1,088,792</u> |
| Accounts receivable | (16,429) | 240,671 |
| Prepaid expenses | 82,296 | (166,575) |
| Recoverable deposits | (20,580) | (252,523) |
| Accounts payable and accrued liabilities | 1,910,443 | (829,263) |
| Deferred revenue | 241,110 | — |
| Payment of employee separation benefits | (264,234) | (306,568) |
| Contract research | 181,927 | (119,885) |
| | <u>1,823,846</u> | <u>(345,351)</u> |
| FINANCING ACTIVITIES | | |
| Reduction of equity | (8,000,000) | — |
| Due to Government of Canada | 4,000,000 | — |
| Reduction of obligation under capital lease | (345,234) | (58,965) |
| | <u>(4,345,234)</u> | <u>(58,965)</u> |
| INVESTING ACTIVITIES | | |
| Additions to property and equipment | (835,100) | (1,114,735) |
| Proceeds on disposal of property and equipment | 45,380 | 83,820 |
| | <u>(789,720)</u> | <u>(1,030,915)</u> |
| DECREASE IN FUNDS | (3,311,108) | (1,435,231) |
| CASH, BEGINNING OF YEAR | 15,236,642 | 16,671,873 |
| CASH, END OF YEAR | \$ 11,925,534 | \$ 15,236,642 |
| REPRESENTED BY: | | |
| Cash | \$ 462,316 | \$ 467,781 |
| Investments | 11,463,218 | 14,768,861 |
| | <u>\$ 11,925,534</u> | <u>\$ 15,236,642</u> |

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

NOTES TO FINANCIAL STATEMENTS as at March 31, 1986

1. Authority and objective

The International Development Research Centre, a Corporation without share capital, was established in 1970 by the Parliament of Canada through the International Development Research Centre Act. The annual grant received from the Parliament of Canada is pursuant to External Affairs Votes 70 and 60 for the years ended March 31, 1986 and 1985 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 recorded at cost and depreciated over their estimated useful lives. Leasehold improvements are amortized over the terms of the respective leases. The methods and rates used to provide for the depreciation and amortization of property and equipment are as follows:

| | <u>Method</u> | <u>Rate (%)</u> |
|--------------------------------|---------------------|---------------------|
| Computer hardware | Straight line | 20 |
| Leasehold improvements | Straight line | 6 $\frac{2}{3}$ -50 |
| Office furniture and equipment | Diminishing balance | 20 |
| Vehicles | Diminishing balance | 30 |
| Telephone system | Straight line | 20 |

Expenditure

Expenditure is recorded on an accrual basis except for contract research expenditure, which is charged to operations when disbursed.

Recognition of revenue

Revenue in respect of contract research and of the contribution from the Canadian International Development Agency (CIDA) is recognized at the time that the related project expenditure is incurred. Contract research and CIDA contribution funds received in excess of expenditure are included 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 average exchange rate that closely approximates the rate in effect at the transaction date. Exchange gains and losses are included in operations for the current period.

3. Change in application of accounting policy

During the year, the Centre applied retroactively the following change to the application of its accounting policy relating to project payments. Formerly, project payments were accrued on the basis of the schedule of reports and payments. Now, the Centre will no longer accrue project payments that become due upon receipt of progress and financial reports until these reports have been received.

As a result of this change, the accrued liabilities for 1986 and 1985 have been decreased by \$4,141,040 and \$2,917,169 respectively.

Had this policy change not been made, the excess of expenditure over revenue for the current year would have increased by \$1,223,871. For the year ended March 31, 1985, the expenditure was increased by \$453,953 resulting in an excess of expenditure over revenue of \$344,042. A retroactive adjustment was made to equity of Canada at April 1, 1984, of \$3,371,122 representing the reversal of accruals in prior years.

4. Investments

Investments consist of short-term notes and deposits and treasury bills held with:

| | 1986 | 1985 |
|------------------------------------------|----------------------|----------------------|
| Canadian chartered banks | \$ 3,065,992 | \$ 12,194,159 |
| Governments and governmental enterprises | 1,279,354 | 1,084,412 |
| Commercial enterprises | 1,688,132 | 990,290 |
| Trust and mortgage companies | 5,429,740 | 500,000 |
| | <u>\$ 11,463,218</u> | <u>\$ 14,768,861</u> |

5. Property and equipment

| | 1986 | | 1985 | |
|--------------------------------|---------------------|-------------------------------------------|---------------------|---------------------|
| | Cost | Accumulated depreciation and amortization | Net | Net |
| Computer hardware | \$ 2,170,952 | \$ 966,232 | \$ 1,204,720 | \$ 1,084,550 |
| Leasehold improvements | 1,843,929 | 1,376,982 | 466,947 | 702,951 |
| Office furniture and equipment | 1,611,945 | 869,870 | 742,075 | 764,398 |
| Vehicles | 754,598 | 368,750 | 385,848 | 413,504 |
| Telephone system | 491,271 | 182,145 | 309,126 | 385,208 |
| | <u>\$ 6,872,695</u> | <u>\$ 3,763,979</u> | <u>\$ 3,108,716</u> | <u>\$ 3,350,611</u> |

Depreciation and amortization for the year ended March 31, 1986, amounted to \$1,035,657 (\$875,896 for 1985).

6. Accounts payable and accrued liabilities

| | 1986 | 1985 |
|-----------------------------------------|---------------------|---------------------|
| Accrued liabilities — projects | \$ 4,765,749 | \$ 3,558,604 |
| Accrued annual and other leave benefits | 1,302,879 | 1,287,894 |
| Other | 2,377,893 | 1,689,580 |
| | <u>\$ 8,446,521</u> | <u>\$ 6,536,078</u> |

7. Reimbursement of equity to Government of Canada

The Budget Papers tabled in the House of Commons by the Minister of Finance on May 23, 1985 provided for the recovery of \$15,000,000 from the Centre in 1985-1986. The Centre has negotiated that it will remit a total of \$8,000,000: \$4,000,000 in this fiscal year and \$4,000,000 on April 1, 1986.

8. Contribution from the Canadian International Development Agency

On March 29, 1985, the Centre executed an agreement in respect of a contribution of up to \$4,764,690 to be provided by CIDA for a development-research project.

| | |
|-----------------------------------------------------------------------|-------------------|
| Contribution received during the year | \$ 1,000,000 |
| Project expenditure | 728,890 |
| Administration charges by the Centre | 30,000 |
| | <u>758,890</u> |
| Excess of funds received over expenditures and administration charges | 241,110 |
| Funds available at the beginning of the year | — |
| Funds available at the end of the year | <u>\$ 241,110</u> |

9. Capital lease

In December 1985, the Centre exercised its option of buying back the telephone system thereby eliminating the obligation under capital lease. During the year, the interest implicit in the lease amounted to \$30,152 (\$49,671 in 1985).

10. 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 annual payments under such lease arrangements will be as follows:

| <u>Year ending March 31</u> | |
|-----------------------------|---------------------|
| 1987 | \$ 2,962,507 |
| 1988 | 1,581,466 |
| 1989 | 79,517 |
| | <u>\$ 4,623,490</u> |

The Centre has made an offer to lease a new building for 10 years and 10 months starting in late 1986. The proposed terms call for an annual rent of approximately \$2,740,000 starting with a rent-free period of 13 months.

11. Contractual commitments — project grants and project development

The Centre is committed to make payments totaling up to \$85,000,000 during the next 4 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 \$22,600,000 and is awaiting acceptance of these offers.

The Centre is further committed to make payments of up to \$3,800,000 during the next 4 years, subject to funds being provided by CIDA and subject to compliance by the recipient with the terms of the project agreement.

12. Contingencies

The Centre is a defendant in two actions for damages and costs allegedly sustained by the plaintiffs. Management and counsel are of the opinion that the Centre has defences against these claims and accordingly no provision has been made in the financial statements in respect of them. The claims are not significant to the operations of the Centre.

13. Comparative figures

The 1985 comparative figures have been reclassified to conform to the statement presentation adopted in 1986.

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
SCHEDULE OF RESEARCH AND SUPPORT EXPENDITURE
for the year ended March 31, 1986

| | 1986 | | | | 1985 | |
|-------------------------------------------------|----------------------|-----------------------------|------------------------------|---------------------|----------------------|----------------------|
| | Development research | Research related activities | Research operational support | Contract research | Total | Total |
| Programs | | | | | | |
| Agriculture, Food and Nutrition Sciences | \$ 18,422,765 | \$ 515,709 | \$ 4,109,404 | \$ 354,026 | \$ 23,401,904 | \$ 20,737,008 |
| Social Sciences | 10,047,007 | 783,427 | 3,417,172 | 197,455 | 14,445,061 | 15,552,326 |
| Information Sciences | 6,684,589 | 526,467 | 2,386,143 | 15,996 | 9,613,195 | 9,525,723 |
| Health Sciences | 7,592,756 | 218,810 | 2,115,698 | 99,653 | 10,026,917 | 9,043,506 |
| Fellowships and Awards | 4,933,132 | 128,335 | 793,600 | — | 5,855,067 | 4,674,914 |
| Cooperative Programs | 3,908,673 | 391,034 | 1,160,165 | — | 5,459,872 | 3,832,702 |
| Program related activities | | | | | | |
| Regional, Liaison Offices and Coordination Unit | — | 635,361 | 4,996,824 | — | 5,632,185 | 5,187,562 |
| Information Dissemination | 441,013 | 1,925,219 | 1,639,570 | — | 4,005,802 | 3,886,305 |
| Special Program Activities | 1,501,836 | 360,945 | — | 381,926 | 2,244,707 | 2,060,413 |
| Development Research Library | — | 1,283,138 | — | — | 1,283,138 | 1,212,198 |
| External Liaison and Relations | — | 234,750 | 564,441 | 4,070 | 803,261 | 987,639 |
| | \$ 53,531,771 | \$ 7,003,195 | \$ 21,183,017 | \$ 1,053,126 | \$ 82,771,109 | \$ 76,700,296 |

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE
SCHEDULE OF GENERAL MANAGEMENT EXPENDITURE
for the year ended March 31, 1986

| | 1986 | 1985 |
|-----------------------------------|---------------------|---------------------|
| Salaries and benefits | \$ 6,067,589 | \$ 5,448,313 |
| Rent and accommodation | 619,479 | 615,341 |
| Office and sundry | 500,317 | 473,652 |
| Travel and relocation | 457,798 | 457,114 |
| Depreciation and amortization | 389,500 | 692,153 |
| Governors' meetings | 277,872 | 246,279 |
| Professional and special services | 198,001 | 198,149 |
| Telecommunications | 159,676 | 111,792 |
| Interest | 30,152 | 49,671 |
| Insurance | 14,515 | 10,664 |
| | \$ 8,714,899 | \$ 8,303,128 |

Fellowships

The general purpose of the Fellowships and Awards Division is to assist in the training and upgrading of the qualifications of individual researchers, managers, and planners in scientific fields related to the broad mandate of IDRC. The Division's program aims at building their research capabilities and, thus, strengthening research institutions in the Third World.

The Fellowships and Awards Division endeavours to meet these objectives by offering various categories of awards, which vary in nature and number, according to changing needs as perceived by the Centre. The program focuses principally on individuals from the least-developed countries and places greater emphasis on professional upgrading than on basic training. Tenure takes place in centres of excellence located, in order of priority, locally, regionally, in Canada, or in another developed country. IDRC-award holders are expected to return to their home country at the end of tenure.

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

The award categories in 1985–1986 were:

- Pearson fellowships,
- Program-related awards,
- Project-related awards, and
- Young Canadian Researchers awards.

In addition to the individual awards listed below, the Centre supported the enrollment of 28 young trainees from developing countries at the Hague Academy of International Law — 21 for a 3-week training course and 7 for doctoral studies.

As well, the Division sponsored 12 group-training programs. These are included in the project summaries on page 41.

Pearson fellowships

The Pearson fellowships are named after former Canadian Prime Minister Lester B. Pearson who was Chairman of IDRC's Board of Governors from 1970 until his death in December 1972. They are offered to young public servants from developing countries who have had at least 3 years' working experience in the service of their government. Candidates are nominated through Canadian missions abroad and IDRC's regional offices. Pearson fellows spend 9–12 months in Canada where they pursue an individual nondegree study program consisting of practical work and academic studies.

During 1985–1986, 10 Pearson fellowships were awarded:

Abdelhadi, Usama J., Jordan

Purpose: Special studies in health administration

Location: Faculty of Administration and Department of Community Medicine, University of Ottawa, Ottawa, Canada

Atsedo Wondimagegnehu, Ethiopia

Purpose: Practical attachment at Health and Welfare Canada and courses at Ottawa University

Location: Extramural Research Programs Directorate, Health and Welfare Canada, Ottawa, Canada

Kenani, Onchari, Kenya

Purpose: Practical attachment

Location: Department of Intergovernmental Affairs, Government of Ontario, Toronto, Canada

Mohale, Molupe, Lesotho

Purpose: Special study program on project identification

Location: Centre for Development Projects, Dalhousie University, Halifax, Canada

Onipogui, Siba, Guinea

Purpose: Special studies and practical training in civil engineering

Location: Department of Civil Engineering, University of Ottawa, Ottawa, Canada

Pradhan, Namita, India

Purpose: Health administration

Location: Faculty of Administration, University of Ottawa, Ottawa, Canada

Rofeta, John, Solomon Islands

Purpose: Study with the Development Studies Program

Location: Centre for International Studies, University of Toronto, Toronto, Canada

Simbi, Tracey, Zimbabwe

Purpose: Public administration

Location: School of Public Administration, Carleton University, Ottawa, Canada

Torres Trujillo, César A., Colombia

Purpose: Practical training in electrical engineering and courses at the University of Toronto

Location: International Marketing, New Business Ventures Division, Ontario Hydro, Toronto, Canada

Tubalinal, Oscar S.G., Philippines

Purpose: Study and practical attachment in agricultural economics

Location: School of Agricultural Economics and Extension Education, University of Guelph, Guelph, Canada

Program-related awards

Program-related awards are aimed at increasing the human resource base of Third World research institutions. These awards are intended for researchers as well as administrative and financial personnel. Proposed training programs, generally not exceeding 24 months, must be endorsed by the candidates' institutions and vary from practical attachments to academic studies leading to a degree (graduate studies, preferably at the master's level). Studies may take place in a Third World country or Canada or, under special circumstances, in a developed country other than Canada. Candidates are jointly selected by research program staff and officers of the Fellowships and Awards Division in the region and in Ottawa. The following people received program-related awards in 1985-1986.

Acchilli, Elena, Argentina

Purpose: Course in analysis of qualitative research data

Location: Departamento de Investigaciones Educativas, Instituto Politécnico Nacional, Mexico City, Mexico

Acuna, Alicia, Uruguay

Purpose: Fisheries biology

Location: University of Talcahuano, Talcahuano, Chile

Ahmed Said, Mbinga, United Republic of Tanzania

Purpose: Diploma in offset lithographic printing

Location: London College of Printing, London, U.K.

Amr, Abbas H. Hassan, Egypt

Purpose: Training and course work in epidemiology

Location: International Epidemiology Program, McMaster University, Hamilton, Canada

Archambault, Jean-Denis, Canada

Purpose: To instruct and do research on

- legal and judicial information and documentation systems
Location: Universidad de los Andes, Bogotá, Colombia
- Bachou, Salim A., Uganda
Purpose: Doctoral degree in international trade
Location: University of Sussex, Brighton, Sussex, U.K.
- Beca Mangué, Juan E., Equatorial Guinea
Purpose: Course in demography
Location: Centro Latinoamericano de Demografía, San José, Costa Rica
- Bernardino, David M.M.O., Angola
Purpose: Course in demography
Location: Centro Latinoamericano de Demografía, San José, Costa Rica
- Bogahawatte, Cyril, Sri Lanka
Purpose: Program for development managers
Location: Asian Institute of Management, Manila, Philippines
- Bokingo, Ruben N., Philippines
Purpose: Supplement tuition fee for graduate program in journalism
Location: Pennsylvania State University, University Park, PA, USA
- Chanyanuwat, Vises, Thailand
Purpose: Training course on fisheries economics for noneconomists
Location: Faculty of Resource Economics and Agribusiness, Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia
- Da Cunha Silva, Fernando, Mozambique
Purpose: Course in demography
Location: Centro Latinoamericano de Demografía, San José, Costa Rica
- Daim Haji Basrun, Malaysia
Purpose: Training course on fisheries economics for noneconomists
Location: Faculty of Resource Economics and Agribusiness, Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia
- Danyagre, John S., Ghana
Purpose: Master of science (economics) degree in criminology
Location: University College, Cardiff, U.K.
- de Silva, M.D.E., Sri Lanka
Purpose: C-Language, INFORMIX, and Logica courses
Location: Technical Assistance Group, Commonwealth Secretariat, London, U.K.
- Diconca, Beatrice, Uruguay
Purpose: Course in analysis of qualitative research data
Location: Departamento de Investigaciones Educativas, Instituto Politécnico Nacional, Mexico City, Mexico
- Escalera, Saul, Bolivia
Purpose: Course on development of indigenous phosphate deposits
Location: International Fertilizer Development Center, Muscle Shoals, AL, USA
- Espinola, Viola, Chile
Purpose: Course in analysis of qualitative research data
Location: Departamento de Investigaciones Educativas, Instituto Politécnico Nacional, Mexico City, Mexico
- Fernandez, Maria Francisca, Chile
Purpose: Courses in library information systems and in automation of information and documentation systems
Location: Asociación Interamericana de Bibliotecarios y Documentalistas Agrícolas, Turrialba, Costa Rica
- Foo, Siow K., Malaysia
Purpose: Undertake a master's of science degree program in resource economics
Location: Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia
- Gonzales de Olarte, Efrain, Peru
Purpose: Readings and research on development problems
Location: Centre for Research on Latin America and the Caribbean, York University, Toronto, Canada
- Gunaseena, H.P.M., Sri Lanka
Purpose: Program for development managers
Location: Asian Institute of Management, Manila, Philippines
- Gwebu, Ephraim T., Zimbabwe
Purpose: Master of science in public health
Location: Johns Hopkins University, Baltimore, MD, USA
- Hafiz, Ahmed, Maldives
Purpose: Practical training related to bait-fish research
Location: Central Marine Fisheries Research Institute, Cochin, India
- Hangi, Augustine Y., United Republic of Tanzania
Purpose: Course on development of

- indigenous phosphate deposits
Location: International Fertilizer Development Center, Muscle Shoals, AL, USA
- Herath, Herath M.C., Sri Lanka
Purpose: Program for development managers
Location: Asian Institute of Management, Manila, Philippines
- Hernandez, Irma, Costa Rica
Purpose: Master's degree in cropping systems and technology development
Location: Centro Agronómico Tropical de Investigación y Enseñanza, Universidad de Costa Rica, Turrialba, Costa Rica
- Hevia, Ricardo, Chile
Purpose: Course in analysis of qualitative research data
Location: Departamento de Investigaciones Educativas, Instituto Politécnico Nacional, Mexico City, Mexico
- Ikingura, Justinian R., United Republic of Tanzania
Purpose: Field work for a doctoral degree in geology in Tanzania
Location: Carleton University, Department of Geology, Ottawa, Canada
- Jagota, S.P., India
Purpose: Research on the Law of the Sea
Location: Dalhousie University, Dalhousie, Canada
- Kallaghe, P.A., United Republic of Tanzania
Purpose: Archival records conservation and management training
Location: Zanzibar Archives Training Workshop – East Africa, Zanzibar, United Republic of Tanzania
- Kamuhangire, E., Uganda
Purpose: Archival records conservation and management training
Location: Zanzibar Archives Training Workshop – East Africa, Zanzibar, United Republic of Tanzania
- Kane, Ousmane A., Senegal
Purpose: Complete a doctoral degree in agricultural and nutrition science: "Manifestations physiologiques et prophylasie du 'chilling injury' des mangoes"
Location: Université Laval, Sainte Foy, Canada
- Khandale, Devidas Y., India
Purpose: Research techniques in agroforestry
Location: College of Forestry, University of the Philippines, Los Baños, Laguna, Philippines
- Kiondo, Elizabeth, United Republic of Tanzania
Purpose: Master's degree in library science
Location: Department of Library Science, University of Toronto, Toronto, Canada
- Kishore, Nand, Mali
Purpose: Doctoral degree in education
Location: Faculty of Education, University of British Columbia, Vancouver, Canada
- Kone, Assétou, Mali
Purpose: Doctoral degree "Education et formation féminines au Mali : de l'exclusion scolaire à l'intégration sociale"
Location: Université de Bordeaux II, Bordeaux, France
- Kunentrasai, Oranuch, Thailand
Purpose: Master's degree in information science and 1-month English-language course
Location: City University, London, U.K.
- Lombe, W.C., Zambia
Purpose: Attend course on development of indigenous phosphate deposits
Location: International Fertilizer Development Center, Muscle Shoals, AL, USA
- Luna, Elba N., Argentina
Purpose: Doctoral degree in education
Location: University College, Cardiff, U.K.
- Maddonni, Patricia, Argentina
Purpose: Course in analysis of qualitative research data
Location: Departamento de Investigaciones Educativas, Instituto Politécnico Nacional, Mexico City, Mexico
- Mahenge, Satoki T., United Republic of Tanzania
Purpose: Master's degree in education
Location: University of Alberta, Edmonton, Canada
- Majid Bin Alias, Abdul, Malaysia
Purpose: Training course on fisheries economics for noneconomists
Location: Faculty of Resource Economics and Agribusiness, Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia
- Mangaser, Mari-Ann, Philippines
Purpose: Training course on fisheries economics for noneconomists
Location: Faculty of Resource Economics

- and Agribusiness, Universiti Pertanian
Malaysia, Serdang, Selangor, Malaysia
- Mansor Bin Mat, Malaysia
Purpose: Training course on fisheries
economics for noneconomists
Location: Faculty of Resource Economics
and Agribusiness, Universiti Pertanian
Malaysia, Serdang, Selangor, Malaysia
- Monzon, Ana S., Guatemala
Purpose: Courses in library information
systems and in automation of
information and documentation systems
Location: Asociación Interamericana de
Bibliotecarios y Documentalistas
Agrícolas, Turrialba, Costa Rica
- Mumba, Elizabeth C., Zambia
Purpose: Field research on nonformal
education and integrated rural
development
Location: University of Zambia, Lusaka,
Zambia
- Muthumbi, Eliud M., Kenya
Purpose: Doctoral degree thesis in
precambrian geology
Location: Ottawa-Carleton Centre for
Geoscience Studies, University of
Ottawa, Ottawa, Canada
- Mutowebunya, L.I., Zimbabwe
Purpose: Archival records conservation and
management training
Location: Zanzibar Archives Training
Workshop - East Africa, Zanzibar,
United Republic of Tanzania
- Narasimhan, R., India
Purpose: Collaborative research in
orality-literacy contrast
Location: Centre for Applied Cognitive
Science, Ontario Institute for Studies in
Education, Toronto, Canada
- Onyango, O.E., Kenya
Purpose: Archival records conservation and
management training
Location: Zanzibar Archives Training
Workshop - East Africa, Zanzibar,
United Republic of Tanzania
- Pimentel, Juan Carlos, Bolivia
Purpose: Course in analysis of qualitative
research data
Location: Departamento de Investigaciones
Educativas, Instituto Politécnico
Nacional, Mexico City, Mexico
- Quitiguina, Ligia, Ecuador
Purpose: Courses in library information
systems and in automation of
information and documentation systems
Location: Asociación Interamericana de
Bibliotecarios y Documentalistas
Agrícolas, Turrialba, Costa Rica
- Rey de Rodriguez, Eva E., Venezuela
Purpose: Courses in library information
systems and in automation of
information and documentation systems
Location: Asociación Interamericana de
Bibliotecarios y Documentalistas
Agrícolas, Turrialba, Costa Rica
- Sanon, Jacqueline, Haiti
Purpose: Courses in library information
systems and in automation of
information and documentation systems
Location: Asociación Interamericana de
Bibliotecarios y Documentalistas
Agrícolas, Turrialba, Costa Rica
- Seck, Oumar, Guinea
Purpose: Rural economics
Location: Université Laval, Sainte Foy,
Canada
- Senanayake, Y. Don, Sri Lanka
Purpose: Program for development
managers
Location: Asian Institute of Management,
Manila, Philippines
- Shao, Ibrahim F., United Republic of
Tanzania
Purpose: Doctoral degree thesis research on
rural financial institutions
Location: Department of Political Economy,
University of Toronto, Toronto, Canada
- Shen Sibao, China
Purpose: Studies and research at the
graduate level in international economics
law
Location: Faculty of Law, Queen's
University, Kingston, Canada
- Shi Linying, China
Purpose: Special project (IDRC-supported
projects at the Chinese Academy of
Forestry) on accounting and financial
monitoring
Location: IDRC's Regional Office for
Southeast and East Asia, Singapore
- Sivayoganathan, Chelliah, Sri Lanka
Purpose: Program for development
managers
Location: Asian Institute of Management,
Manila, Philippines

Sullon Leon, Alfredo, Peru

Purpose: Master's degree in demography
Location: Colegio de México, Mexico City, Mexico

Syed, Fazal Q., Pakistan

Purpose: Research in education
Location: Project INSPIRE, Universiti Sains Malaysia, Penang, Malaysia

Telfort, Agousse, Haiti

Purpose: Master's degree in library science
Location: École de bibliothéconomie, Université de Montréal, Montreal, Canada

Tiao, Luc-Adolphe, Burkina Faso

Purpose: Master's degree in communication science
Location: Université de Montréal, Montreal, Canada

Tumaliran, Reuel, Philippines

Purpose: 5-month course in fishery economics
Location: Faculty of Resource Economics and Agribusiness, Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia

Walter, Herath, Sri Lanka

Purpose: Program for development managers
Location: Asian Institute of Management, Manila, Philippines

Yahya, Encik S., Malaysia

Purpose: Master of science degree program in resource economics
Location: Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia

Project-related awards

IDRC's project-related awards are intended for researchers who have been or will be associated with IDRC-supported projects. Training programs vary from short-term courses tailored to the needs of the project to academic studies leading to a degree (graduate studies, preferably at the master's level). As with the program-related awards, studies may take place in a Third World country or Canada or, under special circumstances, in another developed country. The duration of tenure generally does not exceed 24 months. Candidates are jointly selected by research program staff and officers of the Fellowships and Awards Division in the region and in Ottawa. The following people received project-related awards in 1985–1986:

Aboubakari, Dicko, Burkina Faso

Purpose: Training in statistics
Location: Census Bureau, Trade Department, Washington, DC, USA

Alexander, Lawrence B.S., Jamaica

Purpose: Master of science degree in biology
Location: Dalhousie University, Department of Biology, Halifax, Canada

Amara, Juliana M., Sierra Leone

Purpose: Population studies
Location: London School of Hygiene and Tropical Medicine, University of London, London, U.K.

Benadijel, M'Baïssour M., Chad

Purpose: Master's degree in information sciences
Location: Université de Dakar, Dakar, Senegal

Beshah Girma, Ethiopia

Purpose: Master's degree in secondary education in the area of cognitive studies

and educational evaluation

Location: McGill University, Montreal, Canada

Bilongo, Nungisa-ya, Zaire

Purpose: Master's degree in demography
Location: Département de démographie, Université de Montréal, Montreal, Canada

Blaud, G. Célestin, Ivory Coast

Purpose: Master of arts degree in urban sociology
Location: Université de Montréal, Montreal, Canada

Boubou, Mohamed, Morocco

Purpose: Master's degree in administrative science
Location: Université Laval, Sainte Foy, Canada

Buya, Joyson K., Kenya

Purpose: Master's degree in genetics and its applications

- Location: Department of Genetics,
University College of Swansea,
Swansea, U.K.
- Cadavid, Maria Amparo, Colombia
Purpose: Master of arts degree in
communications
Location: Department of Communications,
Simon Fraser University, Burnaby,
Canada
- Coulibaly, Souleymane, Ivory Coast
Purpose: To undertake training in
documentation techniques, scientific
information, and application of computer
science
Location: Université Claude Bernard, Lyon,
France
- da Rocha, Maria de Fatima, Brazil
Purpose: Master's degree in geography
Location: Universidade Federal de
Pernambuco, Pernambuco, Brazil
- del Aguila, Roberto E., Peru
Purpose: Master's degree in public health
Location: Johns Hopkins University,
Baltimore, MD, USA
- Diouf, El Hadji, Senegal
Purpose: Practical attachments in science
journalism
Locations: Montreal, Quebec, and Toronto,
(Canada), New York (USA), and Paris
(France)
- Getaneh Yemane, Ethiopia
Purpose: Master's degree in science,
technology, and industrialization
Location: Science Policy Research Unit,
University of Sussex, Brighton, U.K.
- Ibarra Crespo, Hernán E., Ecuador
Purpose: Master of arts degree in social
science
Location: Facultad Latinoamericana de
Ciencias Sociales, Quito, Ecuador
- Kamara, Frederick J.M., Sierra Leone
Purpose: Research on the impact of
development progress on rural
population
Location: Centre for International Research
and Training, Norman Paterson School
of International Affairs, Carleton University,
Ottawa, Canada
- Kouamé, Aka, Ivory Coast
Purpose: Doctoral degree in demography
Location: Département de démographie,
Université de Montréal, Montreal,
Canada
- Mahalu, E.R., United Republic of Tanzania
Purpose: Project development activities
relating to refugee studies
Location: Queen Elizabeth House, Oxford,
U.K.
- Mares Martins, Victor M., Peru
Purpose: Qualifying year for doctoral degree
in animal sciences with emphasis on
pasture production
Location: University of Guelph, Guelph,
Canada
- Mbago, M.C.Y., United Republic of Tanzania
Purpose: Project development activities
relating to refugee studies
Location: Queen Elizabeth House, Oxford,
U.K.
- Mebe, Paul P., Zimbabwe
Purpose: Research on natural product
chemistry
Location: Department of Chemistry,
University of Alberta, Edmonton,
Canada
- Megia, Rita, Indonesia
Purpose: Management of a herbarium in
tropical conditions
Location: Queensland Herbarium, Brisbane,
Queensland, Australia
- Mihyo, Paschal B., United Republic of
Tanzania
Purpose: Doctoral degree research on
parliamentary control of public enterprises
Location: School of Law, University of
Warwick, Coventry, U.K.
- Mokitimi, None Leonard, Lesotho
Purpose: Master of science degree in
agricultural economics
Location: Department of Economics,
University of Saskatchewan, Saskatoon,
Canada
- Navarro, Jorge, Chile
Purpose: Master of science degree in marine
biology
Location: Marine Sciences Research
Laboratory, Memorial University,
St John's, Canada
- Nindi, B.C., United Republic of Tanzania
Purpose: Project development activities
relating to refugee studies
Location: Queen Elizabeth House, Oxford,
U.K.
- Nkongolo Kabwe, Kalubi, Zaire
Purpose: Doctoral degree in phytology

- Location: Département de phytologie,
Université Laval, Sainte Foy, Canada
- Panlasigui, Leonora N., Philippines
Purpose: Doctoral degree in community
nutrition and dietetics
Location: Department of Nutritional
Sciences, University of Toronto, Toronto,
Canada
- Pineda Polo, Francisco H., Colombia
Purpose: Research and analysis of biological
and fisheries information on *Callynectes*
toxotes (crab)
Location: College of Marine Studies,
University of Delaware, Lewes, DE, USA
- Ralph, Egbert L., Guyana
Purpose: Master of science degree in
economics of milk production
Location: University of the West Indies,
St Augustine, Trinidad and Tobago
- Ratnavibhushana, Dharmasonda Y.,
Sri Lanka
Purpose: Master's degree in library sciences
specializing in agricultural information
Location: University of Pittsburgh,
Pittsburgh, PA, USA
- Rios, Brenda L., Guatemala
Purpose: Master's degree in food and
nutrition
Location: Department of Food and
Nutrition, University of Manitoba,
Winnipeg, Canada
- Rocca Calienes, Leopoldo A., Peru
Purpose: Master of science degree in forestry
Location: Universidad Nacional Agraria la
Molina, Lima, Peru
- Seaton, Julian M., Guyana
Purpose: Master of science degree in forage
utilization
Location: Caribbean Agricultural Research
and Development Institute, University of
the West Indies, St Augustine, Trinidad and
Tobago
- Shiembo, Mde Patrick, Cameroon
Purpose: Master's degree in forest resources
management
Location: University of Ibadan, Ibadan,
Nigeria
- Sudarto, Indonesia
Purpose: Master of science degree in
genetics
Location: University College of Swansea,
Swansea, U.K.
- Tardieu, Patrick, Haiti
Purpose: Practical attachment related to the
project "Documentation technicians
(Haiti)"
Location: Collège Lionel-Groulx, Sainte
Thérèse, Canada
- Taye Tadesse, Ethiopia
Purpose: Doctoral degree in library science
Location: University of Pittsburgh,
Pittsburgh, PA, USA
- Vasquez Arana, Mauricio A., Colombia
Purpose: Master of science degree in
biostatistics
Location: Department of Epidemiology and
Biostatistics, McGill University, Montreal,
Canada
- Wang, Amy, Costa Rica
Purpose: Master's degree in plant science
Location: Department of Plant Science,
University of Alberta, Edmonton,
Canada
- Wickham, Claudius V., Guyana
Purpose: Field research for a Master's degree
in forage seed production
Location: International Centre for Tropical
Agriculture, Cali, Colombia
- Zhang Lafa, China
Purpose: Master of science degree in
water-quality management for pond fish
culture
Location: Fisheries Department, Auburn
University, Auburn, AL, USA

Young Canadian Researchers' Award

Young Canadian researchers are normally doctoral students registered in a Canadian university. The aim of this program is to encourage their involvement in scientific areas of concern to IDRC and to give them, at the same time, exposure to problems of Third World countries. Canadian applicants studying in the following fields are considered: agriculture, food, nutrition, health, information, sociology, policy studies, economics, education, communications, energy, earth sciences, finance, administration, and journalism. Study, placement, and research programs take place

in Third World countries, for a period of up to 12 months. Award holders are selected jointly by staff of IDRC's program divisions and the Fellowships and Awards Division.

- Anderson, Marina D., Canada
Purpose: Field research on price incentives on subsistence farms in developing countries
Location: International Centre for Tropical Agriculture, Cali, Colombia
- Beauregard, Marie, Canada
Purpose: Medical Exchange Program of the Université de Montréal
Location: Morro da Conceição, Pernambuco, Brazil
- Brady, Michael A., Canada
Purpose: Field work for a doctoral degree in forestry: "Framework for environmental impact assessment of mining projects in Indonesia"
Location: Bandung Institute of Technology, Bandung, Indonesia
- Brunet-Perrault, Nicole, Canada
Purpose: Doctoral degree in adult education: "Le processus d'évaluation naturelle d'adultes apprenants impliqués dans des projets d'éducation non formelle : exploration en milieu rural de la Côte d'Ivoire"
Location: Institut africain pour le développement économique et social, Abidjan, Ivory Coast
- Brusberg, Frederick E., Canada
Purpose: Anthropological economy study of the Air Massif region of Niger with data collection for a doctoral degree in economic anthropology
Location: Institut de recherches en sciences humaines, Université de Niamey, Agadez, Niger
- Burton, Sandra L., Canada
Purpose: Field research for a master's degree in soil science: "Management plan for an agriculture-forestry conflict area in the Chitawan District in Nepal"
Location: Institute of Agriculture and Animal Science, Tribhuvan University, Rampur, Nepal
- Desforges, Johanne, Canada
Purpose: Medical Exchange Program of the Université de Montréal
Location: Morro da Conceição, Pernambuco, Brazil
- Déry, Serge, Canada
Purpose: Study for a master's degree in international health
Location: University of Hawaii, Manoa, HI, USA
- Gellert, George A., Canada
Purpose: Undertake research on the immunology of leishmaniasis
Location: Gorgas Memorial Laboratory, Panama
- Gill, Kuldip, Canada
Purpose: Field work for a doctoral degree in anthropology: "Anthropological study of health care in the context of Fijian-Indian culture"
Location: University of the South Pacific, Suva, Fiji
- Hincks, Michael, Canada
Purpose: Field research on the hard-to-cook defect in beans (*Phaseolus vulgaris*): an investigation into the mechanism
Location: Universidad Católica de Chile, Santiago, Chile
- Luther, Eudene O., Canada
Purpose: Field research for a doctoral degree thesis: "Rural development in Western Samoa"
Location: University of Western Samoa, Apia, Samoa
- Lynn, Brian, Canada
Purpose: Pilot study of gamma globulin for children with measles
Location: Department of Pediatrics, University of Nairobi, Nairobi, Kenya
- MacWilliam, James G., Canada
Purpose: Research on screening tests for sickle-cell disease in Antigua, West Indies
Location: Department of Surgery, Haliburton Hospital, Antigua and Barbuda
- Marin, Patricia M., Canada
Purpose: Field research for a doctoral thesis: "Influence of teaching context on teacher decisions in new (junior) secondary science in Jamaica"
Location: University of the West Indies, Kingston, Jamaica
- Mathieu, Nicholas, Canada
Purpose: Medical Exchange Program of the Université de Montréal
Location: Instituto Nacional de Cardiología Ignacio Chavez, Mexico City, Mexico

McGinnis, Kathryn M., Canada

Purpose: Research for a doctoral degree in entomology: "Investigation of aphid resistance in cowpeas in Nigeria"

Location: Grain Legume Improvement Program, International Institute of Tropical Agriculture, Ibadan, Nigeria

Moore, David B., Canada

Purpose: Field research for a doctoral degree thesis: "Construction of hegemony in Zimbabwe"

Location: Department of Political and Administrative Studies, University of Zimbabwe, Harare, Zimbabwe

Notebaert, Eric, Canada

Purpose: Medical Exchange Program of the Université de Montréal

Location: Dispensaire de M'Bengue, Département de Korogho, Ivory Coast

Paponnet-Cantat, Christiane M., Canada

Purpose: Field work for a doctoral degree in anthropology: "Women and land reform: Peru's subsistence crisis"

Location: Universidad Nacional San Antonio Abad del Cusco, Cusco, Peru

Poulin, Marie-Josée, Canada

Purpose: Medical Exchange Program of the Université de Montréal

Location: Dispensaire en Périphérie de Managua, Managua, Nicaragua

Robinson, Sheila A., Canada

Purpose: Field research for a doctoral degree thesis: "Factors contributing to job performance of community health workers in Colombia"

Location: Centro de Investigaciones Multidisciplinarias en Desarrollo Rural, Universidad del Valle, Cali, Colombia

Stewart, Kathlyn, Canada

Purpose: Research on techniques of assessing age and growth in tropical freshwater fish

Location: National Museum of Nairobi, Lake Turkana, Nairobi, Kenya

Sutherland, Ross A., Canada

Purpose: Research on the hydrological impact of the introduction of agroforestry and watershed management practices in the Baringo District, Kenya

Location: Lake Baringo, Baringo District, Kenya

Wilson, Gavin, Canada

Purpose: Research on communication of scientific and technical information to the rural poor, particularly in the field of forestry
Location: Gemini News Service, London, U.K.

Publications and films

The Communications Division, as a part of its program activities, contributes to the dissemination of the results of scientific research in the Third World. Within IDRC, the Division produces a wide range of printed documents and audiovisual materials on scientific and technical topics.

In 1985–1986, the Division published 47 monographs, proceedings, and technical studies covering numerous areas of research receiving support from IDRC's other program divisions. The Division also administers, on behalf of the Centre, a number of development information services for a variety of audiences both abroad and in Canada. A quarterly magazine, *IDRC Reports* (*Le CRDI Explore* in French and *El CIID Informa* in Spanish), and documentary films are the most important elements in these services. Early in 1986, the Division reintroduced its "IDRC Features" service, this time published out of the regional offices.

IDRC publications

On page 79 is a list of publications and films either produced by the Centre itself or resulting directly from Centre-funded research. Titles are given in the original language of publication. Catalogues of publications and films are available on request.

IDRC Reports

The Centre's quarterly magazine, *IDRC Reports*, contains articles on research funded by the Centre and on subjects related to its work. The total circulation is 25 000 for the English, French, and Spanish versions, with about 60% in the developing countries, more than 25% in Canada, and the remainder in other industrialized countries. *IDRC Reports* is published in January, April, July, and October. A special annual edition is published in Arabic.

Films

In 1985, the Centre produced two documentaries on the efforts made by scientists and communities to find answers to the problems of reforestation and potable water supplies.

The first of these, *Trees of Hope*, deals mainly with the creation of village woodlots and small family plantations in West Africa. It was filmed in Mali, Niger, Nigeria, and Senegal. The second, *A Handle on Health*, records a genuine technological and social revolution on film. It begins by showing how scientists in Ethiopia, Malaysia, the Philippines, Sri Lanka, and Thailand went to work on the technology of handpumps. In several of those countries, it is now the women who manufacture, install, and repair the pumps. Thus, as the result of their taking over the technology, women in developing countries, who used to be simply water carriers, have become the artisans of better health.

As with all IDRC films, *Trees of Hope* and *A Handle on Health* are available as 16-mm prints or on video cassette (in NTSC, PAL, or SECAM signal systems and in U-matic, VHS, or Betamax formats).

Centre publications

- IDRC annual report 1984–1985/Rapport annuel CRDI 1984–1985. IDRC/CRDI, Ottawa, Ont. IDRC-003/85e,f, 96 + 90 pp.
- Centro Internacional de Investigaciones para el Desarrollo: proyectos, 1970–1981. CIID, Ottawa, Ont. IDRC-180s, 384 pp.
- Vivienda básica: políticas sobre lotes urbanos, servicios y vivienda en los países en desarrollo. Laquian, A.A. CIID, Ottawa, Ont. IDRC-208s, 174 pp.
- El ambiente de investigación en países en desarrollo. Shaeffer, S., Nkinyangi, J.A., ed. CIID, Ottawa, Ont. IDRC-213s, 326 pp.
- Small-scale fisheries in Asia: socioeconomic analysis and policy. Panayotou, T., ed. IDRC, Ottawa, Ont. IDRC-229e, 283 pp.
- L'université rurale : éducation et développement. Arbab, F. CRDI, Ottawa, Ont. IDRC-231f, 85 pp.
- Universidad rural: aprendizaje sobre educación y desarrollo. Arbab, F. CIID, Ottawa, Ont. IDRC-231s, 81 pp.
- Finfish nutrition in Asia: methodological approaches to research and development. Cho, C.Y., Cowey, C.B., Watanabe, T. IDRC, Ottawa, Ont. IDRC-233e, 154 pp.
- Irrigated forestry in arid and semi-arid lands: a synthesis. Armitage, F.B. IDRC, Ottawa, Ont. IDRC-234e, 160 pp.
- Búsqueda: CIID 1984 — la experiencia rural. CIID, Ottawa, Ont. IDRC-235s, 40 pp.
- Women's issues in water and sanitation: attempts to address an age-old challenge. IDRC, Ottawa, Ont. IDRC-236e, 104 pp.
- Le rôle des femmes dans le domaine de l'approvisionnement en eau et des services d'hygiène : tentatives pour relever un défi séculaire. CRDI, Ottawa, Ont. IDRC-236f, 120 pp.
- Pasture improvement research in Eastern and Southern Africa: proceedings of a workshop held in Harare, Zimbabwe, 17–21 September 1984. Kategile, J.A., ed. IDRC, Ottawa, Ont. IDRC-237e, 508 pp.
- Chinese-character processing for computerized bibliographic information exchange: summary report of an international workshop held in Hong Kong, 17–20 December 1984. T.C. Ting, ed. IDRC, Ottawa, Ont. IDRC-239e, 68 pp.
- Devindex 1984: index to selected literature on economic and social development/index d'ouvrages sur le développement économique et social. IDRC/CRDI, Ottawa, Ont. IDRC-240e,f, 172 pp.
- International computer-based conference on biotechnology: a case study. Balson, D.A., ed. IDRC, Ottawa, Ont. IDRC-241e, 103 pp.
- Research methodology for livestock on-farm trials: proceedings of a workshop held at Aleppo, Syria, 25–28 March 1985. Nordblom, T.L., Ahmed, A.K.H., Potts, G.R., ed. IDRC, Ottawa, Ont. IDRC-242e, 313 pp.
- Comercialización interna de los alimentos en América Latina: problemas, productos y políticas — selección de las ponencias presentadas en un seminario internacional celebrado en el Centro Internacional de Agricultura Tropical en Cali, Colombia, 11–13 julio 1984. Scott, G.J., Costello, M.G., red. CIID, Ottawa, Ont. IDRC-243s, 253 pp.
- Sugar: threat or challenge? An assessment of the impact of technological developments in the high-fructose com syrup and sucrochemicals industries. Thomas, C.Y. IDRC, Ottawa, Ont. IDRC-244e, 140 pp.
- Searching: IDRC 1985 — research: A path to development. IDRC, Ottawa, Ont. IDRC-245e, 52 pp.
- Quête d'avenir : CRDI 1985 — les voies de la recherche. CRDI, Ottawa, Ont. IDRC-245f, 56 pp.
- Laboratory and field testing of handpumps. Goh, S.Y. IDRC, Ottawa, Ont. IDRC-TS51e, 138 pp.
- Recommended methods for development-information systems, volume 2: guidelines for the building of authority files in development-information systems. Di Lauro, A., Sly, M. IDRC, Ottawa, Ont. IDRC-TS52e, 196 pp.
- Regional postgraduate program in information science in anglophone Africa: identification of an appropriate location — report of a joint Unesco/IDRC mission. Robert, K.H., ed. IDRC, Ottawa, Ont. IDRC-TS53e, 64 pp.
- Report of the II workshop on tropical animal production systems. Li Pun, H., Zandstra, H., ed. IDRC, Ottawa, Ont. IDRC-MR62e, 112 pp.

- Problèmes de logique et de linguistique qui entravent la communication sociale avec le peuple aymara. Guzman de Rojas, I. CRDI, Ottawa, Ont. IDRC-MR66f, 174 pp.
- Report of the III workshop meeting on tropical animal production systems. Ruiz, M.E., Li Pun, H.H., ed. IDRC, Ottawa, Ont. IDRC-MR90e, 156 pp.
- Energy use patterns: Sierra Leone. Davidson, O.R. IDRC, Ottawa, Ont. IDRC-MR103e, 111 pp.
- Science, education and society: perspectives from India and South East Asia. King, K., ed. IDRC, Ottawa, Ont. IDRC-MR104e, 216 pp.
- Oil crops: sesame and safflower — proceedings of the second oil crops network workshop held in Hyderabad, India, 5–9 February 1985. Omran, A., ed. IDRC, Ottawa, Ont. IDRC-MR105e, 258 pp.
- The Zambian economy: problems and prospects — proceedings of a national workshop held in Lusaka, Zambia, 27–29 April 1984. IDRC, Ottawa, Ont. IDRC-MR106e, 364 pp.
- Rural energy in the Third World — a review of issues and methods. IDRC, Ottawa, Ont. IDRC-MR107e, 176 pp.
- International migration of Egyptian labour: a review of the state of the art. Amin, G.A., Awmy, E. IDRC, Ottawa, Ont. IDRC-MR108e, 306 pp.
- MINISIS user's group meeting 1983: proceedings of the fifth annual meeting of the MINISIS user's group. IDRC, Ottawa, Ont. IDRC-MR109e, 45 + 123 pp.
- Biotechnology: opportunities and constraints. IDRC, Ottawa, Ont. IDRC-MR110e, 162 pp.
- La biotechnologie : possibilités et contraintes. CRDI, Ottawa, Ont. IDRC-MR110f, 188 pp.
- Proceedings of a workshop to discuss the establishment of a regional forest seed centre, Harare, Zimbabwe, 11–13 January 1984. IDRC, Ottawa, Ont. IDRC-MR111e, 116 pp.
- Ends and means in rural energy surveys. Desai, A.V. IDRC, Ottawa, Ont. IDRC-MR112e, 66 pp.
- Memorias del primer seminario sobre coordinación regional de los proyectos de acuicultura respaldados por el CIID en América Latina. Hernández R., A., Buzeta B., R., ed. CIID, Ottawa, Ont. IDRC-MR113s, 89 pp.
- Banana production and research in Eastern and Central Africa: proceedings of a regional workshop held in Bujumbura, Burundi, 14–17 December 1983. Kirkby, R.A., Ngendahayo, D., ed. IDRC, Ottawa, Ont. IDRC-MR114e, 140 pp.
- Agricultural information: experiences and emerging issues — record of a one-day meeting of IDRC-supported projects held in Ottawa, Canada, 7 June 1985. Broadbent, K.P., ed. IDRC, Ottawa, Ont. IDRC-MR116e, 24 pp.
- International seminar on shelterbelts: proceedings of a seminar organized by the International Development Research Centre held in Tunis, Tunisia, 31 October–3 November 1983/séminaire international sur les brise-vent : actes d'un séminaire organisé par le Centre de recherches pour le développement international tenu à Tunis, Tunisie, 31 octobre au 3 novembre 1983. IDRC/CRDI, Ottawa, Ont. IDRC-MR117e,f, 251 pp.
- Evaluation of IDRC-supported projects at Sokoine University of Agriculture, Tanzania. IDRC, Ottawa, Ont. IDRC-MR118e, 97 pp.
- Symposium on drought in Africa: proceedings and summary report of a symposium held in Ottawa, Canada, on 12–14 August 1985. Escott, V.J., compiler. IDRC, Ottawa, Ont. IDRC-MR119e, 183 pp.
- Symposium sur la sécheresse en Afrique : compte rendu et sommaire d'un symposium tenu à Ottawa, Canada, du 12 au 14 août 1985. Escott, V.J., compilatrice. CRDI, Ottawa, Ont. IDRC-MR119f, 208 pp.
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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, or 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.

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