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THE ROLE OF WOMEN IN THE DEVELOPMENT OF

SCIENCE AND TECHNOLOGY IN THE THIRD WORLD:

AN I.D.R.C. PERSPECTIVE



I. INTRODUCTION: IDRC

The mission of IDRC, the International Development Research Centre, is to contribute to development through research and research-supporting activities. The Centre aims to assist in promoting the indigenously determined social and economic advancement of the developing regions of the world, with particular focus on the problems of poverty. Thus IDRC, through the medium of research, aids development.

IDRC is a corporation created by the Parliament of Canada in 1970 to stimulate and support scientific and technical research by developing countries for their own benefit. IDRC is funded entirely by the Canadian Parliament, to which it reports annually, however its operations are guided by an international twenty-one member Board of Governors. Within the framework of its mission, IDRC has four main objectives:

- to support research relevant to development and whose likely results could be used in development activities;
- to build research capacity and capability in developing countries and developing country institutions;
- to develop links among developing country researchers, and to provide them access to the results of world-wide research; and
- to promote the diffusion, popularization and application of the results of the research supported by the Centre.

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Via an administrative structure of seven program divisions (Agriculture, Food and Nutrition; Social Sciences; Health Sciences; Information Sciences; Earth and Engineering Sciences; Communications; and Fellowships and Awards), the Centre's program delivery can be described in five broad thematic statements:

1. **SKILLS ENHANCEMENT:** Every society is capable of enhancing its human resources by providing them with the basic skills for taking responsibility for their own well being and for making a self-fulfilling contribution to the greater community.
2. **PHYSICAL WELL-BEING:** Each woman, man, and child exists in a condition of physical well-being, derived from an environment providing access to the appropriate goods, systems, and services.
3. **ECONOMIC PARTICIPATION:** Every society is able to harmonize the use of all its resources by providing opportunities for adequate incomes and for individual contributions to indigenously determined development goals.
4. **FOOD SECURITY:** Consistent with adequate and equitable returns to resources and with environmental protection, each household, community and nation is able to provide its members with a secure, regular, and nutritious diet.
5. **TECHNOLOGICAL CHOICE:** Each nation attains a state of technological democracy by being able to obtain information about the available technological candidates; to generate its own candidates; to bargain and vote freely for those it chooses; and to stop using and depending on those that no longer give net social and economic gains.

In addition to the thematic statements of the Centre, there are also major development issues. These issues tend to permeate all themes; and while not being a "state of being", they should be taken into account in all development planning. Women in Development is a development issue.

The importance of this development issue has been effectively documented in the Report of the Panel of Experts on Science, Technology and Women, organized jointly by the United Nations Advisory Committee on Science and Technology for Development and the American Association for the

Advancement of Science in Massachusetts, in September 1983. The Panel addressed itself to strategies and mechanisms for ensuring that the benefits of science and technology in the development process accrue at all levels, to females as well as to males. The topics covered were:

1. Participation of women in policy and decision-making regarding use and development of technologies.
2. Participation of women scientists and engineers in endogenous research and development.
3. Participation of women in education and communication in the fields of science and technology.
4. Selection, design and development of technologies for women:
 - choice of technology at the user's level
 - use of technology to generate additional income
 - retraining women who are being displaced from their traditional occupations to new technologies
 - impact of emerging technologies.

The conclusions reached and recommendations made by the Panel of Experts relating to Endogenous Research and Development and Participation of Women in Education and Communication in the fields of science and technology are of particular relevance to IDRC and its Women in Development program.

As governments, educational institutions, corporations and scientific groups develop and promote R&D efforts in their own country or region, the concerns and priorities of women and the impact of R&D on women must be considered. In developing a standard of measure, the Panel of Experts stressed reliance on criteria in addition to "economic" issues. These should include quality of life issues and policies that encourage development of material, information and human resources for science and technology. The very significant role of publications in the advancement and recognition in science and technology was discussed and the Panel expressed concern about access to publications for their own work and the coverage given to issues related to women.

As well, the Panel urged national governments, particularly those of developing countries, to build endogenous R&D capabilities by adopting on a priority basis a policy of total human resources development that would give women full participation. It was recommended that development projects should include the "users" as primary participants and evaluators of the information collected, thus ensuring their active participation and involvement in projects from the beginning.

The following paragraphs describe the Centre's response to the crucial development issue of women and their integration into the development process.

II. WOMEN IN DEVELOPMENT: IDRC'S WID PROGRAM

In February 1986, an informal working group composed of staff from the program divisions of IDRC was formed to discuss issues in research related to women. The group addressed problems ranging from the difficulties which may arise when one concentrates on a particular sub-group as a category of analysis, to the consideration of special strategies for the enhancement of Centre support to WID issues. In view of these problems, the group recommended that Centre management:

1. support more research activities undertaken by grassroots organizations and by NGOs, particularly on issues on women in development;
2. use different criteria to evaluate the proposals submitted by NGOs and with research projects design. For example, the Centre could organize periodic workshops specifically on research design and research methodologies for NGO groups in different regions of the world; and
3. support more "risky" projects which may be submitted by non-traditional researchers. Specifically, the existing bias against "action research" should be reconsidered since it is a method of investigation in the social sciences which not only has generated a great deal of valuable information but which also has given groups of women greater power to effect changes within their own societies.

In response to the working group's recommendations, the Centre established a multi-disciplinary Women in Development (WID) Unit in 1987, with the mission to support research on the integration of women into development. In addition to the recommendations of the in-house working group the WID Unit was created in response to developing country requests to undertake research on issues and problems focussing on women being excluded from the benefits of development. Although housed administratively within the Social Sciences Division, the Unit utilizes the expertise from five other program divisions: Agriculture, Food and Nutrition; Health Sciences; Information Sciences; Earth and Engineering Sciences; and Fellowships and Awards.

As now mandated, the WID Unit has two primary roles. First, it is a resource group for IDRC, sharing information and advising on issues related to the integration of women into development. Second, the Unit develops and administers research projects in a few key areas not covered by IDRC's other funding programs.

To expand upon its first role, the WID Unit consults with all programs within IDRC on projects that could have a particular impact or focus on women. It provides assistance with development of appropriate research methodologies, with feedback on proposals or research ideas, and with project monitoring. The Unit is also able to suggest appropriate researchers with interest and experience in WID-related issues, who could be integrated into on-going projects as part of a team or as occasional consultants. Also of importance is the role the Unit plays in educating and sensitizing IDRC staff to the potential importance of gender in development work.

Within the project funding role, the WID Unit supports the following four broad areas of research, often in cooperation with other Centre programs:

1. **Women in Industry:** includes research on the industrial sector, including access to technical training and related issues such as labour legislation and trade unionism.
2. **Women in the Informal Sector:** focusses on women's and children's participation in the small-scale industrial sector, in the service sector, and in cooperatives; and on effects of such work on other aspects of women's lives, such as child care, family nutrition, and the division of labour within the household.

3. **Women and Agricultural Production:** addresses the research issues of participation in all stages of agricultural production including access to technologies, credit, markets, extension services, and training; work in rural households; and access to land and ownership.
4. **Social Participation of Women:** includes research issues on education, health, nutrition, child care, and social legislation; the participation of women in political decision-making and the capacity of government to improve conditions for women; and cultural and traditional barriers to the equal participation of women in economic and social development.

III. WOMEN IN DEVELOPMENT: INFORMATION SCIENCE

Scientists as individuals are influenced at an ideological level. This occurs with the filtering of ideas that the scientific community considers legitimate and worthwhile to pursue. It occurs also at the level of dissemination of information -- information is made available on areas that are considered important.

As Director of the Information Sciences (IS) Program Division I am particularly interested in the role of information in supporting the full integration of women in development.

Within the IS Division, the sub-program on information systems for Women in Development continues to support multi-sectoral information needs of women's groups, in consultation with the Centre's WID Unit and other ISD programs. The concentration has been on relatively small and focussed projects and activities within projects in Latin America and the Middle East. Appended to this presentation are descriptions of some of the current activities supported by the WID Unit and the Information Sciences Division. The experience gained at these levels should help in supporting the exploration of any regional and international linkages that may be needed. A small exploratory workshop in East Africa in 1988, funded by the Division's contribution to the WID Unit, was aimed at clarifying the needs in that region. The intra-divisional support to an explicit information component in the WID Unit's women's research network on environmental management,

coordinated by the Environmental Liaison Centre - International (ELCI) in Nairobi, will provide experience with responding to information needs related to many of the Division's concerns: women in development, research networks, environmental management, and the use of information and communications technologies.

In their report of 1983, a Panel of Experts on Science, Technology and Women identified access to education and information in science and technology as one of the most significant factors limiting women's effective participation and input into these areas, especially in developing countries. There is a need for women to be informed about science and technology, to participate as communicators of science and technology, or to have information about women in science and technology provided to the wider public. The role of traditional and non-traditional ways of communicating such information has to be kept in mind. The Panel of Experts paid particular attention to the role of science and technology centres as focal points for participatory experiences, and the role of emerging information technologies providing opportunities for communication in science and technology for women.

Focussing on access to science and technology information, the Panel made two relevant recommendations:

1. National governments should ensure that women scientists and engineers are provided with equal access to all installations (e.g. libraries, etc.) and placements, social and technological, to enable them to study and participate in science and technology to the fullest extent possible; and
2. Special efforts should be made by governmental and non-governmental agencies to provide leaders of women's organizations with timely and appropriate scientific and technological information to assist them in participating in decisions affecting their community.

This can be achieved through training programs, written materials, audio-visuals, etc. Where possible, women in science and technology should be involved in this process.

In the fall of last year, the Vienna International Centre hosted a seminar for National Machinery for Monitoring and Improving the Status of Women. Following through upon some of the recommendations regarding the implementation of the information function of the national

machinery, a second Seminar on Information Systems for the Advancement of Women for National Machinery was held in Vienna in January of this year. It was held upon the premise that appropriate, timely and reliable information is a prerequisite for the formulation and implementation of policies that will lead to the advancement of women.

The seminar was designed to examine the information activities undertaken by national machinery on women and to identify obstacles encountered in order to obtain:

- a) a better understanding of the function of information for decision-making for the advancement of women, and
- b) more information on the current situation and level of information activities and communication techniques related to decision-making undertaken by national machinery.

From this seminar, recommendations were made on measures to overcome the obstacles identified, measures to promote the improved flow of information, and ways and means to establish and/or strengthen the information function of national machinery.

These two meetings are significant because they are an important indication of the role of information (its handling, retrieval, dissemination, and use) in the enhancement of the position of women in scientific and technological endeavours toward their full integration in the development process.

The Women in Development information systems activity resides within the Socio-Economic Information sub-program of the Information Sciences Division. The responsible program officers, working in concert with the Centre-wide WID Unit, focus their attention and support on this aspect of the role of information. As information scientists, the problem for us is not so much the provision of an international information system on WID or WID research. For there are national, regional and inter-regional networks already active, with information systems and services (e.g. ISIS International and its Women's Information and Communication Services; the United Nations International Research and Training Institute for the Advancement of Women (INSTRAW) and its Information and Documentation Unit, and the International Women's Tribune Centre (IWTC)).

The needs are much more local and specific; the explicit involvement and linkages of women researchers and development practitioners with whatever specific subject or problem activities are to be addressed (at local, national, regional or international levels); and support for cooperation, coordination and linkages between the many WID programs in aid agencies, and governmental and NGOs, especially at the local level. There is a great deal of activity, and many valid programs addressing key issues -- but without coordination and cooperation, resources will be under-utilized but over-stretched, activities (and funding) duplicated, and the potential impact dissipated.

Martha B. Stone
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Selected IDRC Projects: WID Program
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DAWN Research Training Workshop

Recipient Institution: Instituto Universitario de Pesquisas
do Rio de Janeiro (IUPERJ)

Since 1978, several initiatives have been undertaken at the Instituto Universitario de Pesquisas do Rio de Janeiro (IUPERJ) related to the field of "Women and Development". This project will enable the Development Alternatives with Women for a New Era (DAWN) develop a graduate training and research program to be offered regularly by graduate programs of IUPERJ. Fifteen students from developing countries, including Asia and Africa will be brought together for a five-week training workshop on women and alternative views of development to be held in Rio de Janeiro, Brazil. The course will provide participants with methodologies and tools to conduct research on gender and development.

Participatory Training for Women (Uruguay)

Recipient Institution: Grupo de Estudios sobre la Condicion de la
Mujer en el Uruguay (GRECMU)

This group training activity is a collaborative effort between the "Grupo de Estudios sobre la Condicion de la Mujer en el Uruguay" (GRECMU) and the "International Women's Tribune Centre" (IWTC) a research and a training non-governmental organization, aimed at developing a participatory training methodology to identify needs and to disseminate research results amongst women groups in Uruguay. The activity will consist of a workshop to train 30 women leaders in participatory training methods and five follow-up workshops throughout the country to implement such methodologies with grassroots women groups. Each workshop will be aimed at 25 participants. Increased organization and mobilization of women groups in Uruguay is expected upon completion of this project which will be supported by the development and dissemination of adequate instructional material.

Research Methods Focussing on Gender Issues - Phase II

Recipient Institution: Eastern and Southern African Management
Institute (ESAMI)

The role of women in the development process cannot be overemphasized. Experience suggests that well-developed projects which do not take into account gender issues or which make inaccurate assumptions about women's roles become costly and difficult to implement. Phase I of this project supported a training course: Research Methods Focusing on Gender Issues. The course aimed at increasing individual research capacity to use and conduct relevant gender-related research. Participants came from middle and senior level management positions in government and non-governmental organizations in Eastern and Southern Africa. In that course it was recommended that a trainer's course be funded to produce training materials. This second phase project will fund a workshop to produce training manuals that integrate gender issues. It will also enable middle and senior level researchers and trainers to identify gender-related researchable problems; and give these individuals the understanding and skills to integrate women into development projects and activities.

Women in Development (WID) Awards

Recipient Institution: International Development Research
Centre (IDRC)

As of April 1, 1987, IDRC established a Women in Development (WID) unit based in the Social Sciences Division. This project will establish a set of training awards in connection with the research activities supported under the WID mandate. Two types of training activity have been proposed for the initial training under this project: (1) several internships for Third World WID researchers and 'teachers' to work in Ottawa with staff of the WID unit on program and resource development; (2) individual awards for developing country nationals which are intended to strengthen the research teams associated with Centre-funded projects, programs or institutions in which WID-related research is a critical element.

Employment Patterns and Social Policies in the Public Sector
(Argentina)

Recipient Institution: Centro de Estudios de Estado y
Sociedad (CEDES)

This project will examine the status of women employed in the public sector in Argentina, focussing on their employment histories and on the formulation of public policies which will lead to less occupational segregation. The researchers will compile a socioeconomic and task specific profile of the female labour force in the public sector. They will also examine employment policies implemented by the state and determine the extent to which informal practices combine with formally established regulations to create working conditions which may be disadvantageous for women. Their research will also examine legal and sociocultural factors related to the participation of women in the paid labour force, including the dominant system of values, norms and beliefs about the productive and reproductive roles of women. Research findings will be shared with policymakers, public sector employees, trade unionists and other researchers at a seminar.

Female Participation in Post-Primary Education (Bangladesh)

Recipient Institution: Foundation for Research on Educational
Planning and Development (FREPD)

In Bangladesh, as in many of the world's poorest countries, female participation in education is much lower than that for males. The government is concerned about the relatively low participation of girls in post-primary education. In this project, researchers will determine the proportion of primary school graduate girls who pursue secondary education, informal education or neither and determine their reasons; determine the rate of drop-out from secondary school and informal education for girls and the reasons for dropping out; conduct case studies of various special programs in secondary education for girls to determine their characteristics, operation, popularity and effectiveness; and formulate policy recommendations for increasing female participation in post-primary education.

Impact of Mining on the Socioeconomic Status of Women (India)

Recipient Institution: Institute of Social Studies Trust (ISST)

Mining is a commercial activity that causes ecological damage. This project will make a detailed assessment of the costs and benefits of mining in Kumaon, an east-central Himalayan region of India, with primary focus on its impact on the livelihood of women. The environmental consequences of mining including legal regulations relating to safety, employment and wages will be examined. Researchers will examine the extent to which awareness of the adverse ecological impact of mining exists among villagers; attitudes towards cash-generating employment in areas where production for self-consumption is the norm; and possible solutions to reduce the burden of work for women and introduce alternative employment opportunities.

Impact of Social and Economic Change on Women (Ghana)

Recipient Institution: University of Ghana

This project will examine the impact of social, economic and technological change on the livelihood of Ada women living around the Songor Lagoon, a predominantly salt-mining region in Ghana. Researchers will develop a demographic profile of households in the region; examine the division of labour and access to resources within the household; assess the extent to which women's access to income has declined with the reduction of mining activities; examine the extent to which women have been able to develop alternative sources of income through farming, informal sector activities, handicrafts, remittances from migrants, or other means; and develop an information base about the economic activities undertaken by older and younger women.

Women and Urban Poverty (India)

Recipient Institution: Society for the Promotion of Area
Resource Centres (SPARC)

Nearly a third of India's population lives in cities, many of them in conditions of utmost poverty. Among these, women are the most easily overlooked by governmental and voluntary bodies. The society for Promotion of Area Resource Centres (SPARC) is a Bombay-based non-governmental organization which works directly among poor urban women. The majority of the women are pavement dwellers who, for want of any other affordable space, live with their families in hutments constructed along public sidewalks. This project will enable SPARC to work closely with the local women and undertake a series of research-and-action cycles on topics which have been identified by the women as central to their lives. The results will be two-fold: first, the women will be able to use information generated directly to improve their lives; second, a body of useful knowledge will be developed relating to central issues of urban poverty.

Women, Labour Markets and Crisis (Dominican Republic)

Recipient Institution: Centro de Investigacion para la Accion
Femenina (CIPAF)

The study will collect data on the living and working conditions of urban women in the Dominican Republic and on the characteristics of their economic, social and political participation. The research will focus on the nature of urban women's participation in the family, in the labour market and in political movements. Researchers will create a data bank with qualitative and quantitative information on urban women to develop programs and policies addressing women's issues in both the public and private sectors.

Weathering Economic Crisis (Barbados)

Recipient Institution: University of the West Indies (UWI)

Recent studies on the effects of the recession and accompanying stabilization measures have addressed macroeconomic and financial aspects but have not assessed the implications for low-income women. This project will generate information that may be used to improve the effectiveness of stabilization measures and, at the same time, ameliorate the negative impact of recessions on low-income women. Researchers will collect information on women's work responses in the face of recession and adjustment; examine the links between women's work patterns and changes in public expenditures, employment and household income; and help policymakers, in the short term, improve planning based on knowledge of women's work responses and, in the long term, structure policies to minimize the negative effects of adjustment. Field work will be carried out in Barbados and one other territory in the Eastern Caribbean region. The project will be part of a larger network of projects focusing on women's responses to recession-spurred economic crisis in the Latin American and Caribbean regions.

Women in Farming Systems (Thailand)

Recipient Institution: Thailand. Ministry of Agriculture
and Cooperatives

There is increased evidence women have been left out of the development process, that their role in farming systems is poorly understood, that technology and extension are seldom geared towards their needs, and, that many technological innovations have had detrimental effects on them. The Asian Farming Systems Network (AFSN) recently recommended the need for research on Women in Rice Farming Systems (WIRFS). This project with the Farming Systems Research Institute (FSRI), in Thailand links with the Thailand national and AFSN activities (some funded by IDRC). FSRI researchers will gather information on the role of women in a village in Central Thailand, paying special attention to the on-farm, household and off-farm labour demands, and relate these to family stresses. This information will then be used to assist in choosing appropriate technology to reduce drudgery, and to increase productivity, income, and food self-sufficiency. The evaluation of the results will be used to improve technology transfer at other FSR sites. In addition to linking to WIRFS activities of the AFSN, this project will also link with other IDRC-WID (Women in Development) activities.

Information Network on Women in Development (Costa Rica)

Recipient Institution: Fundacion Accion Ya

This project enables the private Costa Rican non-profit institution, Fundacion Accion Ya, to offer information and library services to researchers requiring information on women in development: social sciences researchers, decision makers, administrators from public and private sectors, women's groups, and students. Fundacion Accion Ya will establish a national information network on women in development, using the CEPAL-CLADES bibliographical description and indexing format. A national data base will be established and maintained, and a national bibliography will be published and distributed. In addition to programmed training of personnel in participating information centres, two information seminars scheduled for people using the network.

Regional Information Network on Arab Women (RINAW)
Preliminary Phase

Recipient Institution: American University of Cairo

Researchers working on the problems and issues concerning Arab women have little awareness of, or access to, information on the work of colleagues. A regional cooperative network in the Arab World is required to organize, preserve, and disseminate scientifically-based information relating to women and development within the region. Because of the difficulty of establishing such a network, the Social Research Centre (SRC) of the American University of Cairo (AUC) will undertake preparatory activities for the proper design and creation of the information network. This includes training of the project leader, information gathering about the region's potential network participants and a meeting of the potential collaborating institutions to prepare the grounds for the final design of the network.



Women in the Caribbean: Data Retrieval System

Recipient Institution: University of the West Indies (UWI).
Cave Hill Campus

The purpose of this project is to establish an automated retrieval system based on the data collected as a result of a major 1982 study on women in the Caribbean. The original data, collected between 1979 and 1982, were used to prepare project reports and research papers, but it has not been fully analyzed, and are not in an easily accessible form. The major output of this project will be a data base containing information on the lives of the women surveyed in Barbados, Antigua and St. Vincent as part of the Women in the Caribbean Project. In addition, user manuals for the data base will be developed and produced.

Women's Studies Information Centre (India)

Recipient Institution: Institute of Social Studies Trust (ISST)

During the past decade there has been a remarkable surge of interest in India in research on women's studies. An increasing number of universities offer academic courses on the subject and more than 100 independent research institutes are actively conducting research. The Institute of Social Studies Trust (ISST) has a special research emphasis on women at work. This project enables ISST to provide an information service on women's studies to research groups and government departments. This will provide a much-needed outlet for research on women's studies and should result in increased cooperation and exchange of information among individuals and groups researching the subject.