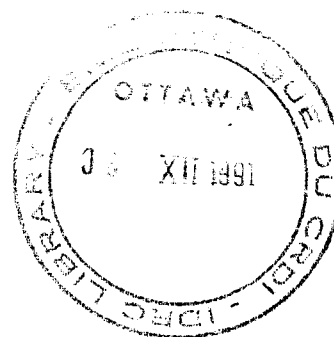




## Notes on

# IDRC'S EXPERIENCE WITH RESEARCH NETWORKS



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Terry Smutylo  
Office of Planning & Evaluation  
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## NOTES ON IDRC'S EXPERIENCE WITH RESEARCH NETWORKS

### 1. SOME DEFINITIONS

*" ... Information networks constitute a group of individuals or organizations that share a common interest and exchange information in various forms on a regular or organized basis."*

Akhtar, S. 1990

*"A network consists of independently administered units which have formed operational links either for the purpose of maximizing resources or improving the efficiency of their internal procedures ... "*

Akhtar, S. 1990

*" ... an agricultural network would be a voluntary association of research organizations with sufficient common objectives to be willing to adjust current research programs and invest resources in network activities in the belief that they will meet their objectives more efficiently than when conducting all research alone."*

Banta, G. 1982

*"An agricultural network is a group of individuals or institutions linked together because of commitment to collaborate in solving a common agricultural problem or set of problems and to use existing resources more effectively", (this defn. includes scientist, technicians, extension workers, farmer as well as institutions (national, international regional, donors, govt. agencies and agribusiness))*

Faris, D.G. 1990

### 2. IDRC'S USE OF RESEARCH NETWORKS

Since its inception, IDRC has funded a wide variety of networks and network-related activities. It has initiated networks itself; responded to requests from developing country institutions for network support; and it has joined with other donor agencies in creating and supporting research and research-supporting networks. These networks have enabled members to share information, germ plasm, technologies or research methodologies; or to combine efforts in order to solve problems of mutual concern. IDRC has come to see networking as an indispensable tool in the efficient pursuit of scientific research and technological adaptation for development purposes; and has found networks to be a highly adaptable mechanism for linking and meeting the needs of researchers in developing countries. In its first ten years of operation, 43% of IDRC's program budgets were associated with network activities. The Agriculture, Food and Nutrition Sciences Division and the Social Sciences Division were the most active in supporting research networks during that period. In the years since 1980, IDRC has supported approximately 75 research and scientific information networks globally, about one-third of these are in Latin America and the Caribbean.

IDRC has supported four basic types of networks:

- 1) horizontal networks linking institutions with similar interests working in the same general field of research;
- 2) vertical networks of institutions working interdependently on different aspects of the same problem or on different problems associated with the same commodity;
- 3) information networks to provide centralized information management services to members and users enabling them to contribute and share information as needed; and
- 4) training networks which provide training and supervisory services to participants working independently in their own research areas.

Within each of these four general categories there is wide latitude for variation. As voluntary associations of members sharing common interests who agree to exchange information or resources over a period of years, the form a network takes will differ depending on members' needs, the resources available and the kind of contacts established.

Whatever their basis, networks are not static but tend to evolve as participants learn more about each other, build relationships and discover opportunities. A number of authors have suggested three stages of networking based on the level to which the members are integrated, the degree to which they interact and collaborate. The stage of least integration consists of informal contact among members and exchange of information or material (germ plasm) through correspondence, electronic links or other media. The next stage, a greater degree of integration, would involve scientific consultation, meetings, and participatory links such as users groups or consultation workshops on particular problems. The third, or highest, level of integration would include more formalized relationships and exchanges, such as collaborative research, technical assistance, sharing of resources, and joint training arrangements.

In IDRC's experience, networks tend to move towards a higher level of integration as they mature. The process reflects growth in research capacity; in mutual confidence; and in the flow of benefits from the network. Authors who have referred to the different levels of network integration include: Broadbent (1988); Faris (1988); Winkleman (1986); Leonoff (1990)

### 3. LESSONS LEARNED

#### 3.1 Advantages

IDRC has found research networks to be effective in overcoming the isolation of scientists working in undeveloped research environments; pulling together the critical mass of resources necessary to address particular research areas; and in coordinating the use of research resources at a regional level. Networks can also increase the efficiency in the use of human and financial resources by reducing duplication of effort: by broadening the national base of experience and scientific knowledge; by economies of scale; and by making a greater impact achievable because of the greater attention accorded to multi-country projects. In 1987, a "Report on Networks" by Glover, Schaeffer, Krugman and Vitta identified a number of other benefits from research networks in the social sciences:

- **Comparative research:** key research findings which might be overlooked or taken for granted in a single case have much more validity if through horizontal networks there are complementary findings in other areas.
- **Specialization:** network components can concentrate on specific aspects of the problem, allowing for more effective use of resources. (vertical networks)
- **Methodological development:** by broadening the base of experience, both problems and experimental solutions, the opportunities for making methodological breakthroughs are increased.
- **Economies of scale:** by increasing the number of projects on one theme, a donor can afford investments which would not be feasible for single projects.
- **Transfer of knowledge from advanced to less developed countries:** the involvement of NIC's and LDC's in a network can result in learning both in research content and in research methodologies among the members.
- **Institutional surrogates:** in poor research environments a network can provide the researcher with elements which the home institution does not provide (access to literature, peer review, publication outlets, international contacts, etc.).

### **3.2 Disadvantages**

Network studies indicate a number of cautions in the use of research networks:

- The cost of coordination in terms of financial and human resources can be high.
- Coordination of a research network can be a daunting task, finding the appropriate institution or the individual with the skills to administer a network is often difficult.
- Non-productive networking activities can proliferate.
- Care should be taken to ensure that the network does not displace research priority setting at the national level, rather it should build on national priorities in defining its mandate and objectives.

## **4. RECOMMENDED COMPONENTS FOR SUCCESSFUL NETWORK OPERATION**

Given that a network represents a dynamic set of relationships serving the shared interests of its members, the possible variations and combinations of network features are many. It is not helpful, therefore, to try to specify in advance the particular form of network to be applied in specific instances. It is of primary importance, however, to establish a process whereby the network takes a form which effectively responds to the needs, shared interests and capabilities of its participants. The literature on networks abounds in advice on how to promote successful networks. Based on some of the recent articles and a survey of IDRC's recorded experience (as found in existing documents, papers and reports) some important considerations relative to initiating a research network are identified below.

### **4.1 Membership**

The identification and recruitment of appropriate members for a network is of critical importance. Network members must share a common problem or objective and be able to jointly define a common approach or strategy for finding solutions. In short, network members should be strongly motivated through self-interest to participate.

The network members should possess both long-term commitment and adequate technical competence to contribute to finding a solution. The inclusion of both strong and weak members in a network can work provided an appropriate balance is maintained and provisions are made for informal and formal training

depending on the scientific capacities of its members. Institutions in developed countries can make important contributions to developing country research networks. The participation of the Northern institutions needs to be managed carefully, however, in order that network relationships continue to serve the goals of the full network membership.

## **4.2 Coordination**

Coordination of network activities can cost up to 40% of network expenses. Although often costly, some form of coordination mechanism is essential. (Multidisciplinary networks add another level of required coordination in the technical sphere. This may be provided by the coordinator or by a technical consultant hired specifically for the task.) Coordination should either be handled by an experienced individual within a small coordinating secretariat or by an established institution. Wherever located, the coordinating function must be impartial in discharging its responsibilities; it must tread a fine line between providing control and direction while, at the same time, being accountable and providing service to the network membership.

## **4.3 Direction**

The key to ensuring that the network continues to serve the shared interests of its participants is participatory governance. Feedback and communication mechanisms are necessary to give members a say in the overall direction and management of the network. Leadership for the network can be provided by an advisory group or steering committee. This component defines the network's research agenda, provides a forum for cooperatively planning the use of shared resources, and fosters interdependence and trust to grow among network members. The mandate of the steering committee should contain a level of flexibility allowing it to evolve with the network, its capabilities and the interests of its members.

## **4.4 Structure and Organization**

A strong management administrative structure is essential to coordinate activities, manage resources and to ensure equal opportunity and equitable distribution of benefits among all segments of the network. The roles of network members and the responsible units must be well defined. The coordinator, the steering committee or advisory group, the project leaders, the project advisors/consultants and the network membership all need to know their own responsibilities and those of their fellow participants. Here too, flexibility and participation are key considerations so that roles and responsibilities can evolve as the network

matures. Given the diversity of networking models each with its own spectrum of variations, rather than trying to impose a specific structure on a nascent network, the initial framework should reflect the benefits expected and the level of integration anticipated by its members. This will provide the node around which the network can crystallize.

Consideration should be given to providing a mechanism to conduct external reviews of network functions every three to four years to ensure efficiency and cost effectiveness in its operation.

#### **4.5 Donor Support**

External resources are usually required, in addition to the contributions, made by national participants, to set up and coordinate network activities. In providing such support, donor agencies should recognize that a long term funding commitment is required. Networks take typically two to three years to begin to function effectively at a preliminary level of integration. Commitments of funding for periods in excess of 10 years may be required to bring a network to adequate levels of maturity, integration and viability. Whatever the intentions of the donor agencies with regard to the amount and the duration of funding, the time period for which funding will be made available should be stated at the outset. The network can then begin planning, at the very early stages, ways to ensure its post-donor viability. As the network matures and evolves, donors should be flexible in the activities they are willing to support. There may be considerable shifts in funding requirements. For example, training programs, essential to many networks, may give way to the need for technical assistance or small research grants as scientific capabilities strengthen.

#### **4.6 Relationship to National Research Systems**

While network structure and programming should reflect research priorities at the national level, it is unrealistic to expect national programs to relocate large amounts of their resources to fund network activities. Hence external support is necessary. The willingness on the part of national research systems to commit some funding, resources and staff to network activities should be balanced by a recognition of the exigencies faced by the national systems. The national members which should be seen as the basic network units.

Where an international research centre is a part of a research network (often as a coordinator) it becomes imperative and challenging to divide labour between the national and the international research institutions. As national research systems grow in capacity and compete more aggressively for scarce research funding, the onus is more and more on donor agencies to demonstrate the need for

international "centres of excellence". With the international agricultural research centres IDRC has found a trend towards more limited, specialized roles vis-à-vis the national agricultural research system, and a correspondingly increasing interest among national agencies in joint, collective action. Collaboration at the regional level is often seen as more useful and effective than the creation of international centres which may duplicate national programs or sap potential resources. It is essential therefore that, in the creation of a new network, clear and conscious attention be paid to this relationship: the division of labour and responsibilities within the network between an international centre and the national members.



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