



The Sustainability of Networks: An Analysis of the Findings from an IDRC Strategic Evaluation (1995-2005)

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Executive Summary

The International Development Research Centre (IDRC) has 35 years of experience in developing and sustaining international networks. In the fast-changing global context of the past ten years, it has found that sustainability means that a network continues to function until it achieves its goals, or until its members are no longer willing or able to continue, or until it becomes irrelevant. Sustainability thus has four dimensions: time, relationships, resources, and relevance. In order to be sustainable across these dimensions, network members and coordinators must cooperate in establishment of mechanisms to enable strategic management, internal management, external management, and financial management. Most importantly, however, members and coordinators must possess adaptive capacity that enables them to recognize the need for change and to respond appropriately to it.

1 INTRODUCTION AND METHODOLOGY

“Network” is a term frequently met in the field of international development. Although people use the word to refer to many different types of shared activity—for example, partnerships, joint ventures, conferences, and forms of international cooperation—most would agree that mobilizing a network is often an effective way to move an initiative forward. IDRC defines a “network” as a social arrangement comprising either organizations or individuals that is based on building relationships, sharing tasks, and working on mutual or joint activities. A network, in other words, is a forum for human exchange.

Central to IDRC’s understanding of networks is the primacy of relationships. However, having a common purpose is what makes it a network, not simply networking. Members are in pursuit of something together and are engaging in efforts to realize that goal. It may help to think of a network graphically (Figure 1). The triangles represent the *members*. The threads stand for the *relationships*, the communication and the trust. The threads link the participants voluntarily through communication, friendship, shared ideas, relational processes, conflict, and information.

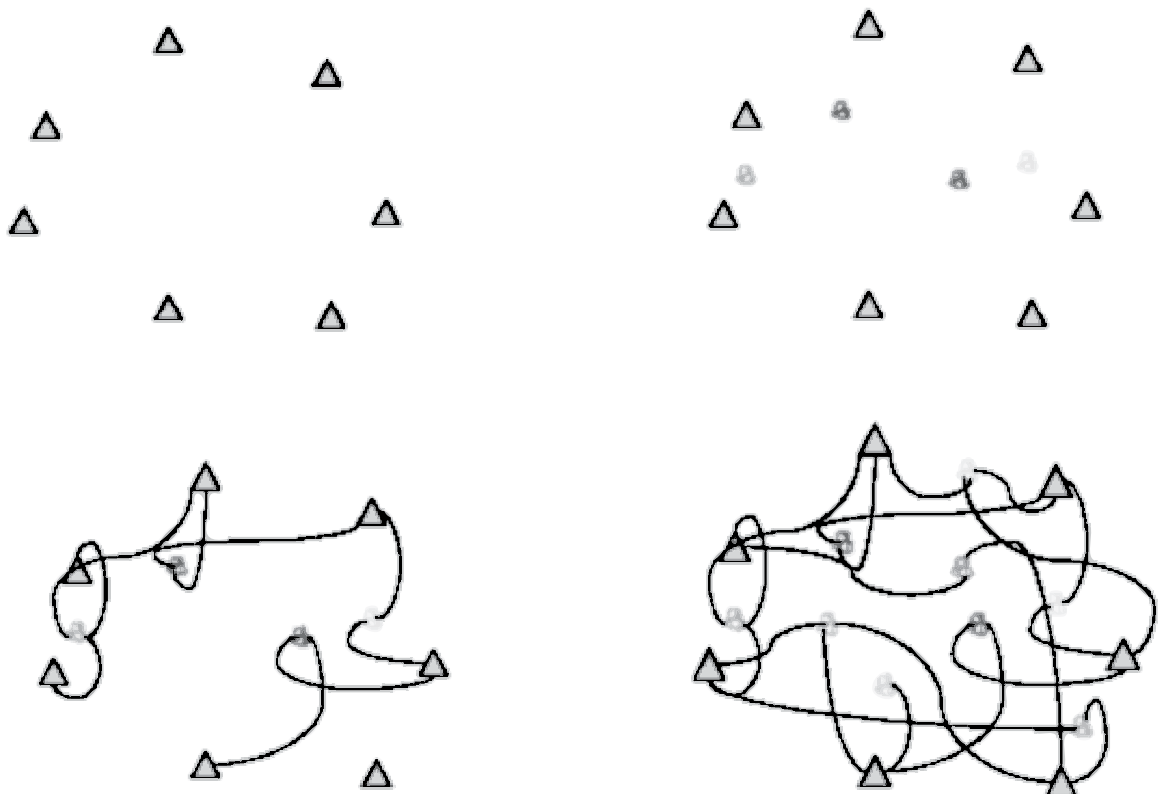


Figure 1: Threads, Knots and Net Network Model (Church, 2003)

The knots are where the threads the participants spin meet and join together. They are the *joint activities* aimed at realizing a common purpose. These knots of activity make the most of members' contributions, commitment and skills. The threads are given tensile strength by the knots that tie them together, as those common activities lead to greater trust, community, and relationship. The net is the structure constructed through the relationships and the joint activities, a structure which allows for autonomy in community, a structure which participants create, contribute to and benefit from. Network strength is developed through the density of relationships and activities which bind them together.

IDRC has always recognized the importance of networks in supporting development research, but now it has begun to systematically consolidate its understanding of these structures. Because the Centre's inventory of knowledge on networks has been scattered and buried in reams of documentation and in the tacit knowledge of staff and partners, this learning has been difficult to muster and to apply. In 2003, a group of IDRC staff voluntarily came together to form a learning community on networks. The network working group (NWG) is made up of staff from across the Centre which meets periodically to learn from one another's experiences, hosts a listserv, and shares electronic and print resources. In 2004 IDRC determined to bring to light the collective knowledge that, in company with its partners, it had assembled and stored. The Centre aimed to become more aware of the rich experience it has gained in working with networks during the past decade, and to share this experience more widely. A strategic evaluation conducted with the assistance of the IDRC Evaluation Unit has begun to unlock this information and so provide a resource that will nourish more profound discussions and effective networks in future.

The first stage in IDRC's evaluation was a straightforward document review that pulled together a wide sample of the tacit knowledge about networks that is held within the Centre's literature. The study concentrated on three core issues: the intended results of IDRC-supported networks, the sustainability of these networks, and the coordination and governance of these networks. Papers reflecting the documented IDRC knowledge and case studies on each topic were published by IDRC in late 2004 by Abra Adamo, Tricia Wind, and Ingrid Schenk respectively. All drew heavily on the last corporate evaluation work done on the topic – Anne Bernard's *IDRC Networks: An Ethnographic Perspective* (1996) as well as programme documents and publications published since that time.

The second stage of the process involved testing the "official" perspectives against IDRC's recent experiences through conducting key informant interviews and learning sessions with IDRC programme staff. Interviews were carried out in late 2004 by a staff member in IDRC's Evaluation Unit. Thirty-five people were interviewed covering 20 networks with 20 program staff, 3 project leaders, and 12 network coordinators. The interviews confirmed observations from previous studies regarding network evolution; member ownership and participation; role of evaluation; and social relations. They also led to the development of a preliminary framework for network planning by Terry Smutylo. In April 2005, IDRC 175 programme staff and collaborators met at the Annual Learning Forum in Ottawa to discuss the results of the first two stages, focusing primarily on the public policy influence of networks and their sustainability.

The third stage of the study was commissioning a telephone survey of network coordinators and members. The survey, conducted by Decima Research Inc in May 2005, sought to provide a profile of network coordinators and networks from 1995-2005; to assess the effectiveness of IDRC support for networks; and to examine network outcomes in contributing to the development of individual careers, member organizations and the society at large. In total, 110 network coordinators, from 80 networks, completed the survey providing a representative sample for the 1995-2005 period. The results of the survey suggest that networks have been very successful in achieving the goals set out by IDRC. Networks positively influence individual and organization capacity development, research quality and policy through their actions and interactions – and IDRC is a strong contributing factor in this success story.

The fourth - and final - stage of the evaluation has been the writing of analytical papers by external experts on international networks. These analytical papers seek to make the findings of the various components of the strategic evaluation of networks more useful and digestible to IDRC programme staff, project partners, and others interested in supporting international networks. They provide an analysis of the findings, draw conclusions, make recommendations and raise additional questions for the future.

As one of the analytical papers, this report focuses on the **Sustainability of IDRC Supported Networks**. Key sources of information for this paper included the papers by Tricia Wind and Ingrid Schenk, the 2005 ALF summary, Terry Smutylo's framework, and Bruce Currie-Alder's review of recent project completion reports. To preserve the readability of this report, credits for their analyses and examples have been included in an endnote rather than included in the main text.¹

It is important to note that while the first two stages of the evaluation provided rich information regarding network sustainability, the telephone survey of network coordinators did not address many details of relevance to network sustainability – e.g. levels of governance formality, financing, network external communications and influencing strategies as well as data regarding when and why networks may have come to an end. It is not therefore possible for this analytical paper to draw substantive conclusions regarding the sustainability of IDRC supported networks on anything other than an anecdotal basis. Further research will be required to capture additional details regarding the causes and effects of network change and collapse.

2 WHAT IS SUSTAINABILITY?

Within international development circles, the word “sustainability” refers variously to financial, administrative, technical, environmental, and cultural sustainability; and it is applied in different situations to processes, impacts, relationships, and to institutions. When IDRC is speaking of network sustainability, however, it tends to limit the discussion to the network mechanism itself – i.e., the formal or informal social arrangements which enable members to establish relationships and engage in joint activities. (Wind 2005)

Supporting long-lived networks may be of less concern to IDRC than sustaining the network's contributions to development. Networking is a means whereby IDRC seeks to build research capacity and support the production and use of research results for development. But, since the relationships created by networking represent an enhanced capacity for development research, the relationships themselves are goals of network support. Such relationships may continue to function within or outside of the network and independently of IDRC funding (Smutylo, 2005).

Given the enormous differences among the networks supported by IDRC, a single definition of sustainability may be neither possible nor practical. The best common definition would be: **“sustainability means that a network continues to function until it achieves its goals, or until its members are no longer willing or able to continue, or until it becomes irrelevant”** (Wind 2005). The three “untils” in the definition clearly indicate that sustainability has a time dimension that is linked to certain conditions - these being goal achievement, participants being willing and able, and relevance to context. (IDRC, 2005) A helpful approach may, therefore, be to look at the following dimensions of sustainability:

- Time
- Resources
- Relationships
- Relevance²

2.1 Time

The life-spans of networks vary. Sustainability does NOT mean that networks last forever. Longer lifespans do not necessarily mean more successful networks. Successful IDRC networks have functioned for between two years and more than two decades. 50% of IDRC networks are more than five years old. The majority (80%) of IDRC networks surveyed which have stopped functioning closed their doors between 2000-2005 (Decima Research, 2006), reflecting the end of a boom in networks started in the late 1990s.

An appropriate time frame for a network is partly a function of its purposes. Some networks that focus on *improving research quality* have had short time-frames. For instance, the Fiscal Reform and Structural Change network lasted only two years. Other networks which focus on improving research quality have had longer time frames. Those that bring together stakeholders to first define a research agenda, implement studies, share findings and then further define new areas of work can work together for many years. *Capacity building networks* have required longer time frames. For instance, the Asian Rice Farming Systems Network not only trained individual scientists, but it also built the capacity of national agricultural research systems to

undertake farming systems approaches to research. That was a long-term process that the network accomplished over its twenty-year lifespan (Chater and Carangal 1996:53). *Networks that focus on research utilization*, such as the commercialization of research results or policy influence, also vary in lifespan. Crucible I and II set short time-frames for their work to influence policy on plant genetic resources. However, policy influence can also require a longer-term time horizons. In the case of the Asian Fisheries Social Science Research Network (AFSSRN), the network began to undertake policy-relevant research only in its fourth phase. This focus arose only after it had built a base of research experience and developed a reputation that led to requests for policy advice from government officials (Carden and Neilson 2003:16).

Some networks emerge incrementally. Some networks began with the intention of only lasting for a single two or three-year phase. However, the members then decide to continue working together. For example, in 1989, researchers from ten IDRC-supported projects came together to form Mollusc Culture Network (MCNet). Although MCNet started as a single-phase initiative, the researchers involved sought to continue MCNet in a second phase. During the second phase, they decided to broaden the scope of the network from its technical focus to include social science aspects of the impacts of mollusc culture and aquaculture on coastal communities. They renamed the network the Coastal Resources Research (CoRR), and brought in social scientists and NGOs. Also during CoRR's second phase, the network birthed a new network focused on islands, called the Island Sustainability, Livelihoods and Equity (ISLE) network. IDRC went on to support CoRR into a third phase that lasted until 2000 (Wind, 2005).

Despite a considerable body of literature promoting the notion of finite lifespans for networks, there is still a stigma attached to closing a network down. Networks do not need to be sustained indefinitely. Ending a network is not necessarily a failure and can often be a necessary step in freeing individuals and institutions to develop new relationships and commit resources to new areas of work. Good practice in closing down networks should be recognized and embraced by mature networks and donors should not be led to believe that their investment will be sustained for an indefinite period of time. Nevertheless, there are currently no stories collected by IDRC of networks which have successfully completed their work and disbanded.

2.2 Resources

For IDRC, sustainability does not necessarily mean that networks are financially self-sustaining. IDRC does not assume that many of the networks it is involved with will be able to cover their full costs from the commercialization of research results, selling services, membership fees, or other forms of revenue generation. Certainly, these strategies have provided some income for some networks. However, most of the more formal networks that IDRC has supported rely on external support. Having said that, it is not sustainable for a network to rely only on IDRC or any single donor as its only source of income. 72% of IDRC networks report receiving funds from other organizations (Decima Research, 2006).

Resources include not only financing, but in-kind support from members and supporters as well. Sustainability requires networks to secure financial and material support from a variety of sources: donors, clients / users, members, hosts, and other stakeholders. Office and meeting space, communications tools, staff time, and introductions to key relationships can be as or more valuable than money at times.

2.3 Relationships

Since IDRC's concept of networks begins with them as social arrangements, the Centre emphasizes relational dimensions of sustainability. As Fitzgibbon writes, "Money supports programs, but programs are not the sum total of a network. People, relationships and personalities are what gives the network life and it is only when people use resources in a way that furthers the success of the network relationships, that a network is sustainable" (in Gross Stein and Stren 2001:91).

Quality of network relationships is more important than quantity. Growth of network membership is not necessarily an indicator of sustainability. Most IDRC networks (57%) report having grown in membership over time, with very few (3%) reporting a decrease. However, this means that 40% of IDRC networks have maintained a relatively stable membership size over time (Decima Research, 2006).

Sustainable networks do not necessarily have a static membership. Sustainability does not imply the same members continue their involvement throughout the whole life of the network. Indeed, the literature

shows that network members can - and in some cases, need to - change over time. Continuity is helpful when getting established, but once a network is established, turnover can be normal and healthy. For example, The University Partnerships in Essential Health Research network (UPP) was designed to last a long time, but to have members move 'through' the network. As they learned how to implement the practices of community-based medicine, they would move on and other institutions would join (Gelmon 1995:38).

Networks have a diverse membership, but this must be managed for the benefits to be realized. IDRC networks have a very diverse membership including 74% with universities and college members, 71 percent with NGO representation, 58 percent with government officials, and 56 percent with international research centre members (Decima Research, 2006). Diversity within network membership can stimulate creative thinking, encourage innovation, and expand reach. However, diversity among members can sometimes be too vast to bridge into productive working relationships. In one case, RDIMSEA linked researchers studying indigenous issues in South East Asia. Members spanned many divides, including: urban/rural bases, academic versus activist focus, local/outsider, Asian/Western cultural perspectives, different research agendas, different policy contexts, and different religious worldviews. As Michaud (1995:7) puts it, "in this case, it could almost be said that the populations under study had definitely more in common, despite their ethnic and historical particularities, than the people funded to study them. This observation leads us to think that there may have been confusion, in the mind of the architects responsible for this network, in wrongly assuming that organizations studying similar people are also significantly similar between themselves."

2.4 Relevance

In order to be sustainable, a network must fill a clear niche within the development context. The network must address an issue which is of deep concern to a critical mass of stakeholders. Network topics may be broadly or narrowly defined. What is most important is to articulate how the network fits within the constellation of other related networks. It may address an element of development which is not currently filled - whether this is topic, sub-topic, stakeholder group or a geographic region - or serving as a coordinating network of networks. Alternatively, the network may overlap in these respects with others, but undertake different type of activities - although this will likely be more difficult to secure funding support for.

A network needs to undertake work of value to members and external stakeholders. Bernard notes that networks generally are more sustainable when they both "create solidarity around a shared purpose and allow members to work together on common tasks" (1996:25). For example, EEPSEA's evaluation said, "the idea of national associations of environmental and resource economists in each major country is a good one for in-country networking. The groups working around a common theme or research problem are also mechanisms for networking but they must have a substantive reason for getting together. It is not networking for the sake of networking" (Bromley and Castillo 2000:35).

Networks must show progress in achieving their stated purposes. IDRC network coordinators report being successful in achieving their stated purposes (58% very successful, 28% somewhat successful). However, fewer network members share the same levels of exuberance - 36% of network members report the network being very successful while another 45% report being somewhat successful (Decima Research, 2006). While only 33 network members responded to the survey - making it a non-representative sample of members - it is important to note that networks which do not show progress will not garner the support from members or donors necessary for sustainability. For example, one network was deemed unsustainable because the project leader spent more effort building the structure and support for the network than ensuring it produced useful research products. The PCR comments, "The recipient's approach to networking was 'build it and they will come', but did not adequately address the issue of how to populate the network with quality results over time. The support could not be sustained because few tangible results emerged from the project, either in the form of solid case studies or useable conflict management methodologies and training material. The network remained a shell animated by the project leader".

In addition to being externally relevant, it is critical to maintain internal relevancy. As Bernard states, "While use of a network's products is one condition of its being sustained, it rarely seems a sufficient one. More important to sustaining continuity than what the network produces for clients appears to be what it provides its members by way of personal and professional satisfaction" (Bernard 1996:22).

2.5 Conclusion

To endure and achieve its goals, *all* networks must establish formal or informal mechanisms to sustain its relationships, resources, and relevance in a changing world. How a *particular* network evolves over time may be very different though. The life-cycle of a network can be seen as its organizational growth from initiation to a mature stage of operations. There are four different stages in the life of a network: the start-up; growth (increasing, decreasing or constant); decline leading either to closure or renewal; and long-term sustainability. Life-cycle analysis investigates how and when positive and negative, external and internal factors cause the network to experience either an expansion phase or contraction phase during each period of operation (Creech and Ramji, 2004).

The following two sections outline the factors which are most critical to surviving the growth and decline phases of a network cycle in order to achieve long-term sustainability. Each success factor contributes to the network's relationships, resources and relevance in a constantly changing international development context.

3 GENERAL SUCCESS FACTORS

Like most donors, IDRC is under pressure to demonstrate quick results for the resources invested within a two- to three-year funding cycle. However, common wisdom (see, Bernard 1996; Creech and Willard 2001, Church 2003) about networks says that:

- networks are expensive;
- they require a lot of effort to coordinate, especially at the beginning; and
- they may require five to seven years' investment before achieving top productivity.

So how can IDRC help ensure success in the networks it supports? How can it help the networks be sustainable enterprises that will get past the labour- and cost-intensive first years, and into the more productive phases? And how can IDRC help these networks continue to flourish past the end of donor funding?

From the past ten year's of experience, IDRC's experience indicates that the following are the crucial elements required to build a network capable of lasting for the duration of time required to achieve its goals:³

- Strategic Management
- Internal Management
- External Management
- Financial Management

These management capacities must be available throughout the network, but particularly within the network coordinator – whether this is an individual or an institution. As we will see in Section 4, however, while these capacities are necessary they are not sufficient to ensure sustainability.

3.1 Strategic Management

Establishing a “core vision” or “common concept” helps to bind network members, to generate cooperation, and to influence the exchange of information between network members in different geographical, institutional, or disciplinary settings (See for example, Evaluation Unit 1996; Bernard, 1996; Smutylo and Kaola, 1993). Citing UNCTAD, Creech and Willard (2001:69) note that the “identification of a concrete, widely shared problem or goal is generally highlighted as one of the key pillars supporting networks. Networks that fail to develop such a focus do not survive their infant years”. At the strategic level, therefore, coordination considerations need to take into account the activities that help establish the vision for the network.

Reinicke and Deng (2000:69) point out, however, that vision is not a “panacea” for coordinating and managing the often dissonant expectations of network members. Rather, they suggest that a vision often emerges as the result of the interactions and negotiations that occur between network members. A large number of IDRC's networks appear to have begun with an idea from which a stronger vision was expected to be negotiated and developed through member interactions. For the Asian Fisheries Social Science Research Network (AFSSRN), for instance, it was not until the third phase of activity that there was a sufficient number of active researchers that understood the

merits of the network to support knowledge generation and problem solving... [only after which] the

network was able to develop and consolidate its identity and see itself as a force in the domain of fisheries and resources management policies (Carden and Neilson, 2004:15).

These observations support the theoretical perspective offered by Creech and Willard (2001) who suggest that every network should begin with a “scoping phase” to explore member interests and to provide a means to define the expectations among members for working together. However, the capacity for a network to establish a clearly articulated vision can not be taken for granted even in a scoping phase. There are many instances in which a vision – or viable research concept – did not emerge. Members may simply want too many issues and too many constituencies addressed simultaneously.

The network may also have trouble achieving a common vision if it has too many purposes (e.g. skill-building, conducting research, policy advocacy). Rather like blind men describing an elephant, members and coordinators may all describe and focus on only a specific sub-set of purposes of direct interest to themselves. This may be a particular challenge for IDRC-supported networks, three-quarters of which report having four or more purposes. Network members (88%) are as likely as network coordinators (91%) to mention skill-building as a network purpose, but are less likely to mention other purposes as network coordinators. Network members mention building the research capacity of membership (55% vs. 74%), to conduct research (55% vs. 66%) and creating awareness (45% vs 66%) as network purposes. Members surveyed never mentioned policy advocacy, which was listed as a network purpose by 81% of coordinators (Decima Research, 2006). Given that IDRC staff tend to be very involved in the development of network content and goals from the start-up (90% of network coordinators report IDRC being either very or somewhat involved), they have an excellent opportunity to encourage networks to be realistic in defining their objectives (Decima Research, 2006).

There are benefits to leaving expectations about network lifespan open ended. The incremental and evolutionary growth of networks makes it difficult to establish firm targets related to their lifespan. An estimated 85% of IDRC-supported networks were projected to continue beyond their current phase, but were “consistently vague about exactly how long IDRC and network members expected the networks to last.” (Wind, 2004:10) Interviews with IDRC staff and network coordinators reveal that this is related to three issues (Smutylo, 2005):

- At the planning stage, neither the network structure nor its constituent relationships have been formed, so it is too early to discuss how long it will last. As one staff member put it: “How can one think about the lifespan of something that does not yet exist?”
- Being open-ended about lifespan is sometimes perceived as helping to maintain donor expectations of and openness to providing longer-term funding.
- Many incipient networks may not see themselves, nor be seen by others as putting together a network. Many see themselves as simply a collaborative effort to create a resource which would carry on embedded within existing institutions.

Nevertheless, a compromise may be to establish timelines for network members and external evaluators to review progress towards goals and to determine whether the network continues to have sufficient relevance, resources and relationships to continue its work. These timelines are often linked to the phases of the network’s funding.

3.2 Internal Management

While many people still associate networks with informality, those that last tend to establish clear norms and processes for managing internal relationships. According to Bernard (1996:22) “as multiple-site, loosely-coupled social organizations, networks function most effectively when they develop processes for creating a sense of membership, for bringing in new members and letting others go, and for establishing credibility of the work done. In other words, establishing and managing a recognizable organization”. Over the past ten years, IDRC-supported networks have increasingly begun to look like well-managed distributed organizations.

3.2.1 Institutional Home

IDRC believes that some formal networks can become more sustainable if they have an independent status or at least a stable institutional home. Some networks flourish as loose, informal, decentralized,

non-institutionalized sets of relations for a long time. However, finding an institutional home has been a factor that assisted in the sustainability for some networks wishing to become more visible, take advantage of the services and expertise of a host institution, and garner resources in their own names. Within an institutional home, networks can secure funding more easily, since they become more a recognizable entity than a loose set of relations among researchers and other stakeholders (Conseil Equilibrio 1999). Three-quarters of IDRC-supported networks (73%) have stayed in the same organizational home since their start.

Networks should be rooted at the level from which they will eventually need to seek sponsorship and at the level at which they expect to act or have impact. Goldsmith (1995:19) noted that because donor fatigue will inevitably set in, networks must have some grounding in research institutes or governments to which they can eventually devolve. She argues that these actors ought to be involved in creating or at least setting the direction for these networks so they will have a sense of ownership over them and a vested interest in the success of the network. Bernard described this strategy as follows:

Where possible, housing network coordination in one of the member institutions is seen as preferable, under certain conditions. For example, that the network agenda is mutually agreed among all members; that the host institution as a whole is implicated in the activity and . . . feels the job is important for its (own) work (Oil Seeds Network/East Africa); and that adequate support is given for professional support and membership co-ordination (resources donors and hosts often underestimate in network planning). It is also important that housing the network results in broader institutional gains for the host; that it is not being overwhelmed by adding yet another project activity, but is realizing effective synergies from it. (1996:35)

A challenge to IDRC's PIs may emerge in the future as they support regional networks to address trans-national issues (such as trade in the Mercosur, HIV/AIDS in agriculture, peace-building in the Horn of Africa, ecosystem health, and biodiversity issues that span ecosystems instead of national boundaries), for which it may become harder to find appropriate regional institutional homes.

3.2.2 Leadership

Leadership is key to network sustainability. Leadership is the process whereby "leaders influence the attitudes, behaviours, and values of others towards organizational goals (Vecchio, 1995 cited in Lusthaus et al. 2002:43). Leadership capacity is needed to communicate ideas, build consensus and internal cohesion between the various members and stakeholders of the network, include members in network operations, and manage and build relationships with donor agencies and external players. In earlier stages of network formation, this form of leadership can come from IDRC staff or key partners. To coordinate a network, leaders require facilitation skills (such as convening members, fostering participation, negotiation) in addition to more typical project management skills (such as administering grants), research capacity (such as conducting research and disseminating experience) and strong knowledge of the subject field of the network. Facilitation skills are especially important during network formation, while network members learn their relative responsibilities and roles. Facilitation skills are also essential in network structures that depend on a key member to act as a coordinating node to maintain the network, such as so-called 'hub-and-spoke' structures. As an IDRC Program Officer stated in a network project completion report, IDRC needs to support and enhance leadership skills of network coordinators, such as the ability to assess when to use which modalities of networking among members. It also needs to help network coordinators understand and prioritize the vast array of roles they may be called upon to play. Over 50% of network coordinators report being involved in twelve of fourteen network roles. The most prevalent participation takes place in the dissemination of research results (85%), promoting the network (83%), organizing conferences (83%), facilitating communications (81%), and presenting at conferences (80%) (Decima Research, 2006).

Paid, full-time coordinators invest more time and effort in network coordination. While almost 40% of coordinators of IDRC-supported networks are volunteers, over one-half of volunteer coordinators spend less than 10 hours per week working on their network. By contrast, 60% of paid coordinators work more than 20 hours per week on average. Paid coordinators are also the most likely to report the majority of their individual members being located in the developing world (Decima Research, 2006). This likely reflects the reality that it simply takes more time to identify and to engage members from the developing world. English, in his review of seven African Networks concluded that:

any long-term network for research capacity-building in Africa probably requires a minimum critical mass, including a full-time coordinator, to make a real difference. The prevailing incentive structure is not sufficient to motivate either researchers or the coordinator to take a sustained interest in a “part-time network” (English, 1995:4).

IDRC-supported networks have tended to recruit relatively senior professionals as coordinators, with 80% of coordinators being over age 40. This likely reflects a collective sense of the need for management experience in order to deal with the challenges faced by networks, as well as the seniority and reputation of the coordinator in order to maintain the network’s relevance and relationships. However, IDRC survey data indicates that in comparison to their older counterparts, coordinators *under forty* are more likely to grow the network, recruit more organizational members, draw in more members from NGOs and governments, and to be involved in disseminating research results (Decima Research, 2006).

In networks where there is no coordinating node, leadership should be more distributed among network members. Such networks have a greater degree of connectivity among members and represent more so-called ‘all-channel’ structures. In such situations, leadership depends to a greater degree on network members being active participants, taking responsibility for network tasks and negotiating their respective roles. In other words, simpler networks –and networks in formation– depend on the leadership skills of a select number of individuals that act as coordinators; whereas in more established or less formal networks, leadership depends on the skills and active participation of the network members. In particular, network sustainability is enhanced when members share in research tasks such as collecting and analyzing data, disseminating experiences, and conducting evaluations. IDRC-supported networks appear to engage their membership well in these types of activities; two-thirds of surveyed network members (67%) are involved with disseminating research results, 58% assist with conference organization, and 58% present at conferences while 52% report acting as facilitators. In all other roles, however, less than 50% of members report participation (Decima Research, 2006).

Common network leadership roles (Decima, 2006):

- disseminating research results
- assisting with conference organization
- presenting at conferences
- forging new relationships for the network
- coordinating research within the network
- conducting research within the network
- mobilizing resources for the network
- providing training to members of the network
- financial administration of the network
- monitoring quality of research within the network
- providing technical and/or computer support to network members
- working on consulting reports on behalf of the network

3.2.3 Membership Structures

Given the centrality of relationships to sustainability, it is essential for networks to have clear membership structures that govern who can join the network. While it may take time to foster and codify these social arrangements (Evaluation Unit, 1996:8), it is time well spent. IDRC has broad experience with various network membership structures. In some, membership is restricted to selected individuals or institutions, and others that are open to anyone who is interested in participating. These different approaches also have implications for sustainability.

In his review of Canadian Centres of Excellence, Clark (1998) argues that “closed” or selective networks can become prestigious. Clark argues this kind of network attracts high quality members and produces high qual-

ity results that allow it to attract funding and investment that assure its continued existence. Other networks are selective to certain categories of members, for example, researchers, NGOs, policy makers, and industry. For example, the African Economic Research Consortium (AERC) faced the question of whether to open its membership to include policy makers. An evaluation of the Consortium recommended against this. The evaluators warned that the inclusion of policy makers could undermine AERC's independence. As members, policy makers might pressure the network into responding to their concerns in ways that could fragment or rush its research program, and thereby undermine its quality. These potential problems could undermine the sustainability of the consortium. (Henderson and Loxley 1996:77,78, see also Habito et al. 2004:10).

On the other hand, Creech and Willard point out that especially in international development circles, inclusion can be a high normative value (2001:21). Inclusion can also be a practical imperative, as seen in multi-stakeholder processes which would be undermined if they were seen to be excluding key stakeholder groups or perspectives (Reinicke 2000:79). Inclusion, thus, can support a network's claim to legitimacy and accountability, without which it would be unsustainable. Moreover, reflecting on the experience of the Macroeconomic Research Network (Latin America), IDRC staff wondered whether part of the reason the network became irrelevant and eventually dissolved was because its membership was not sufficiently open. However, open networks may face a challenge in maintaining high quality processes and outputs. Church et al. (2003) argue that cajoling and discipline (such as that described in Clark's review) have no place in an open knowledge network, where people or institutions join together voluntarily and have the freedom to participate at whatever level they choose. Willard and Creech note that it is difficult for a network to enforce performance standards or insist on deliverables, especially when members are individuals, not institutions. (2001:91)

Most networks that IDRC supports are closed networks. This tendency has become more pronounced over time; networks created after 2003 (69%) are more likely to have closed membership, as opposed to pre-1995 networks (39%) (Decima Research, 2006). This reflects both the collective learning on network effectiveness as well as the evolutionary nature of many of the networks. Networks that scale up results from previously supported projects tend to identify researchers and others who ought to be included, and work with them to further develop research, policy, dissemination and other activities (e.g., CoRR). Since there seem to be advantages and disadvantages for open and closed networks in terms of sustainability, a network might try a balanced approach. Creech and Willard (2001:21) suggest that a closed network could invite outsiders to participate in workshops or e-conferences. Alternatively, it could open associate memberships for specific activities and working groups.

IDRC's documents about networks often raise the question of whether to have institutions or individuals as members. In terms of network sustainability, **evidence suggests that institutional membership has advantages over individual membership.** However, there are trade-offs. Individual membership respects the fact that individual people bring the energy, ideas and momentum that drive a network (Church 2003). Moreover, it is easier to get collaborative work done by groups of individual researchers than by trying to get institutions to align their priorities enough to undertake a common effort. Individuals acting in their personal capacity can also be more flexible in participating in multi-stakeholder negotiations and consensus-building (Stratos 2002:32). Networks may also be able to reach a broader range of members when they move beyond people attached to traditional research institutions (Habito et al. 2004:35).

However, institutions can provide continuity, resources, on-going mandates and broader circles of contacts and influence that help toward sustainability. These are expanded on below:

- **Continuity:** When individual members leave a network, they can leave gaps that are hard to fill. Institutional members replace departing representatives, ensuring continuity despite staff changes (Creech and Willard 2001:75).
- **Resources:** While individual members bring their energy, ideas and commitment, institutional members can support these contributions with office space, on-going salaries, administrative and ICT support for their representatives in the network (Tandon 1995:19).
- **On-going Mandate:** An individual is accountable to herself and other network members for her involvement. When institutions are members, their representatives are also accountable to their home institution for their participation. Institutions link network priorities with their institutional mandates, which

can be more durable than personal commitments (Creech and Willard 2001:20).

- **Broader circles of contacts and influence:** When an institution is a node within a network, it acts like a network within a network; institutions have their own circles of contacts and influence that are generally broader than those of individuals (Creech and Willard 2001:59). Especially when seeking to influence policy, or finding funds for the network, this can be useful.

It may be possible to find a middle ground between individual and institutional members. 65% of IDRC-supported networks include both organizations and individual members. It is possible that this reflects an implicit understanding that network sustainability requires a combination of institutional commitment and individual ownership and participation. These more complex hybrid networks are generally smaller in terms of membership. Older networks (those created before 1995) are far more likely to report having more than 50 individuals in their network (73%) than networks created between 2000 and 2002 (32%) and those created between 1995 and 1999 (30%). The median number of individuals in a network is forty and the median number of organizations is sixteen (Decima Research, 2006).

IDRC-supported networks frequently operate at multiple geographic levels and/or thematic sub-issues and establish themselves as networks of networks. A common strategy shared among many of the networks included the introduction of an intermediary institution or process that would function as a bridge between the various levels of networking. Within these networks, members assume special duties as focal points. In the Cities Feeding People Program Initiative, for instance, because RUAF partners considered themselves as “regional” focal points, they cooperated very little with city-based NGOs, also part of the network. The external evaluation therefore suggested that what was needed was a ‘network of networks’ that encourage the development of linkages with city NGOs. The use of “city teams” designed to link researchers with policy advisors and urban planners at both the city and regional levels was another strategy used to overcome the problem of networking within and across the different levels or types of network members (Whyte and Drescher, 2003).

Most IDRC-supported networks contravene the common wisdom of absolute equality of membership within a network. Most networks have arranged tiers of membership and involvement according to the willingness and ability of members to engage (Wind 2005). “Circles of participation” describes how members engage in a network to different degrees, and their participation changes over time. Some members may only want to receive information from the network. Others are involved in specific initiatives. Still others are very active, have a long-term commitment, and take on leadership roles. A dynamic network may see people redefining their role frequently. Inclusion in decision-making depends on a member’s level of participation (Church 2002:29,30).

Many networks have benefited from including donors in their membership structure. While the literature usually warns against the power imbalances which are inherent in having donors as members of a network, IDRC has frequently been invited to participate in the networks which it supports. This is because in addition to financial support, donors provide other in-kind supports and opportunities, which also contribute toward sustainability. For instance, IDRC has provided access to library and information systems, opportunities to host or participate in donor meetings, international expertise, advice and support on research activities, and publishing venues. Donors usually also possess a good macro-level understanding of issues the network is addressing and how these relate to other issues and across regions. Tapping into donors as “network intelligence” which can support decision-making is useful even in networks which may decide not to allow donors to participate in network steering committees or other forms of formal decision-making. In addition, networks like the EEPSEA and AERC have donors in a “sponsors group” or on their boards, and charge them with further fundraising. These networks are careful to avoid conflicts of interest or letting donors sway the research agenda; they have separate bodies to oversee proposal adjudication and academic programs. As an example, project completion reports indicate that the Network on Studies on Regional Integration in East and Southern Africa thought that the European Union (EU) might be a potential funder, given its obvious interest in regional integration issues. The network invited a staff person from the EU to be an associate member of the Project Management Committee. Out of this relationship, the EU agreed to fund Phase II.

3.2.4 Decision-Making and Participation

Participation is at the core of what makes a network different to other organizational forms. In this regard, one of the major challenges in coordinating network members is attracting and maintaining the participation of members to achieve the goals and vision of the network. Bernard (1996) argues that networks function most effectively when they develop processes that create a sense of membership so that members see value in acting collectively to build on what others bring to the network. Addressing issues such as roles and authority, ownership, trust, transparency and accountability, and motivations and incentives can contribute significantly to network sustainability.

The motivations of network members to participate in the network will directly impact its sustainability. Individuals and institutions join networks for a wide variety of reasons. These reasons may range from gaining credibility, to pleasing existing partners and funders, to accessing potential sources of funding, to seeking channels for the distribution of their knowledge. Over time, as the network and individual members evolve, their motivations for continuing involvement may change, leading to increasing or decreasing levels of participation. Incentives and rewards for participation can be better designed if there is a base level understanding of motivations, and a regular assessment of how motivations may change.

It is important to create an appropriate incentive structure to encourage member participation. Matching incentive structures with reward mechanisms is what Church *et al.* (2003) refers to as “circles of participation”. Members should be able to choose to participate at the level that they feel is most appropriate. As one network coordinator noted,

The biggest challenge has been providing an appropriate incentive structure that users' of the network to buy into. It is relatively easy to set up a skeleton of a network, the biggest issue is how do you convince busy sector professionals to stop what they are doing, read what you are circulating and encourage them to respond. (GARNET Administrator, Cited in Conseil Equilibrio Consulting, 1999:14)

Incentives for network participation may include such things as: recognition, access to network events and communication tools for both gaining and disseminating knowledge, access to small grant competitions, access to travel funds, and the ability to participate in network projects.

In the external literature, Creech and Willard (2001) discuss the problem that arises in persuading a network member to meet timelines and produce deliverables, particularly if the member does not feel a sense of ownership toward the network. The GURI network, for example, emphasizes the use of a centralized coordination unit that maintains tight administrative control (MacLean, 1999:119, in Stein and Stren, 1999). Regarding removing members from a network, the GURI evaluation reported that:

when members 'weren't pulling their weight' or were causing difficulties for the network, the coordinators' only recourse was to point to the stipulations in the research contracts. In addition, occasionally members who had joined GURI in one phase of research were 'out of sync' with the new perspectives in the next phase; nevertheless, they would insist on staying in the network – perhaps for financial reasons – and there was nothing that could be done about it (Maclean, in Stein and Stren 1999:89).

It is critical for networks to establish a well-thought out governance structure that clearly reflects the distribution of authority among network members in terms of how the roles, rules and responsibilities among network members are defined and distributed. More sustainable networks appear to have clear understanding of the role each member plays within the network and their associated responsibilities. Not all members necessarily have the same role, and indeed different members can contribute different skills and resources to network activities. In project completion reports, IDRC program officers noted that ‘clarity in terms of network structure and management’ is especially important in more geographically dispersed networks and that clarifying member roles and responsibilities is particularly vital within networks that have a heterogeneous membership. Such heterogeneity exists in networks where members have different levels of power and resources, such as farmers and government experts, or where members come from different cultural or institutional settings, such as an international research organization and national governments.

Networks vary in size, diversity of members, and geographical dispersion creating complexity for establishing clear lines of authority. For the Central American Industrial Support Network (CAISNET) network,

establishing authority relations had been a major factor inhibiting the ability of the network to achieve its objectives. A recent external evaluation noted that:

the CAISNET steering committee was poorly structured, the decision-making authority of the committee was not clearly identified, and committee decisions were not adequately communicated. As a result, it was difficult to identify which organization owns the diagnostic tools. Each of the organizations involved in the network – CODETI, the Industrial Chambers and Associations, the Units, CIDA, IDRC, CONICIT, the Units and FECAICA, appear to have a legitimate claim to “ownership” based on the multitude of uncoordinated, signed agreements related to this ‘project good’ (Paterson, 1998:7).

In turn, the inability to establish clear lines of authority for CAISNET created further problems, specifically, it led to “a lack of clarity of what the network is itself... the current Steering Committee (as constituted by FECAICA) has an identity crisis and an authority vacuum. It is unsure which project it is monitoring and what authority its decisions have” (ibid, 46,50). From a similar perspective, the Oilcrops Research Network sought to establish a ‘championship group’ to maintain the overall vision of the network. In actual practice, however, the establishment of the group was done without developing a clear definition of the composition of the group. Moreover, because there were no organized groups/associations that represented stakeholders groups, members of the champion group often represented their own, rather than a group interest (Mbwika and Mburu, 2004:39). Overall, the above evidence emphasizes the importance of how the distribution of authority contributes to the coordination of network operations. The findings seem to suggest that there is a positive correlation between the delegation/assumption of authority by members of the network for different roles and their sense of ownership of the network.

Ownership implies that members feel they drive the network as a whole; they do more than just contribute to some of its activities. For example, one evaluation reports that members did not feel a high level of ownership of networks supported by the International Livestock Centre for Africa (ILCA). Members reported that they felt their contribution to the networks was to do research and offer opinions on network activities. They did not feel that managing the network or deciding on its agenda was their responsibility. They felt the networks belonged to ILCA, rather than to the members themselves. Notably, members reported that horizontal communication within the networks needed improvement, and stated that their interactions were undermined by language barriers. This lack of horizontal interchange may have been the reason that members were left feeling *responsible* to an oversight body, rather than *responsible for* the network as co-creators of a jointly-owned and jointly-driven network.

In terms of network publicity, the International Model Forest Network built ownership by getting members, rather than the secretariat staff, to advocate for the model forest concept at conferences and in international presentations (Armstrong et al. 2000:22). Fund raising, critical for many networks described in the documents, was sometimes devolved to members to increase ownership. In the example of the Climate Change Knowledge Network (CCKN), the network had funds for its initial operations and proposal development. From there, members sought donor funding for the projects that the network had reviewed and approved. Thus, fundraising was not the sole responsibility of coordinator or the central secretariat –members raised money for network projects (Creech and Willard 2001:79). Partly arising from this experience, Creech and Ramji argue that sharing responsibility for fundraising is “an important signal that the network is in fact operating as a network rather than as a collective of grant recipients” (2004:13).

Networking relationships can take a long time to develop, but once established can be characterized by high levels of trust. In a network context, trust includes confidence in one’s partners to deliver on projects, to disclose conflicts of interest, and to not compete directly for funds in the network’s area of work. Trust appears to be a critical factor that underpins all member interactions in networks which, in turn, facilitates cooperation and the voluntary transfer of information between network participants. Ironically, high levels of trust in a network may result in a network which is characterized by higher levels of conflict between members; trust allows members to voice their beliefs and opinions which may be contrary to others in the network. Properly managed, such conflict can lead to better understandings of issues and a greater ability to collaborate within the network.

Some networks start out with trusting relationships while others take time to be built. A key factor contributing

to the early dynamism and growth of the Macroeconomic Research Network (Latin America IV) was that the network was built on strong personal ties (even friendship) among key researchers in the member institutions (PCR 002879). Similarly, the TIPS network (within the TEC PI) also began with certain advantages, foremost of which was the high degree of trust that arose from personal contact (Fine *et al.*, 2001). On the other hand, for the Telecentre Evaluation Network in Latin America there was no prior relationship between network members. The initiation of a collaborative networking approach, therefore, was slower to take off (PCR 100225). The external review of the CBDC network also points out that it took years (equivalent to the duration of the first phase) to build trust and mutual respect among network members (Universalia, 1999).

Based on the available evidence, it would appear that trust-based relationships can emerge through both personal relationships, over time, as well as through the processes designed to encourage member interaction. The external evaluation of the EQUINET network explains that even though network members shared similar values, members generated trust through several measures which included having credible research done by the network, by organizing effective workshops and by following through on commitments (Rutherford, 2004). Network members may also trust in the functions of the network if there is transparency and accountability in the processes underpinning the network operations.

3.2.5 Internal Communications

Clear and timely internal communications underlie all aspects of network participation and decision-making. Members must know what is happening, what other members are doing, and what is expected of them. Networks must develop structures and norms for two types of communications:

- Vertical – Between members and network coordination units (including sub-structures like regional focal points or nodes)
- Horizontal – Directly between members with common interests and activities

In general, **most networks have stronger vertical communication structures than horizontal communication structures.** This is because vertical flows can rely heavily on the coordinator as a focal point for distributing and seeking information. The results are often good. For example, within the IMFNS network, one interviewee noted, “there is active and regular contact, she [IMFNS Staff member] has a very high level of interest in the model forest and is aware of and knowledgeable about almost every subject. She keeps up-to-date about our activities and problems. Another interviewee stated that “it is a dynamic relationship, by phone, Internet, personal visits, the exchange of information flows both ways and very rapidly” (Armstrong and Whyte, 1998:3).

Horizontal communications, on the other hand, require a greater investment in building the capacity of members and in fostering their ownership of the entire network. Michaud (1995) discusses an experience in the RDIMSEA network where some nodes, even though they were connected to a larger network, only communicated within their portion of the network. In this example, one of the reasons cited for the lack of information flows between the larger network and the small portion of the network occurred because the interests between the two levels were only loosely related. Further, the links between the two levels were mainly established as a result of an external effort to expand the network, and not because of the internal demands or needs of the participants. This latter observation suggests the role that social relationships have in influencing information flows.

Many networks in international development start as a hub-and-spoke arrangement, with most information, ideas, and projects all coming through a central coordinator. However, in some cases, this arrangement becomes quite costly in terms of time and resources for the coordinator. Creech and Willard argue that networks which facilitate interchanges among members are more likely to develop ownership, maturity, and ultimately, sustainability (2001:65,66). IDRC-supported networks have tested different *strategies for encouraging horizontal exchanges among network participants*:

- The African Technology Policy Studies (ATPS) network decided to launch *cluster projects* to link members from different kinds of institutions, and pick interdisciplinary topics like biotechnology and bioengineering that would encourage new teamwork (Chudnovsky and Makhubu 1996:5).
- The Sustainable Development Communications Network (SDCN) helped member organizations get

interns to help implement network activities. The interns became the “glue” for the network. Their presence was a physical reminder of the network, their work accomplished network activities within the organization, and their contracts linked organizations to the international coordinating unit (Creech and Willard 2001:22)

- The International Forum for Rural Transport and Development’s (IFRTD) *newsletter included only short summaries of people’s work*, with a contact address, as a way of encouraging people to contact each other directly (Church 2003:31)
- *Face-to-face communication* stands out as a key way of getting members to interact with one another. In the Global Urban Research Initiative (GURI), not all members regularly communicated via email, and the website didn’t get generate a lot of enthusiasm. The meetings “did the most to bind the network together.” One GURI member commented that ‘without a doubt, the meetings have been the most important element of the network.’ (Maclean in Stein and Stren 2001:94). Even the PCR which describes the success of Mistica’s virtual community also notes the importance of their face-to-face meetings (PCR 004235).

Networks benefit from the use of Internet and other information technologies to improve internal communications. It is interesting that after a decade of strong investments in electronic networking, the IDRC literature on networks is silent on the role of information and communication technologies (ICT) in improving sustainability. Nevertheless, this likely reflects a global shift towards assuming ICT-empowered networks rather than an indication that the tools are not important. ICTs used for internal communications can help to improve several dimensions of sustainability, for example:

- Time - ICTs can help networks to achieve more within a given period of time by improving their operational efficiency (e.g. financial management) as well as enabling asynchronous work fitting more easily into member’s schedules (e.g. not everyone has to be available at the same time of day to “meet” and discuss projects).
- Relationships - The development of online workspaces and discussion groups can provide members with tools that help them to understand the network and to reveal areas of commonality with other members. Further email communications, instant messaging, and voice over IP (VOIP) calls can enable them to begin to compare ideas or to follow up on in-person relationship building after face-to-face network events. Even the more prosaic usage of ICTs for desktop publishing can enable networks to share stories and member profiles more cheaply and on a more regular basis.
- Relevance - ICTs can help to create an ongoing archive of network activities and successes which can be shared by members and used in monitoring and evaluation processes as a basis for future changes to increase the network’s relevance to members.

Networks that made the effort to be multi-lingual have had more success in developing strong relations with a diverse group of members. For instance, Mistica (the Samana Network) used the Effective Management of Multilingual Electronic Conferences (EMEC) methodology for its virtual community. In this methodology, postings are quickly automatically translated into the four working languages of the group. They are also summarized manually, and translated again in order to reduce information overload for network members. The costs for manual synthesis are high, but Mistica deems it worthwhile, since the virtual community provides the space for members to continually reshape the network and its work (PCR 004235).

3.3 External Management

While internal relationships are fundamental for network sustainability, a network’s relationships with outside bodies – donors, knowledge users, advocacy allies and targets, and sometimes the general public – and its context, are also important for its long-term viability. IDRC’s 2003 meeting in Montevideo, Uruguay on Managing Knowledge Networks discussed “the social embeddedness of networks” in their social, cultural, political, economic, and institutional contexts. This section will examine three aspects of this embeddedness that affect network sustainability, namely:

- Credibility and saliency,
- Constructive engagement and communication with stakeholders and targets, and
- Managing within the political environment.

3.3.1 Credibility and Saliency

As an informal or semiformal collection of individuals or organizations, some networks have had a harder time establishing a reputation than a bricks-and-mortar institution. However, credibility is important for establishing a network's viability and sustainability. Credibility largely requires having the right members with the right backgrounds and reputations involved. However, it also requires *advertising* network capacities and successes to its audiences. For example, the Venezuelan Red Nacional de Desarrollo de la Agroindustria Rural (REDAR) was the youngest, but fastest growing of all members of the program for development of rural agroindustry (PRODAR). Interestingly, they did so with very little money. An initial study on the needs and opportunities for strengthening rural agroindustry (AIR) resulted in the formation of a Network Promotion Committee. The Committee, which included many stakeholder groups, spread information about AIR at the national level, held a workshop, and AIR products fair. This led to the formation of not only a national REDAR, but several state-level REDARs. (Weber et al 1997:25-29).

Saliency, producing the right product at the right time, is essential for establishing network credibility.

According to IDRC's experience, networks can improve their saliency in these three ways:

- *Producing quality research and/or knowledge products.* TEC's networks have a range of experience in this regard. Red Mercosur is known to produce high quality original research, which could lead to its institutional sustainability if plans develop for it to become an official body to support Mercosur countries' involvement in trade negotiations. TIPS enjoys great respect within South Africa; it is requested to provide policy advice to the government, and has been asked to expand its relations within Southern Africa and Latin America. On the other hand, although LATN's newsletters are held up as best practices to emulate, the network has also been criticized as being "shallow" because it doesn't produce original research (Fine et al 2001:39,58).
- *Involving research users in the design of the network.* The network on regional integration in eastern and southern Africa hired a consultant who used to work at the Common Market of Eastern and Southern Africa (COMESA) to bring the COMESA Secretariat into the development of the networks' research program. The secretariat, originally sceptical of the initiative, became an enthusiastic supporter. One of the goals of the project was to sensitize COMESA on the need to base policy advice to research. According to the PCR, COMESA not only used some of the network's research findings, but also created its own systems to do research and strategic planning (PCR 928467).
- *Ensuring that the network products are appropriate to the audience they are serving.* Networks often generate products for target groups. Understanding the targets' specific needs and preferences help the network decide what to produce, how to engage, and where to expand. For example, in aiming to provide advice for policy impact, Fine et al (2001:57) suggest that a network assess the "policy topography" before trying to duplicate a successful network model in a context that might not have an audience for policy research nor a policy process that allows for input.

Network credibility is further enhanced through maintaining (and publicizing) high ethical standards for research and dissemination. The Gujarat Innovation Augmentation Network succeeded partly because people appreciated the way it recognizes and respects the people whose innovations they seek to popularize. The network is clear in attributing credit to local innovators and publishes everything in four local languages to be sure that information is accessible to local audiences. Like-minded organizations not only use and further publicize the network, but also look for innovations to contribute to its database (PCR 000051).

3.3.2 Constructive Engagement and Communications with Stakeholders and Targets

IDRC-supported networks have sought to nurture constructive relations with donors, clients, allies and targets through engagement strategies, communication, and by being aware of the potential negative impacts they might have on others. All research programs face challenges of engaging with stakeholders, but these can be especially important when the network mechanism was chosen in order that the initiative might disseminate research results to a wider audience.

Maintaining constructive external relationships requires well-considered communication strategies.

Creech and Willard point out that networks should look for communication capacities among the members it

recruits, in addition to their research skills. They argue that networks will increase their reach if they ensure that the external communications function is dispersed among members, rather than emanating only from the lead organization (2001:59). Many network members are very capable of coordinating print publications, media releases, policy briefs, one-on-one meetings with key decision-makers, conferences and workshops, and video or Web development. These skills should be tapped into.

Communications capacities have been channelled toward various stakeholders:

- *connecting with users and funders*: For example, the Olistica network struggled with effective communication. It had a hard time communicating on various fronts: articulating its purpose in understandable terms, distinguishing itself from another network – Mistica – that operated from the same host institution, and overcoming its reputation as “catchy” as opposed to substantive. This was problematic both in reaching its target users, and in marketing itself to potential donors to diversify its funding base beyond IDRC (PCR 100584).
- *nurturing positive, non-threatening relationships with other organizations which serve overlapping purposes*: The AERC, a consortium which has enjoyed secure international funding in part because of its good reputation, aims to cultivate positive relations with related organizations throughout Africa. It recognizes that it could be seen as a threat to them. Therefore, when discussing issues of research and education contexts in Africa, it ensures that it does not, and is not seen to be trying to, enlarge itself at the expense of these other organizations (Henderson and Loxley 1996:64).
- *ensuring constructive relations with members’ institutions*: A network has the advantage of engaging members from many different institutions and/or knowledge or research systems to carry out its agenda. Networks build on these links, but some also jeopardize them in how they operate. Networks often rely on members’ access to their home institutions’ information services, communications technology, administrative functions, and also their reputation and credibility as they do network business. This can complement their roles within their home institutions, but it can also take away from their regular functions. Networks can be demanding, especially for part-time coordinators. Documents often noted that key network members worked way beyond their remunerated hours to get their jobs done (e.g., Gross Stein and Stren 2001). This can undermine their ability to fulfill regular duties.

Bringing in new people from outside the network can also help networks remain relevant (Engel 2004:12) and to engage key stakeholders. Networks can be strategic about what themes and capacities it wishes to broaden or deepen, and then seek out new members or associates who will help attain those objectives (see Laurell 2000 for a critique of Equinet in this regard). Two strategies for bringing in new people are:

- *Small grants programs*: Small grants competitions have helped networks identify new members who would not “surface” in regular activities (PCR 004439). An evaluation of the ATPS urged the network to not just base funding allocations on the quality of the proposals. Rather, in order to try to bring in new people into the network, the evaluation suggested the ATPS should also target awards toward new countries or sectors in which the network would like to expand (Chudnovsky and Makhubu 1996:16). However, using small grants programs as a strategy to bring new people in will only work if awardees remain part of the network. The 2000 EEPSEA evaluation found that the network had lost track of most former awardees (Bromley and Castillo 2000). This not only makes a tracer study hard to do, but it also suggests that the network did not make the most of the opportunity to recruit new members in whom it had already invested. IDRC’s Montevideo workshop noted that incentives for membership should come “from below”; people become part of a network because they share its cause (2003:4). Small grants can be used as a way to introduce new members to the network and allow the network to benefit from their research, but the awards will not guarantee new members.
- *Inviting people who can assist the development of a network objective to participate in a network-supported project, or offering to co-fund one of their projects so that network members can take part*: Two examples demonstrate this approach. The Asian Fisheries Social Science Research Network considered this idea in order to expand its capacities in doing policy research and public advocacy (Copes and Intal 1992:18). LATN commissioned outside people to write papers, and thereby brought them into the network (Fine et al 2001:39).

3.3.3 *Managing within the Political Environment*

Development networks need to learn to engage government decision-makers. At the very least, most networks seek to engage government decision-makers as users of research. More mature networks seek to involve politicians and staff of government ministries as members in order to more directly respond to their needs. For example, the Canadian International Scientific Exchange Program⁵, CISEPO, needed to keep Middle Eastern government offices up-to-date on its activities. Both network members and government officials had to learn to negotiate through the cultural differences among them. Researchers in the network learned to work within the political environments of the region. “[K]eeping [government offices] informed of CISEPO’s activities and ensuring good name recognition is essential to engender positive responses when they contact them regarding potential projects. As scientists and medical practitioners, CISEPO members have to learn to be politically and culturally astute.” (Fitzgibbon in Gross Stein and Stren 2001:97).

Networks are directly impacted by changes in government regimes and must manage political changes. Changes in government at the local, national and regional level can directly impact network sustainability. New governments often bring in new priorities and new people that can undercut the relevance, resources and relationships which networks had worked hard to establish. Working across several political jurisdictions can help to mitigate the impacts on the network of changes in any given area. However, this also increases the amount of effort which network members and coordinators will need to invest in monitoring and managing governmental relationships.

Networks that operate in violent contexts face special constraints regarding sustainability. For knowledge networks to exist at all in violent conflicts is difficult: research is difficult, researchers themselves are often at risk, and their research results can have dangerous political consequences. Moreover, each conflict is so particular and so absorbing that it may be hard for researchers to be able to collaborate with people outside their context, or to see the value in doing so (Brynen et al. 2003:12). However, networks can be especially valuable in these situations. They can mitigate against the isolation researchers face, and even contribute to their personal security. Nevertheless, an international network can be destabilized if a key member who is in a conflict area can no longer participate effectively. International networks should be careful to reassess their governance should violence affect some of their key members or their secretariat. On the other hand, supporting regional or national networks whose members are all in one conflict area can help avert or stem violence, and contribute to national reconstruction (Gillies and Kelpak 1999 and Brynen et al 2003).

Networks must also understand and work within the broad political environment of the development field. Changes in global priorities can leave networks without access to the resources they require. In recent years, two significant examples include:

- *The rise of security as a dominant theme:* Following the 9/11 terrorist attacks, global funding and attention on poverty and development decreased as attention turned to security and terrorism. Development programs addressing these themes have been prioritised over many other issues – even those addressed by otherwise excellent networks.
- *The rise of the Millennium Development Goals (MDGs):* MDGs have increasingly driven both the priority themes of development funding and the mechanisms (e.g. bi-lateral funding directly to governments, often through the World Bank). Networks which focus on topics not directly addressed by the MDGs have struggled to explain to both donor and recipient countries how their work can lead to progress on MDG indicators. Those which have failed to do so have often faced declines in their perceived relevancy.

3.4 *Financial Management*

Networks are seen to be expensive, both in terms of time and money (e.g., Goldsmith 1995, Milne 1995). Donor funding seems to be required for networks, particularly in their initial phases. However, networks do have some options available to reduce their vulnerabilities to changes in funding from any particular donor.

3.4.1 *Securing Long-Term and Flexible Donor Commitments*

The most common factor toward financial sustainability for networks is the desire to have long-term and flexible funding commitments from donors. A typical funding cycle lasts two or three years. However, networks

often require a longer-term commitment. For networks that take five years before achieving their highest productivity, they will need a commitment of at least two project cycles to reach their potential. Moreover, rather than using a blue-print approach, positive outcomes seem to occur more frequently when donors let networks evolve, experiment, and adapt to their contexts (Söderbaum 2001:157). Networks are characterized as being able to quickly shift focus; flexible funding can allow them to exercise that ability. Networks also need their core administrative, communication and travel costs covered, not just project funding (Jaffé 1998:10).

Some networks need donors that are willing to support risky initiatives. Networks which try to broker agreement among diverse parties require donors with extra patience, risk-taking and openness to ambiguity. Reinicke and Deng examine trisectoral networks that “don’t presume to start with a solution, but invite stakeholders to come together to develop solutions. There’s no guarantee” (2000:73,74). Supporting such networks may seem hard to justify when donors are supposed to produce quick, tangible results. However, donors can reduce the risk of investing in such networks by putting a firm time-frame on their support, after which the process will end, or will have an evaluation that will suggest next steps.

CoRR and ISLE are among the networks that have appreciated a long-term commitment from IDRC that allowed them to develop incrementally, with a solid base. CAISNET also appreciated a hands-off approach by IDRC which let them focus on developing their network functions and services. Contrasting CAISNET’s experience with IDRC, when the network took on a CIDA-funded grant, it had to more than quadruple the number of person-hours devoted to administering and reporting on funds. Moreover, CAISNET members claimed that meeting the CIDA requirements led to significant shifts in the character of the network (Paterson 1998:8,49).

On the other hand, GURI members were less satisfied with IDRC’s funding. GURI had long-term, stable, hands-off and flexible funding from the Ford Foundation from its inception and through three phases. IDRC funded specific projects during Phase II of the network. Maclean explains the situation in her review:

IDRC made CAD \$100,000 available to each of the three regions in Phase 2... for research on urban issues and the environment. However, these funds were to go directly to the regions, bypassing the Toronto coordinating structure. The African and Latin American regions produced research proposals which were approved by IDRC, but the Asian proposal was turned down, and the Asian coordinator decided that the level of funding on offer was not equal to the effort required to revise the proposal – a feeling shared to some extent in the other regions. In the end, the IDRC research occurred largely outside the GURI framework. From the perspective of the coordinators in Toronto, the terms of ... the IDRC funding did not sufficiently respect the logic of the network and ran the risk of fragmenting the evolving structure (Maclean in Gross Stein and Stren 2001:97).

It is not easy for donors to make long-term flexible commitments in a results-oriented world. Donors may be tempted to take an even more hard-line approach with networks because of the risks involved. “Precisely because networks tend to be more flexible and more fluid in their organization, funders tend to impose more, rather than less, stringent requirements even as they seek to support the flexibility that knowledge networks can bring” (Stren in Gross Stein and Stren 2001:142).

3.4.2 Diversifying the Network Donor-Base

Networks have diversified their donor base in order to be less vulnerable to shifts in funding priorities or levels within a primary donor organization. 72% of IDRC-supported networks have received funding from other donors (Decima Research, 2006).

Diversification of funding sources is described as critical for some networks in politically-sensitive contexts. For instance, consensus-building tri-sectoral networks gain credibility that contributes to sustainability when they get funding from a broad range of stakeholder groups: foundations, governments, and business. Diversified funding demonstrates the network will not be unduly influenced by one donor or group (Reinicke and Deng 2000:72).

Networks have sought funding from donor agencies like IDRC, but also from national governments, private foundations, and private sector actors. Yeo notes that as donors’ ODA policies move toward Sector Wide Approaches and direct funding to government budgets, research institutes and networks will no longer receive direct support from bilateral or multilateral agencies. (2004:19). Securing funding from national governments

can contribute to sustainability in that it devolves some financial responsibility (and perhaps ownership) to a body that is more likely to be a user of the research. Finding private sector funding is an option for networks that relate to technologies, applications, education, or causes related to businesses' interests. The Rosslyn project in South Africa received some initial contributions from private businesses that believed the training project being planned would be useful for them (PCR 004327). However, many of the networks that IDRC supports will have a harder time getting private sector funding. Public policy research networks, for instance, produce public goods that industry is unlikely to pay for. Such networks may have some success in getting industry to pay for memberships if the network can provide access to an "exclusive club" of policy makers and leading researchers (Yeo 2004:17). As with all funding opportunities, networks are conscious of the implications of accepting money from sources that could undermine their independence or intellectual freedom.

When attempting to diversify a donor base, networks need to be much more proactive in the identification and engagement of "clients" for their research. Both the coordinators and members of a network can benefit from marketing and sales techniques, including:

- *Being able to concisely explain the network's program.* OLISTICA was criticized for not being able to clearly explain its program in language that potential donors could understand. It was too complex, too academic. Ironically, it was also criticized as trying to be too catchy, using word plays between English and Spanish terms to name its products and concepts (PCR 100584).
- *Budgeting for network overheads within project proposals.* Creech and Willard note as members seek funding for research activities, they should always include network overhead costs within their proposals, and be able to explain how that overhead is useful for the project (2001:78). Fine and Stryker noted that the 10% administration overhead that IDRC allows in its grants is "totally unrealistic" (2001:40) for networks to capture the full costs of coordination, communication, facilitation, etc.
- *Dividing network activities into manageable chunks that donors can take on.* The divisions could be levels of activity (e.g., local projects, national meetings, regional facilitation), thematic areas, country programs, or funding "windows". INBAR succeeded in reducing its 18 program categories into four broad areas, and was able to secure a major donor for each one (PCR 100195). TIPS offers donors three funding windows: general untied support, funding specific network activities like a meeting or training event, and short-term consultancies (Fine and Stryker 2001:40).

There are again tensions and balances related to diversifying a network's donor base. Donor funding and reporting requirements can add significant amounts of work for the network. It can also affect dynamics within the network. Partnering with additional donors requires more reporting, more coordination, and meeting more interests. Bernard worries that with multiple donors, networks "inevitably become less flexible, with... less peer review, member-based management, formative evaluation and qualitative measures..." (1996:35,36). However, multiple donors may also challenge networks to stretch their understandings of the issues and to achieve new levels of productivity. While new donors may mean new reporting requirements for network coordinators, this does not necessarily mean that network members will be drawn away from doing the network work.

3.4.3 Revenue Generation

Networks have generated revenue through the commercialization of research results, selling services, member contributions, and taking on research consultancies. Some examples include:

- CAISNET national units generated a limited amount of revenue by *selling services to private businesses*. Some increased their income by taking on donor projects or broadening the range of services they offer in order to generate more revenue (Paterson 1998:5,9).
- PRODAR has taken on *consulting contracts* with international agencies (Weber et al 1997:11).
- Beyond requiring in-kind support to network activities, some networks require *membership fees* or contributions. INBAR hoped to get 3-5% of its income from signatory nations (PCR 100195). National units in CAISNET get money from their national sponsoring organizations to support office and staff costs (Paterson 1998:10). However, Creech and Willard warn that the process of collecting dues can itself be costly and time-consuming, and many not-for-profit members wouldn't have a lot of money to contribute regularly (2001:78).

However, few networks seem to have had a lot of success in this kind of revenue generation. These strategies may be a way of generating small amounts of money to complement donor funding. Authors also warn against getting diverted from a network's original purpose when taking on consulting contracts (Söderbaum 2001:155,156; Yeo 2004).

3.4.4 Minimizing Operation Costs

Networks have aimed to minimize their costs. Some strategies include:

- *Avoiding paying international levels for salaries and offices.* Goldsmith noted that networks can avoid paying high international-level wages for their coordinators or setting up luxurious coordination offices that will be hard to maintain at the end of donor funding (1995:18,19). It is difficult to avoid international-level wages, however, as network coordination becomes an increasingly professionalized global field. Network coordinators from New Delhi to Quito expect to be compensated on par with their European and North American colleagues. English concluded that “one should hire the strongest coordinator possible and be prepared to pay the (competitive) price... However, the salary level can be reduced somewhat by offering as much autonomy as possible in a supportive governance structure” (1995:4,5).
- *Enlisting volunteer labour by members.* Having volunteer labour for coordination, communication support, etc., worked where the volunteers already have their living expenses covered by other means, when the work is not too onerous, and when the cause is sufficiently compelling to encourage members to voluntarily contribute their time and work (Maclean in Gross Stein and Stren 2001, Mougeot 1995). The use of internships and graduate students to undertake some tasks can also help to control network costs.
- *Having members undertake most network activities.* As Church points out, “Costs start to rise when the ‘secretariat’ or institutionalized function becomes synonymous with the network, and the secretariat begins to become more and more ‘operational’, doing more of the work itself. This is where traditional core costs start to take on greater prominence, more staff and equipment are needed. There are networks which are minimally institutionalized, to allow for maximum commitment and participation by members at minimum cost. This works well, and it needs long-term basic core funding.” (Church et al 2003:39)
- *If possible, avoid providing all funds for research.* Networks need not always be a funding source for all members. While in the case of the Macroeconomic Research Network, members found themselves without enough core research funding to have findings to disseminate via the network (PCR 002879), in other situations, researchers were able to find outside resources to support their work for the network. Copes and Ponciano suggest that the Asian Fisheries Social Science Research Network could have an “asymmetrical” approach to funding member activities: mature members should find their own research money, but the network would still provide research and capacity building support for less mature members (1992:2,27).

In general, costs are higher at the beginning of a network's life, as members need opportunities to meet each other, establish initial understandings, and define agendas and approaches to the activities they will pursue. Here, funding is an investment. The network may not yet be producing its best results, so the funding may seem to be yielding only low returns. However, some networks' were able to reduce their staff and administration cost ratios significantly even within the first five years. EEPSEA's ratio of staff and administrative costs to total budget went down from 38% to 27% in four years, primarily because the scope of their activities grew, and initial coordination needs eased off (Munasinghe 1996:A3.3).

However, cost savings will not erase a network's need for financing, and certain kinds of network activities may never become self-sufficient. Moreover, the kinds of networks that IDRC is involved in generally require some form of coordination function which will have costs that must be paid for by an outside agency. So while minimizing operating costs is an important factor toward financial sustainability, the documents suggest it will have to be complemented with attempts to address the other three factors.

4 KEY SUCCESS FACTOR - ADAPTIVE CAPACITY

In order to be sustainable, networks need not only to have strong strategic, internal, external, and financial management – but they must be flexible and adaptable as well. IDRC-supported networks tend to operate in situations characterized by complexity, uncertainty, and dynamism. In response to these changing situations, networks themselves must change. Of surveyed IDRC-supported networks, within the past ten years (Decima Research, 2006):

- 1/3 of networks have changed their purpose
- Nearly ¼ of networks have changed their name
- Over ¼ of networks have changed their location

In reviewing the evolution of research networks, Smutylo and Koala (1993:13) highlight that “whatever their origins and advantages, networks tend to be dynamic. They evolve as research environment changes; as their participants build relationships, gain experience and have access to more options”. Changes in the internal and external environment also make the continuous re-design of the network a necessary variable that needs to be factored into network governance and coordination aspects. According to Bernard (1996:41)

even the loosest network, where it defines how members will behave toward one another in respect of shared objectives, creates an institution. As these agreements on conduct and purpose alter over time, in response to change in external circumstances and internal growth, the institution of the network will evolve. The capacity to guide this evolution in constructive and positive ways, is a crucial factor in successful implementation – even if what is eventually sustained is an adaptation of the initial intent.

Implicitly, Bernard highlights that the successful implementation and development of a network is based on having the *adaptive capacity* to evolve over time. Adaptive capacity is the ability to respond to and instigate change for improved performance, relevance and influence, both internal and external to the network and its operations. Two factors appear to be influential for exercising adaptive capacity: recognizing the need for change and managing change.

4.1 Recognizing the Need for Change

Monitoring and evaluation are crucial for networks to assess progress and problems. One of the first reviews of IDRC-supported networks done by Smutylo and Kaola (1993) discuss the role of monitoring and evaluation as enabling networks to identify and build on strengths and problems as they evolve (monitoring), as well as providing new insights to enhance performance (evaluation). This was premised on the notion that monitoring and evaluation would provide “a means both to improve individual network coordination and management and to ensure cumulative application of lessons learned about the mechanism as such” (Smutylo and Kaola, 1993:13). In their review of IDRC’s support for Science and Technology in Latin American and The Caribbean, the Evaluation Unit also observed that networks were best evaluated through a process of on-going monitoring in order to identify “dead-ends and stultifying influences on networks.... Ongoing monitoring begins to identify weakness and lack of evolution” (Evaluation Unit 1996:8).

To improve learning, monitoring and evaluation, both internally and externally, need to become more ‘systematic’ and integrated into the regular management operations of the network. In the experience of PRODAR network, the external evaluation noted that the process of monitoring and evaluation also needed to establish documentation processes in order to more consistently capture information on the networking activities and outputs that would benefit all network participants. The introduction of these mechanisms was intended to upgrade the quality of the information that was collected, stored, and disseminated to participants. In doing so, these processes were being promoted to improve the quality of the learning-by-experience process of network participants, as well as facilitate resource allocation (Weber et al., 1997: 9, 62).

As IDRC continues to experiment with Outcome Mapping methodologies for networks, tools for on-going self-evaluation should become increasingly available. These tools should help networks to recognize change in their internal and external environments as well as suggest strengths to capitalize on in the network’s structure and activities. IDRC Program Officer Kristina Taboulchanas notes with respect to the Resource Centre on Urban Agriculture and Food Security (RUAF), “I swear I saw lights just turning on. The OM

training provided the space and the language to bring the group together to create a collective vision, plan and articulate what it is they are trying to accomplish. You could see the change in their body language... We are also seeing new terms in use which is clearly a RUAF language that reflects a common understanding. It has become very clear that the process we went through was extremely important. It allowed us to reflect on our core understanding of these issues and then grow together into a common understanding.” (Hunt, 2004)

4.2 Managing Change

Unfortunately, many networks suffer setbacks or even fail during periods of change. Ultimately, networks have two avenues to rely upon for managing change: flexible organizational structures and capable operational leadership.

Creating flexible organizational structures has helped networks maintain their adaptability. For instance, the Economy and Environment Program for South East Asia (EEPSEA) makes changes to its working groups as needs arise, both dissolving groups that are no longer relevant, and forming new ones to meet new demands (Munasinghe 1996:17). A network’s ability to adapt its focus may be hindered if members are institutions as opposed to individuals. Institutions are slower to realign their priorities to conform to the network’s changing mandate: “...this is an issue that all networks are struggling with...[T]rying to align the agenda of the network with the agenda of each member organization is very difficult. Organizations talk about collaboration, but priorities are always set differently” (Creech 2002:37). IDRC Program Officer Randy Spence suggests that network sustainability is enhanced when the membership includes multi-purpose organizations, such as universities, rather than organizations with a narrow mandate or agenda, such as issue-based NGOs. He posits that such multi-purpose organizations have a greater capacity to adapt to new roles and make more resilient network members.

Network leadership must strike a careful balance between keeping the network focused on its work, while providing opportunities for periodic structural change. Networks, like organizations, can suffer from a process of continuous structural change. Coordinators must be skilled change agents able to recognize the need for change, develop or solicit proposals for new network structures, and communicate clearly with members regarding the processes for decision-making on these proposals. While annual network meetings provide good opportunities to finalize these types of decisions, they require a great deal of preparation and advance communication with key network members in order to be successful.

The following four sections outline the most common changes which IDRC-supported networks have faced as well as examples of how network structures and leadership have addressed them.

4.2.1 Change in Institutional Home

IDRC has used the strategy of incubating some networks within its offices, or within Canadian universities, and then trying to devolve them to Southern governments or institutions at a later stage. This process of devolution entails delegating greater ownership of the day-to-day management of the network and the administration of research to more regionally-based institutions. Devolution has both normative and practical value. Devolution demonstrates values of Southern empowerment, and building Southern research systems. Practically, devolution can help ensure the network remains relevant, for locally-based organizations are now leading all the network’s priorities and activities.

In the 2004 Annual Report of Evaluation Findings (AREF), however, it was acknowledged that the devolution of responsibility to Southern partners would increase the administrative workload and financial costs for the Southern partner(s) (AREF, 2004:8). The report also recognized that devolution would require increased attention and resources. Other international networks have faced challenges stemming from national restrictions on currency flows, which might prevent a southern host from easily flowing money to other network members outside of the country. As the Micro Impacts of Macroeconomic and Adjustment Policies (MIMAP) PI was in the process of moving the coordination of its Poverty and Economic Policy (PEP) networks from Canadian universities to Asian or African institutions, an external evaluation expressed caution highlighting that:

a successful transition cannot be taken for granted, nor will it necessarily happen smoothly. A major and senior MIMAP effort will have to be mounted to identify new ‘receiving’ institutions, bolster and support their credibility and capacity, orchestrate the transfer of management responsibility from Laval University,

and ensure continued access to the rich accumulated expertise lodged in both Laval and the UWO. Without such support, the effectiveness and survival of the various networks could be compromised (Habito et al., 2004:29).

In some instances, IDRC has helped a network become an independent legal entity. This strategy can be helpful when a network needs to rationalize and coordinate multiple donors and multiple activities, or when no single existing institution could provide it an adequate home. Swaminathan and Cuthbertson (1996:13) argued it was urgent that INBAR become a separately incorporated legal entity during its second phase. By that time, INBAR was administering multiple projects, capacity building initiatives, information services, and coordinating among several donors in over ten countries. In another example, PRODAR functioned well as a 'movement' for a while, with flexible, interactive leadership responding to a rapidly changing environment. However, after six years, the network decided that becoming a formally incorporated structure might help it integrate its programming, govern itself more effectively, and better coordinate among its donors (Weber et al. 1997:60). Finally, IDRC-supported networks have attempted to transfer some of their themes, activities, or products to other programs or institutions in order to ensure these things will continue beyond the network. RUAF tried to integrate itself into long-term structures like the UN programs for City Alliances (Whyte and Tauli-Corpuz 2003:26). CISEPO, with its relatively small core funding, tries to "piggy-back" its activities on other grants wherever possible (Gross Stein and Stren 2001:31).

These results suggest the need to change the governance and coordination mechanisms and processes in place to support a change in institutional home. . Based on the findings thus far, this would also entail redefining and realigning the vision and goals of the network. **Devolution, therefore, involves more than just shifting management and operational functions. It must also include a fundamental change in the essence of the network and its operations.**

4.2.2 Change in Leadership or Membership Base

Networks often rely on the visionary and strong leadership of a single individual or group of individuals with whom members strongly identify. Also characteristic of a strong visionary leader(s) is the development of linkages with the government and academic community and perhaps other networks nationally and internationally. For instance, in the Science and Technology Policy Research Centre in South Africa the visionary leader was able to establish a loose network of "centers of excellence" in the field of Science and Technology Policy. Once this individual moved to another academic institution, however, the network faltered because of the lack of established connections or linkages (PCR 001996). Fortunately, 50% of past coordinators surveyed say that their networks are still functioning; meaning that **IDRC supported networks are rather robust once created and are not entirely reliant on a charismatic figure** (Decima Research, 2006). However, it is unclear whether these networks are still performing at the same level or how the transition was managed. The capacity to manage the transition or overlap between incoming and outgoing leader(s) may require the establishment of structures or systems that share leadership, or even establish rotational leadership to reduce reliance on a single or core set of actors (Creech, 2002:123; Tandon 1995:25; Church *et al.*, 2003:32).

Changes in network membership must be managed closely as well. The loss of leading members of a network can be as detrimental as the loss of a coordinator. As expressed in one project completion report, IDRC's experience with an economic research network in LAC indicates that the network was built on strong personal ties among researchers in the member institutes. When these founding members left the network to move to positions outside of academia, the implementation of the network fell on researchers with less of an interest in and a commitment to longer-term collaboration with other network members. On the other hand, the ORCESA network (part of the larger Oilcrops Research Network) sought to expand its activities and add a Zambian partner, the Oilseeds Liaison Services (OILS). This new partner, however, operated largely as a lobby group for the oilseeds industry which conflicted with the specific purpose of ORCESA, to look at national needs and issues. By adding a new partner, however, the Network faltered primarily because the original objectives of the ORCESA network were modified to fit those of its partner, OILS (Mbwika and Mburu, 2004:26).

Networks benefit from consciously grooming the next generation of leadership in their field. Networks can improve their sustainability by ensuring that younger professionals are included in their activities and actively seeking to include them in decision-making. Not only do young professionals and graduate students

tend to do a large amount of the preliminary research for senior network members, but their understanding of the network's work and relationships will determine whether solutions developed by the network will be implemented in the future. Within the Trade Knowledge Network, one member representative noted that the absence of young professionals within his node was of some concern. Limited funds often prevent organizations from hiring or retaining junior staff who have enthusiasm and potential, but lack practical experience in the complexities of international trade regimes, emissions trading systems, clean development mechanisms and so forth. Senior network members are beginning to recognize that they must find ways to fast track the transfer of their knowledge to the next generation in order to ensure the continuity of their work (Cole et al, 2001:12-3)

4.2.3 Change in Network Phase or Project Lifecycle

There is often a tacit assumption by networks and some IDRC project staff that they will have access to IDRC funds over several phases of a project lifecycle. This is intended to allow projects to consolidate learning and shift emphasis or priorities, as necessary, from one phase (or stage) to another.

However, managing the transition, as several networks noted, was not a straightforward process. CAISNET, for example, indicated that before a second phase was funded, a bridging period would be required to allow for a smooth transition to the new phase (Paterson, 1998). Similarly, the CamBioTec network noted the importance of strengthening organizational and management capacity *before* any transition occurred, and not after (Universalia, 1999). The OLISTICA network highlighted their struggle to survive the gap in IDRC funding between the end of phase 1 and beginning of phase 2 (PCR 100584).

The proposed withdrawal of support by IDRC for the Agricultura Urbana Investigaciones Latino Americana (AQUILA) network within the Cities Feeding People PI also sparked the attention of external reviewers. In light of this, the external reviewers suggested that IDRC needed to rethink its strategy for Latin America noting that "at this time, withdrawal of support for AQUILA and the LAC national networks before they are sufficiently consolidated and sustainable will put them in jeopardy" (Whyte and Drescher, 2003:9). The external review further suggests that IDRC should use its convening power to encourage international and regional partners to come on board.

Likewise, it is important to encourage networks to use phases as an opportunity to declare success and to consider the dissolution of the network. While IDRC experience suggests that it is often very difficult for new and emerging networks to discuss governance clauses around the termination of a network, evaluations as phases draw to a close can provide opportunities for determining whether there continues to be a need for continuation (relevance) as well as the relationships and resources to go on. By building in such check-points, individual members - as well as the network as a whole - provide themselves with opportunities for graceful exits.

4.2.4 Formalizing Network Relationships and Processes

As networks evolve and mature, frequently there is an expression of the need for "stronger coordination" mechanisms to be put in place to sustain networks (Schenk, 2005) This finding is consistent with an earlier review by Smutylo and Kaola (1993) who point out that "in IDRC's experience, network tend to move towards higher levels of integration as they mature, reflecting growth in research capacity, in mutual confidence, and in the flow of benefits from network memberships" (1993:13).

According to the Community Biodiversity Development and Conservation Program (CBDC) external evaluation, for example, initially, the largely informal nature of the network enabled members to build trust and mutual respect. It did not, however, enable the network to take full advantage of the complementarities of network members. As a result, the external evaluators suggested that "stronger coordination is now seen not only as possible, but as a central demand for the effectiveness of any future effort" (Universalia, 1999:5)

In some instances, however, concerns were raised regarding how to make the progression to stronger coordination (sometimes referred to as institutionalization). This sentiment was aptly captured in the external evaluation of the CBDC network where some network respondents expressed their concerns that a more strategic approach to CBDC might jeopardize the fundamental beliefs and values such as democracy and bottom's up participation that was the underpinning philosophy of the CBDC network (Universalia, 1999:21).

The EQUINET network was also struggling with issue of formalizing its governance structure. The external evaluation was able to capture the divergent views that were being raised around the issue. In many ways, these divergent views encapsulate the issues that arise in institutionalizing IDRC-supported network activities more generally. The external review discusses how some members were in favour of greater institutionalization believing that it would help sustain the network, give the network an 'identity' as a professional organization, provide continuity of governance, and confer greater credibility in negotiating for resources and establishing dialogue with external links, particularly policy-makers. Opponents against formalizing the network, however, were of the opinion that the network would become too bureaucratic and would eventually limit the scope by which new research activities could be undertaken (Rutherford, 2004:38).

5 RECOMMENDATIONS

The following recommendations have been developed primarily for IDRC itself, as it considers what additional support it might give to the networks it has fostered and participated in over the past 35 years; and what it should consider in future as opportunities arise to catalyze and support new networks. These recommendations are also important for the networks themselves as they consider how to approach the challenges of sustainability.

1. Focus on the basics when initiating and fostering networks.

Sustainability relies on good management practices: strategic management; internal management, external management and financial management. From the beginning, even during the initial periods of building relationships and developing common purpose, attention should be given to seeking clarity with respect to decision making (that will evolve into a well thought out governance structure) and objectives (that will express common purpose without diffusion of efforts and interests across many agendas). As networks evolve, members and coordinators should take the time to examine whether and how the structure and management are in fact supporting network interaction and effectiveness. In particular, it is recommended that some attention be paid to building the capacity of network coordinators to handle the basics of network management.

2. Build adaptive capacity within networks.

As noted in this paper, adaptive capacity is the ability to respond to and instigate change for improved performance, relevance and influence, both internal and external to the network and its operations. Network coordinators in particular need to develop skills in the management of change: changes in research directions and purpose; changes in membership; changes in hosting arrangements; changes in funding, and so forth.

3. Develop a culture of ongoing assessment within networks.

Adaptive management requires cycles of action and reflection; more work is needed to coach networks in learning how to monitor and reflect on their work, both with respect to their research and action objectives, and with respect to how the network functions as a collective. Monitoring and evaluation is essential for networks to assess progress and problems. Simple guidelines are needed together with basic workshops on how to assess network performance.

4. Promote good practice in network phasing and closure.

Networks do not need to be sustained indefinitely. Networks should be encouraged to establish timelines and checkpoints for network members and evaluators to review progress towards goals and determine whether their network continues to have relevance, resources, and relationships to continue its work. Guidelines on how to bring a network to a good conclusion and closure would help to offset the tenacious stigma that ending a network is a sign of failure to fulfill its purpose. Further, donors should not be led to believe that their investment for a few years will be sustained for an indefinite period.

5. Confront the financing challenge.

The financing challenge needs to be addressed on two fronts.

First, networks need to learn how to assess both their full costs and the real value of their interactions and collaborative work. Mechanisms for tracking and valuing in-kind work and support from members in order to present an aggregated financial picture would be helpful. In addition, the costs of network coordination need to be presented in light of the value that coordination secures in terms of improved collaboration and

network effectiveness, rather than in terms of standard administration costs that donors are ever more reluctant to support. A better understanding of the value of network communication, facilitation and animation – and their real costs -- may help to make a better case for donor support for these costs.

Second, there is considerable opportunity for IDRC to make the case to other funders of networks for a new way to value and finance networks. Further, greater understanding among the donor community of the longer term investments required, combined with more collaboration in financing networks may serve to offset risk averse funding behaviours that limit investments to shorter cycles of support.

6. Continue to encourage an internal learning community within IDRC on network practice.

There will undoubtedly be many new opportunities for IDRC to support collaboration among groups of researchers and organizations. IDRC should be encouraged to continue to develop its own corporate memory on good practice, and should continue to encourage responsible program officers to meet at least annually to review their experiences.

Further investigation

As noted in the text, while the first two stages of the evaluation provided rich information regarding network sustainability, the telephone survey of network coordinators did not address many details relevant to network sustainability, such as governance arrangements, financing, network external communications and influencing strategies as well as data regarding when and why networks may have come to an end. It is not therefore possible for this analytical paper to draw substantive conclusions regarding the sustainability of IDRC supported networks on anything other than an anecdotal basis. Further research is required to capture additional details regarding the causes and effects of network change, collapse and continuity.

We suggest the following areas for further research:

1. Explore life cycle analysis in the context of network phasing and closure.

There has not yet been a systematic investigation into networks that have successfully completed their work and disbanded, with a view to understanding the decision process that leads to closure. The more difficult question would be whether it is possible to determine a point at which a network can be said to be no longer functioning, even if the members have not formally agreed to wind up their activities. A rigorous exploration to determine whether there are indeed common phases or cycles of network activity would be valuable in understanding whether some performance issues can in fact be anticipated and managed.

2. Develop case studies on successful financing models for networks

The research inputs to this analysis of sustainability looked closely at sustainability as a factor of time linked to goal achievement, capacity and motivation, and saliency (relevance). This still leaves in the air the very real questions of exactly how networks get financed, and how, in the absence of cash remuneration, other incentives and rewards are put in place to persuade members to interact and work together. While incentives and rewards were mentioned in the research sources, little was offered in the way of real examples of successful practice. Donor diversification is also important, and the survey data indicated that 72% of IDRC networks report receiving funds from other organizations. But how does this work? What are the challenges in managing a diverse revenue base and reporting requirements? Have networks experimented with other revenue generation mechanisms (consulting services; patent development; membership dues, non-traditional donors) and what have they learned?

3. Develop a model for full costing and valuation of network coordination services.

While every network will have its own unique work agendas and financial parameters, it may be valuable to develop the case for financing coordination by establishing a base model for full cost and value of coordination that can then be adapted to individual network needs.

4. Explore in more detail the connection between sustainability and a network's impact on development policy and practice.

To more readily examine the outcomes of networking, it would be useful to have more specific data on the direction of information flows among members and between members and those they seek to influence. How do information flows and barriers impact on the intended goals of the network – and on sustaining the relevance of the network? Further work focused on the communications and external engagement and influencing strategies of networks is needed.

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- 1 In order to preserve the readability of this analytical review paper, credits for analyses and examples from several key papers have been included here rather than cited each time in the text. Many thanks to these authors for their excellent and intensive literature reviews

Tricia Wind (2005):

- Section 2.1-2.3: Some sub-themes and all examples drawn from p 6-8
- Section 2.4: Examples drawn from p 15, 33
- Section 3.2.1: Examples drawn from p 17, 42
- Section 3.2.3: Examples drawn from p 19-21
- Section 3.2.4: Examples drawn from p 15-16 re: ownership
- Section 3.2.5: Examples drawn from p 17, 19
- Section 3.3 and all sub-sections: Examples drawn from p 23-27
- Section 3.4 and all sub-sections: Examples drawn from p 35-41
- Section 4.2: Examples drawn from p 31
- Section 4.2.1: Examples drawn from p 41-43

Ingrid Schenk (2005):

- Section 3.1: Examples drawn from p 12-13
- Section 3.2.2: Examples drawn from p 13-16
- Section 3.2.3: Example drawn from p 28
- Section 3.2.4: Examples drawn from p 16-20 re: transparency, accountability, authority, trust and incentive/reward structures.
- Section 3.2.5: Examples drawn from p 29
- Section 4: Examples drawn from p 38
- Section 4.1: Examples drawn from p 46-47
- Section 4.2.1: Examples drawn from p 41-42
- Section 4.2.2-4.2.4: Examples drawn from p 39-44

Bruce Curry-Alder (2005)

- PCR references included in sections: 2.4, 3.2.4, 3.2.5, 3.3.1, 3.3.2, 4.2.2, 4.2.3

- 2 Tricia Wind (2005) listed the following dimensions of sustainability: time, financial, relational, processes and structural. These dimensions were discussed at the ALF 2005 meeting by IDRC staff. The ALF report expresses general support for these dimensions but adds a greater concern for the relevance of networks, which Wind had included as a factor supporting sustainability. Recognizing the importance of non-financial support, the authors of this paper changed “financial” to “resources”. The authors also shifted “processes and structural” from being a dimension of sustainability to being a management success factor which is essential for networks. This helps to draw a better distinction between what must be sustained - resources, relationships, and relevance - and the management/institutional factors which contribute to sustainability (strategic, internal, external, financial, and change/adaptability).
- 3 Tricia Wind (2005) listed the following factors which help/hinder the sustainability of networks: Internal relationships, external relationships, on-going relevance, financial sustainability, and housing a network. As noted in endnote ii, the authors of this paper shifted relevance to being a dimension of sustainability. Shifting to a more management framework, we have subsumed housing to a subset of internal network management and also included “strategic management” from the Schenk paper as a key factor leading to sustainability.

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APPENDIX B: ACRONYMS

AGUILA	Agricultura Urbana Investigaciones Latino Americana
ATPS	African Technology Policy Studies
CAISNET	Central America Industrial Support Network
CBDC	Community Biodiversity Development and Conservation
CCKN	Climate Change Knowledge Network
CEDES	Centre for Studies on State and Society
CFP	Cities Feeding People
CISEPO	Canadian International Scientific Exchange Program
COMESA	Common Market of Eastern and Southern Africa
CoRR	Coastal Resources Research
EEPSEA	Economy and Environment Program for South East Asia
EMEC	Effective Management of Multilingual Electronic Conferences
EU	European Union
GURI	Global Urban Research Initiative
ICT	Information and Communication Technology
IDRC	International Development Research Centre
IMFNS	International Model Forest Network Secretariat
INBAR	International Network for Bamboo and Rattan
ISLE	Island Sustainability, Livelihood and Equity
LATN	Latin America Trade Network
MIMAP	Micro Impacts of Macroeconomic and Adjustment Policies
NWG	Network Working Group
PCR	Project Completion Report
PEP	Poverty and Economic Policy Network
PI	Program Initiative
PRODAR	Programa Cooperativo para el Desarrollo de la Agroindustria Rural
RDIMSEA	Regional Development and Indigenous Minorities in Southeast Asia
RUAF	Resource Centre on Urban Agriculture and Forestry
SDCN	Sustainable Development Communications Network
TEC	Trade, Employment and Competitiveness
TIPS	Trade and Industrial Policy Secretariat