Mapping Capacity Development in IDRC

Prepared for: Evaluation Unit, IDRC

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Introduction to the Map
Through the analysis of the aims, activities and results of approximately 40 IDRC projects, covering effectively the full range of sectors, regions and time periods, the following capacity development "map" has been produced. Aimed at enabling IDRC more effectively to see where and how it is, and could be, acting in terms of the capacity development aspects of its mandate, the map is not meant as a recipe of required ingredients and linear steps. Rather, it is a *series of discussions* about the range of learning included under the 'capacity' label, different approaches to capacity development and what they can and cannot do, and suggested 'best practices' for realizing successful outcomes.
→ It is hoped that this document will be treated as a work-in-progress, to be validated and revised through use[1].

I   Five Categories of Capacity Development Activity in IDRC

In the context of IDRC's research-for-development mandate, capacity development activities are intended to create and strengthen the knowledge, skills and attitudes necessary for good quality, relevant and useful research. Based on the 40-project review, these can be grouped into five broad capacity categories, each reflecting something an individual or institution is expected to be **able to do or to do better**, as a consequence of the Centre's intervention. These are

1. ***conducting*** *research*
2. ***managing*** *research activities and organizations*
3. ***conceiving, generating*** *and* ***sustaining*** *research with respect to a sector/theme or country/regional priorities*
4. ***using/applying*** *research outcomes in policy and/or practice, and*
5. ***mobilizing*** *research-related policy and programme "systems" thinking.*

These capacities are not mutually exclusive. Rather, they reflect the various tasks or dimensions of a full research enterprise, the kind of overall competency which should be available within any country's research environment, to address any development problem.

Each of the five capacity categories includes the notion of someone doing something new, better or differently. Individuals or, more usually, groups will typically be expected to have a different e.g. more accurate, complete or nuanced understanding of themselves, as individuals or groups, and/or of their situation. *New information or knowledge* and/or *new values or attitudes* are, therefore, inherent components of successful capacity development outcomes.
Each capacity includes the notion of *degrees of quality and competency*. The two are not the same. For the first, the learning achieved by each individual within each category will be more or less "well-learned" e.g. well understood, consolidated and integrated as permanent change. Levels of competency, on the other hand, will differ as a function both of the objectives of the

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[1] It should also be read in conjunction with two other documents prepared for the Evaluation Unit on the same theme: "Framework for Evaluating Capacity Development in IDRC" and "Adult Learning and Capacity Development in IDRC".

CD intervention itself and of the way the individual engages, ranging from a basic level of factual recall or information acquisition, through knowledge (making sense of that information in some way), to knowledge and skills sufficient for independent action.

Each capacity category is clearly complex, incorporating a set of knowledge, skills and attitudes. This means that each category can – and for planning purposes, should -- be broken down into elements. For each of these, after a capacity analysis, we should be able to say either a) that it has already consolidated it to an acceptable level for the task/goal, by the person or institution involved; or b) that it needs to be acquired or improved, for whom and when. It is important here to note that it is only with a competent and focused first-stage capacity analysis that this distinction can be made.

In this respect, there is also a notion of *hierarchical linkage* among at least four of the five categories, with the possibility that each may include the capacities of some of those which precede it. It is difficult to imagine, for example, a person or a research agency being able to conceive a complex research programme if some capacity for conducting and managing research activities has not already been acquired – and at a reasonably high level of competency. While #4, the capacity to use research, does not necessarily presuppose the capacity of the other categories, it is probably the case that prospective users will be more successful the more fully they understand the why's and how's of the research process.

Examples of capacity characteristics suggested here to be subsumed under the five categories are suggested below.

1. *The capacity to conduct research*: This refers to the technical, disciplinary and/or sectoral knowledge, mastery of research methods and analytical skills appropriate to conducting either a current or an evolving research investigation. Specifically, it includes capacities to:
   - work effectively within a research paradigm;
   - conduct technical/scientific lab work at a level of expertise and independence appropriate to the research activity;
   - conduct fieldwork (social, biological) data collection and analysis;
   - communicate ideas to, and collaborate with, peers and supervisors; and
   - interpret and present results appropriate for policy/practice users.

Participatory research (PR[2]) projects imply particular additional capacities to:
   - analyze issues of the sector/discipline as they relate to broader socio-economic factors, especially those of community assets and vulnerability;
   - communicate with a wide spectrum of stakeholders e.g. community members and counterparts, government and sector officials;

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[2] PR (participatory research) is used in these several CD documents to refer, generically, to the philosophy, design and methods of research which engages those with the "problem" in defining what it is and means, generating and interpreting the data to analyze it and making decisions as to implications and next steps (recommendations). The broad intent: to promote sustainable and locally owned change through "research as learning".

- facilitate the learning of others, both in research methods and more generalized areas of community life-management; and
- understand the implications of PR as a process of initiating social change within fragile communities.

2. *The capacity to manage research*: This refers to the professional knowledge and practical experience of management principles, processes and procedures within the research context appropriate to conceiving, initiating, facilitating implementation and ensuring monitoring of a research activity, programme or institution. Specifically, it includes capacities to:
- negotiate research activities appropriate to available/potential human and infrastructure resources in the programme, organization or wider environment;
- identify technical and fieldwork requirements of the research;
- develop and oversee execution of workplans, including monitoring and assessment systems;
- select, direct and supervise researchers, support staff, resource people;
- facilitate internal co-ordination and external liaison;
- plan and execute efficient, transparent and accountable finances; and maintain or write technical reports.

3. *The capacity to conceive, generate and sustain research*:   This refers to the sophisticated and comprehensive disciplinary, sector or problem area expertise, coupled with strong and experienced-based knowledge of the field, appropriate to engaging with, inventing and exchanging new ideas and to generating research. It includes capacities to *reconceive* a development problem in ways which account for its interaction with other problems and sectors, and to present the problem in ways that reach beyond the immediate moment and/or local conditions. It includes being able to perceive the importance of the specific issues within the context of the wider whole. Specifically, it includes capacities to:
- analyze and synthesize complex ideas and data;
- perceive problems or issues in researchable terms;
- challenge existing research paradigms, and create new ones;
- formulate theory and concepts, think laterally;
- initiate first-order questions and set them within a research design;
- generate/implement data gathering, analysis and synthesis procedures;
- articulate implications of results in policy and/or use-oriented terms;
- serve as independent/senior resources regionally and globally on matters of theory, policy and practice; and
- manage teams of researchers, co-ordinate networks, generate/catalyze research and exchange activities.

4. *The capacity to use research results -- in policy-making and implementation, programme development and management, development/sector practice, and to facilitate contributions to other research activities.* For researchers: This refers to the professional knowledge of factors (concepts and processes) underlying communication and adoption of innovation and management of change, and of the nature and implications of the research outcomes in terms of potential risks and benefits, constraints and opportunities for users, appropriate to moving from

the generation of ideas and analysis to enabling their dissemination and application -- and helping others to engage with this process. Specifically, it includes capacities to:
- tailor research designs, methods and the articulation of results in terms of specific application for specific users;
- analyze the types of attitudes, knowledge and skills needed by users to put the research innovation into practice and the capacities they need to maintain it e.g. to overcome bureaucratic, technological or socio-economic barriers to sustainability;
- conceive and execute dissemination strategies;
- present/disseminate research and results in clear actionable terms;
- plan and execute "risk-mitigating" strategies in introducing innovations;
- facilitate user access to/practice with research products and ideas;
- design and implement participatory research/adult learning methodologies;
- design and manage on-site and post-research extension activities;
- act co-operatively in putting time and imagination into joint project development and application with practitioner/users; and
- tolerate ambiguity of the real world, using incremental, iterative approaches.

For users (practitioners, programmers, policy-makers in the specific research context): This refers to having a knowledge of the substance, processes and/or technologies involved in the research, including its underlying justification and rationale, theory and assumptions and its potential risks and benefits, appropriate to applying it in their policy and/or practice environment. Specifically, it includes capacities to:
- engage in/understand the "language of research" and of the researchers (especially important where the cultural/social divide between researcher and user is wide – e.g. with indigenous communities);
- critique the research in terms of its relationship to reality on the ground;
- exercise self-confident judgement in deciding to enter into, and withdraw from, application of innovation activities;
- test and adapt ideas and innovations; and
- access and manage human and infrastructure resources for immediately applying the innovation and sustaining it.

5. *The capacity to create or mobilize research links to systemic policy formation or change, and to promote systems change*: This refers to knowledge of the research area, particularly in relation to development problems/issues and dimensions of risk or benefit in dealing with the research problem at national, regional and/or global levels; and professional and practical knowledge of policy systems and processes in general and within the specific contexts relevant to research application appropriate to mobilizing and facilitating application. This is arguably among the most *institution-intense* of the capacity areas, requiring people with capacities to think and act in terms of *organizations as systems* and *individuals as part of coherent groups* and able to work collaboratively with common goals. Specifically, it includes capacities to:
- interpret and implement research results in policy and organizational systems terms;
- communicate research results/implications horizontally and vertically to policy-makers and implementers;
- advocate and mobilize within and across policy bodies and interest groups;

- network -- not simply "be in" a network -- with self-confidence as an active-listener, interlocutor, catalyst;
- disseminate skills and results of research to other communities; and
- think and act in institutional and systems change terms.

II   Cross-Cutting Issues Relevant to the Five Research Capacity Categories

Five factors are suggested as important to consider in developing activities in any/all of these capacity categories.

a) The capacities needed and acquired within any of the five categories involve different *ways of knowing*. A critical task for specific capacity development activities will be to determine which ways of knowing are implied by the objectives in terms of what the individual, group or institution is expected to accomplish. For example, are they expected:

  ▪ To become better aware, informed, knowing the *what* or *that* of a situation?
  ▪ To become better able to explore ideas, understand the reasons underlying situations and the causes of events, knowing the *why* of a relationship or problem? or

a) To become better able to act on knowledge and ideas, analyze and interpret situations and adapt behaviours or practices accordingly, to calculate and mitigate the risks of agreeing to new ways of working, to develop strategies for mitigating the risks of, and integrating new practices, into current systems, to collaborate. In other words, to act as more self-reliant researchers, by knowing the *how* of changing a situation?

  These three ways of knowing are in one sense hierarchical: knowing *why* something is happening is unlikely to occur without knowing *that* it is happening. **But the progression is not automatic**. Learning at the level of awareness can easily stay there, and eventually be replaced by some new, more compelling piece of information, unless something happens to push the process further along; a more challenging, high order, capacity development activity facilitating a deeper, more consolidated, way of knowing.

Following are some examples of the types of knowledge different capacity activities are likely to produce – and not to produce:

  ❖ Farmers provided with on-site training to apply and test a fixed trial model for integrating rice and fish can be expected to follow the model well; they should not be expected necessarily to come away with attitudes and skills enabling them to be persistent testers, adapters and integrators as a part of normal farming practices.

  ❖ Local government officers and communities can be expected to improve their collaboration with each other to manage resources and livelihoods by "walking together" through processes of resource mapping and case studies; they should not be expected necessarily to develop this capacity solely by talking together in a workshop, irrespective of the quality of that experience as an awareness-building exercise.

  ❖ Senior ministry officers can be expected to support the goals of integrated action on HIV/AIDS on the basis of a study tour of successful regional programmes; they should not be expected necessarily to push the innovation forward as a permanent feature of their systems without the opportunity to engage in some kind of action-research process enabling them to test, assess and adapt the implications of such an approach in their own job functions, taking into consideration the innovation's rewards and risks within their own systems.

  ❖ A two-day workshop to train researchers in PR methods and field trips to show them applicable examples can be expected to create awareness; two days of mentored, hands-on practice with experienced peers in the uncontrolled world of real communities could be expected to begin changing behaviour – even if in a fairly limited way.

b) Certain *generic skills and knowledge* are important to all five capacity categories e.g. abilities to communicate orally and in writing, to articulate and exchange ideas, to collaborate on activities, to negotiate perspective or priority differences, to think, plan and analyze systematically.

b) The highest level of learning in each category is generally the same, that of self-reliant, independent action. This means having capacities for "learning to learn": to be able to seek information, analyze situations, take decisions and assess implications; and having stronger levels of self-confidence and motivation for doing all of these.

c) *Participatory planning, monitoring and evaluation are key* to effective capacity development activities in all categories. Learning is perhaps the most intimate of personal behaviours. Learning outcomes are, therefore, ultimately person and event specific. Any capacity development activity needs to develop its own indicators of expected learning outcomes. Development of such indicators should not be overlooked in the rush to achieve other goals. Involving learners themselves in this is at the core of good learner-centred pedagogy: to allow them to determine what they want to learn, how they learn best, if what they are learning/have learned has value, and what is helping/hindering them from applying their learning.

d) Because IDRC is a development agency, all categories of capacity need to meet the criterion of *development relevance*. This refers to the idea that while the degree of sophistication or complexity in the knowledge and skills acquired should be consistent with the scope of the specific research activity and with the learner's role/responsibility in that, *as a development intervention these activities should also promote movement on an institutional or systems basis* toward research independence and collaboration as the basis of long-term sustainability and context relevance at a national, regional or sectoral level. In many cases, this implies action to establish long-term higher education programmes or formalized research capacity-oriented networks/associations.

e) Capacity development interventions in all five categories are more successful the more clearly they are *designed with a view to end-use and end users*. In IDRC's case, there are broadly three end-use focuses:

    a) The *individual*. For IDRC, this is probably the least important end-use concern. While all capacity development ultimately happens at the point of the individual learner, except for free-standing, competitive research awards, the development of the individual *per se* will rarely be the rationale of its capacity development support, the core around which the training event is tailored. Support for unconnected researchers cannot readily be justified under a development mandate to sustain wider use of the capacities acquired.

    b) The *sector/theme*. Most IDRC support will probably focus here, aiming to build the capacity needed to advance research on its established development priorities.

Selection and training are based on moving the research forward, either as a specific project or a broader research programme.

- Where the capacity is expected to contribute to the field over the longer term (i.e. selection is <u>programme</u> related), training should reflect this -- substantial, in-depth and linked to future IDRC-funded activities. There is risk here, however. The longer and deeper the training is, the more likely it is for the emphasis to shift from that of the research sector or thematic agenda to that of the trainee's own.

- If, on the other hand, the aim is to fill gaps of capacity for a single project, the training should also reflect this – it should be time-sensitive and task-oriented, short-term and immediately related to the needs of the data collection, analysis or dissemination. Risk here is less, but so is potential impact.

c) The *institution*. The intent here is sustained capacity. Selection and rationale, contents and duration of the training/education activity are based on the human resource situation, needs and priorities of the research organization, academic centre, government bureau or network involved, as well as those of IDRC.

- Goals are long-term, justification for the capacity development being more appropriately programme, rather than project, based. The aim is not simply to fill a gap in immediate research expertise, but to create locally-available, good quality venues able to keep such expertise alive and growing.

- Institutional development activities are, therefore, framed within the context of other research and capacity activities in a country or region and how these might be used and complemented. They aim at building a cadre of competent staff able to sustain momentum, maintain direction and guide practice over the medium and longer term.

These three target end-use focuses are not mutually exclusive, of course. Within a long-term research perspective, each may be targeted. An institution development focus ultimately may be most appropriate where the goal is to establish a field of research expertise in a research-poor region, but a sector focus may be the best and least risky way of getting there. In some cases, involvement may start even further back, with a more individual-centred small grant awards programme to establish a baseline of expertise in an unexplored field. In any situation, intended use must be a key criterion for determining who is trained, through what mechanisms or modalities, and as the benchmark against which progress and outcomes are measured.

III   Capacity Development Quality and Effectiveness
Cross-cutting all categories and mechanisms, capacity development activities will be successful
the more coherent and technically sound they are as *learning events[3]*. This means considering all
activity elements expressly and explicitly in terms of *adult learning principles, development
criteria, and sound management and accountability*.

There are three important caveats for IDRC to consider in all of these matters of ensuring good
quality learning events:
   i) Its ability to manage the situation is *highly variable*, project to project and context to
   context;
   ii) Its ability is *most typically limited*, insofar as the Centre rarely delivers any of the research
   or capacity activities itself; and
   iii) Its projects *most often address capacity at the meso or macro level*, less often at the micro
   i.e. with the individual learner as such. With the exception of graduate degrees (and not
   necessarily even then), project documents rarely identify the person who will be trained, for
   example, talking more generally about workshops for stakeholders, study exchange for
   farmers or networks of research managers.

None of these caveats diminish or negate the relevance of the points made below. They do,
however, require the Centre to think somewhat more creatively than might otherwise be the case
about how it can ensure them.

→ *Application of Adult Learning Principles* [4]

Matching capacity goals with methods.   Even good quality inputs will not produce expected
outcomes where they are inappropriate. People are not likely to learn what they do not have an
opportunity to experience or practise. With respect to the different types or ways of knowing
described earlier, capacity development activities aimed at higher level learning e.g. changing
attitudes, values and behaviours – need to provide actual support for realizing it. Exposing
participants to new ideas and information, to "knowing what", can be very effective in catalyzing
the determination to act. Actually taking that action and changing behaviour will require follow-
through support, to enable learning at the level of "knowing how". This means, for example,
providing opportunities for people to talk through and work out the risks, including facilitating
their practising the behaviour, to experience its implications and adapt/consolidate it into the
existing context.

Accounting for the learner.   Learning involves challenging or breaking down current ways of
thinking and acting, and then engaging with new ideas and options. It involves taking risks to
experiment with uncertainty. It requires time and opportunity to test, revise and consolidate new

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[3] Learning "events" is used intentionally here as a generic term to refer to any action, informal through to formal,
expected to enable capacity in some way. Much of IDRC support to CD is too informal to be called "training". On
the other hand, learning *processes* are matters internal to the individual who is learning; not something IDRC
orchestrates (albeit which it tries to influence). A learning event, then, is an external, often supply-driven, issue; a
learning process is an internal, necessarily user/learner-driven one.
[4] For a much more detailed discussion of adult learning and capacity development see *Adult Learning and Capacity
Development in IDRC* (Bernard & Armstrong).

knowledge in terms of existing patterns; and then to revise or reject those patterns in creating new or improved behaviour.

- Because learning is such a personal process, a person's *readiness to engage counts*. To be successful, a capacity activity needs to be sure that all participants have the basic knowledge and skills to understand what is happening (language, communication, analysis, technical), feel sufficiently self-confident and psychologically and emotionally secure to let themselves engage, and be physically able to engage (reasonably healthy, rested).

Creating a conducive learning environment. Most people do, in fact, come to an education or training activity ready to learn, certainly in the case of IDRC participants. Their capacity to engage will be enhanced or diminished, however, by the quality of the learning experience. A good learning event is one in which is *learner-centred*; where it:
- effectively assesses the strengths, needs and purposes of learners, providers and, as appropriate, prospective users e.g. research agencies (It is estimated that 25-30% of a successful learning event is in its planning);
- adapts to learner characteristics, beginning with the capacities each brings and building on and from these to allow each person to set his/her own pace in interacting with contents;
- provides for incremental, facilitated learning "stages" e.g. small experience-based and user-friendly groups for less confident participants;
- provides a challenging learning environment which pushes thinking, knowledge and skills from known to unknown;
- integrates theory and practice e.g. workshop content with field activity, or the principles of networking with the actual application of those behaviours;
- uses trainers/mentors who have sufficient knowledge of the topic <u>and</u> facilitation skills to allow them to be flexible and iterative in responding to learners in non-jargon, user-friendly terms;
- is transparent and accountable, with clear objectives, clearly stated, but open to adaptation as needed; and
- creates a welcoming "learning space", one which accounts for language and cultural characteristics of learners and facilitators, including language of use <u>and</u> language of research (this is especially important when involving researchers and practitioners from outside the main stream or from indigenous knowledge paradigms and traditional ways of learning); allows sufficient time; provides conducive physical conditions.

→ *Application of Development Criteria*

Ensuring Convergence of Purpose   The clearer the goals and objectives of a capacity development intervention or activity are, and the more fully they are agreed upon by all those responsible for implementing and using intervention, the more likely it is that positive progress will be realized. There should be a match between a) the overall goals of the project or programme, b) the existing capacities of participants or organizations and c) the specific capacity development goals of the CD activities.

It is especially important that prospective learners are consciously involved. Learning happens most effectively and sustainably when it is intentional, tailored by/to learners' needs and interests. Vagueness about what is actually to be learned, and to what level of expertise,

1. makes it difficult to design appropriate actions, and even more problematic in terms of monitoring and adjusting them;
2. makes it more likely that capacity and other activities of the project will work at cross purposes, or in parallel rather than complementary directions, thereby diluting or undermining effectiveness; and
3. makes accommodating to the reality that learning almost always takes longer than planned, or that it will almost always go in unexpected directions, less effective.

Ensuring Relevance   Relevance concerns the degree to which an activity is consistent with the priorities of those involved with it, or affected by it. In this respect, relevance is related to the concept of ownership: people are more likely to engage in, take responsibility for, and assume the right to adapt an initiative when they see it as somehow moving their own agenda forward. This is certainly the case where learning and learners are concerned; again, changing capacities is an inherently personal process.

- Capacity activities are more effective where planned outcomes of the learning are *relevant to and consistent with the priorities, tasks or roles* of those people and groups expected to apply them.

- Interventions are not effective, even when people learn what they are trained in, if the contents and processes of that training are inadequate for, irrelevant to or undermining of context.

Ensuring Appropriateness   Repeating an earlier, but critical, point, capacity activities are more effective where the methods used match the ends sought, and are progressively monitored and adapted during implementation in ways which maintain and refine that match. If researchers are supposed to be able to manage their data collection and analyses more effectively following training, they should have facilitated opportunities actually to do it, not simply talk about it; and do it consistently and with increasing degrees of independence. Appropriateness as used here concerns the extent to which a CD strategy or activity was the best one for realizing the learning objectives or outcomes sought, in the location, and for those people and institutions concerned.

1. It is a *matter of context*: doing the right things given the prevailing conditions – social, political, economic, institutional or policy systems.

2. It is also a *technical question*, how good the match is between the *"means"*: the mechanism or method used, and the *"ends"*: the new or changed knowledge, attitude, policy or practice expected to be seen at the end of the project.
3. It is also a *matter of resources* - of *whether this action enough*: that the financial, technical/professional and time resources are sufficient and suited to the context and objectives of the project.
4. It is finally a matter of the *mandate, approach and capacity of the facilitating agent*: that the mentors have the right cultural sensitivity and adult learning skills, as well as technical competence, to work with peasant farmers or global "stars".

Ensuring Sustainability　　　　　　　Sustaining research capacity (as opposed to research results) requires sustaining research as a valued enterprise -- including its funding, initiation and use -- in a country, discipline and sector. It concerns two issues: a) building and strengthening the supply side of the research capacity community (those who provide/facilitate the scientific and methodological learning opportunities); and b) on the demand side, enabling those who have acquired capacity to continue to use it in the widest possible way. Without being used, knowledge, skills and interest in further learning can easily decline; and without being used specifically to do and disseminate research, a strong demand side will less likely evolve.

For IDRC and its partners, *supply side* issues include there being, and IDRC having,

- a good knowledge of where the appropriate capacity "suppliers" are (institutions, programmes and individuals);

- knowledge, skills and resources to assess the quality of those suppliers, negotiate appropriate matches between them and trainees; and, where necessary, to create new supplier capacities (e.g. developing training-of-trainers programmes).

Sustaining research capacity requires actions to:

- create respect for, and credibility of, the research enterprise as a whole;
- ensure continuity of access to research expertise in all five research capacity areas;
- provide the "ways and means" of research capacity e.g. information systems, associations, partnerships, networks, capacity for maintaining all of this together in synergistic, flexible and cost-effective ways;
- provide support to the organizations and systems which house research activity (universities, research centres, analytical NGOs) and, to a degree, those which use it (policy-making bodies, development outreach centres); and related to this;
- strengthen capacities for research management.

If the supply-side of research communities (individuals, institutions, sectors, policy systems) are to continue to apply their newly acquired capacities, the wider *demand-side environment* needs to become more capable of using the research they produce; and researchers need to become more capable of pushing their research towards potential users.
  - o *Application* of capacity is not automatic. Even a well-learned skill or area of knowledge may not result in behavioural change if the situation in

which the individual attempts to use it impedes or prevents that happening.

- Colleagues or supervisors may respond negatively to, or decline to interact with, the new ideas or behaviours.

- Workplace norms and regulations may fail to support experimentation, risk-taking or application of innovations.

- There may be a dearth of structures or resources capable of making use of novel products or practices.

  o All of these are, in one form or another, capacity-related issues. Whether at the community, bureaucratic or professional practice level, changing or at least accounting for the effect of these environments on capacity utilization, needs to be included as part of the overall capacity development initiative as it is planned, implemented and followed-up.

  a) The more IDRC projects *mix the demand and supply sides* through participatory research methods, involving users either within the framework (e.g. CBNRM) or as researchers per se (e.g. the PlaW project in Uganda), in theory the Centre should be able to say it is helping sustain both the research and the CD process – to wit, teaching people not just to "fish", but to examine and adapt the processes and consequences of the enterprise vis-à-vis other priorities.

Building sustainability is also a matter of *creating capacity for ownership of the research enterprise*.

  b) It means working to ensure that those who conceive, do, manage and use research come to perceive themselves as having the right and the responsibility for directing the processes <u>and</u> that they are able to *act* effectively on that perception.

  c) This includes ensuring that risks, benefits and responsibilities for actions are understood, agreed and accepted by all stakeholders: IDRC, sending and receiving institutions, and participants.

  d) It includes also ensuring that each of these actors has the opportunity to assess both the direct and opportunity costs of different capacity development options in ways which reinforce continued local application.

All of this means persistence and continuity. Cumulative and horizontal actions need eventually to cover all five categories, of research capacity (conducting research, managing research, etc)

from a basic level through to increasing sophistication in each; and to foster a critical mass of expertise in institutions and sectors.

→ *Application of Sound Management and Accountability Principles*

Maintaining Consistent Monitoring and Evaluation   Because so much of their success depends on individual decisions, and abilities to engage with new ideas and behaviours, capacity development interventions are complex and relatively unpredictable. They can be well-managed and guided; they can rarely be controlled.

In any particular intervention, while good planning is important, good monitoring and responsive adaptation are equally essential. Cumulatively, capacity development policy and programming require continuing evaluation of this nature if the validity of design assumptions and quality of outcomes related to the various mechanisms and methods used, is to be assessed.

- In other words, learning needs to be measured in terms both of the *immediate activity* (e.g. was it of good quality and effective) and at the *meta-level of the research programme* overall (e.g. was it the "right" – appropriate and relevant - action for the human resource and development goals sought).

With input from organizers, participants and the relevant user environments, monitoring and evaluation need to ask clear and consistent questions about:

c) the *validity of initial assumptions* as to how the capacity development strategy, mechanisms and methods were expected to achieve the desired outcomes (i.e. to trace the logic of the link between research capacity needs; the levels and types of skills, knowledge, attitudes these implied; and for/by whom, how, where and when the intervention was developed);

d) the *quality of the fit between the specific capacity objectives and the methods used to achieve them* (e.g. was a study visit the best way to mobilize on-farm experimentation by farmers and what factors/conditions made it so?);

e) *what the trainees/participants learned*, as others perceive it and as they perceive it themselves (not always the same, but both important);

f) *the relevance of the learning outcomes* to what trainees needed to do, and to what they were expected or themselves expecting to learn;

g) the *factors helping and/or hindering* the learning and its application;

h) the *cost-benefit of the capacity intervention activity*, from the various perspectives of those involved:

        a) Who benefited?

b) Who paid -- in money, effort and opportunity costs; in hidden and direct costs? [Much of the cost for capacity development support in IDRC is hidden in general PO project development, monitoring and networking activities]

c) What or who was left out because one type of intervention was provided instead of others (e.g. networking and not institutional development or workshops)?

d) What was the effect on the wider research agenda?

i) the level of *quality and duration of the benefit*:

- How much was learned?

- For how long were these outcomes of value to the learner, the sending organization, the sector, the funder?

A last issue with respect to the evaluation of capacity activities concerns attention to some of the *weaknesses commonly associated* with such CD actions.

➔ **Measuring Actual Intentions against Level of Learning Achieved**: Many measures capture memorized material; essentially, "knowing that". While this is a valid kind of learning and its assessment is important, most IDRC capacity activities aim at much more complex reasoning, analysis and communication skills which need also to be assessed. It is important to be clear about intended results and evaluate these against wider goals.

If they are not adequately presented, or are no longer relevant, an assessment of whether new intentions were or should be articulated. Many project plans and evaluations fail to distinguish sufficiently whether, as a result of the experience, participants are, or should have been, more able to talk about a situation (knowing what); to better understand that situation (knowing why); or actually make the planned changes in their behaviour (knowing how).

➔ **Measuring Conditions and Extent of Learning**: Many measures capture expressions of satisfaction with a learning experience (e.g. how appropriate participants feel the contents or skills of the teacher were). Or, they measure intentions (e.g. how will the new skills be applied in the job). Both are valid, but of limited value unless pushed further to ask why and how the experience has affected people as it has; and to follow them up to see whether, how and why or why not new knowledge and skills are being applied.

➔ **Measuring Long-term Use:** Systematic long-term follow-up of the differences capacity interventions make is critical for IDRC's own capacity development policy

and programming agenda. How - or do - trainees from one type of capacity activity think and behave differently from those of other activities? Do some types of interventions show better *persistence of change* than others - and is the extent of this difference worth the cost? Such questions require data to be collected on a regular basis in order to establish patterns or trends: For example, does sustaining network linkages produce people who are better able to conceptualize research, over the long term, than sending researchers for graduate studies or short courses?

IV   Strategic Approaches and Elements

As suggested in the preceding section, all capacity development activity involves matching the intended learning goal (category, type of learning outcome) with

> (a) the capacity mechanism most likely to produce it;
> (b) the specific design, methods and scope of that mechanism; and
> (c) the readiness, capacities, interests, priorities, learning styles, culture and physical well-being of the learners.

(a)   *Strategic Thinking: the means or the end?*

Thinking strategically about capacity development requires deciding its place within the whole of the project, programme or thematic area. For example, is capacity development to be *an end in itself* i.e. to produce a strong body of researchers or institutions in the specific field, or *a means to an end* i.e. to strengthen capacities needed to get a specific body of research done?

In many cases, the research activity itself is expected to be the opportunity for learning, with some ancillary capacity support provided as required. *Here, the approach is one of learning to do research **by** doing it.*

In other cases, the capacity goal is more central, with capacity development intended to help prepare an individual or institution to engage in research in the future or over the long-term. *In this case, the approach is learning **for** doing research.*

This distinction is important because the *two approaches imply a different emphasis* on the bottom-line, though again, it is a more a matter of *a continuum* than a separate case. The more that capacity development is the <u>core</u> of the agenda, the more important it is that it has its own identity in terms of objectives and resources within the project design, implementation and evaluation, and the more important it is that it follow its own dynamics in terms of planning, implementation, monitoring and assessment of success.

In all cases, the capacity activity has to meet the criteria of good learning. But where the specific expectation is to create within people new knowledge, skills and ways of behaving, the capacity development actions need to have a life independent of, albeit closely aligned with, those of the research. This includes giving serious attention to the amount of time and financial resources to be made available; and the level of expertise expected to be given to designing, conducting and monitoring the capacity development activity. Such attention is not often provided.

In all of this, the *critical point about a capacity development strategy is that it is important to have one*. If there is no designed strategy, there will be a non-strategy by default, and the action will be less effective and efficient as a result. This makes it important to think through the capacity questions:

> j) the range of capacities needed to realize short and longer term research goals;
> k) the range and quality of capacities and capacity-generating sources *available*;

l) the range and cost of *options* for strengthening both and filling the gaps; and over what time-frame.

  o   In general, answers to these questions will produce capacity actions ranging from low, "opportunistic", *research-led capacity development* activity, through to high, "purposive", *capacity-led activity*.

Situations: At the low end of the capacity development continuum, basic capacity is considered to be available, and will be strengthened or extended by doing the research.

Moving further towards the upper end, basic capacity is considered not adequate for the immediate needs of the research, and will be enhanced through short courses, by regular monitoring, by involving the team in a co-operative linkage.

At the highest end, capacity is considered far from adequate for the growth and sustainability of the sector's research needs, and will be created or significantly extended by capacity inputs - often formal ones - provided independently of, or parallel to the research.

Objectives: At the low end, the aim is to keep the research on track. The bottom-line criteria for capacity inputs are *research-driven*; learning inputs must immediately fit into, and cannot slow down, the research agenda.

Moving further toward the upper end, the aim is to ensure the research objectives are realized, and while the capacity inputs still must be *research-related*, to ensure the research objectives are achieved, they can stand somewhat apart, through short-courses, for example.

At the upper end, the aim is to enhance or ensure capacity for sustained research in the broader sense. The bottom-line criteria here for capacity inputs, quality and outcomes are *learning and learner related*. Inputs need to be relevant, appropriate and effective in producing sustained research *capacity*.

Capacity Activities: At the low end, activities are largely informal, researchers may become better by doing the work, but their learning *per se* is incidental. POs support them through monitoring, counselling and nudging in specific directions; suggesting or arranging training ideas; occasionally assigning consultant-mentors and making informal links to networks or non-facilitated study visits.

Moving toward the higher end, interventions become more systematic, more focused and expert-led, including formal and sustained network membership; graduate degrees or diplomas; long-term attachments and co-operative programme arrangements; support to training institution development.

Expected Learning: From low to high capacity ends, learning outcomes become also concomitantly more significant, from simple awareness of ideas and issues, information

acquired, basic technical skills and minimal "value added" to an existing skill or knowledge base; through to development of strategic research thinking, research management skills, and senior professional expertise.

Inputs Required: From low to high, these range from availability of flexible funding and responsive mechanisms (e.g. open-ended budget line for "as needed" action), adequate PO monitoring budget and on-call technical assistance; through to forward-looking policy support, careful and sustained capacity assessment before the project starts, while it is running, and at its conclusion; long-term research trajectories; professional in-house knowledge of capacity development theory and practice; significant planning time and resources for capacity activity and CD-earmarked funding to apply to multiple mechanisms.

Some Strengths: For the low end: relatively low cost, modest planning and monitoring demands, fairly immediate and direct benefit of application to and payback for the research. For the higher end: benefits are probably wider than the immediate project, with potentially good synergies among research and institutional capacity goals, greater ability to realize "building a research base" development goals -- as distinct from knowledge-generation ones.

Some Limitations: For the low end: the less planned, the more unpredictable, are the learning outcomes, with high potential for missed learning opportunities without someone trained and responsible for looking for them. For the high end: usually higher costs with labour-intensive planning and monitoring, a higher risk-benefit ratio with longer, more expensive learning periods and trained people who are able and may therefore move to more lucrative positions than the ones planned for in the project, and the need for systematic long-term evaluation to determine the true extent of impact.

(b)   Modalities
Very broadly, three general modalities describe the ways in which capacity development actions (mechanisms) are delivered: informal, nonformal and formal. As evident from the preceding sections, most IDRC capacity activities fall within either the informal or nonformal category; relatively few are formal.

Informal   These are basically *unstructured situations* where opportunities to learn are made available in the environment, but without being designed specifically as "learning events". Thus, other than in a very general way, by definition[5] they do not take into account learner characteristics, learner or learning goals. Learning content or context are "as is", and no use is made of tailored facilitation or teaching methods. Whether and what individuals learn, are largely functions of a) the learners' own motivations; b) their ability to learn and their learning interests; c) the relatively happenstance relevance and manner of the activity content; and d) the general "welcomingness" of the setting.

Some Examples:

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[5] To the extent an activity does account for learner characteristics in planning and delivery, it would become more appropriately defined as "nonformal".

- o Unstructured mentoring,
- o Non-facilitated study visits,
- o Non-facilitated seminars
- o Internet links,
- o Documents distributed,
- o PO comments,
- o Conferences.

Some Strengths:

- Informal modality activities are easy and relatively inexpensive to organize.
- In being supply-driven, they are also relatively cost-efficient, able to serve many and diverse people with fairly undifferentiated materials, hands-off media and minimal preliminary work (e.g. they raise few selection issues).
- They require minimal if any follow-up.

Some Limitations:

- Informal activities provide little or no influence over learning quality or outcomes.
- While they can be cost-efficient, this does not mean that they are necessarily cost *effective*.
- They are primarily aimed at the most basic, "knowing that", type of learning.

Nonformal These are activities *structured as deliberate learning events*, but without the expectation or requirement of standardized curriculum, entry requirements or completion measurements. Content is geared toward the specific learners and content involved, and methods are (or should be) learner-centred: interactive, flexible, context-specific in terms of culture, language, age and gender of participants. Quality of inputs and outcomes is assessed on the basis of meeting learner and organizational needs/goals (i.e. is criterion-referenced) rather than some external measure (norm-referenced).

Some Examples:
- Structured mentoring
- Facilitated study visits
- Facilitated seminars and workshops;
- Structured attachments.

Some Strengths:
- The nonformal modality allows for direct and flexible management of inputs and processes.
- Both facilitators and learners should have a role in tailoring content and methods to realize specific learning objectives and learner characteristics.
- Where done well, this modality can be very cost-effective and, in that sense, cost-efficient.

Some Limitations:
- The modality is typically labour-intensive and often expensive in terms of preparation and selection time.
- It demands high quality facilitation.
- Usually only limited numbers can be served at any one time – although the design can make creative use of small-group mechanisms and learning technologies (e.g. distance education).

<u>*Formal*</u>   This modality is usually undertaken within a formal training institution, school or university setting. It is typically the most expensive to provide, almost always requiring an established curriculum, teachers who are in some way certified, and learners who meet specific admission and exit criteria.

Some Examples:
- Certificates
- Diplomas, Masters degrees, Doctoral degrees,
- Training-of-trainer programmes.

Some Strengths:
- Formal modality activities have a well-defined and managed structure and content, making them more *predictable* than others in terms of timing and trajectory.
- Once the match is made between programme and learner, the actions are relatively self-directing as supplier and participant move through the required steps.
- Monitoring demands are lower for the funder - though should not be for the supplier and user.

Some Limitations:
- The direct and opportunity costs of the modality are typically high, in terms of time needed for preparation (making the right match) and -- especially for graduate training -- the time needed to complete.
- The risks of losing control over initial assumptions of learning application are relatively high, unless specific actions are taken to mitigate them-- but this then increases planning and monitoring demands.

1. *Mechanisms and Methods*

Mechanisms and methods are the actual design and arrangements of the learning event.

a. *Mechanisms* are the *what*: the vehicle by which the capacity development activity is delivered e.g. workshop, study visit, mentor/advisor, graduate degree, co-operative project.

b. More fluid than mechanisms, *methods* are the *how*: the ways in which the activities of the mechanism are planned, delivered, assessed, for example:

   i. the basis on which participants are selected;
   ii. how mechanisms are prepared and monitored;

iii. how the application of participants' learning is followed up;
iv. what the content and format of the materials are;
v. what kind of facilitation is done and by whom.

In deciding on a particular capacity development activity, a series of decisions has to be made. Each capacity mechanism and method will result, to a greater or lesser degree, in different learning outcomes. All mechanisms and methods produce better outcomes where best-practice learning principles are applied. This is true even for the informal modality, although with very modest impacts expected. Mechanisms need to be planned and managed not just as formal, nonformal, or informal, but in terms of how they are organized to deliver programmes. *Following is an overview of some of the most frequently used mechanisms, presented in terms of (i) their capacity category; and (ii) some of their strengths and limitations.*

[i]   Capacity Development Mechanisms for the Five Capacity Categories
The following mechanisms are, for the most part, drawn from IDRC practice – albeit selected on the basis of those which, in principle, would be most appropriate for the kind of learning intended. They are listed generally from low to high in terms of the level of learning expected to be realized. How well any one of the activities achieves the objectives will, of course, be a function of the appropriateness of the *methods* used and the quality of implementation.

1. *The capacity to conduct research is realized by actions to*:
   * distribute sector/issue-specific technical material, and newsletters to keep those junior scientists, who may be specially isolated, in touch
   * support researchers to join networks
   * organize exchange visits with peer researchers
   * organize general issues workshops, seminars
   * organize project-specific working group meetings
   * support attendance at available short-courses focusing on research methods
   * facilitate study/site visits to scientists/related research activities
   * provide on-site/field-work training
   * organize short, punctual training on project-specific issues
   * create cross-project attachments for methodology training
   * supply consistent/fulltime advisors for institutional development
   * create small grants mechanisms to supervised research and peer exchange
   * establish/strengthen capacity of training-of-trainers programmes.

2. *The capacity to manage research is realized by actions to*:
   a) For a Project
   * provide regular PO or consultant feedback on reports
   * provide one-off or occasional technical advisors-as-monitors
   * provide long-term mentors/fulltime advisors especially for novel methods (such as participatory research)
   * organize networks of research managers to exchange best-practice ideas or techniques.

   b) For an Institution/Network

* arrange attachments of institution managers to different types of research projects
* create/support short-course training on research management concepts, processes
* initiate long-term institution development capacity action:
  a) in- house organizational change interventions,
  b) long-term mentors or fulltime advisors,
  c) twinning with like-minded institutions,
  d) graduate training.

3. *The capacity to conceive and generate research is realized by actions to*:
  (i)   provide selected catalysts and entrepreneurs in a sector or theme with the opportunities to participate in conferences, post-graduate upgrading, or international attachments
  (ii)   provide full-time senior and/or counterpart advisors
  (iii) support co-operative projects, with long-term and tailored "resource advisors"
  (iv)   support network linkages which are sustained, professionally-relevant, and interactive
  (v)   support networks-of-networks to cross-fertilize research issues/paradigms
  (vi)   create research training programmes or institutions in selected fields or themes
  (vii) promote multi-disciplinary research expertise by creating or supporting long-term training programmes
  (viii) fund graduate and post-graduate education, with contracts requiring return to sending institutions and/or sectors
  (ix)   provide thesis support for research in programme areas or sectors.

4. *The capacity to use research results -- in policy-making and implementation, programme development and management, development/sector practice – and the capacity to facilitate contributions to other research activities is realized <u>for researchers</u> by actions to*:
* facilitate networks of researchers with users
* support researcher field-visits to sites of practice, using ethnographic and participatory analysis methods
* provide short and long term training on the theory and practice of utilization and user focused research
* support workshops with diverse project researchers to explore/share lessons learned about methods to move research to application
* use case materials in network dissemination and training
* facilitate pilot projects and case studies to test action/applied research approaches
* provide training for researchers/research managers on support to *user systems* e.g. helping extension officers and supervisors assess/improve handling of innovative farm practices or interaction with farmers.

And <u>for users</u> by actions to:
  ▪ supply extension materials on research results/guidelines for application
  ▪ support media outreach linked to support for practical application
  ▪ support practitioner peer exchanges
  ▪ organize study visits & follow-up with opportunities to practice or test utility of innovations.
  ▪ organize/facilitate networks of researchers & practitioners

- provide activity-based workshops, case studies with role-play & on-site technical assistance
- organize formal application-oriented short courses for users
- support and mentor participatory research
- facilitate on-site research e.g. on the farm, in the community or in the bureaucracy
- create and/or support permanent field or outreach centres (selected NGOs, co-ops) to facilitate mentoring and training of practitioners & users by mid level or senior researchers
- *develop and strengthen user associations/co-operatives.

5. *The capacity to create or mobilize research links to systemic policy formation or change, and to promote systems change is realized by actions to*:
- support coordinated publishing/dissemination of science policy, and research-practice materials
- provide on-site science/research-related advisors (e.g. to ministries, delivery institutions)
- develop/strengthen research institutions, think-tanks, forums
- build/reinforce networks of research, policy and/or practitioner communities, and facilitate their network collaboration and management skills
- establish information/data collection, management, distribution and exchange capacities for the region, in selected sectors and methodologies
- support training, action research and attachment opportunities focused on barriers to, and strategies for, institution and systems level innovation (e.g. policy-making, bureaucratic behaviour, implementation monitoring).

[ii]   Strengths and Limitations of Selected Capacity Mechanisms

While few of the mechanisms listed are exclusive to any one category, many are *more appropriate* to some than to others, depending on cost, benefit and type of learning outcome likely to be realized. For example:

In aiming to strengthen capacity to do research through a **network mechanism**:

➔ *a light-handed arrangement* is appropriate for helping participants maintain currency of professional skills, share ideas, feel professionally refreshed and make connections, through minimal support for connectivity (e.g. informal links through internet and mail, or occasional face-face meetings);

➔ *a more facilitated formal arrangement* is appropriate to catalyzing and enabling new research and research-use behaviours, building research coordination capacity within the network, and maintaining committed involvement in the field or sector, through regular meetings and frequent workplace exchanges, with members expected to contribute concrete inputs and undertake specific tasks.

In aiming to strengthen capacity for generating research ideas through **graduate training**:

➔ *a Masters degree* is appropriate for producing a technically competent professional, a well-informed scientist with a reasonably sophisticated grounding in theory and a good capacity to conduct research;

➔ *a PhD degree* is appropriate for producing a potentially highly creative scientist, knowledgeable of the history and trajectories of a field of science with a comprehensive and sophisticated grasp of a range of explanatory theories, and a capacity to build new theory and generate novel questions.

For both of these mechanisms, other decisions would need to follow in terms of **location of the network hub or graduate programme**:

➔ *Locating the degree training in the region*:

- Preferable, where this is possible, because it is cheaper, more likely to be immediately relevant and allow for a "practicum" element;

- More suited to women scientists who often have trouble travelling, or to younger or more rural researchers who have restricted language facility;

- Enables strengthening the local management/delivery institutions;

- But, can be difficult to maintain in terms of intellectual vigour or resources in especially weak research environments.

➔ *Locating the degree training overseas*:

(c)   Has strength where a relevant set of contacts or programme content is available because it can be an especially sound choice substantively;

(d)   Enables broadening participants' intellectual and cultural horizons;

(e)   Helps inter-linking with international and varied professional perspectives;

(f)   But, can be expensive and somewhat elitist in terms of who gets in.

And in terms of general design, a network or graduate programme can be **variously effective under different circumstances**:

➔ *In a co-operative arrangement* – when the home and host institutions are linked into a broader research programmes over the life of the network or degree programme, increasing chances of relevant, well-guided and sustained programmes of learning.

➔ *In a stand-alone arrangement* – in preventing the network or students from being tied to the demands of the participating institutions, sectors or research programmes, allowing the initiative to be tailored to specific participants and adapt flexibly to

changes in focus or environment – and thus enable user-ownership; but can also be professionally isolating, in keeping the network as a whole separated from the other connections the individual members' institutions/contacts, or students away from their regions where they take up their degrees just overseas or just at home.

In any of these cases, of course, decisions will also be influenced by factors such as availability of human and financial resources, timing and overall research agendas of IDRC and the recipient community.

The following is a more detailed list of mechanisms fairly common across IDRC, currently and/or in the past. Items (a) and (b) are usually (but not exclusively) found in a *formal modality*. The rest are generally in the *nonformal modality*. Where they are *informal*, they are generally weaker as learning events.

a) Creation of Local Graduate or Certificate Programmes or Institutes
Placed in regional academic, research and/or technical institutions, these programmes aim at contributing both to project or programme research capacity, through the individuals taught; <u>and</u> aim at contributing to organizational strengthening of the institutions which design and deliver them. Also referred to under the rubric of *training-of trainers programmes*, the intent is to build up the supply-side of the research capacity development enterprise. They aim to ensure sufficient and continuous local professional research and disciplinary expertise, well-managed programmes (degree, courses), and materials to sustain and strengthen some aspect of the research community. There is little doubt that such capacity is necessary if IDRC is to deliver on its development mandate. There seems generally greater doubt as to whether or how it should, or can, effectively create, nurture or sustain such capacity.

Strengths
> (+) can be made locally relevant, affordable and consistently available and adaptable to changing regional training priorities;

> (+) can be pivotal to initiating, building and sustaining regional research capacity in areas and topics important to IDRC and local priority programme areas;

> (+) can produce high benefit in sustaining technical and research capacities initiated through research activities in otherwise weak research environments;

> (+) provides opportunities for collaboration across Centre priority areas - research, evaluation, dissemination, gender;

> (+) can increase the cost-effectiveness of initiating programmes of research, helping progressively to improve the quality and reliability of research and training methodologies;

> (+) provides the context within which other programmes can work on strengthening research management capacities;

(+) lends itself to the concept and structure of the PI approach in allowing for quite novel learning contents, methods and mixings of researcher, policy-maker and practitioner.

Limitations[6]

(-) requires a long-term commitment to a research theme to justify high cost and labour-intensive characteristics;

(-) is a relatively high risk undertaking for IDRC, and efforts are wasted where there are shifts in Centre research priorities, country disruptions, changes in provider interests;

(-) demands considerable capacity development-related analysis and planning skills on the part of IDRC and partners to ensure scope, focus, level and duration of training vis-à-vis research concerns are right, to assess host institution and staff capacity, and to design content, methods, participant selection criteria.

b) Individual Advanced or Graduate Training

Support to individual masters and doctoral degrees is obviously most suited to the goals of conceptualizing and directing the research process, and to the higher levels of learning for independent action in all categories. While many of the strengths of such support can also be realized through other -- possibly less expensive and risky -- capacity activities, such as sustained participation in well-designed and substantively targeted networks or attachments, to do so requires people coming to these programmes with considerable independent and self-confident capacity already in-hand; people ready to engage with the relatively non-facilitated learning opportunities they provide. Graduate training is appropriate where this core readiness needs to be created.

Strengths

(+) sustains creativity in research thinking, in both the improved discipline-based knowledge graduates gain <u>and</u> in their ability to acquire, invent and exchange new ideas;

(+) produces strong, durable proponents/implementers of research and, with appropriate content, can advance policy/practice applications;

(+) facilitates understanding the place and importance of specific research and development issues, on their own, and as parts of a wider whole.

Limitations

(-) as a supply-driven activity, not very flexible with respect to novel content and methods, best suited to fairly traditional or proven disciplines and sectors;

(-) typically pre-set, especially at masters level and within North American systems, it is difficult to ensure learner-centred methods and creative matches between learner, IDRC programme and available degree contents, with this mechanism;

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[6] Those marked (-) indicate potential risks and difficulties. In most cases, the limitations can be mitigated by doing more and/or doing it better etc.

(-) the longer and more sophisticated the graduate programme, the more high risk it becomes in terms of both predicting the validity of, and managing, the initial matching between research programme and learner needs on the one hand, and the degree programme on the other;

(-) low reliability and not much negotiating room for IDRC – the quality and use made of degrees is ultimately up to the students, and how well they succeed in, and use, their learning;

(-) high transaction costs, given the labour-intensive preparation (matching/selection) and monitoring demands (where application to the field is expected);

(-) high opportunity costs for IDRC, the institution and the learner, which may not be mitigated by application of learning if IDRC priorities change or the researcher does not remain in the field.

c) Consultant Advisors/Mentors
These are intended to provide technical support to specific aspects of the research process, supplement local technical expertise and facilitate access to a wider knowledge/skills contact base. They work best where the advisor has sufficient (often considerable) capacity and time to interact flexibly with the institution and learners to provide step-by-step learning-oriented needs analyses, design activities with them, monitor and report back on strengths and weaknesses, and suggest new directions.

These arrangements are inherently limited. As non-neutral outsiders, advisor/mentors are "in" the setting, but not "of" it. They bring their own knowledge, skills and priorities and so can affect the thinking, action and attitudes of those they advise in unexpected, not always positive, ways. To quote one advisor, "IDRC and recipient's project managers must remember that we are temporary facilitators who cannot replace or fully represent either (of them)".

Long-term mentoring, as a specific sub-category, provides continuity of advice in a range of capacity categories: research planning, fieldwork design, data collection/analysis skills, research management, evaluation, HRD assessment, administration and liaison. The mentor can train junior researchers, link fieldworkers to regional counterparts, guide researchers/managers in developing programmes of work or further phases of the research, and catalyze research design or research methods innovation.

Strengths
   (+) where rationale and terms of reference are explicit, and knowledge and skill sets relevant, they can provide well-tailored, flexible, person-to-person learning opportunities especially appropriate to information and awareness raising, catalyzing interest, extending space for taking the risk of new research directions;

   (+) can form the basis of a capacity development resource person network around core themes or methodology-specific knowledge and skills;

Limitations

(-) unless tied to a network or umbrella project, can be too erratic to allow for sufficient consistency and depth for substantial skills (e.g. at the level of behaviour change) learning;

(-) often labour-intensive for IDRC in finding, contracting and monitoring the right advisor, one with the right blend of technical expertise and skills for facilitating adult learners;

(-) on-site mentoring has high direct and opportunity costs, making it difficult to place quality expertise over long-time frames;

(-) can be difficult to balance priorities of the learners with those of the advisor's terms of reference (which are not usually set by learners), risking over-balancing activities in favour of attention to IDRC programme objectives, production of administrative reports and responsiveness to external demands.

d) Programme Officers as Advisor/Mentors

This is typically part of the PO role, and the justification for hiring professional, often senior, researchers and sector specialists as project developers and managers. This capacity action works best where there is an overarching capacity development policy, with strategies, resources and recognition, for the task.

Strengths

(+) can provide well-targeted, flexible technical assistance;

(+) can effectively identify research capacity "gaps" in-progress, and organize timely, cumulative and iterative actions;

(+) enables links to other capacity development opportunities in IDRC and with its associates -- researchers, other projects, networks -- as well as supplying the technical and financial resources to facilitate them.

Limitations

(-) often too brief and sporadic as points of contact with researchers to do much real capacity development;

(-) weak where POs have limited expertise in learning theory and practice (few are hired with, or given professional development to acquire, capacity development expertise).

e) Networks and Networking

A good example of both a mechanism and a method, networks inter-link knowledge and people for the purposes of creating, strengthening, sustaining or extending research-related capacities,

and mobilizing resources. They are strongest as capacity activities where they act to facilitate lateral and vertical cross-fertilization of ideas, practical experience and lessons learned; where all members have clear, committed capacity objectives and tasks, and each expects to realize benefit from the effort. This implies networks having good co-ordination and facilitation, to focus, design and sustain good quality learning activities. *It implies attention within the network to all of the other elements that make capacity grow*.

As a specific sub-category, a *regional network-of-networks* can be effective in supporting local, country-specific networks, enabling the information exchange, workshop and other capacity opportunities to be "stepped-down" in successive stages so that they are closer to the reality of researchers and potential users -- addressing issues of specific linguistic, political, cultural, and perhaps environmental concern; enabling lessons learned to be shared with colleagues within their own contexts. This type of *nesting of networks* can also enable linking research institutions, both North-South and South-South.

Strengths

(+) where more passive/loosely structured (occasional meetings, unstructured study visits to member sites), can be a cost-effective way to create awareness, elaborate information/knowledge bases, catalyze change by sharing examples of innovations tried, insights gained;

(+) where more facilitated (co-ordinated through a secretariat, with workshops, links to courses, attachments), can generate learning of new knowledge, skills, attitudes across sectors and disciplines; or across theory, policy and practice;

(+) can be a wide-reaching, cost-effective way to provide systematic mentoring, coordination, monitoring and some evaluation across similar projects, toward creating a thematic base;

(+) can mobilize interest in new, more inclusive and interdisciplinary research approaches, especially among senior scientists;

(+) can sustain research capacity, enabling the "research-developed" countries of a region to "stay linked with and helpful to the less developed ones" -- and thereby contributing to the generation of further projects; and

(+) can provide a "profile" to researchers who become better known within the research community, with increased potential for funding from other donors or national governments.

Limitations

(-) are unlikely to create capacity to move research innovations forward for the broader research community *unless* complemented by on-site, sustained -- probably formal -- capacity activities;

(-)are high-maintenance the more they are facilitated -- more costly in budget/time for co-ordination, methodological support, access to information, general guidance and encouragement, assistance in the technical development of proposals, organization of workshops and training programmes.

f) Study Visits

These are typically intended to provide the opportunity for researchers and research users/practitioners to experience an innovation first-hand; to see what others with similar mandates, goals, constraints and/or backgrounds are doing to (perhaps) better effect. Study visits are most likely to promote effective learning where they follow the principles of any other nonformal learning event. Visitors may well become informed/aware of new ideas by simply being there. They are unlikely to become sufficiently committed to the new behaviour unless they actually have a chance to engage.

Strengths

(+) can challenge unreflected assumptions, catalyze new ideas, and provide (usually limited) hands-on experience – all within a relatively risk-free, and risk-reducing environment;

(+) as peer arrangements (farmer-farmer, researcher-researcher) study visits can be excellent occasions for motivating the willingness and courage to try to new things;

(+) can be especially relevant and sustainable as capacity activities where linked into network arrangements which enable good initial matching of host and visitor, iterative planning, support to the host as a facilitator, and post-visit peer contact.

Limitations

(-) are labour and expertise-intensive when organized as coherent learning events, requiring relevant "matching" (e.g. the gap between host and visitor is large enough to challenge, small enough to bridge), and both hosts and visitors being helped to clarify and agree on core learning goals (not just show-and-tell actions), articulate practice-related questions and answers, and use a common language (type/register), and sufficient, flexible time;

(-) difficult to manage as learning events in requiring capable facilitation to maintain a sense of mutual learning/benefit and common understanding, continuous checking on progress toward objectives, appropriateness of methods and actual outcomes realized;

(-) ineffective when they are one-off activities, with no follow-up of learner groups to help them adapt and/or consolidate their experience to home situations or disseminate the learning and its implications to stakeholders and others in the community or home institution affected by the innovation.

g) On-Site (e.g. farm, community, ministry) Research

These activities are intended primarily as a means of improving the validity and reliability of results through applied or action research, by including a capacity development component

aimed at enabling users to act as researchers. Most involve basic training for practitioners to systematically implement the experimental application, and collect and record resultant data. More sophisticated training enables practitioners to help design the application, adapt it during application and analyze outcomes. All of these activities are better as *long-term capacity* initiatives where they aim at this second level of independent action and follow-up beyond the time-frame of the research project, to support adapted application of the new ideas and skills.

Not all (perhaps not most) of these activities have capacity development *per se* as an objective, however. The goal is not generally to create more capable practitioners (though this is a complementary benefit probably worth planning for and assessing more than occurs in practice – especially where high-order learning is concerned). The issue of practitioner learning is important, nevertheless, for the quality of the research itself, since the more the practitioner is able to influence the application of the methodology (not just apply it), the more s/he becomes part of the process – and thus an independent variable who needs to be factored into any measure of results and any dissemination of the "innovation".

Strengths
> (+) provides good opportunities to improve researchers' understanding of, communication with, and chance to influence, the real life of the development problem under investigation;
>
> (+) is often associated with peer exchange, one of more powerful methods to facilitate practitioner learning where the match is good and sufficiently sustained;
>
> (+) where appropriately planned/implemented, can have lasting benefit in enabling practitioners to apply an experimental mindset to *all* of what they do (as producers, managers, community members);
>
> (+) can form an important bridge between research and research utilization.

Limitations
> (-) is labour-intensive, especially where it provides effective follow-up (one-shot sessions often produce initial failure, discourage persistence or diligence, and can disincline practitioners to engage in future analysis-for-change efforts);
>
> (-) learning can be too limited or superficial to be sustained past the project, possibly wasting a potential development opportunity.

h) Participatory Research
This is a special case of capacity through, and capacity to do, research. It engages researchers with practitioners and integrates research into practice. "Capacity" in PR refers not so much to developing skills in research, as to researchers becoming better able to facilitate community participants to use research skills to, in turn, strengthen their own life development capacities (for example, marginalized communities becoming better at self-governance, resource management, family and community decision-making, or conflict negotiation).

In other words, capacity development in the context of participatory research aims to create researchers who are able to use the PR methodology with local communities; *and* to create communities which are empowered *through use* of PR as a learning methodology to analyze, interpret, assess and be articulate about their life situations.

Many of the actual capacity mechanisms within a PR framework are the same as those of other research approaches: training in conceptualizing problems in researchable terms and/or in strategies of data collection through on-site training modules, workshops, networking, study visits. The critical distinctions of the PR methodology, and so of training for its application, are that:

- users/stakeholders have input into the problem-definition, parameters, methods and use of the research equal to or greater than that of the "official" research team;
- the facilitating team is competent in facilitative/adult learning practice as well as research methods;
- the progress of the activity serves *first* the needs/priorities of the learning community and *then* the questions of the researchers;
- the particular non-linearity and unpredictability of PR are recognized by flexibility of the project team in adapting focus and resources to evolving conditions; and
- serious attention is given to the *ethics of intervention* because community-focused analysis through PR inevitably threatens the community status quo.

For IDRC, the challenge of maintaining an effective and appropriate balance among the capacity and research demands in PR projects, is inherent in the design itself: one of intentionally attempting to integrate the dual objectives of development (i.e. strengthening community knowledge, skills of analysis and ability to make sound decisions) and of research (e.g. how to enable sustainable livelihoods within environmental management). As the range and lessons of IDRC support to PR expands over different cultures, sectors, types of participants and purposes, it will be critical for increasing attention (such as that of Minga in LACRO and CBNRM in SARO) be given to understanding participatory research *per se* as a learning and change process.

Strengths

      (+) can be dramatically effective in integrating the processes of research as a way to enable learning for enhanced life-management and empowerment -- i.e. the ultimate linking of research and practice;

      (+) can generate new knowledge from new perspectives without the boundaries of disciplinary or sector thinking;

      (+) is the most sustainable kind of learning insofar as it engages people in an examination of, and effort to change, their core thinking and behaviour.

Limitations

      (-) is a high risk exercise for vulnerable communities where intervening researchers undermine existing knowledge and behaviour through initial support to community analysis, but then fail to follow-up with continued to support to communities in dealing with the implications of the change;

(-) requires researchers with considerable research, facilitation and communication skills, strong sector and community change knowledge base, a long-term, highly flexible institutional agenda and resource base, and solid research-development ethics.

i) Small Grants Mechanisms
Where these are deliberately designed as capacity development vehicles, (and sometimes they are not) small grants can effectively blend support for undertaking co-ordinated, supervised research, at whatever level of sophistication is targeted, with the opportunity for peer exchange, either with other grant-holders and/or with fund mechanism supervisors e.g. senior researchers, funding agency officers.

Strengths
> (+) brings new/junior researchers into the field of practice in supervised ways;
>
> (+) can advance research agendas through a series of mini-research projects aiming to strengthen capacity in a specific sector or issue, or in a new methodology.

Limitations
> (-) heavy time and labour inputs are required at the up-front design stage;
>
> (-) high expertise and management costs are required throughout to ensure adequate selection, technical support and monitoring.

j) Institutional Development
It is important to note that few, if any, mechanisms are discrete – or used in discrete ways. Rather, there are typically mixes in IDRC projects. Institutional development activities, for example, can involve the whole gamut of other mechanisms depending on the scope and comprehensiveness of Centre and recipient goals and objectives. *The critical issue is, from the outset, to conceive as fully as possible the whole of the capacity task*, including whatever elements this implies, and how these fit together in timing, resources and expected outcomes.

Aimed at strengthening research institutions, institutional development capacity activities are intended to underpin research capacity in a sector/issue over the long-term. As a capacity initiative, institutional development requires a comprehensive, holistic perspective, even if the IDRC intervention itself is more narrowly focused. A key criterion for institutional development, then, is that all education, training, information management and communication actions be *integrated, coherent, consistent, and mutually complementary*.

This means accounting for, and to a greater or lesser degree directly supporting, capacity development activities for all five categories of research action. It includes capacities needed both for immediate research tasks, sectors and issues, and for the longer-term, toward sustaining high calibre research programming and a critical mass of senior level scientific expertise. While IDRC may not want to support activities in all categories (for example, it may decide not to fund PhDs or senior managers) it is important nevertheless to ensure that the capacities of all levels

are available and encouraged, for example, by supporting networking and peer exchange/attachments.

→ This requires IDRC to be clear about its own intentions for long-term involvement and, at the same time, that IDRC know, from deliberate capacity mapping activity at the beginning, just what current capacities are. Thus, a return to the need for CD policy directives, encouragement and guidance.

Strengths

(+) creates the potential for building a sustained, equitable partnership between IDRC and the recipient institution, giving IDRC a legitimizing anchor in a region/sector;

(+) increases the potential and scope of research-to-practice reach, through a more stable, consistent research base, allowing for more comprehensive user-oriented designs and methods;

(+) can create a strongly sustainable base for both medium-term research priorities and flexibility for the longer-term evolution of a research agenda.

Limitations

(-) has high up-front costs in professional time for requisite baseline institutional assessments, organizational development strategies and monitoring plans;

(-) has heavy up-front training demands, especially in a weak research organization or system;

(-) requires long-term IDRC commitment to sustained institutional and programme linkages, and a readiness to accept uncertain planning trajectories and iterative inputs and outcomes;

(-) intervention-specific benefits are hard to track because of the complex of elements typically involved and large numbers of external variables beyond project and/or institutional control.

End Note:
All of the preceding should reflect the fact that *creating capacity is not an accidental, nor an incidental process*. Funding agencies cannot assume that it will occur – or even that it needs to occur – without a coherent understanding of what it is, where it is, and specifically how it relates to the other priorities of the agency and its partners. Capacity needs, and the means to address them, must be treated as seriously as any other research or development undertaking.

To fully understand capacity development, how it is situated and what can be done to strengthen this component of programming within IDRC, it is suggested that the reader review the two companion pieces to this introduction: *Adult Learning and Capacity Development in IDRC* and *A Framework for Evaluating Capacity Development in IDRC*.