Towards Improved Development-oriented Research Partnerships: Lessons Learned from the Biodiversity Research Programme (BRP)



Marc P. Lammerink

with contributions from Bram Huijsman René van Veenhuizen Leontine Visser Gil C. Saguiguit, Jr. Perry S. Ong Victor B. Amoroso Mariliza V. Ticsay



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Biodiversity Research Programme (BRP) for Development in Mindanao: Focus on Mt. Malindang and Environs The Biodiversity Research Programme (BRP) for Development in Mindanao is a collaborative research programme on biodiversity management and conservation jointly undertaken by Filipino and Dutch researchers in Mt. Malindang and its environs, Misamis Occidental, Philippines. It is committed to undertake and promote participatory and interdisciplinary research that will promote sustainable use of biological resources, and effective decision-making on biodiversity conservation to improve livelihood and cultural opportunities.

BRP aims to make biodiversity research more responsive to real-life problems and development needs of the local communities, by introducing a new mode of knowledge generation for biodiversity management and conservation, and to strengthen capacity for biodiversity research and decision-making by empowering the local research partners and other local stakeholders.

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Foreword

collaborative research for development, his North-South exemplified by the Netherlands - Philippine Biodiversity Research Programme (BRP) used in this report, is an attempt to search for the elusive paradigm of sustainable development. This search is reflected in the conduct of research, which will not only conserve but, at the same time, use and manage biodiversity for alleviating poverty and protecting the environment. It is a search for a better way of responding to the increasing need to abate a deteriorating natural resource base amidst an increasing need of a burgeoning human population for the necessary goods and services provided by this natural resource base. It is an attempt to bring the force of interdisciplinary application of science to respond to this ongoing scenario as the world community committed itself to the attainment of the Millennium Development Goals (MDGs) through collaborative activities involving sharing of knowledge and resources between North and South. It is an attempt to resolve the hypothesis that research, if properly conducted not in the same traditional way but in a more participatory, interdisciplinary and inclusive way, can be an effective tool to obtain outputs directly relevant to the issues of how it can be locally relevant with a global perspective. It is the application of science not only to search for the truth and better understanding of things around us but more a type of research that is responsive in terms of societal and environmental needs and requirements. It is trying to build up a new 'scientific culture,' a way of making scientists from different disciplines and culture work together more effectively to come up with outputs relevant to development issues at all levels.

The BRP is all of the above. It might have been too much to expect from a five-year project, which was subjected to the dynamic realities of a rapidly changing policy and technical scenario from the various key stakeholder countries and actors involved in the research programme. Even so, the author was able to expertly web together the lessons learned from these experiences so that it can be applied to similar attempts in the future. The analysis benefited from the author's close involvement from conceptualization to development and on to the implementation of the programme. It may also have some "close-in bias," which the author is apparently conscious of, but on the whole a lot of experiences here can be very useful for any similar attempts in the future on developing a research agenda directly bearing on the quest for sustainable development. As usual, some of these lessons are too early for its time but, just like nuggets of gold, these lessons are there for the "gold explorer" and sustainable development champions to pick up and apply whenever the ground is ready for the exploration. This is the importance of this document.

The document, however, did not deal with the questions of: (a) What if the selection of the research areas were problem-based right from the beginning and not solely biased to biodiversity assessment and where biodiversity assessment was only done as necessary and as it relates to the problem or issue being considered?; (b) What if selecting the research question or study to be supported were not based mainly on capacity of the researchers but involved "coaching" as part of capacitybuilding process?; (c) What if impact pathway of research outputs were made very clear right from the beginning?; and (d) What if funds were made available for Phase 2?. These are questions that can only be answered if this kind of research will be done again. Or, it may not be answered at all as the context by which this future research will be conducted could be entirely different from what is prevailing in BRP. Nevertheless, this elusive search for the kind of research that will respond to environmental and societal needs at the local and global levels will continue on as long as human society is pre-occupied with the operational aspects of the paradigm of sustainable development as a way of attaining the MDGs. If not now, more so in the future; and this report will make it easier for others to do it better without "re-inventing the wheel."

> Percy E. Sajise, PhD Director, IPGRI-APO, and Chair, Interim Philippine Working Group (PWG), 1997

Abstract

In this paper, the experiences of the Philippines-Netherlands Biodiversity Research Programme (BRP) are used to illustrate the highly challenging but complex task of undertaking development-oriented research, or research linked to societal needs and policymaking. The author has been involved in the process of BRP in the Netherlands and in the Philippines since the very beginning - as a consultant, as a facilitator and trainer, and as a member of the management body. The objectives of this paper are fourfold: a) to improve and widen the understanding of demand-led and development-oriented research; b) to share the experiences from the BRP; c) to contribute to the methodological reflections about demand-led research and partnership programmes based on knowledge directly generated from practice; and d) to generate improved future initiatives.

In the past decades, important paradigm shifts have taken place in the context of development research. New principles of ownership and partnership have been adopted in research co-operation, which have opened up avenues for more equal, genuine, and sustainable research programmes. This has given way to innovative modes of development-oriented research and new ways of supporting programmes with many fold implications.

In the early 1990s, the Dutch development aid adopted a research policy strongly geared towards development-oriented and demand-driven research and ownership of the south.

Such research should focus on the solution of acute or forthcoming problems, with relevance for local situations and directed to pro-poor growth and good governance. Its key function should be to provide knowledge and insight that lead to a better utilization of human and natural resources in developing countries. Now, after more than a decade, is a good moment to share experiences and lessons from demand-led and development-oriented research based on a partnership approach as supported by the Dutch. Moreover, where this approach has recently been abandoned, because a central role is thought by the research department of the Ministry to orchestrate and coordinate the use of knowledge and research based on knowledge and research strategies, related to the millennium goals in order to better respond to 'new challenges' and decentralised responsibilities at the level of embassies and bilateral or multilateral programmes.¹

Knowledge production and dissemination are basic requirements for development processes. But in most of the developing world, knowledge production is inadequate. Although developing countries are rich in traditional knowledge often this is not systematised and/or made accessible, moreover technical knowledge is often lacking. The purpose of international

¹ See: DCO/OC, 'Onderzoek in ontwikkeling', Den Haag, 2005.

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scientific co-operation was to mitigate this inadequacy. However, such co-operation often produced imbalances in South-North collaboration. Growing acceptance and changing visions on how to do research collaboration have produced paradigm shifts in the context of development research. A major change is the shift from a donor-led model of development co-operation to a model emphasizing the autonomy and responsibility of the South in defining its own policies and priorities: the shift from donor-driven to country-led development. In line with these modes of research, co-operation has changed: co-operation based on partnership and ownership, using participatory approaches and shifting leadership, decisionmaking power and resources from the North to the South. Another important change has been the shift to an interactive model of knowledge production. It is characterized by the development of knowledge within a particular social context. Science should produce relevant and applicable knowledge essential for development. The focus is on multidisciplinary research, producing locationspecific knowledge related to real-life problems and development needs. As a result, the international development paradigm shifted from top-down interventions to favouring bottom-up, participatory, and demand-led research programmes.

A few donors have set the trail for more genuine, learning-based research partnerships in North-South relationships. In 1993, the Dutch Ministry of Development Co-operation (DGIS) launched a series of development-related research programmes in nine countries in Asia, Africa, and Latin America, which they called the Multidisciplinary Location-specific and Demand-led Research Programme (MMRP). It sought to minimize the influence of Northern researchers and to shift the initiative and ownership of research to the South. In addition, the Netherlands Development Assistance Research Council (RAWOO) took the initiative to establish two (North-South) research partnerships: one in the field of biodiversity research with the Philippines (BRP) and one in the field of health research with Ghana (HRP). In all these programmes, the research agenda was to be articulated from within the developing countries: research topics were to be location-specific, development-oriented, and policy-relevant.

The first modality, the MMRPs, can be shortly characterized by financing from the North, but agenda setting and research implementation is left to the South. The other RAWOO-initiated modality can be described as 'symmetrical North-South collaboration with equal vote in agenda setting, in management and in financing within budget provided largely by the North.² Both encompass important shifts to the South by putting countries and local ownership of knowledge first.

The paper provides a detailed discussion of one example of a demand-led research programme, the Biodiversity Research Programme (BRP) in the Philippines (BRP). It has become clear that there can be no blueprint for developing and implementing such a programme with all its claims, expectations, ambitions, and conflicts. Nor can it be done without much difficulty. A process approach is required wherein

² Adapted from Waardenburg, 1997 by Velho, 2002: 34

the underlying principle is 'doing by learning' and 'learning while doing.' The resulting process is exemplified by the so-called 'ladder of events,' which explains the different phases passed through to develop the programme.

BRP has been an ambitious programme, responding to many claims. In the section on collaborative development research in practice, we will look more closely at the accomplishments of each of its intents, i.e., (1) its development-orientation (responsive to real-life problems and development needs); (2) its new research mode (participatory, interdisciplinary, and learning-based); (3) its strong focus on capacity enhancement and local ownership; and (4) its promotion of research partnerships (mutual trust, sharing of experience, and a two-way learning process). The chapter seeks to enlighten research and development practitioners of the difficulties encountered, the achievements realized, and the many lessons learned.

Finally, the paper presents some concluding reflections on experiences with this demand-led research programme. In their relatively brief period of existence (less than 10 years), both modalities supported by the Dutch have made valuable contributions to the creation of a social culture of demand-led research and have shown that, when funding is secured, in principle, countries in the South can build their own capabilities for demand-led research, with or without the presence from the North. A long-term perspective, however, is vital.

It also gives insights on the importance and feasibility of demand-driven or development-oriented research as a catalyst for change in developing countries. It is sincerely hoped that the experiences in the Philippines become an eye-opener and the approach generates a following in spite of the current Dutch Development Policy, which has made a complete turn around from the position that it had when it supported and initiated the effort to pilot the approach through the BRP, for which the reason will be elucidated in the following chapters.

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1. Introduction

During the last decade of the 20th century, development-oriented research was widely debated in various fora of the international research community. There is acceptance of the crucial role and importance of research and knowledge for the social and economic development of nations³. There is also a growing acceptance of the imbalances in South-North collaboration and of the importance of adopting new principles of partnership and ownership. In the early 1990s, the Dutch development aid had already adopted a research policy strongly geared towards development-oriented and demand-driven research and ownership by the South. As a result, in 1998, the Swiss Commission for Research Partnerships with Developing Countries (KFPE) developed 11 principles for research in partnership between industrialized and developing countries⁴.

Now, after more than 10 years, is a most opportune time to share experiences and distil lessons from demand-led and development-oriented research based on a partnership approach. It is towards this end that this publication has been developed, mainly focusing on the development of the partnership between the Philippines and the Netherlands related to development-oriented research on biodiversity and its effects.

The main issue is that these programmes are learning endeavours and sharing of experiences are paramount. The objectives of this paper are to: a) improve and widen the understanding of demand-led and development-oriented research; b) share the experiences from the BRP; c) contribute to the methodological reflections about demand-led research and partnership programme based on knowledge directly generated from practice; and d) generate improved future initiatives.

The article consists of five sections. First, the background of the demanddriven research programmes is discussed, in terms of the main shifts in paradigm that were sought. The second section explores the resulting "modes of development-related research" (developed or supported by the Netherlands Ministry for External Affairs): those modalities that promote a programme without involvement of Dutch researchers, the so-called MMRPs, and those modalities in which the so-called South-North partnership for development programmes is explored, in addition to joint North/South involvement and

³ This is acknowledged in the following documents: the 1998 report of the UN Commission on Science and Technology Development, "Knowledge societies: information technology for sustainable development;" World Development Report 1998/99, "Knowledge for Development," of the World Bank; the European Commission 1999 publication titled "Issues and Options;" and the 1999 UNDP Human Development Report.

⁴ The KFPE's 11 principles are as follows: 1) decide on the objectives together, 2) build up mutual trust; 3) share information and develop networks; 4) share responsibility; 5) create transparency; 6) monitor and evaluate the collaboration; 7) disseminate the results; 8) apply the results; 9) share profits equitably; 10) increase research capacity; and 11) build on the achievements. KFPE, 1998.

control. In the fourth section, the lessons learned are explored from one of the former programmes: the Biodiversity Research Programme in the Philippines. In the last section, the main conclusions and lessons learned are discussed.

2. Changing Visions on Development-oriented Research

Science, research, and technology are increasingly accepted as central to achieving what is meant by "development" and consequently, the improvement of human welfare. Most industrialized countries now believe that the mastery of technology and innovation provides a competitive advantage. But the processes by which "research" affects human welfare are complex.⁵ The recent view emphasizes the interactions between the many elements in the "national system of research and innovation:" interactions that combine science and research with technology, investment, skills, and many other factors in such a way so as to be able to contribute to changes in culture and world view.

Scientific discovery is combined with the demands expressed by consumers, commercial enterprises, and governments. Universities as well as private and government sectors, also need to interact, each contributing necessary inputs to the process. The knowledge of science and technology is combined with the necessary knowledge of human skills and the know-how required for production and management. Advancement of science is built up cumulatively over many years, both through incremental change and through breakthroughs to new levels of research and development. The key point, however, is that these capacities cannot be acquired "passively." They require a conscious effort of "learning and unlearning" and the acquisition of the necessary skills and knowledge. This requires substantial investment of capital, time, and other resources. Knowledge production and dissemination are becoming basic requirements for development processes.

This also means that "research," almost regardless of how it is defined, must be seen in the wider social and political context of how "knowledge" is generated, transferred or diffused, modified and applied. This does mean that the benefit of "research" in terms of "development" will be correspondingly limited if the other parts of the "knowledge management" process are underdeveloped or non-existent.

Science and technology are also part of North-South collaboration. In the majority of countries in the developing world, existing knowledge production and dissemination systems are inadequate and scientific co-operation tries to mitigate this gap.⁶

 $^{^5}$ The current conventional wisdom is effectively summarized in OECD. 1992. Technology and the Economy: the Key Relationships. ISBN 92-64-13622-3.

⁶ Text based on Dimitri Sudan of SNF (2002) after Velho.

Since the 1950s, the mainstream ideas about knowledge production and of how such knowledge relates to innovation (social and technical) passed trough different states. For our purpose, it could be of interest to describe briefly this historical evolution.

Period/ Paradigm	Conception of science	Who produce scientific knowledge	Model of techno- logical change	Policy framework and policy tools	Tools for policy analysis research evolution	Model of N-S coope- ration
Post-war until early '60s Science as an engine for progress	Socially and historically neutral, follows its own internal logic	Scientific community	Linear relationship basic research, applied research, technology development, innovation, diffusion, economic progress and welfare	Focus on science policy: large scale science funding, allocation of resources through institu- tional normative mechanism, scientific merit	Peer review ("good science finds out its practical applica- tion), input indicators	Problem- solving phase: find quick solutions to development problems through the use of human and financial resources in the North
' 60s and' 70s Science as a solution for problems (also cause)	Disputes about the neutrality of science	Scientific community (also is directed by and put in contact with the "demand")	Linear relationship (same as above but more demand pull S&T policy)	Emphasis in resource allocation in terms of priorities	Peer review and output indicators (biblio- metric) studies: role of S&T in technology innovation	Indigenous capacities of individuals (problem- solving and research capacities) in the South

Table 1. Evolution of knowledge production.⁷

⁷This table is adapted from Velho (2002:37).

Table 1. Continued.

Period/ Paradigm	Conception of science	Who produce scientific knowledge	Model of techno- logical change	Policy framework and policy tools and	Tools for policy analysis and research evolution	Model of N-S coope- ration
' 80s and ' 90s Science as a source of strategic opportunity	Science wars (realism vs. relativism/ constructi- vism)	Scientists directly influenced by a complex network of actors and its interests	Complex: includes several actors, a diversity of institutions (techno- logical trajectories subjected to "lock-in")	Emphasis on resources adminis- tration and allocation to strategic programmes, inter- disciplinary and collabo- rative research	Technology policy, intensi- fication of the peer review process, programme assess- ment ("impacts"), prospective and foresights	Generate collabo- rative partnership that benefit both sides; from supply- driven to demand- oriented

In the first two phases mentioned in Table 1, the focus of North-South collaboration is coherent with the general paradigm and its concepts. In the third phase, attention is focused on the influence and participation of actors other than scientists (like NGOs, farmers, policy makers) in a more or less critical way (relativism). For the model of North-South co-operation, participative methods are introduced in the hope to identify the needs of local research "users." However, many imbalances can still be observed, which are related to dependency relations and differences between Northern and Southern partners in terms of power, control over agenda and access to resources, information, funding, and education. As a result, most researchers in the South are trained in the North with the same Northern biases (personal observation). Therefore, this realization of imbalances needs to be built into programmes seeking synergy and mutual benefits through the right mix of people with mutual interest.

During the last two decades, important paradigm shifts in the mode of North-South collaboration in development, in development related-research, and in modes of knowledge production have taken place, i.e., towards demand-driven/led research (**what** subjects and who determines the subjects, mutual interest); in knowledge production (**how** to do participatory, multidisciplinary, and action research and capacity building); and with the right participants

(**who** are the multiple stakeholders, their mutual interest and their capacitybuilding needs). The changing perspectives and possible trade-offs between these areas will be elaborated in the following sections.

2.1. Paradigm shift in development co-operation: from northern to southern-led research

A major change that has occurred in the past decade is the shift from a donor-led model of development co-operation to a model emphasizing the autonomy and responsibility of the South in defining and implementing its own policies and priorities. This shift from donor-driven to country-led development in thinking about international development co-operation is characterized by the principles of country ownership, partnership, and donor coordination, which have been adopted and implemented by a range of developing countries and the international donor community.

These principles also influenced thinking on research and knowledge for development. From the viewpoint of development, creating ownership of knowledge in the South is vital for achieving sustainability and development relevance. The conventional view of delivering knowledge for development is based on the notion of a vertical transfer of knowledge, skills, practices, and policies from donors to recipients, from an external assistance agency to a 'beneficiary' - in other words, from the North to the South.⁸ As early as 1994, in analyzing research co-operation, Gaillard commented: "The main problems encountered in the implementation of the programmes relate to the asymmetry of the collaboration and the dominance of the partners in the North."9 Although all of the programmes he studied were developing country-oriented, "North and South do not necessarily have the same research priorities." He pointed to the need to rethink the traditional mode of research co-operation. In the early 2000, it was widely accepted that the provider-receiver model of North-South co-operation and capacity development (and the asymmetric relationship that goes with it) had become obsolete.¹⁰ The then emerging view on capacity development emphasized that the South must find its own way, take the lead in defining what it needs and be autonomous in determining its own research policies and in managing its own research programmes. A shift of leadership responsibilities, decision-

⁸Fukuda-Parr, et al. (2002).

⁹Gaillard 1994:56.

¹⁰For Chapter 2, different RAWOO reviews/publications have been used. See for example: RAWOO (2003:8).

making power, and resources from the North to the South should be an integral part of this process of change.

These new roles would require a new professionalism with new concepts, attitudes, values, methods, and behaviours. The funding agencies in favour of improving development research co-operation should have to define their positioning somewhere on the following continuing lines between 'extremes':

- From transfer of knowledge *to* two-way interactive process of research methodology and knowledge production (parties in South take the lead in setting the agenda, in defining what they need and are responsible for their own research policy, programmes, and development orientation); and
- From external assistance of beneficiaries by agencies and steering *to* facilitation and support to processes of change in knowledge production, absorption, and use.

2.2. Paradigm shift in modes of knowledge production

Another major change has been the shift from a science-push to a demand-pull model of knowledge production.¹¹ This is also known as the shift from a linear to an interactive model of knowledge production. During the past 15 years, substantial changes have occurred in the relationship between science and society. In many countries, the science paradigm is shifting towards the idea of science for the benefit of society. Governments and societies are increasingly expecting science to come down from its ivory tower to address economic and social issues and serve the needs of industry and society.¹² The future prosperity and well being of nations depend on whether they succeed in harnessing knowledge and innovation and in making the transition to knowledge-based economies and societies. This is often referred to as the 'new social contract' for science.¹³

¹¹ RAWOO (2003:6).

¹² RAWOO (2003:6).

¹³ For example: UNESCO (2000 and 2002).

This trend is being reflected in studies on 'modes of knowledge production' (see Table 2).¹⁴ The newly emerging research system, Mode 2, is concerned with societal problems and applications, and is based on the premise that science develops through its interaction with society, of which it cannot be detached. It should produce relevant and applicable knowledge that is essential for development. As a consequence for development research, this means involving local stakeholders in identifying the problems that need research, and translating these into clear research questions relevant for poor people's development.

Table	2.	Modes	of	knowl	edge	production. ¹⁵
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Mode 1	Mode 2
Knowledge is produced in the context of academic interests of specific communities	Cognitive and social knowledge carried out in the context of application to concrete issues
Communities organized by disciplines lodged in delineated academic departments	Transcends the theoretical and methodological positions of collaborating research partners from different disciplines and branches of knowledge
Within homogenous disciplinary communities, knowledge produced along dominant theoretical and methodological pradigms	Transcends perspectives; in the course of understanding problems, moves from fundamental to applied, theoretical to practical and curiosity-oriented to mission- oriented

¹⁴ Modes of knowledge production trends have been introduced by Michael Gibbons and others in their influential essay collection titled: 'The New Production of Knowledge: the Dynamics of Science and Research in Contemporary Societies,' London: Sage Publications, 1994., and Nowotny, H., Scott, P. and Gibbons, M. 'Re-thinking Science: Knowledge and the Public in an Age of Uncertainty,' Oxford, 2001. The authors distinguish two differing modes of producing knowledge. The first system (Mode 1), the mainstream mode of knowledge production, is deeply entrenched in the universities and puts emphasis on discipline-based training, on science-driven primarily by internal scientific developments, on a linear relationship between knowledge production and its application and use in society, and on quality assessment by peer researchers largely based on internal scientific criteria. The second system, Mode 2, represents a new research system, characterized by the development of knowledge within a particular social context, i.e., 'discovery in the context of application.' Mode 2 is concerned with societal problems and applications, involves an enlarged circle of participants, and has a widened definition of research. It is based on the premise that science cannot be detached from its social context and that it develops through its interaction with society. It should produce relevant and applicable knowledge that is essential for development. This means involving local stakeholders in identifying the problems that need research, and translating these into clear research questions relevant for poor people's development.

¹⁵ Adapted by RAWOO (2003) from Gibbons, M. *et al.*, 'The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Society.' 1994.

Table 2. Continued.

Mode 1	Mode 2
University as traditional site of knowledge production	Multiple and alternative sites of knowledge production brought together temporarily to solve problems
Quality determined technically through peer review	Quality assessed not only in technical terms but also in terms of relevance and usefulness in solving problems

The new mode of knowledge production, new research approaches and methods, new learning environments, all imply the new roles of scientists. Scientists continue with their normal science, but in addition they will have to learn from and with local groups and people, and so serve diverse and complex conditions and systems. The new roles include the following: a) as convenor of groups, catalyst, and advisor to stimulate, support and advice; b) as facilitator, searcher, supplier of materials and even as travel agent to allow groups to learn from one another; and c) as supporter and consultant. The outsider researcher role is to elicit, encourage, facilitate, and promote analysis by local researchers. The new roles are also related to new forms of professionalism of researchers. These can be categorized in Table 3.

Table 3. Changing professionalism.

Old Professionalism

Assumptions of singular and tangible reality

Scientific method is reductionist and positivist; complex world is split into independent variables and cause-effect relationships; researchers' categories and perceptions are central

New Professionalism

Assumption of multiple realities that are socially constructed

Scientific method is holistic and constructivist; local categories and perceptions are central; subject-object distinctions are blurred

Table 3. Continued.

Old Professionalism

Investigators know what they want; pre-specified research plan or design; information is extracted from respondents or derived from controlled experiments; context is independent and controlled. Professionals control and motivate actors from a distance; they tend not to trust people

Professionals set priority

Single disciplinary

New Professionalism

Investigators do not know where research will lead; it is an openended learning process. Understanding and focus merge through interaction; context of inquiry is fundamental. Professionals enable and empower in close dialogue; they attempt to build trust through joint analyses and negotiation; understanding arises through this engagement.

Local people and professionals set priorities together

Multidisciplinary - working in groups

This points to the importance of participatory and multidisciplinary approaches, and action-research programmes.

In recent years, participatory approaches in conducting research have blossomed. Common principles of participatory approaches underpin most of them¹⁶:

- A defined methodology and systematic learning process the focus is on cumulative learning by all the participants and, given the nature of these approaches as systems of inquiry, their use has to be participative.
- Multiple perspectives a central objective is to seek diversity, rather than characterize complexity in terms of average values. Different individuals and groups make different evaluations of situations, which lead to different actions, as well as views with different perspectives, biases and prejudices, and which lead to multiple possible descriptions.
- Context-specific the approaches are flexible enough to adapt to new conditions, locations, priorities, and actors and so they are multiple variants.

¹⁶Adapted from "Beyond Farmers First," 1994: 184.

- Facilitating experts and users methodology concerned with transformation of reality and improve people's situation. External people ('experts') are facilitating people to carry out own studies and achieve desired outcomes and people's learning.
- Leading to change and sustained action increasing capacity of people to initiate action on their own. The joint dialogue helps to define changes and motivates for action.

These new approaches and methods imply shifts in initiative, responsibility, and action downwards in hierarchies, especially in local people. In practice, these shifts ask for changes of roles, responsibilities, and power relations at the following levels: institutional, individual researchers, stakeholders, and funding agencies. It also asks for building trust, transparency, understanding, and consensus between and among all actors in the process.

2.3. Paradigm shift in North-South (and South-South) research co-operation: new attitudes in research and research collaboration

Gaillard also observed that there tend to be a division of labour between the partners: "Generally, developing country partners have been most active in the implementation of the research project, but less involved in the other phases, i.e., the planning of research and the dissemination of the research results. Scientists in the South tend to be more involved with execution tasks (data collection, field experiment), whereas their partners in the North tend to be more responsible for the conception tasks."¹⁷

As others observed, division of labour carries the inherent threat not to be able to carry out the complete range of research functions without necessarily having to rely on external assistance. The complete range of research functions implies that: "researchers are able to perform all aspects of research and related training in the field, from the planning process to the dissemination of results at the international level."¹⁸ On the contrary, an institution has developed partial research capacity if its researchers are only able to "carry out research

¹⁷Gaillard 1994:57.

¹⁸Thulstrup 1998: 91-92.

at the international level in co-operation with experienced researchers elsewhere" (ibid.).

The absence of local research capacity has serious consequences. It prevents a country from being able to effectively identify and seek solutions to problems, which are more or less unique to that country in its particular situation. But, and even more seriously, it precludes a country from making use of the vast global pool of new knowledge that is available at low cost. However, the existence of local research capacity (and a thriving research milieu) within a country goes far beyond the contribution made in terms of research findings. It entails giving talented individuals the chance to immerse themselves in their work, providing the right conditions for rational thought, and generally promoting the country's development into a "knowledge society." Furthermore, the quality of education and its relevance to the society around it can be guaranteed only through local research environments that are conducting research related to local problems.

Over the years, the knowledge gap between North and South has been steadily growing and is widening even more rapidly for the many developing countries that are now lagging far behind in as much as research capacity and advancements in technology are concerned. This leads to further marginalization of the weakest economies.

These imbalances are not easy to overcome. Some of the consequences are: international research priorities over local/ national research priorities; researchers from the South are mere data collectors and not involved in all stages of the research process; North-South relationship is overemphasized above South/South networking; too much attention is placed on international publication rather than national dissemination needs; and too much emphasis is placed on scientific rather than development relevance.

As a result, more and more organisations and individuals in the field of development-oriented research have to define themselves anywhere on the continuing lines of the following 'extremes,' related to research and capacity building in research:

- From supply driven research agenda led by Northern researchers and donors *to* demand driven research agenda setting based on needs in the South;
- From capacity building *to* capacity enhancement and empowerment both at individual and institutional level to acquire, absorb and transfer knowledge (South takes

charge of own development) and finally also at the level of national science system and government;

- From research as an end in itself *to* research as a means to an end (instrument for harnessing insights into complex development issues, which can generate policy options and empowerment of users); and
- From research dominated by the North to research partnership with equal say of Southern and Northern partners over governance and management of programmes (shift in leadership, responsibilities and decision making power over resources);

A process of 'learning-by-doing' is required, with new modes of co-operation and effective policies of enhancing research capacity in the South. Indeed, more balanced partnerships are not easy to achieve. As yet there is no single model, different approaches can work in different contexts and make use of different kind of methodologies.¹⁹ For all, long-term perspectives are needed.

Research institutes and researchers in favour of improving development-oriented research have to define themselves somewhere on the following continuing lines between 'extreme values and preferences' related to knowledge production. It is this positioning which influences choices and reverses biases in development-oriented research:

- From research based on traditional paradigms ('sciencepull' mode of knowledge development) and on needs from the North *to* development-related research related to reallife problems and development needs (emphasis on societal needs by involving stakeholders from South).
- From mainstream knowledge production *to* new modes of knowledge production (where existing local knowledge systems are given the importance they deserve at the side of other knowledge systems).
- From mono-disciplinary research *to* multi-disciplinary or trans-disciplinary research (integrating knowledge of different disciplines and of other sources to tackle multi-faceted problems);

¹⁹ For example, KFPE reports about different forms of capacity enhancement through research for knowledge production, training, and education of young researchers and research for development practice. However, pursuing all these goals simultaneously can easily overburden research programmes. Thus, priorities should be matched with specific baseline situation in each country (KFPE, 2001: 25). See also RAWOO, 2001.



- From exclusive attention of international publishing to widespread dissemination of knowledge to and application by local end users as well as (inter/national) publishing to peers.
- From quality assessment based on peer review and scientific criteria *to* quality assessment based on both scientific and societal criteria and the views of other reviewers from the South.

2.4. Again: shifting paradigms

Since the 1990s, important paradigm shifts took place in the context of development research in part as a response and in part as the reason for its growing acceptance and understanding. New principles of ownership and partnership have been adopted in research co-operation, which opened up new avenues for more equal, genuine and sustainable research programmes. This has given way to innovative modes of development-oriented research and new ways of supporting projects and programmes with multiple implications.

Although these shifts have influenced the set up of research project and programmes in many aspects, still the same dilemmas can be observed in the implementation of development-related research. These are slow and complex processes and the science context does not necessarily change that quickly. It is not simply a matter of replacing one approach with another. It is about the right mix of people and subsequent learning and unlearning. Both in the North and the South, researchers do not always tend to opt for demand-led research; and science-driven agenda are still dominant. The imbalances discussed in this section are not easy to overcome.

A few donors have been pioneering with more genuine, learningbased research partnerships in North-South relationships. In the next chapters, we will discuss the implementation of those pioneering development-related research programmes, which were implemented with the Netherlands' support and called for a leading role by actors from the South. The abovementioned shifts, which several international and Dutch players in research for development felt were necessary, will be further elaborated in the discussion of one example of a demand-led research programme, the Biodiversity Research Programme (BRP). It will be discussed along the lines of:

- The *development orientation*, including demand-led approach of research (agenda setting, multi-stakeholder);
- The new mode of *knowledge production* (learning-based);
- The need for explicit attention to *capacity-building*; and
- The development of North-South partnerships.

3. Two Modes of Dutch-funded Research Collaboration

From the 1980s to the 1990s, Dutch development-oriented researchers involved with policy making in the Netherlands had been experimenting with shifting control over thematic priority setting, funding, and management to the South within the Ministry of Development Co-operation (DGIS).

In 1993, the Dutch government through the DGIS, launched a series of development-related research programmes in nine countries in Asia, Africa, and Latin America, which was called the Multidisciplinary Location-specific and Demand-led Research Programme (MMRP). The MRRP sought to minimize the influence of Northern researchers and to shift the initiative and ownership of research to institutions in the South. In addition, the Netherlands Development Assistance Research Council (RAWOO) requested for collaborative research programmes and took the initiative in the late 1990s to help design and establish two (North-South) research partnerships: one in the field of biodiversity research with the Philippines (BRP) and one in the field of health research with Ghana (HRP). In all these programmes, the research agenda was to be articulated from within the developing countries; research topics were to be location-specific, development-oriented, and policy relevant. Before discussing the BRP in more detail in section 4, these two different types of programmes will be discussed first in the following section.

3.1. Shifting control: autonomy of research organisations in the South in the MMRPs

In the early part of 1992, the DGIS organised the first identification mission in order to initiate 'multi-year, broad-based, and location-specific multidisciplinary research programmes,' facilitated and guided by the Ministry itself.²⁰ Researchers, policy

²⁰DGIS 1992:25-27.

makers, and end-users of research in nine countries (Vietnam, Bangladesh, India, Tanzania, Uganda, Egypt, Mali, Bolivia, and Nicaragua) were invited to formulate demand-driven multidisciplinary research programmes that, once approved, could count on long-term commitment through funding. The modality can be characterized as follows: the North provided funding, but the agenda setting and implementation were left to the South.²¹

A process approach was promoted in a strong attempt to avoid what was called the Ganuza-dilemma.²² During this process, these research programmes were attuned to priorities and research agenda prepared by the developing countries themselves. The main philosophy of the MMRP was autonomy of the organisations in the South, which was seen as crucial for a genuinely demand-oriented research programme, mainly through local ownership and researchers-led agenda development. No Dutch research involvement was present.

Referring to research as being an important precondition for development, the overall objectives of the MMRP were:

- To provide greater opportunities for research, that is relevant to local development problems;
- To ensure that the research findings are disseminated and used; and
- To strengthen the capacity of local researchers and institutes in the South.

For the MMRP, 'research capacity' meant that their partners were able to formulate their own research project proposals, use participatory research methodologies, organise projects, administer and manage, network, and disseminate their research results. Capacity- building in the Netherlands did not figure in the programme. Capacity-building in the South and networking South-South were given highest priority. The focus was to support networks of researchers.

The guiding principles and conditions for co-operation included the following aspects:

• Sustainable development: the research programmes were invited to adopt a long-term perspective on sustainable development. To achieve this goal, the programmes

²¹ Adapted from Waardenburg, 1997 by Velho, 2002: 34.

²² Dr. E. Ganuza at the 1989 conference on development-related research stated: '... the active interplay between a dynamic scientific community, the productive sector, and the political society - necessary to promote and strengthen development research - is lacking in Latin America'. In: Schweigman and Bosma, 1990: 17.

addressed the causes of long-term processes leading to poverty, the degradation of the environment, and the oppression of women. The dynamics of these processes were fully taken into account in the formulation and execution of each research agenda.

- Demand orientation: the research programmes themselves fully responsible for designing, implementing and were their research. The demand for change²³ and managing the aspirations of the poor and other disenfranchised groups in these countries were decisive factors in the selection of research projects to ensure that the research addressed their perceived needs. The end-users of the research were regarded as those able to bring about change. Each research programme therefore sought ways to encourage representatives of the poor, NGOs, and policy makers in setting the research agenda and in implementing the programme.
- Location specific: each research programme was free to decide on the most appropriate scale for its projects this may be the whole country, a province or a region and to determine the general focus of the research. By taking local circumstances into account in the design and implementation, each research programme became location-specific.
- *Multidisciplinary*: any research addressing contemporary development problems is unlikely to be successful if the broader social and economic contexts are not taken fully into account. The MMRP research tried to abandon the traditional sectoral and mono-disciplinary research methods and incorporated other dimensions and approaches for instance bringing together teams of agronomists, economists, technical engineers and other specialists. Of course, this was not totally new in development-oriented research, where practitioners have been pleading for multidisciplinary methodologies for decades.
- *Strengthening research capacity*: the Netherlands policy aimed to assist countries in the South to strengthen, develop,

²³ At the onset, it is important to define who demands and who decides, because stakeholders at different levels can have very different and often conflicting interests. For example, a timber concessionaire will center almost exclusively on short-term economic profitability, while for traditional forest users, criteria such as risk minimisation and social acceptance play an important role. Conflicts are particularly likely to arise between the interests of the local population and those of temporary or external users, for example between local forest users and timber concessionaires'. In demand-led research, it is important to define which of the interests are prioritised - and in what way - in order to formulate a research agenda based on demands. See: Lammerink and Wolffers, 1994: 13.

and support the local capacity to conduct locationspecific, demand-oriented research. In addition to research, the programmes were supporting a wide range of capacity-building activities, including the provision of training for young researchers in formulating project proposals, participatory research methodologies, project organisation and management, networking, and disseminating their research results.

- Outputs: recognizing that translating the results into policy or concrete actions was seldom an easy undertaking, country research programmes consulted a wide range of groups to ensure that the results would actually be used in the formulation of effective policies and that they have been disseminated in such a way that all end users are reached.
- *DGIS' long-term commitment*: MMRP recognized that setting the research agenda, creating the organisational and administrative structures, developing relevant criteria, and selecting research projects require long-term efforts of at least 10 years.
- South-South co-operation: South-South partnerships and exchange of information have been encouraged through regular meetings. A multilingual newsletter has been launched.

The rationale for the development and enhancement of the MMRPs often changed the specific role of administrators in the donor organisation (DGIS) from steering to facilitation within clear boundaries. These new roles required a new professionalism with new concepts, values, methods, and behaviours. As such, the research department fulfilled its new role in four ways:

- By facilitating learning processes of partnership programmes;
- By referring research programmes to expertise available elsewhere;
- By asking third parties to provide facilitation on its behalf; and
- By developing a dialogue on issues of common interest.²⁴

²⁴DGIS, "Ervaringslessen" Internal Report, 2000: 16.

The MMRP focused on contributing to poverty alleviation, environmental protection, and improved gender relations within the overall framework of sustainable development. However, in some programmes, too much emphasis had been placed on scientific relevance and too little on development relevance. To strive for balance in an asymmetrical world required a continuous effort to neutralize the effects of the asymmetry.²⁵ The MMRPs re-addressed this asymmetry in North-South partnerships by enhancing the capacity of the South to make its own policy decisions and to carry out research to address important issues in the development process. Capacity enhancement through peerassisted 'learning by doing' was an important aspect of some of the programmes and some of the MMRPs had been able to deliver high quality research directed towards important societal issues, like the issue of monitoring the poverty reduction strategy in

Components developed of MMRPs are country-specific: example from Kerala, India

The Kerala Research Programme on Local Level Development (KRPLLD) had the broad objective of contributing to research and research capacity geared toward studying the process of change in the interest of sustainable development and alleviation of poverty. Research under the programme took their cue from grass root level realities and they were action-oriented, multidisciplinary, and participatory. It also strengthened research capacity of local institutions. A project advisory council and a steering committee guided the implementation of the programme since 1995.

Owing to the political context in Kerala, local level planning with people's participation commenced immediately. A variety of activities related to local level planning efforts were undertaken. Priority areas of research concern were elaborated: the agenda setting was based on considerable amount of consultations with non-researchers.

Apart from the process for invitation for proposals, another policy issue from KRPLLD was to commission certain studies identified by the programme to develop collaborative research projects. For this reason, workshops were held with selected institutions or persons. Together, methodology and proposals were developed, and monitoring and evaluation were elaborated. For the Steering Committee of KRPLLD, it was clear that new criteria had to be developed for scientific excellence, based on more holistic thinking and the involvement of many views of society.

²⁵ Most dialogue in the MMRPs have been from the start in direct interaction between the Programmes and central level of the Dutch Foreign Ministry, mostly bypassing the local Dutch embassies. This was part of the original set-up and also to avoid influence on the local research agenda from the specific priorities set by Dutch embassies, another aspect of the asymmetry. This resulted in many tensions throughout the lifetime of the MMRPs (*personal communication*).

Tanzania, and realized impact in their society. Most clear examples are the Research Programme on Poverty Alleviation (REPOA) in Tanzania and the Programa de Investigación Estratégica en Bolivia (PIEB). The donor became a facilitator to a demand-led design and this radically changed the North-South relationship.

At the level of the Southern partners, partnership *principles and processes* had to be developed as well. Since selection of promising proposals is important, different modalities were adopted, which ranged from the more 'call for proposals' type of selection processes, to the more 'partnership' type of proposals (mainly South-South), up to the more of 'consultancy' type of research.

INTENSIVE TRAINING OF JUNIOR RESEARCHERS: EXAMPLE OF MMRP IN BOLIVIA

Programa de Investigación Estratégica en Bolivia (PIEB), the MMRP in Bolivia, had a long-term objective of linking public policies with academic research and practice of social agents. The programme undertook intensive training in the formulation and execution of scientific research for junior researchers in different regions of the country, in order to strengthen research and allow for greater regional equity. The "local donor" always followed an active policy of research capacity strengthening: the central idea was not to select the best proposals but to establish a process that in itself allowed capacity enhancement. Their view was that there is a lot of potential research quality hiddne in the country and institutions, which remained unseen because of little exposure.²⁶

The MMRP institutions have become, in a sense, autonomous research policy-making bodies.

Transparency in the implementation process was of outright importance in the MMRPs. In the selection of proposals, for example, it was not enough to just accept or reject a proposal. Selection was seen to be part of a capacity enhancement process. The programme developed the process in such a way that each year, the proposals were of better quality. Research capacity of non-experienced researchers with very good ideas but little practice also increased.

It also became clear that sustainability of research support in developing countries could only be attained when, in addition to scientific achievements, there are also results in developmental achievement or vice versa. Thus, it became even more important

²⁶ See also document for full selection process and guidelines for presentation of projects, PIEB (Programa de Investigación Estratégica en Bolivia).

to establish a clear support process that enhanced capacities to implement the following phases of research: needs assessment, problem definition, translation into research questions, planning of research, implementation and data collection, monitoring and evaluation, analysis and reflection, dissemination and publication, and formulation of new questions.

Some lessons learned from MMRPs

In their relatively brief period of existence, they made valuable contributions to the creation of a social culture of demand-led research. The programmes also generated significant knowledge that became relevant to the development of their respective societies and contributed to the building and strengthening of the research capacities of individuals and institutions. In the MMRPs, societal needs and the interaction between research demand and supply are emphasized and knowledge utilization was considered an important constituent of knowledge generation. The ultimate purpose of demand-led research was to generate (empowering) knowledge that will enable individuals and societies to acquire the capabilities necessary to make informed choices of their own, without getting too much biased by the research agenda from the North.²⁷ Most programmes took the initiative of setting their own research agenda and ownership of research outputs seriously, through adaptations of Dutch aid policies to local circumstances, even when it sometimes created tensions with the Dutch initiators of the policy.²⁸ Some of the programmes stimulated strategic research in their countries. Both inputs and influence from Dutch research institutes and development organisations had been almost impossible to conform to MMRPs principles,²⁹ and vice versa: i.e., despite the positive results of most MMRPs and because of its strict separation from other Netherlands-funded research programmes, the MMRPs were not able to influence other research modalities. As such, the MMRPs played no catalytic role within the developmentoriented research programme of the Netherlands Government.

²⁷ Nair, 2002:17 and 23.

²⁸ Interesting in the case of REPOA (Research on Poverty Alleviation) in Tanzania was the constant plea to move away from single-donor dependency towards a more diversified portfolio of funding from other donors, thus defining its own ownership. This has produced tensions and was not easily accepted by the Dutch Ministry, which argued that this would put in danger their local ownership and conceptual autonomy over the research agenda and practice: concept sustainability should take preference over financial sustainability. There are also examples of reluctance from the Dutch Ministry to endorse collaborative South-North research project as part of the MMRPs, because of their 'fear' for asymmetrical relationships between partners: a rather patronistic attitude (*personal communication*).

 $^{^{29}}$ As can be understood, these principles produced a lot of tension with the Dutch institutes and organisations, which felt they were treated like 'angry wolves.'

Nevertheless, the almost 10 years of experiences of the different MMRPs have shown that in principle, countries in the South can build their own capabilities for demand-led research, even without the presence of the North. Yet, no lessons were brought out on the right interplay between Northern and Southern researchers for an interactive process of knowledge production, which might be needed for the complex answers that are required. Since the political top of the Dutch Government is not interested anymore to actively support research policy for developing countries, which led to the abrupt withdrawal of Dutch funding, the situation of the programmes became weak, in spite of its good results, positive impact, and adequate management. This is mainly due to their near single-donor dependency, which largely remained in place up to date. It should be noted that no single institution of demand-led, development-oriented research was able to develop financial sustainability within 10 years. This has become the Achilles' heel of most MMRPs.

3.2. Joint control: South-North partnership programmes

In addition to the MMRPs, another new type of research programme was initiated in the Netherlands, with emphasis on joint (South-North) control.³⁰ The Netherlands Council for Research for Development Co-operation (RAWOO) has initiated these programmes, on the request of the DGIS Minister. It was the logical consequence of the RAWOO recommendation to support "the creation of a limited number of long-term strategic research programmes focusing on important areas of attention related to development, set up, and carried out in close co-operation between parties in developing countries and in the Netherlands, the management of which would rest with intermediary organisations at arms-length from the authorities."³¹ These partnership programmes have been characterized by symmetric collaboration with equal vote in agenda setting, in financing within budget provided (initially) largely from the North, and in management.

Apart from the lessons learned in the MMRPs, other important lessons are learned in the context of these South-North partnership programmes.

Both shifts in development co-operation, in modes of knowledge production and in development-related research encompass

³⁰ I. Baud, 2002: 57.

³¹ RAWOO, 1995a, Medium-term Perspective on Research for Development, Publication No. 7.

important shifts to the South 'by putting countries and local ownership of knowledge first'.³² Solving development problems was one of the main reasons for research partnerships. This means that Southern partners should be able to play an autonomous role in shaping the partnership. This can include the Southern partner being free:

- To choose its research partners from the North.
- To decide whether or not to cooperate with Northern researchers.
- To decide which type of expertise it wants from the Northern partner.
- In which quantity, and
- At which level: junior or senior.
- To include research to be conducted in the North on topics relevant to the subject of the research programme.

However, a possible dilemma here is: 'if the South is given full autonomy, what is in it for the North?' Thus, when partnership is involved to at least some degree, Southern partners should be aware and take into account the demands that Northern institutions require from their researchers to meet. If those requirements of Northern institutes are ignored, the Northern researchers and partners will loose interest in research partnerships. On the other hand, researchers from the North should understand from the onset that objectives of research must focus on development issues in the South. Again transparency is a prerequisite.

The objectives of partnership arrangements should be to enhance the full range of research capacity and science collaboration. It should ensure that the research agenda even-handedly reflects the scientific interests of both partners, and it should promote a steady devolution of responsibilities for the various aspects of research to the host-country partner, up to the point at which the latter has developed complete research capacity.

In practice, the shifts described above ask for changes of roles, responsibilities, and power relations at all levels: institutional, individual researchers, stakeholders, and funding agencies. It also asks for building trust, transparency, understanding, and consensus between all actors in the process. Finally, it asks for

³² RAWOO, 2003, Committed to make development research pro-poor - review of 2001 and 2002.

a process of 'learning-by-doing' of new modes of co-operation and effective policies of enhancing research capacity in the South. Indeed, more balanced partnerships are not easy to achieve. As yet there is no single model, different approaches can work in different contexts and make use of different kinds of methodologies.³³ For all, long-term perspectives are needed.

RAWOO emphasized that research for development must be linked to *local needs and to social demands in order to increase the possibilities that the outcome is relevant and useful for developing societies*: such that social actors and stakeholders (in government departments, in civil society organisations, in the private sector, and in local communities) must be involved

- In the process of setting the research agenda;
- In the research endeavour itself; and
- In translating research findings into development policy and practice.

Two demand-driven, collaborative research programmes were established in 2000, the Health Research Programme in Ghana (HRP) and the Biodiversity Research Programme (BRP) for Development in Mindanao: Focus on Mt. Malindang and Environs in the Philippines.³⁴ Both research programmes aimed to develop "Development-oriented and Demand-led Research" under innovative North-South research partnerships with the following key characteristics:

- A focus on putting countries first, and on local ownership in combination with partnership.
- Collaboration with research partners from the Netherlands: Dutch research capacity is to be mobilized based on concrete needs identified in the respective countries.
- The process of knowledge production is placed in an application-oriented context, focused on the problems and

³³ For example, KFPE reports about different forms of capacity enhancement through research for knowledge production, training and education of young researchers, and research for development practice. However, pursuing all these goals simultaneously can easily overburden research programmes. Thus, priorities should be matched with specific baseline situation in each country (KFPE, 2001: 25). Also, RAWOO 2001.

³⁴ Biodiversity Research Programme (BRP) for Development in Mindanao: Focus on Mt. Malindang and Environs. The BRP is to be undertaken jointly by Filipino and Dutch academic, research, and government agencies, in a focus research area - a geographical wedge in the province of Misamis Occidental in the island of Mindanao, southern Philippines.

needs of policy-makers, knowledge providers, and communities.

- Direct links are established among research, policy, and implementation (e.g., in Ghana the research agenda is placed in the framework of the Medium-Term Health Strategy and the health sector reform process).
- Developing countries draw up their own national research agenda, following priorities in the selected policy area, such as biodiversity management and conservation in the Philippines and health in Ghana.
- Emphasis is placed on capacity enhancement, institutional strengthening, and networking.
- Equitable partnership is promoted based on genuine cooperation, mutual trust, and joint learning.
- Active involvement and participation of all key partners is sought in priority setting, programme implementation, and management.
- The programmes are supported with a grant from the Netherlands Ministry of Development Co-operation for a period of 5 to 10 years.

The main difference between the RAWOO-initiated programmes and the MMRPs was the assumption that equitable partnerships among Dutch and Philippine (or Ghanaian) researchers could be developed at all levels of the programme. This would enhance the quality of knowledge production, both in Ghana and the Philippines, as well as in the Netherlands.

Owing to the mentioned key characteristics, a different design and implementation process had been necessary, in which the 'donor' or supporting organisation was an active facilitator in the process of establishing the partnership. However, the complexity and difficulty to develop a genuine partnership, which has been shown in earlier experiences in development-oriented collaboration, and the effect of involvement of Dutch researchers may not have been included sufficiently in the design of the programmes. For example, Dutch collaborators did not get involved because of their habits and skills as facilitators, or networkers, external advisors or even co-researchers, all important roles in such partnership programmes, and roles that differ markedly from those played in conventional research and development. Furthermore, institutes have been chosen rather than individuals, as can be understood from the initial framework of the programme. This noted: 'Dutch experience must be made relevant within the framework of an agenda drawn up in the Philippines. Therefore, links should be found between Dutch expertise and the generic research areas identified in the Philippine National Biodiversity Research Agenda. In other words, what could be the contributions of the Netherlands and which institutes could play a role in a joint programme?'³⁵ Partly, the insufficient programme design for inclusion was also due to the rather ambivalent situation that existed at the onset of the programmes, in terms of the high expectations of parties involved, not the least the RAWOO, and the position of the main donor (DGIS), who emphasized that the influence of the Dutch should be kept to a minimum.

How this and other dilemmas have been handled will be elaborated in the next chapter for the case of the Biodiversity Research Programme in the Philippines. But first, we would like to make some preliminary lessons learned and conclusions based on these different modalities and both programmes, which have been put forward at the onset of such programmes.

Some lessons learned and conclusions

Various international workshops and meetings have highlighted lessons learned with partnerships in research. For example, at the 1999 Trivandrum meeting in India, experts from both South and North concluded that partnerships work only if they are prepared³⁶:

- In a systematic way;
- Through an intensive consultative process along structured lines;
- In which all stakeholders jointly reach a consensus about the research agenda;
- In which a clear management structure ensures that the programme is carried out as planned; and
- Changes are acceptable only if they are made in consultation with all stakeholders.

³⁵ RAWOO, 1998: 15.

³⁶ RAWOO report *North-South Research Partnerships: Issues and Challenges*, 2001. The report examines results of the Trivandrum expert meeting held in October 1999.

Furthermore, based on the experiences from the initial phase of the Ghanaian and the Philippines research programmes, it can be concluded that:

- Putting research on a properly balanced track is complex and takes time, effort, and a lot of levelling off. That is why donors have to take a long-term commitment.
- Setting the parameters for balanced co-operation is not a simple task. The process should be flexible enough to adapt.
- Development of Southern research agenda, based on own choices and priorities need to become a short time reality and not a long-term dream! Experimentation in agenda setting is needed.³⁷
- Recognizing asymmetries in programmes between North and South and South and South and addressing them properly allows to balance ownership and partnership in such programmes.

4. Biodiversity Research Programme for the Philippines

4.1. Development stages

In 1996, RAWOO commissioned a fact-finding mission to assess the possibilities for setting up a long-term collaborative research programme in the field of biodiversity and sustainable development, involving resource users in the formulation of research questions in the Philippines.³⁸ Accordingly, the Philippines provided a good context in terms of governmental support, NGO activities and universities' interests, and research gaps offered good opportunities for RAWOO to formulate a collaborative research programme in the field of biodiversity and sustainable development.³⁹

RAWOO found a ready ally in the Southeast Asian Regional Centre for Graduate Study and Research in Agriculture (SEARCA), whose concern is the promotion of sustainable

³⁷ Gert van Maanen, RAWOO, Annual Report 2003: 'Unless we walk as we talk and really give researchers in the South an open avenue to rise to the occasion themselves, the policy priority of capacity building in the South for own relevant research remains wishful thinking.' Attention is needed for the differences in vision and priorities between researchers in the centre and the periphery (in the Philippines, between Luzon and Mindanao).

³⁸ The reasons for selecting the Philippines are indicated in Lammerink, 1998: 10.

³⁹ Guzman, Lammerink Smolders, 1996: 53.
agriculture through natural resource management and environmental protection in the Philippines and in Southeast Asia. These two institutions jointly prepared and packaged the programme for funding by the Dutch government and other possible donors. SEARCA facilitated and organised the activities in the Philippines and was technically assisted by the Philippine Working Group (PWG), a group of environmental practitioners and university researchers. RAWOO mobilized professional and material resources in the Netherlands and advised the Dutch government on the implementation of the programme. The Dutch government through the Ministry of Development Co-operation (DGIS) approved the *Biodiversity Research Programme (BRP) for Development in Mindanao: Focus on Mt. Malindang and Environs.* Funds in the form of a grant were awarded to SEARCA to implement the programme over a five-year period.⁴⁰

The main objectives of the Biodiversity Research Programme were:

- To make biodiversity research more responsive to real-life problems and development needs;
- To introduce a new mode of knowledge production for biodiversity conservation, which is interactive and participatory, multi- or interdisciplinary, and learning-based;
- To strengthen national capacity for biodiversity research and enhance local ownership by empowering the Philippine research partners and local communities; and
- To promote genuine research partnerships between researchers from the Philippines and the Netherlands, based on mutual trust, sharing of experience, and a two-way learning process.⁴¹

The research agenda was the product of a series of studies, consultations, workshops, and other activities designed to focus the research programme and by involving many stakeholders such as researchers, local government officials, and local people in its formulation.

The first step was the development of a National Biodiversity Research Agenda, which provided the directions and general content of the programme based on research needs and questions

⁴⁰ Saguiguit, Smits, Maan, Ticsay, 2003: 5.

⁴¹ These intents should be seen as part of a long-term commitment of 10 years or more. The same to be fulfilled in a five-year programme, of course, gives it a very complex and ambitious framework.

that are important for biodiversity conservation efforts in the Philippines. Through the National Biodiversity Research Agenda, a multi-stakeholder group of researchers, government and nongovernment organisations affirmed the guiding concepts and further defined the qualities that make the research programme relevant to sustainable development in the country.

In the Philippines, Mindanao was chosen because relative to the other two regions of Luzon and Visayas, very little had been done for biodiversity conservation research. The selection of Mindanao added another level of complexity to the already complex framework. However, the focus on a particular research site in Mindanao, the Mount Malindang Range and the communities in its environs, would enable the Philippine and Dutch partners to engage in this innovative research endeavour. Participatory and interdisciplinary research in a biodiversityrich but vulnerable area was expected to produce knowledge and methods that hopefully would be useful to local people and their institutions. At the same time, these people and institutions would be supported in building their own capacities and be able to link with external resources for their development.



The BRP project site.

With the Dutch partners, it was further decided to pursue a pre-implementation phase in order to identify a more specific research site, to define priorities and to formulate a relevant research agenda, based on the situation in the chosen research site. Subsequent workshops with key persons from Mindanaobased institutions and researchers were held, which further focused the programme. A recommended research site within the Mount Malindang Range, a framework and roles of partners, and a plan for the pre-implementation phase were the results of these workshops.

4.2. The Pre-Implementation Phase (PIP)

The Pre-Implementation Phase (PIP), from January to December 1999, was a research, training, and planning phase before full programme implementation. It was meant to put the programme on the ground in Mindanao and to get a better understanding of demands⁴² through an interactive multi-stakeholder approach, involving researchers, government organisations, NGOs, representatives of local communities, and indigenous peoples. It was also meant to put the organisational structure for the programme implementation in place. It was conducted under the responsibility of the RAWOO in order to create the right conditions for a successful programme.⁴³ RAWOO also furnished funding. After the inception, a management body, called the Joint Programme Committee (JPC), would take over the responsibilities.

A training workshop on participatory research was initially held for the researchers in February 1999 at Central Mindanao University in Musuan, Bukidnon. During the problem analysis in the region, a research wedge was identified and divided into three ecosystem-based teams for the upland, lowland, and coastal ecosystems. A Stakeholder Analysis Team⁴⁴ was also formed with some members coming from the ecosystem research teams. The teams conducted a situation and problem analysis in the area using a Participatory Rural Appraisal (PRA) method in March to June 1999. This allowed for a better description of the identified research site, merging the observations of external

⁴² See earlier footnote on demands in Chapter 3.1.

⁴³ RAWOO, 1998: 3.

⁴⁴ Stakeholders who use biodiversity resources, such as: small farmers, sustenance fisher folk, and indigenous Subanan people, all with their own community-based organisations, associations or cooperatives. Furthermore, business entities/entrepreneurs, 'compradors and vendors' and local government units; and stakeholders that intervene for conservation, like: NGOs, government agencies and development Programmes. SEARCA, 2000: 15-18.

Land satellite map ground truthing and vegetation classification.

data-gatherers with the experiences and perceptions of the subjects of the research - the people in the communities of Mount Malindang and its environs. The workshop and subsequent fieldwork also helped build a pool of Mindanao-based researchers that became involved in the programme.

Post-PRA workshops among the researchers, who had been involved in the problem analysis, and key Philippine and Dutch partners were held to identify biodiversity research problems and opportunities as well as more specific researchable areas. A culminating workshop among the Philippine and Dutch researchers and key partners was held in Tagbilaran, Bohol in August 1999 to agree on the programme's vision, mission, goals, and strategies.

The Bohol Visioning Workshop also created coherence in the proposed researchable areas by substantiating the landscapelevel and crosscutting themes; and firmly grounding all the researchable areas in the situations and interactions described.

Outputs of the different workshops and fieldwork allowed for the development of a full programme proposal for Biodiversity Research in Mount Malindang, which was approved in early 2000.

GUIDING CONCEPTS OF BIODIVERSITY RESEARCH PROGRAMME IN MOUNT MALINDANG⁴⁵

Location-derived and development-oriented: The research agenda, priorities, and methods were obtained from the needs of the people in the area where it was undertaken. People identified problems and potential solutions, which were meaningful for their own development. In this way, the relevance and usefulness of research was established from the beginning.

Promoting multi-stakeholder participation: It involved not only the research community, but also most importantly, the local communities and stakeholders, including local governments and non-government organisations. Constant interaction and feedback among the stakeholders made the research more responsive to local development needs. Their participation enhanced the mechanisms for the research to input into policies, programmes, and day-to-day practices that will conserve biodiversity resources.

Systems-oriented and interdisciplinary: The conceptual framework of the research was holistic, i.e., it examined and aimed to understand the interaction of different elements of the system. To do this, research brought together the natural and socioeconomic/cultural components and their interactions, which affect biodiversity. Researchers of various disciplines in the natural and social sciences and those experiences in cross-cutting or multi-disciplinary studies worked together in this approach.

Using an integrated ecosystems or landscape approach: Interactions of elements within an ecosystem are fundamental to studying biodiversity. However, the interactions among the elements of contiguous ecosystems are equally important to provide a holistic and integrated analysis. Materials, energy, and people flow through adjoining ecosystems with positive or negative effects on these. A landscape approach can use methods of analysis associated with the watershed or catchments areas that spanned the uplands, lowlands, and coastal/marine ecosystems. Politicaladministrative units cover landscapes, so that they, in particular, will benefit from this broader and integrated analytical approach for making better decisions.

4.3. First and second-generation research programmes

The BRP officially started on 1 July 2000. Since then, Filipino and Dutch researchers jointly undertook an innovative research programme on biodiversity in the Mount Malindang range on the Philippine island of Mindanao.

In 2002, BRP reached a crucial stage in its development. The so-called "first-generation of research" (2001-2002) were completed. This research was intended to produce information

⁴⁵ SEARCA, 2000:4.

on inventories and assessments that were needed as baseline or initial data for further research, such as biodiversity assessments, intensive eco-profiling and social investigation.⁴⁶ The technical and some analytical reports were submitted before 31 December 2002 and synopses of the research projects were published in the established BRP Newsletter.⁴⁷ In January 2003, new or "second-generation research" (2003-2005) started. It was foreseen that the "second-generation research" should delve more deeply into interactions in biosocial systems and provide knowledge for alternative strategies and policy development.⁴⁸ As such, it already differed considerably from the first-generation research. On top of this, the development of a Master Plan for Development Research was an important improvement. This had been elaborated during a workshop held in Los Baños in November 2002 wherein Mindanao researchers, JPC members, and Filipino and Dutch resource persons actively participated. The resulting integrative research plan was designed based on a landscapeand multidisciplinary approach to Mt. Malindang.

The Master Plan for the Second-generation Research was the result of a gradual learning process during the first few years to put the guiding concepts and principles of the BRP into practice. The following were some of the lessons learned:

Paradigm shift: During the pre-implementation phase of the programme in 1999, the Mindanao researchers were trained to apply a participatory method. Those who finally got involved in the project implementation during the 'first generation' research indeed involved local people in their respective projects, but did not yet address the needs of the population. Moreover, the studies were primarily natural scienceoriented and little knowledge was integrated into an overall framework. Also, since not much was known about the area, the studies focused on basic information, such as the identification. enumeration, and description of biological organisms, rather than on process and biodiversity analysis. The Master Plan for Development Research improved on this by refocusing on a multidisciplinary- and landscape use, livelihood, and policy issues were approach. Land integrated accordingly into the natural science studies the landscape of Mount Malindang, including the across and coastal areas as well as ancestral domains. riverine This paradigmatic shift took some time to become

⁴⁶ SEARCA, 2000:32.

 $^{^{\}rm 47}$ Issues of the Newsletter during 2003, Vol. 2, Nos. 1, 2, 3, and 4, and 2004, Vol. 3, No. 1.

⁴⁸ SEARCA, 2000:33.

BRP GIS Team with Dr. Aart Van den Berg of Alterra (right most).



(not only by the researchers from Mindanao ers as well) and integrated into the This was mainly because of hesses of the curricula of Mindanao ably also because of lack of specific the integrated approach. Capability as a continuous and prime concern

> different paradigm shift took place view they expressed that they were iginal ideas behind the North-South it was observed that some were modified and they learned to e demand-led, development-oriented d how to open up their research to stood that it was possible to involve ney, however, warned of the dangers d research done by local researchers

without proper mentoring and monitoring and close collaboration with the primary researchers. One researcher and JPC member dropped out 'because research did not produce results of interest for international science,' according to a letter sent to the remaining JPC members.

- Lack of a research culture at Mindanao universities was a handicap in the implementation of the research, especially since most researchers held administrative and professorial positions at their institutions. And said institutions depend on teaching as their bread and butter, hence, the key to survival. Most researchers had a heavy teaching their could only free themselves during weekends. load. and holidays, and semestral and summer breaks (April-May). Thus, time availability for field research had been a major problem for most Mindanao researchers. Fortunately, in several cases, BRP was able to have their teaching load reduced in favour of longer field research. Additionally, the gradual integration of younger, committed researchers during the preparation and implementation of Master Projects for Development was a positive shift.
- Avoiding biological bias in biodiversity research became an important challenge towards the second-generation research. The first-generation research tended to minimise socio-economic data development. This was partly due to the low expertise in Mindanao universities, but was also due to the policy set by the BRP management body.

Together, the first- and second- generation researches responded to the need for better understanding of biodiversity, especially at the ecosystem level. Results of the research programme have been geared towards influencing policies, and educational and development programmes on the sustainable use of biodiversity resources. The research programme provided a framework, strategies, and methods for similar programmes in other valuable but threatened biodiversity areas in the Philippines and in the region (Vietnam, Laos, Cambodia, and Indonesia).

In relation to funding, it was envisioned that Phase 1 of the programme should be completed by the end of June 2005, and Phase 2 would commence immediately after, subject to the approval of the donor, the Netherlands Ministry of Development Co-operation. Unfortunately, because of changes in the Netherlands government's policy towards the end of 2003, the Philippines has been excluded as a priority country, and the programme was informed that the Netherlands government could no longer fund Phase 2, as originally planned. A one-year neutral extension was granted to complete, consolidate, and contextualize programme results, so that clear research-fordevelopment outputs could be realized. Ladder of events: the different phases of BRP.

5. Collaborative Development Research in Practice: Some Reflections

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A lot of claims have been made about the BRP as a collaborative development-

givunu.

As was reiterated in the mid-term review⁴⁹: The guiding principles of BRP are very much in line with the new mode of knowledge production (Mode 2) — stakeholders are expected and stimulated to get together, negotiate, and interact with each other; research problems are expected to be addressed in a multidisciplinary way; research results are to be produced according to sound scientific method and practice, but ought to be also socially relevant – all these features are part of the concept of BRP. In addition to applying a new concept, BRP has also been testing new ways of involving Northern researchers

⁴⁹ Gordoncillo, P.U. and L. S. Velho. (2005), "A Mid-term Programme Review": 34.



Researchers present results of their study for validation of the local communities.

- by demand (or need) of Southern researchers.⁵⁰ This approach is most appropriate for a research for development programme. As such, BRP had made sound choices and dared to adopt a concept for knowledge production that, being new, is still under construction and places considerable challenges for its implementation.'

Looking at the strength of the programme, it has had a clear focus on the process and on managing interrelations of concerned stakeholders at the personal and institutional levels. In fact, Mindanao researchers did what Dutch researchers found more difficult: they developed both interdisciplinary and inter-institutional links. The programme had been focusing on biodiversity research for development and the development of partnerships, in a learning-by-doing mode. Continuous adaptation of the approach, management, and administration was required. The lessons learned were regularly recorded and outcomes and impacts were measured through process documentation and participatory monitoring and evaluation.

In relation to the research methodology, the guiding concepts introduced in the first years of the programme had been a major challenge throughout the years. For many researchers, both from the South and the North, it was too complex to put the introduced landscape approach into practice and stimulate the integration of individual research projects. Even though from the third

 $^{^{\}rm 50}$ A good example here has been the involvement of a Dutch researcher from the IHE in Delft and Naturalis in Leiden.

year of the programme onwards, integration and coherence were further enhanced through the development of a conceptual framework, integration was started only towards the end of the research programme. Capacity development of the Mindanao research partners had to be undertaken throughout the programme. Several support and management activities were financed. In addition, lessons learned regarding the demand-driven process, partnership development and the administration thereof, participation in decision-making, grant-making process, and fund management. As such, the ambitions put forward in the programme had been high and the process had been complex. For such a complex process, there was a need to bring together people who not only had a clearly shared vision⁵¹, but also shared values and valuations and mutual trust and interests.

Looking in more detail at the processes and outcomes, other comments can also be made related to the different objectives that had been put forward for the programme:

5.1. Development-orientation of research

The persistence of poverty and deteriorating economic and environmental conditions in the Philippines as a whole, and in Mindanao specifically, made it imperative to provide alternative options that are grounded in research.⁵² Creating ownership of knowledge⁵³ in the Philippines is vital for achieving sustainability and development relevance of that knowledge. Such relevance in Mindanao can only be attained when, in addition to scientific achievements, there are also developmental achievement and vice versa. This explains the importance of the development of relevant and applicable knowledge and the avoidance of asymmetric relationships in BRP. The development-orientation of research and the importance of incorporating this orientation in the different phases of research has to be stressed in needs assessment, in problem definition, in the translation into research questions, in planning of research, in implementation and data collection, in monitoring and evaluation, in analysis and reflection, in dissemination and publication, and in formulation of new research questions. Some of the main lessons of the BRP on these phases will be explored.

⁵¹ Shared values for example, about North-South collaboration, commitment towards demand-led research and participation, and the firm belief that knowledge production is an interactive process. ⁵² Cynthia Bautista in 'Workshop Synthesis' of "Highlights of Researchers Workshop," SEARCA, Manila, 2002.

⁵³ For example, in the case of biodiversity through training of para-taxonomists or the production of popular field guides on plants/trees, insects, worms, fishes.

5.1.1. Approach for participatory agenda formulation and implementation

In development-related research, the 'how' question, the approaches and methodologies for agenda formation and for setting up and carrying out research programmes in close consultation with those for whom the research is intended, is an important aspect of the process. Research for development must be responsive to local needs. Within the BRP, major achievements can be counted on the process of agenda setting for development- related research. The process of agenda setting was based on equality and the building of bridges between various stakeholders involved, like the academe, policy makers, local government units, and members of NGOs. Stakeholders had generally been supportive of the programme. At the site level, the support of the local government leaders was instrumental in the conduct of specific project activities, including site identification and data collection by the local researchers. In some special circumstances, leaders from the indigenous communities had helped in structuring project activities along with the tribal customs and traditions to allow for smooth conduct of project activities. A locally based institution had been mitigating the initially negative perceptions among the indigenous communities towards biodiversity research based on their previous bad experiences in other projects.

However, an obstacle that occurred when putting participatory principles into practice was that different stakeholders had different ways of approaching the process of translating social problems into research questions. It depended on their position and - in the case of scientists - it even depended on their scientific discipline and their origins. Notable difference could already be observed between researchers and academe from Luzon (centre) and Mindanao (periphery), which influenced the South-South relationship. As the mid-term reviewers noted⁵⁴, given the innovativeness of the approach, difficulties in implementation had to be expected. There is a very strong tendency, as conventional practices and traditions tend to, to do things in the "old" mode. Therefore, even if the agenda setting exercise involved various stakeholders, the first-generation of research projects, in the opinion of some stakeholders, still tended to be very much "science-oriented."

Furthermore, the process of assessing needs in the Philippines was complicated by conflicts that had a political, social or cultural

⁵⁴ Gordoncillo, Velho (2005: 35).

background. On their own, the researchers could not take decisions on this translation process. One solution was to involve legitimate negotiators representing different stakeholders during the first round of agenda setting at the national level.

5.1.2. Dissemination of research results

In development-oriented research, an important claim is involved in the dissemination of results. Since BRP was developed to be responsive to local needs, information and knowledge gathered needed to be turned over to communities immediately.

After termination of the Pre-Implementation Phase and Firstgeneration Research Projects, monographs, technical reports, and some analytical reports were disseminated to many stakeholders. However, little efforts were made on popularizing⁵⁵ the results so that these research results are easily understood by the local communities and can be used to address their needs.⁵⁶ It is not very clear what was the reason for the translation of few publications in the local language.⁵⁷

Most researchers involved mainly used to report their research results back to their colleagues and sometimes, to the sponsors of their research. More often, they were not trained on popular writing. Their research reports were difficult to read and full of technical jargon, which made these not understandable to laymen. This incomprehensibility made discussions about the research results by non-professionals rather difficult. As such, the earlier research outputs were eventually only of use to a small group of professionals.

Towards the second half of the programme, while implementing the second-generation research projects, the dissemination of research results to the 'owners' and the utilization of research by practitioners and policy makers had become an important challenge. This was a consequence of the BRP belief that biodiversity research should be harnessed for the development of the local populace, because those who interact daily with the living environment, through their ingrained knowledge and

⁵⁵ Positive exception has been action research into pest control in cabbage, based on farmer field school experiences and also the training of para-taxonomists in the upland. The supposed translation of social economic analysis into livelihood options did not work out well.

⁵⁶ In second-generation research, there was also a bias towards the needs of Subanen indigenous people and less attention for the needs of lowland migrant- and poor farmers, which hampered use of research results by lowland communities in Mount Malindang.

⁵⁷ Personal observations.

beliefs, capacities and practices, can have an impact on the environment'.⁵⁸ However, practitioners and policy makers should also be influenced through research results to be able to support processes of change. It became clear that knowledge utilization needed a well-developed and conscious dissemination process. Such process was developed from 2003 onwards.

Alongside with this, research teams became aware of the importance to disseminate research results in a more accessible way in order to allow people from outside the scientific profession to participate. Different leaflets and more popular materials were produced that probably were of little scientific prestige, but valuable in the local context. These materials had been a good check for the validity and relevance of the results. With professional support, various levels of communication had been established, depending on whether the message and knowledge should be addressed to local people, local leaders and practitioners, local politicians, intellectuals, or colleagues/ scientists. Finally, a CD-ROM that contains all the communication materials disseminated was produced for a regional conference of the programme.⁵⁹

In the BRP, professionals learned better to address different levels of communication with the same message in different



Some of the IEC materials produced by BRP.

⁵⁸ BRP Progress Report for year 4 (2004: 13).

⁵⁹ Of course, such a CD-ROM is good for people with access to computers, but still inappropriate for local communities, which do not even have access to electricity. As such, the product was appropriate only for the donors and the intellectual community.

different styles, using written, auditory, or visual communication of the message.⁶⁰ Towards the finalisation of the first phase of the programme, the research teams felt a stronger commitment to return the knowledge gained to the local people, communities, and organisations. They were challenged to disseminate the information in a plain and understandable language, as based on daily expressions and local names, and have them accessible to all. As much as possible, the technical jargons that spring from usual academic practices were avoided.⁶¹ However, only one output was translated into the local language. The use of the local language would have allowed for a more effective dissemination of results.⁶²

5.1.3. Application of the results

Most researchers in the latter part of the research programme also felt the commitment to ensure that results would benefit the intended group — the disadvantaged communities in the Mount Malindang area. This meant converting scientific results into practical projects. However, this commitment was not always put into practice. As such, practical projects took place only on a rather limited scale. In BRP, some action research projects were instrumental in developing knowledge for local use.

As stated before, more emphasis should have been placed on the utilization of research findings through the translation of knowledge into policy, products, processes, and practices. In the BRP, the question of how to bridge research, policy and implementation is yet to be answered.⁶³In current literature, the research-policy link⁶⁴ is seen as a two-way process between research and policy. Better understanding of the factors that determine research uptake may lead to improvements and better utilization of research evidence in policy-making and development activities. It may also lead to better understanding among policy makers and researchers alike of the intricacies involved in

⁶⁰ Fals Borda (1981: 22).

⁶¹ Lammerink and Wolffers (1994:30).

⁶² "Pamaagi sa Pagtanom ug Semilya Gikan sa Lasang para Pagkonserba" (Wildling Propagation Protocol for Conservation), a handbook prepared by the BRP, November 2005.

⁶³ Carol Weiss' pioneering and original work on research utilization and 'knowledge creep' is the classic example of this subject. Weiss, C. (1980) 'Knowledge creep and decision accretion,' in: Knowledge: Creation, Diffusion, Utilization, 1, No. 3 (1980): 381-404.

⁶⁴ Research-policy dynamics is definitely back on the agenda. Examples are two research projects: Bridging Research and Policy Project launched by the Global Development Network (GDN) and Getting Research into Policy Project (GRIPP) launched by the Overseas Development Institute (financially supported by UK's Department for International Development-DFID).

science-policy-society relationships and to more realistic expectations.⁶⁵

This research-policy link has been insufficiently explored within the BRP. However, in many highly developed countries with a vast track record in research, this complex link has not been satisfactorily addressed also. Furthermore, the time span of five years was rather limited. Changing policies and institutions and changing people's attitudes and behaviour takes time. The challenge remains paramount to promote socially relevant research, which contributes to poverty alleviation, knowledge development, and innovation. The intent was there, but practice was still missing in BRP.

5.2. Implementation of a new research mode

The approaches and methodologies for carrying out research programmes in close consultation with those for whom the research is intended (the poor) is another important aspect of the process. Participatory approaches are critical for identification of stakeholders, their needs and their relevant roles. The shift to an interactive model of knowledge production should be attained in the BRP through its holistic nature and multidisciplinary and participatory research mode based on a landscape approach. The challenge is to develop innovative approaches yet continuously maintaining scientific rigor. This is why biodiversity research for development in the BRP has included methodology development as part of its initial set of research topics.

However, as a result of the innovativeness of the proposed approach, difficulties in implementation had to be expected. Particularly strong was the tendency to do things during implementation in the "old" mode. This was especially evident during the first-generation research, where researchers from both Mindanao and the Netherlands tended to adopt Mode 1 classical mainstream knowledge production. Therefore, many research projects in the BRP still tended to be very much "science-oriented." This was not so much of a problem as long as it was fine tuned within the new mode of research.

⁶⁵ Crew, E. and J. Young. (2002). 'Bridging Research and Policy: Context, Evidence and Links,' ODI discussion paper, July 2002.

5.2.1. Participatory research

Most Mindanao and Dutch researchers in the programme had very little experience with the design and implementation of participatory research. A group of researchers underwent training in preparation for the Participatory Site Assessment during the Pre-Implementation Phase. As part of the Participatory Site Assessment, they used many of the PRA methods for the diagnosis of the situation in the upland, lowland, and coastal ecosystems. Based on this work, the research agenda for the BRP was developed. Of this group, the researchers who remained during the implementation of the actual research programme tried to incorporate a participatory methodology in their research. However, this mainly concentrated on the formation of local research teams. Sometimes, the researchers did not achieve quality research because for them, a participatory approach required more time. Despite the substantial amount of the budget allocated to support capacity building and the clear guiding principles of the programme, no more specific training was given during the five years that followed on the design and implementation of participatory research.

Some members of the management team (the JPC) believed that participatory research was an important methodology that offered an effective strategy for the type of interdisciplinary research needed, and that also allowed for rapid adjustment to the dif-ferent local conditions in the communities. It was especially argued that by applying a short feedback mechanism, the research programmes could stay close to reality and as such strengthen the development-orientation of research. The approach could enable communities and researchers to share, analyze and enhance their understanding of biodiversity conditions and allow them to plan and implement problem-solving action towards conservation and sustainable use of the existing biodiversity. This would offer usable and relevant knowledge for practitioners' demands. At the same time, it should meet standards of appropriate rigor without sacrificing relevance. However, clear consensus was never reached in the management team of the programme. As such, research teams have not been supported to implement this view in practice. Teams tended to reach out to communities but more out of necessity rather than out of conscious change of attitude.

Thus, in most of the research implemented, only a few people of the local communities under study collaborated as local researchers with the 'professional researchers' in the research process from data gathering to the final presentation of results. Little discussion took place on their action implications. Nevertheless, although the participation of local researchers was still rather limited, some of the members of the community became engaged in the quest for information and in a lesser way, on ideas to guide their future actions. On a limited scale, dialogue between researchers and grass roots people had also taken place. For those involved, despite the limited possibilities for participation, this experience had become a positive learning process. Although the interaction was still limited, it was more than the traditional way of doing research.

The type of participatory research undertaken by the researchers and local teams has often strengthened their capacities and effectiveness. During the process, the role of these researchers was often changing to that of a convener, a colleague, and sometimes of a consultant, who brought in new ideas or experiences unknown to the communities.

In this sense, some research teams from outside have been able to turn research into an educative experience for people at the grass roots, not only leading to skills development, but also building up the consciousness of community members, sometimes examining their values and attitudes in relation to biodiversity use and conservation. It would be interesting to evaluate the impact of this approach both in the field and on the researchers themselves as indicated in the evaluation of the project conducted during the end of the project.

Nonetheless, despite the ambitions of the BRP,⁶⁶ the research implemented has not become a process of 'getting to know and interpret reality, with the aim of gathering sufficient knowledge to allow for the reproduction, transformation and induction of new processes' in the area of Mount Malindang. This is the ultimate aim of the new research mode.

5.2.2. Landscape approach

Researchers in the field of biodiversity in the Philippines have pointed out that 'we know very little of what we pretend to preserve.' However, as a tremendous loss of biodiversity is taking place, others have said: 'use it or loose it, it is high time now to act.'⁶⁷ This points to the dilemma of biodiversity research in a situation of 'war.'

⁶⁶ Formulated in programme document: SEARCA.

⁶⁷ Guzman, Lammerink, and Smolders 1996:3.

The 'knowing very little' notion, on one hand, was mainly referring to biological knowledge, lack of 'complete' inventories of flora and fauna, and lack of understanding of their interrelationship. However, there is also a lack of understanding of the sociocultural, economic and political dynamics, that cause loss of biodiversity on the one hand and its effective conservation on the other. Delfin Ganapin, former chair of the Joint Programme Committee of the BRP, points to the realization of the 'possible' nexus between poverty and environment, and more importantly, the causes of environmental degradation outside of poverty. Causes of poverty and the nexus with environment, however, are in need of a more comprehensive perspective. A landscape approach from a spatial and conceptual framework identifies well the linkages of poverty as an end effect with its causes and the poor with its enemies and allies.⁶⁸ As such, interactions of elements within an ecosystem are fundamental to studying biodiversity. However, to provide a holistic and integrated analysis, the interactions among the elements of contiguous ecosystems are equally important. This so-called landscape approach can use methods of analysis that spans the uplands, lowlands, and coastal/marine ecosystems.

The BRP has underscored the importance of such a landscape or ecosystem approach and has done research in all tropical ecosystems, i.e., upland, lowland, and coastal and marine in Mindanao, in order to understand their ecological function and inter-relatedness to biodiversity. Again, researchers have received too limited guidance on how to implement a landscape approach.

During the implementation of second-generation research projects, integration workshops were held to turn multidisciplinarity and the landscape approach into reality and to also reinforce community involvement. However, the intent to develop a methodology based on a landscape approach has only been partially accomplished.

5.2.3. Interdisciplinary and learning-based approach

At the same time, but rather late, the BRP had put emphasis in looking at the socio-cultural, economic, and political dynamics. In this respect, many lessons have been learned.⁶⁹ Although research projects were expected to tackle problems in a

⁶⁸ Ganapin (2002:1)

⁶⁹ See: Ticsay and Visser, 2006.

multidisciplinary way, or even interdisciplinary way, researchers from different projects did not find it easy to integrate their disciplinary approach with that of others. This was also to be expected as Mode 1 thinking has been constructed over centuries and a shift to a new mode of knowledge production takes time.

A major obstacle encountered during the implementation of the research in Mindanao has been the academic system itself, both in the Netherlands and in the Philippines. Basically, the research system is a discipline-based organisation, with a focus on academic excellence. The reward system put in place in universities and research institutes sometimes made focusing on critical development needs difficult.⁷⁰ Normally, researchers and scientists in the Philippines are also driven by the need for recognition, and would tend to leave less rewarding but crucial research, which addresses domestic problems, to others.⁷¹ This happened especially in the first two years of BRP, when this type of levelling-off made many scientists with other interests leave. Of course, this was sometimes difficult to accept and produced quite some rumours in the first years, and thus, did not support the trust building that everyone knew was so important.

In part, the reward system in Northern universities made researchers tend to 'work on problems of interest to international science,' however far these problems may be in relation to development. Working on those issues will improve their probability to publish internationally. This is also true for Philippine researchers. If they could work on important problems for their locale, they risk not being able to publish their findings in mainstream journals or not being invited into intellectual circles of international standing and repute'.⁷²As such, international refereed journals are not very interested in demand-driven papers.⁷³

⁷⁰ According to RAWOO, in the Netherlands the Wageningen University and Research Centre (WUR) that in the past has been outward facing and application-oriented with a focus on agriculture, has moved a long way towards knowledge production focusing on the problems and needs of society. The so-called "Wageningen approach" is characterized by research and teaching programmes that are "socially inspired and internationally oriented" as well as by co-operation between the natural and the social sciences, systems thinking, and interaction with the users of research results in government, industry and society at large. See www.wur.nl.

⁷¹ Especially, during and after the first call for proposals for Mount Malindang, some renowned local scientists left the demand-led research endeavour. See: Dipolog workshop proceedings, 1997.

⁷² Q Kumar Bhattacharyya, put in his address to the Commonwealth Science Council: 'Put local needs before Nobel Prizes.' Quoted by David Dickson in his article 'Put local needs before Nobel Prizes' on www.scidevnet.com

⁷³ Exceptions are journals like: PLA Notes - Participatory Learning and Action of IIED, London (with a typical 'soft' reputation), and lately the SEARCA Journal 'AJAD', which is filling a gap in the Philippines in this respect.

HIDDEN POWER OF JOURNAL EDITORS

The editors of journals are often the custodians of professional values, through their defining of publication policies and priorities. They are faceless but powerful. They influence what is written and disseminated, and the content and style of research. Academic appointment boards all over the world examining the curricula vitae of candidates look at their lists of publications. More weight is given to publications in "international" science journals, which are mainly based in industrialized countries, than in journals that are "national," which are based in developing countries. More weight is also given to publications in "hard" journals, which are believed to have rigorous standards of acceptance according to strict professional norms, than in "soft" journals, which may be more wide-ranging, more interdisciplinary, and more original. This discourages imaginative and inventive development research and demand-led research. The supposed or actual policies of journal editors can thus undermine or affect sensitive developmentrelated research. This requires reversals of core values in both Northern and Southern countries. Where hierarchy and rigidity are strong, shifts of values have often proved more difficult.

In the last part of the research programme, this has largely been overcome. The experiences that many of the Mindanao researchers gained, working in the field on 'the real development problems,' became an asset within their respective universities. In the years of existence of the BRP, many researchers have become deans, directors, and Vice Presidents in their own universities because of their research experience and leadership.

The issue of the academic reward system can be overcome through remedies like rethinking and/or 'endogenizing' the academic reward system; or through organizing calls for research proposals directed at solving local developmental problems, particularly those that affect the poor. The last one was successfully chosen in the second part of the BRP, when developing the so-called Master Projects for Second-generation Research.⁷⁴

According to the mid-term reviewers, BRP was seriously heading into the Mode 2 directions. Those involved in BRP started to take the BRP concepts seriously, became committed to this new way of knowledge production, and have put considerable effort and energy into understanding the process.

⁷⁴ Research projects implemented as part of the Master Programme can be found in SEARCA, 2005.

5.2.4. Quality assessments

A major challenge facing schemes that aim to build capacity for development-oriented research and ultimately produce useful knowledge that transcend disciplinary boundaries is how to measure, in both qualitative and quantitative terms, the output of process-oriented research with multiple outcomes. Scientific value is only one dimension of quality - social relevance is another. In most cases, the existing standards of science in assessing the scientific value are just to look for the number of masters and PhDs trained, the number of papers published, and the quality of research facilities. However, one cannot judge the research capacity achieved in the framework of BRP in terms of how many papers have been published in scientific journals. Neither is it possible to apply in the selection of proposals the same quality standards used conventionally in countries with a more advanced research tradition. The yardstick for judging quality here has to be placed in the broader framework within which BRP operates. Should the success of a research partnership be judged by improvements in the quality of relevant research outputs, by larger volumes of high quality research or by improvements in institutional capacity to produce high quality, relevant research on an ongoing basis? On the other hand, should the success be judged by the usefulness of the research results to policy makers and others, and their applicability to solve problems confronting different population sub-groups?

Quality assessments should have considered all these three elements: quality and quantity of research, institutional capacity, and policy relevance and practical usefulness. However, this has not been the case.

The following observation of Richard Smith on health research should be kept in mind permanently: 'the main aim of health research is to improve the health of people. Yet the performance of researchers tends to be measured by the scientific quality of their research rather than by its impact on health.' This is 'unsatisfactory.' ⁷⁵

When the main aim of development research is to help solve development problems through knowledge production and capacity enhancement, then those for whom the research is intended – the end-users and beneficiaries – should assess the

⁷⁵ Smith, R. (2001), 'Measuring the social impact of research: difficult but necessary'. British Medical Journal, 2001: 323:528.

social benefit of research. Of course, peers can assess scientific quality, but end-users should be involved in the assessment process in order to make it participatory and create a learning environment for all concerned. Impact on policy-making, development practice and action, and local capacity development are important measures. A final impact assessment, which has been implemented in 2006, should reveal some initial outcomes. Results are not yet available, however. The impact of investments such as the BRP takes time to be realized and the current impact assessment can only measure part of it.

5.3. Capability enhancement and local ownership

The point of departure for capability strengthening should be that each country needs its own autonomous, diversified science system. For this reason, capability strengthening and enhancement needs to be addressed at least at three levels: 1) at the level of the individual researchers and local communities; 2) at the level of the local university institutions and local governments; and 3) at the level of the national science system and the government.

Probably, in the BRP, too much attention had been given to the strengthening of the first level, mainly at the level of individual researchers, less on enhancing institutional links, and not to speak of addressing the national science system. That was a logical consequence of the decision in the BRP to operate in Mindanao, the area (periphery) of the Philippines with the least research experience and capacity. Capability enhancement of local researchers has thus become a major focus, which also limited the prospects of the programme on scientific and social relevance outcomes for development.

5.3.1. Increased research capability of individual researchers

In the BRP, appreciating the nature of a specific development process that was largely invisible required more than the usual research techniques. In addition to the traditional skills, which the research community has imbibed, researchers needed to understand the development process, their iterative and gradual nature. This entailed listening skills the ability to combine an open and non-judgmental attitude, enough understanding to make sense (and draw insight) of one's observations, and the capacity to reflect and make intuitive judgments. This is why in the BRP, capability enhancement has been a challenging and complex process, as can be deducted from the discussions in a researchers' workshop. In one of the researchers' workshops in 2002, the following qualities, attitudes, and culture of researchers and communities of researchers had been $abstracted^{76}$:

At the individual level:

- Commitment and passion to pursue development research in the midst of alternative options that require less work and pay more;
- An openness to unlearn and learn new habits and ideas, which requires transcending attachments to pet ideas, biases, and egos;
- The ability to reflect upon and monitor one's self, which entails an awareness of one's grounding, multiple biases, and progress in research;
- Emotional maturity and patience for unfolding of long processes;
- Cultural sensitivity and respect for the knowledge of others; and
- Competence or the necessary grounding in methodology that allows for iterative development of research without reducing its output to sloppy work.

At the level of communities of researchers:

- Commitment to the BRP mission;
- Openness to critiquing directions and outputs among members and the ability to provide venues for exchange;
- Reflexivity and respect for diversity of personalities, mindsets, and interests; and
- Competence in managing team and individual projects that address concrete problems and in continuously developing capacities.

As was clearly noted in the conclusions of the Mid-term Review,⁷⁷ the BRP has been quite effective in enhancing *research capability among Mindanao researchers*. As a matter of fact, conducting

⁷⁶ Cynthia Bautista's 'Workshop synthesis' in: 'Highlights of researchers' workshop,' Manila, 2002.

⁷⁷ Gordoncillo and Velho (2005: 35).

research and enhancing research capacity has gone hand in hand.

The BRP was able to enhance capabilities of researchers not only in conventional scientific terms, but also in doing research that is socially relevant, multidisciplinary, and involves the local community. The reviewers noted that in the context of the new dynamics of knowledge production as premised by BRP, research capacity enhancement entailed the preparation of researchers for non-conventional roles and skills. The BRP trained researchers with a new professional attitude towards research, a new research 'ethics,' which includes: a) building up social and methodological skills to carry out demand-led research; b) work as a team, in a multidisciplinary fashion and incorporating users in the process of knowledge production; c) appreciate research not as an end in itself but as a tool for problem-solving and policy-making; d) monitor and evaluate its own performance as a research team and its subsequent outcomes; and e) develop a concern for scientific quality.

An important requirement for capacity enhancement is the dissemination through higher education and training of both research process and results. No information is available if this has taken place in all Mindanao and Dutch universities involved in BRP, but for some, it has been an obvious, enriching and important part of the research, as can be understood from the process documentation made for the programme. Since many senior researchers during the five-year span of the programme were promoted in their Mindanao universities, this certainly will have an effect on both research orientation and education in those universities involved.

One aspect of capacity enhancement has been undervalued: the complicated South-South relationship. In the beginning, Dutch researchers and Dutch members from the management body (JPC) did not understand the frictions between researchers and academe from Luzon (centre) and Mindanao (periphery). This has probably played an even stronger influence on the need for levelling-off than the North-South (Dutch-Philippines) relationship. As Cynthia Bautista described it: '(...) frictions emanated from a growing awareness of regional disparities and resistance to the imperialism of Manila-based scientists...'

Furthermore, very little advantage has been taken of eventual opportunities of the North-South relationship/partnership for capacity enhancement. In such partnerships, there often are provisions for visits outside the country of origin, exchanges of information and contacts with scientific colleagues, formal support and management advice to Southern university institutes, and additional contracts for co-operation, in personal, institutional and regional levels. However, most initiatives to establish such opportunities have been frustrated. Only a few have been successful, like the training of one of the researchers in Integrated Pest Management at Wageningen University.

5.3.2. Enhancement of local communities and local government

As part of capability enhancement also, major efforts have been placed on the training of local researchers by the outsiders/ researchers. However, a lot is still to be desired on the capability enhancement of local communities and local government. A start has been made only with the dissemination of suitable strategies and how these could best be adapted to local conditions. The capacity enhancement to absorb global knowledge and adapt it to local situations and cultures by combining it with local knowledge has been lagging behind. Finally, the analyses of the performance of the local policy system and the identification of effective approaches to strengthen capability of local government have represented a major challenge.

5.3.3. Enhancement of the national science system

A main obstacle for the research partnership has been the insufficient understanding of the national and local knowledge systems in their societal context. For development-oriented research, the relationships must be understood between the scientific institutions and the policy-making bodies, democratic institutions, and end-users. The institutional arrangements that exist and that need to be developed must also be understood. BRP activities witnessed a growing interaction at the level of the individual researchers from the various institutions. At the institutional level, a positive development has been the establishment of a Mindanao consortium facilitating interuniversity co-operation and sustainability. At the national level, however, little has yet been achieved.

Finishing the BRP experience, this programme points out that capacity strengthening should be named as a specific aim of partnerships. Work plans should describe the concrete activities for the purpose of capability enhancement. Efforts should be based, as much as possible, on what is already there. One of the objectives should also be to preserve the existing capacity (students, institutes), for example, through anti-brain drain measures. Local and national co-funding should be sought in order to make the efforts more sustainable. Partnerships must have institutional backing if they are to serve their intended purpose and this has been one of the major contributions and outputs of the BRP.

For all that long-term support is essential, as well as for developing the 'critical mass' needed before a process will continue under its own power. That long-term support has finally been lacking, which will seriously damage the impact on the longer run.

5.4. Research partnerships: the development of collaborative research

Research that is directed at pro-poor growth will have to establish linkages with the poor at the very start of the design process. The purpose is to direct research to meet their needs in as much a direct way as can be made. This was actually the aim of the Pre-Implementation Phase (PIP). Lessons have already been elaborated in chapter 5.2. In this paragraph we concentrate on the researchers' collaboration. These research partnership programmes can be characterized by symmetric collaboration in which it was sought to have equal vote in agenda setting, in financing within budget provided largely from the North, and in management. In the context of this South-North partnership programme, other important lessons are learned.

5.4.1. South-North collaboration

BRP has not only been a South-North programme, but also a South-South (national) collaborative programme. Successful collaboration between the South and the North has been a major challenge, which was partly foreseen. It meant keeping the Northern partners interested and involved in a research for development programme that was driven by a Southern agenda. It meant a constant process of 'levelling-off.' At the beginning, starting-up activities and creating ownership among the institutions and researchers received major attention. It meant also getting the demand formulated by the Southern researchers for inputs from Northern researchers, while they did not always know the Northern researchers. However, South-South collaboration also needed a lot of attention, which was not foreseen by all involved. Collaboration was instigated between professionals from Luzon and Mindanao, but also between researchers from 13 different universities involved from Mindanao itself. Indeed, a huge undertaking with claims that initially had not been foreseen.

The set-up of the first-generation research (in which first research projects of Mindanao researchers had to be approved before Dutch support and collaboration could be identified) was not very attractive to Dutch institutions, because a lot of patience was required and researchers had to invest considerable time in communication to acquire rather limited funds for a rather short period of time. Some players from the early stages did not stay on board after the Pre-implementation Phase.⁷⁸

The limited number of Dutch institutions that became involved in the first generation projects, however, remained interested and dedicated to the demand-driven process. They were interested to be involved for a longer period than the one-year approved funding, although even matching of funds from Dutch institutions was expected and staff time (salaries and fees) was only allowed in support activities. According to the coordinator of the Dutch Liaison Office (SLO), most Dutch institutions remained interested to be involved for a longer period from thereon, which was a reason for the elaboration of Memoranda of Understanding for the BRP.⁷⁹

BRP initially started with yearly rounds of research projects, in which later collaboration was sought with the Northern researchers. However, later in the process, focus has been shifted to research through the Master Project Proposals of Research. In these integrated projects, Dutch researchers collaborated right from its conception. Despite increased familiarity with one another, increase in requests from the Philippine researchers for collaboration, and increase in support from Dutch institutions, the collaborative activities needed continuous facilitation from the supporting organisations (NSS and SLO) in order to specify the type of collaboration and give follow-up to Mindanao and Dutch researchers. However, it has to be emphasized that also in the beginning of BRP, researchers interacted and collaborated in research.

⁷⁸ As mentioned before, it should be understood that: 'the research world (institutes and those working there) has its own interests. Though many institutes may get a basic subsidy, they are dependent on research contracts for their subsistence. These can be long-term research programmes, short research projects or even shorter consultancies'. Lammerink and Wolffers, 1994: 20.

 $^{^{79}}$ SLO (2002), 'On South-North Collaboration', Leusden, Netherlands, unpublished text.

Much later in the process, during a BRP seminar held in The Hague, The Netherlands, in December 2005, reasons were mentioned why certain Dutch institutions became less involved. They mentioned the bureaucratic procedures and lack of influence of Dutch institutions on the research agenda. Owing to the "limited" funding available for Dutch researchers, they could only spend little time in the field and their collaboration has been constrained. Although the peace and order condition in the programme site and surrounding environs have been problematic during most period of the implementation, this has never been mentioned as reason for less involvement.

The demand-driven process and the facilitation of partnerships with Dutch institutions was one of trying out and finding balances. In the development of the programme and subsequent activities, this innovative process has delivered new and improved relationships in research collaboration.

An unforeseen constraint has been the time of the Mindanao researchers to effectively undertake research in the project area, because of their overloaded teaching and administrative responsibilities. Also, the programme 'lost' a lot of trained researchers, because of their quickly rising status in their home universities. Of course, this was a positive effect of the fieldwork for the researchers, but at the same time a loss for the programme that had to do continuous efforts in capacity enhancement.

5.4.2. Building trust

Right from the start, a lot of energy was put into building-up of mutual trust: a framework was created that stimulated honest and open research collaboration. It required much time and patience throughout the process to 'level-off' and to get rid of prejudices. Workshops, visits, and the like have been useful in this respect. It has been very clear that without trust between the Northern and Southern partners, partnerships would not work. This was also true for partnership between the Southern partners from Luzon and Mindanao. The fundamental issue of autonomy was not always accepted or fully understood by all researchers in its full implications, both from the Netherlands and from Luzon, Philippines.

During the first-generation research, some hesitation existed among the Mindanao researchers to invite outside partners, such as from Netherlands research institutions and from outside Mindanao (i.e., the Luzon-based research at universities like UP Los Baños and UP Diliman). Uncertainty about their own capacity, about what these other institutes could contribute, as well as un-clarity about the BRP itself, was behind this hesitance. Also, more practical issues like non-coinciding school calendars at both sides hampered the actual co-operation in the field.

On the other hand, during the first years, interests of the Dutch research partner and institutes have been kept outside the discussion in BRP and only came second (later). In some cases, reasons for partnerships of the Dutch partners were still related to straightforward interests of:

- Getting access to unique sites, facilities, population groups and species.
- Obtaining assistance in doing fieldwork.
- Being involved in an interesting programme right from the beginning.
- Accessing information, materials, and benefits from local knowledge.
- Addressing global or regional problems, but not specifically the local one.

But of course, they were also related to more idealistic concerns, like

• Concerns for the unequal development in Mindanao (research to help the South to implement sustainable development), and concerns for contributing to reduction of poverty and consolidating local development.

It has been important for all involved to define what main interests are at stake in their support to research partnerships. That was also the reason why various Dutch partners at the end did not join the research programme during its implementation. On the other hand, MOUs between Dutch institutes, like Alterra/ Wageningen University, and SEARCA boosted research partnership between Filipino and Dutch institutions in the BRP second-generation programme and projects. However, the outputs have not always been as productive as sought in advance.

Mainly during the preparation of the first-generation research projects, contradictory enough, an important obstacle in the building of trust between the programme management and the Mindanao researchers had been the establishment of high standards of research rigor. The BRP management (JPC) gave clear signs to the participating researchers that scientific quality was fundamental by subjecting proposals and reports to the scrutiny of peers, soliciting response, and attention to the comments of peers. However, they also made clear to researchers that involvement of community and social relevance were important criteria for judging proposals. Both claims produced a lot of tension. Nevertheless, achieving high standards for research quality became an evolutionary process of building up capabilities and a critical mass of researchers.

5.4.3. Joint management of responsibilities

Different joint sharing and management mechanisms have been developed in the BRP.

Both Dutch and Philippine partners involved had a joint sharing of responsibility for the programme through a Joint Programme Committee (JPC). This was the main decision-making body in the BRP, in which three Filipinos and three Dutch members have been elected. Through this body, both parties have carried out the management responsibilities and the scientific and technical leadership. During the process, the JPC and National Secretariat had to gain expertise in research management in the Mindanao context, mainly through a process of learning-bydoing. Strong focus was given in promoting multidisciplinaryand holistic thinking and local traditional knowledge has progressively been taken into account.

There was no previous example in the Philippines of such kind of bottom-up programme organisation in close co-operation with existing formal institutions, like SEARCA and Mindanao institutions. Consequently, formal structures and new ideas about project management and implementation needed experimentation, between SEARCA and RAWOO, between the NSS, the JPC and the Support and Liaison Office established in the Netherlands (SLO/ETC, 2002), and between the NSS and the *in situ* Programme Manager as well as the researchers. Cultural differences of all sorts had to be accommodated, sometimes including fierce debates, but the tendency has always been positive and all happened in collaboration and friendship. Every one, in his or her own way, was always committed to the mission of BRP and the sustainable development of Mount Malindang.

In its first years (2000-2002), the BRP could still be seen as a pilot project that in the later years grew into the take-off phase. Programme and project management, especially during the last few years, have proved to be very intensive.

At the level of the individual research projects, both Philippine and Dutch collaborators also decided on the objectives together. Increasingly, they were able to develop the BRP projects in discussion among all partners involved, including the population of the Mount Malindang area that would eventually use the results. On a limited scale, some experiences have been gained with the implementation of participatory research methods.

The constant sharing of information and the developing of networks has also been crucial. Emphasis has been put on establishing a well-functioning communication system for regular exchange of information. Especially during the last part of the programme, the set up of a network for satisfactory collaboration has been promoted, both between Mindanao researchers and between Dutch and Philippine researchers involved in the Master Projects. In this sense, partners could better decide on objectives together and got comparable level of information about activities carried out.

Of course, this also had consequences for the creation of transparency and acknowledgment of contributions and sources from local people. Towards the end of the programme, project leaders became more conscious of the worth of contributions from local people ('some of them local researchers') and have been acknowledging more appropriately the sources. A meeting to share findings between local researchers and outside researchers was one example.

5.4.4. Progress and impact monitoring

Monitoring and evaluation (M&E) makes an essential contribution to learning and decision-making in partnership programmes. Participatory M&E is an important tool to make the design process consistent and transparent as a whole. It is an essential part of the iterative process, which runs from research proposal all the way to research results and dissemination. Participatory M&E processes should become built-in, responsive, and utilizationfocused. As such, it can become a management as well as a planning tool for the joint management body and for the research teams.

Both the progress of the research and the development and functioning of the partnership have been regularly monitored. During the process, different instruments have been developed for this purpose. Some have been developed for monitoring the process in the research teams, others for documenting the process of the global programme. Together with RAWOO, instruments were elaborated for monitoring and evaluating the performance and impact of research partnerships in both Ghana and the Philippines. Furthermore, after the first three years, an external mid-term programme review was implemented in order to enhance implementation and draw lessons for expansion or replication.

SEARCA commissioned a research on impact assessment only in 2006. This also stems from the greater pressure on development-related research to achieve results. Aid agencies increasingly want to know whether development research pays off, whether there is a good return on investment, and whether government aid money has been spent effectively with maximum impact.⁸⁰ Of course, that is one important goal of M&E. However, in the context of improving the implementation of developmentrelated partnerships, the other instruments have been as important for the programme. It has to be noted here that for such a learning-oriented programme, perhaps too little or too late deliberate knowledge sharing tools and methods (like proper M&E) was set in place.

More towards the second part, the participatory M&E and process documentation as integral part of the research process explicitly named the discrepancies or problems and consciously formulated questions. It was helpful in gathering perceptions and contextbased understanding, through revaluating of actions as part of an ongoing iterative process of learning from experiences.⁸¹

Apart from assessing the performance during its implementation and the products of each research project (e.g., policy and development relevance), in the long run it also became important to get an idea on changes in the behaviours, relationships, actions, and/or activities of the people and organisations with whom the programme intended to work according to its vision. This has only been developed towards the end of the programme in its first phase.

Few evaluation instruments have yet been developed to measure impact and sustainability in terms of research output, institutional capacity, policy relevance, and practical usefulness.⁸² Here the kind of instruments are meant to those

⁸⁰ Maria Cynthia Bautista, Lea Velho, and David Kaplan (2001), 'Comparative study of the impacts of donor-initiated programmes on research capacity in the South,' Report to the Directorate General for Development Co-operation (DGIS), Research and Communication Division (DCO/OC), Ministry of Foreign Affairs, the Netherlands.

⁸¹ See also Wadsworth (1997) 'Everyday Evaluation on the Run.'

⁸² Of course, it should be questioned whether this is possible or not within the scope of a five-year programme.

that: a) refer to the enhancement of the internal capacity of research institutes in Mindanao to undertake policy relevant and demand-led quality (both basic and applied/adaptive) research on a permanent basis; b) refer to the relevance of research results for end-users, such as directly concerned/affected populations; c) and changes in the attitude towards such partnerships in the Netherlands at individual and institutional levels.

Gordoncillo and Velho noted during the 'Mid-term Programme Review' in 2004, that monitoring and evaluation, while made explicit as one of the main components in programme implementation, has not been made sufficiently effective. Indeed, it has taken a long while to get the participatory M&E in place in the process. Different foci on participatory M&E on how to judge the success of the programme were expressed. However, these foci were not established right from the start, based on the main objectives of the BRP research partnership.

5.4.4. Sharing of profits equitably

The intellectual worth of biodiversity research has to be shared in partnership programmes. As such, in BRP, decisions and rights to jointly publish have mostly been discussed beforehand. Due credit has been given in publications to other people like local researchers/informants.

5.5. Future perspectives: build on the achievements

To maintain the research capability, institutions must offer suitable jobs under acceptable conditions and above all partners and their institutions must not simply be left to themselves after the joint project is over, but continue with personal contacts and exchange of information. BRP has advanced a long way in building capacity in biodiversity research for development by adopting an innovative concept. This, however, has just started. Initiatives take a long time to consolidate and there is no quick by-pass for the steady evolution of practices and habits of interaction that create a favourable environment for research.

One of the challenges for a favourable research environment is its financial sustainability. It is clear that there is no future for research for development and science without a firm commitment on the part of local government to create a conducive research environment. This encompasses investment in research infrastructure (human and financial capital), in systems of higher education, and in policies to link this effort to development objectives. Of course, foreign assistance has a limited impact on the long run, but several years are needed before developing countries are aware of the impact of continued investment in research and research capacity. Only when governments of these countries are starting to invest in research a donor can start supplementing investments made by the countries. Apparently, this was not well understood by the donor of the BRP, which stopped the funding after the first five years of the programme had been accomplished, leaving behind a research programme without funds that apparently had to stop its operations, although a regional programme for Southeast Asia, which could build on the experiences was already formulated. This, in the author's view, is a big omission.

6. By Way of Conclusions

Research has a major role to play in the empowerment process of countries in the South and must be equally accessible to all stakeholders. People working at the grass roots level need to be enabled to acquire access to research outcomes to which government and donor policies often refer. Locally produced knowledge should be compared with knowledge from other localities, and with knowledge about regional and global trends. This new form of interactive knowledge production creates a wide variety of owners and users.

This requires that:

- Local government, local communities, and other stakeholders should be involved in the early stages of the research agenda setting.
- Researchers/professionals should be actors in a wider and dynamic network, where they have to face criteria that are not only technical and product-oriented, but also social, political, and process-oriented.
- The role of the researcher should change from an outsider expert into facilitator of the knowledge production process. The researcher should act as sensitizer, broker, and resource person and 'peer' in the process of shared knowledge production.
- The researcher has a key role to play in consolidating newly emerging, community-owned forms of knowledge

production; gathering, systematizing and validating existing local knowledge; and, where necessary, translate this into a commonly shared language.

Lessons learned from the BRP experience show that research for development is not easy to attain. At the start of the programme, there was the wish from the chair of the Philippine Working Group (Dr. Percy Sajise) after having finalized the Pre-Implementation Phase, that this BRP effort would become a success – not so much for the sake of science but for the sake of those whose environment can no longer sustain further encroachment.⁸³ This had been proven as too ambitious in the five-years of BRP's implementation. Some of the most important lessons will be put forward and a balance will be made up of both modalities of development-related research supported by the Netherlands Ministry of Development Co-operation by way of conclusion.

6.1. Biodiversity research for local development

In general, there is a clear and improved knowledge of Mount Malindang's biodiversity, both at the scientific level and the local/ more popular level. Moreover, awareness raised on the importance of the existing natural resources was raised. Also, some appropriate strategies for biodiversity conservation have been developed or were enhanced. However, these appropriate strategies have not yet led to better policies (and practices) for using and conserving biodiversity. In reality, at this level, little has been accomplished. And finally, a growing number of better qualified Mindanao/Filipino and Netherlands researchers have been implementing and, hopefully, will continue implementing biodiversity research for development.

The aim of the BRP was to introduce a different approach for research – research resulting from a process in which local communities, the academic community, government, and nongovernmental organisations would all learn how to preserve or sustainably use biodiversity. Obviously and understandably, given the short programme period, this has not been fully accomplished. Some of the communities, academe and some development programmes in the Mount Malindang Range now know better how to preserve their surroundings. But nongovernmental organisations and local government have little or

⁸³ RAWOO, 1998:32.
no involvement at all. This was despite the interesting discussion between representatives of the universities and local government that emerged during the final meeting in 2005 in Ozamis, Mindanao. However, this was the first time, and it is hoped that such discussions will continue, as local governments are critical in enforcing measures that could stop further encroachments. Of course, it would have been much better if such mechanisms of a dialogue would have been built as early as possible in the process. Research outputs in other countries have shown that the 'need of the poor are as urgent as the need to protect biodiversity.'

Agenda setting for the initial formulation of the demand-led programme has been done adequately during the Participatory Site Assessment, with many stakeholders involved. However, the translation of this agenda into research projects, which could generate research results, offering perspectives for the population and towards policy, has not yet been accomplished sufficiently. As described earlier, it is a huge challenge to have research and policy connected. Researchers involved in the programme have not been able to fully commit themselves to take up this challenge and did not get sufficient guidance to be able to accomplish their tasks satisfactorily.

Thus, the question of how to bridge research, policy, and practice still needs to be answered. One way of dealing with this is to better involve NGOs. Throughout the programme, this has been much more difficult than foreseen. In the beginning, NGOs were involved to voice out the needs of the population. After the preimplementation phase, however, the programme was not able to maintain the interest of the NGOs, as the researchers did not see the usefulness of action-oriented research. They were not acquainted to work in collaboration with NGOs. For them, the foreseen involvement of NGOs was still a bridge too far!⁸⁴ Moreover, the management body (the JPC), did not suggest the establishment of a parallel action-oriented programme right from the start of BRP, which could have given some quick, dirty, and practical outcomes, aside from the more conservative inventory ('know what we want to preserve') type of research to get the necessary bench mark data. Another way would have been to diversify funding, in terms of small research funds for pilots, larger research projects, and competitive funds for development throughout the project. However, the management body approved

⁸⁴ During one meeting in Lopez Haena towards the end of the Pre-Implementation Phase, a strong confrontation took place caused by the different mindset of NGOs and academe. In the next phase, this last NGO member in the research programme ceased further participation in the Programme.

only a few research proposals during the first-generation research with a limited budget and action-oriented research was delayed. Later, proposals from the Local Advisory Committee (established after the third year of implementation) for actionresearch have not been addressed by the JPC. This has been an omission.

6.2. Significant shifts in attitudes of, and methods used by research institutes

Changing policies and institutions and changing people's attitudes and behaviour take time. Biodiversity research for local development should be directed both to pro-poor growth and to governance. The challenge is to promote socially relevant research, which contributes to poverty alleviation, knowledge development, and innovation. This should be the final objective of the *Biodiversity Research for Development*. This requires considerable changes in focus, attitudes, methods, and governance.

Avoiding biases

With the political decision to initiate the biodiversity research programme for local development with Mindanao researchers in all ecosystems of Mount Malindang, the BRP has avoided the usual research biases, like researching in areas near the centre and avoiding the periphery areas, working with well-off farmers and avoiding the resource-poor farmers, forest dwellers and poor fisherman, who are mainly living in the outskirts of the area. This allowed a bit better understanding of geographical scattered areas, and heterogeneity and complexity within the environment. An action-research project used farmer fields and conditions as primary location ('pest control in cabbage in the uplands'). The aim was to increase the amount of this type of research in later stages of the programme, but as funding ceased, this was not realized.

Location specific research outputs, however, were realized, showing that fundamental shifts in biodiversity research for local development are not impossible. For this to happen, however, many reversals in roles, behaviours and attitudes, in research priorities, in the methods used, in dissemination activities have been- and still are - necessary in order to start an empowering process to learn, adapt and do better for both the inhabitants of the area and the researchers. Yet, those who have been involved from the beginning know very well that it has been difficult to start, to continue, and to sustain.

Capacity enhancement for demand-led (and development-oriented) research

Capacity enhancement for development-oriented research should strive for strengthening the capacity to assess and adapt knowledge to local situations as well as to create and implement new location-specific knowledge. An important form of capacity building is through learning-by-doing. Thus, the proper process of research for development in itself allowed for capacity enhancement at various levels. The programme developed better researchers through helping them become better communicators. Reflecting on fieldwork and experiences also became an important element of learning.

An unforeseen problem was the rapid turnover of Mindanao researchers (junior and senior) in the programme, especially in the first years. On the one hand, it was a natural selection process, leaving in the programme those who were really committed to development research.⁸⁵ On the other hand, the lack of human resources at the Mindanao institutes made the programme staff an interesting group for career advancement programmes. Both reduced considerably the continuity and effectiveness of capacity enhancement activities and this has been an underestimated factor of loss, especially for the programme itself, however not necessarily for the involved universities.

Nonetheless, enabling conditions and incentives to ensure continuity for researchers involved in fieldwork was better understood towards the end of the first five-year period. The Master Projects allowed for better networking between and among researchers, providing mutual support and recognition. The incorporation of junior researchers was also helpful in this respect. Probably the strongest incentive was the professional and personal satisfaction, which could be noted among the Mindanao staff, to work collegially with local people. It became intellectually and professionally exciting, enjoyable, and even fun. The establishment of a consortium of Mindanao researchers that would like to continue the process is a clear sign of this

⁸⁵ The same type of natural selection also took place at the level of Dutch and Luzon researchers involved. As can be understood, a minority also stayed because they had no other perspective.

enthusiasm, which ideally could grow into a self-sustaining network.

Changes at the institutional level

It was firmly believed that the selection of a regional educational institute based in Northern Luzon, Philippines (SEARCA) to host the national support organisation would allow the smooth functioning of the programme. However, the consequences of decentralizing the implementation of the programme in Southern Mindanao - at a distance of more than 2,000 km! – had not been sufficiently realized. This was not only because of the costs involved, but also because of the South-South bias in the relationship. Sometimes, it was difficult to let central control loosen in favour of local actions. The distance and bureaucratic measures had also not always been the best way to let development research occur. Sometimes, study leaders became mere administrators instead of supervising and facilitating research. This proved to be difficult to change.

The fact that most of the universities in Mindanao do not have a research tradition made it very difficult for participants to conduct research, especially in the beginning of the programme. In addition, due to the non-involvement of NGOs, it was difficult to engage local staff. Most NGOs have much more experience and a comparative advantage in selecting locally sensitive people who could stay in field positions for a longer period. However, their technical skills are often not sufficient and therefore they will often end up hiring researchers from the academe. A plurality of organisations, involving large and small, educational and NGOs, or extensionists from governmental organisations, as was foreseen during the set up of the programme, would have allowed strength in diversity, important for the complexity of activities in biodiversity research for local development. This would probably have allowed better impact at the local level and better research outputs at the global level. Such pluralism would have definitively paid off with the scarce time available.

6.3. Shifting control to the Philippines

In the Netherlands, the challenge was to find qualified researchers with the required variety of background, who were willing to work with Southern researchers on an "equal" footing and without full consultant payment. For that process to occur, the Mindanao partners – sometimes against their interest – needed to come up with a request for Dutch collaboration, in order to avoid the Dutch institutes loosing interest in the partnership. The BRP as a programme did not consider Dutch research inputs, without the Mindanao researchers asking for it. Of course, Dutch partners, on their side, needed to release control and accept considerable autonomy on the part of the Southern partners. To manage such a joint collaborative programme in a balanced way required a firm and transparent approach by the programme and by the members of the JPCs, as well as by participants in the country concerned and in the Netherlands.

Still, a major challenge in the BRP, as examples of developmentoriented research, had been to create a setting in which the end-users – the people at the grass roots, policy makers, and practitioners – could have adequate access and representation ('need to sound out the stakeholders').

6.4. Methodology and methods used in partnership programme

Participatory methods were at the heart of the project. It was relatively easy to sound out the needs of policy makers and government officials. It was more difficult to assess the needs of practitioners and service providers working on the ground and to get the voices of communities and local people heard. However, participation is not only on finding needs, but also on institutional commitment, interest and co-financing of research towards institutionalisation and up scaling. Researchers implemented participatory methods and techniques to assist communities in articulating their needs and translate these needs into research questions and activities. It is paramount to have such participatory organisation of research throughout the programme and not just in the beginning and at the end.

Nevertheless, after many setbacks, the programme has become more successful in bringing the micro-level perspective in the research agenda setting and research programme design. Researchers went regularly into far away rural areas, fields, and rivers; climbed into the Mount Malindang Range; went down to the bottom of the coastal areas and actually, have been working from the bottom-up and 'putting the last first'.⁸⁶ But this distance and irregular visits, we have to note, was also a major problem.

BRP has created a learning environment in which knowledge, both scientific and indigenous, are shared and exchanged

⁸⁶ Chambers, R. (1983) 'Rural Development: Putting the Last First,' New York: Longman.

between researchers and non-researchers. To the people involved in the project, it has become clear that both knowledge systems can complement and reinforce each other. It is also learned that linking knowledge and innovation to solving complex development problems requires interdisciplinary approaches and interactive methodologies:

- For integrating the contributions from various disciplines;
- For involving the end-users in the research process;
- For creating knowledge networks transcending traditional boundaries between disciplines; and
- For transcending boundaries between researchers and end-users.

Programmes of this sort need long-term commitment and funding to ensure that sufficient 'critical mass of researchers, opinion leaders and institutes' develops, which could sustain the process. The BRP has followed a very interesting development path and could have become a showcase for the Dutch and Philippine research community for research-for-development modes of working and demand-driven research.

From both the Philippine and Dutch end, more support was expected for the sustainability of the programme. It was foreseen that SEARCA, with its regional network, could have been helpful in linking up with other relevant programmes in the Southeast Asian region, and that the Mindanao regional research consortium could have been effective in stimulating external research support agencies to coordinate their activities with the Mindanao programme. At the onset of the programme, high priority was also given to co-financing by other donors, the essential issue of mobilizing additional funding for the programme.⁸⁷ All these did not happen as foreseen.

In the Netherlands, funding priorities have changed. The Philippines is no longer on the list of preferred countries. After a year of extension to finalize its activities, there will be no continuation of Dutch funding of BRP. In terms of investments done in research and support in Mindanao and in South-North collaboration this is a pity and a waste, because the process to implement research for development programmes based on partnership has just begun. Its impact, no doubt, can only be arrived at after sustained investments. Hopefully, other donors

⁸⁷ RAWOO, 1998: 20.

would be wiser to fill in the gap that had been left by the Dutch, so that the programme can show its value within a regional context in the longer run.

6.5. Making the balance of two modalities of demand-led research

In their relative brief period of existence (less than 10 years), both modalities supported by the Dutch (the MMRPs and the RAWOO initiated programmes for development related research) have made valuable contributions to the creation of a social culture of demand-led research. Demand-led research has become worth pursuing in spite of its inherent difficulties. Although a lot of pros and cons have passed the review, the pros clearly outweighed the cons. Furthermore, both modalities have shown that, when funding is secured, in principle countries in the South can build their own capabilities for demand-led research, with or without the presence from the North. A longterm perspective, however, is vital.

The BRP also gives lessons on the right interplay between Northern and Southern researchers for an interactive process of knowledge production, which is still needed for the complex answers for development problems that are required. Comparing the examples of some MMRPs with the BRP, it is possible to see certain 'plus values' in involving Dutch expertise in developmentoriented research. This is especially the case, where Dutch researchers have been able to freely use their main area of specialization in the programme, while committing to the demand-led research agenda and having a strong attitude towards learning. This has without doubt improved the quality of outputs, both on contents and on capacity enhancement.

Since the political top of the Dutch Government is no longer interested to actively support research policy for developing countries, and consequently the abrupt withdrawal of Dutch funding, the situation of the programmes has weakened, in spite of its good results, positive impact, and adequate management. This is mainly due to their near single-donor dependency, which largely remained in place up to date. It can be easily understood that no single institute or programme of demand-led development oriented research is able to develop financial sustainability in 10 years' time.

Appendix

Glossary of terms and concepts in use in development-oriented research

Asymmetric relations: differences among partners in various aspects from scientific qualification and access to the various research resources (funding, equipment, facilities, publication channels) to the social and political contexts conducive to research and innovation.⁸⁸

Capability: the ability of individuals, organisations, or societies to set and implement development objectives on a sustainable basis.⁸⁹

Development - oriented research: a specific form of research, which differs from more fundamental forms of research. It is focused on the solution of acute or forthcoming problems. This means research that can contribute to the solution of serious problems in the developing countries, with relevance to local situations and directed both to pro-poor growth and good governance; key function is to provide knowledge and insight that will lead to a more optimal utilization of human and natural resources in developing countries.

Dialogue: Capacity of members of a team to suspend assumptions and enter into a genuine 'thinking together,' it means a free flowing of meaning through a group, allowing the group to discover insights not attainable individually. It differs from the more common 'discussion,' which has its roots with percussion and concussion, an inter-weaving of ideas in a 'winner-takes-all' competition.

Interdisciplinary research: integration between natural, social, engineering, medical sciences and humanities.

Learning: not the synonymous of taking in information, but relates to a fundamental shift or movement of mind. Through learning, we recreate ourselves. Through learning, people are able to do something they were never able to do before. It is expanding the capacity to create its future, enhances capacity to create. It is strongly related to unlearning.

Mental models: deeply ingrained assumptions, generalizations, or even pictures or images that influence how people understand the world and take action.

Ownership: local stakeholders – within a certain accepted policy framework - give meaning, content and direction to programmes and activities, which are relevant for them. They are responsible/accountable for those activities, for

⁸⁸ Velho, 2002:29.

⁸⁹ T. Land, 2000.

Partnerships: highly structured form of co-operation with long-term commitments, concrete activities, a form of a contract and participating partners able to operate autonomously.⁹⁰

Participatory research: applied research in which some of the people in the area or community under study participate actively with professional researchers throughout the research process from the initial design to the final presentation of results and discussion of their actions' implications. Ideally speaking, participatory research is with and for the people, not on them. Validation of knowledge is obtained not only by confronting previous hypotheses but also through people's own validation mechanisms.⁹¹

Peer review: assessing a research proposal or manuscript through the cognitive task of a reviewer.

Research: can be defined as work of an original nature aimed at acquiring new knowledge and insight. This may be knowledge that has a direct application to the solution of concrete problems, knowledge that will only become relevant in the long-term or, lastly, contributions to the broader accumulation of knowledge within particular areas.

Research capability⁹²: refers to the capacity of a whole research system to set its own priorities, and to design a research policy and programmes accordingly. It involves components at different levels: individual human resource development, capacity of research institutions to handle research projects and programmes, and the capacity to set and execute national or local research priorities. Effective programmes designed for capacity enhancement will build on existing situations in countries concerned and take the different levels of a national/local research system into account in a coherent manner.⁹³

Research co-operation: providing support in order to strengthen the capacity of developing countries to pursue research programmes of their own, and providing support to research programmes, which can contribute to the solution of serious problems in the developing countries.

Research partnership: groups of scientists from two or more partner-countries carry out long-term, trans-disciplinary collaborative research on problems that are important for all the partners. Teams are chosen based on equal representation and all those involved should have opportunities for continuing education and training, they are a genuine form based on joint responsibility, mutual trust, sharing of experiences and two-way learning process.

Science: aims to understand the world in order to guide man's actions for making life better. Democratic, humane and creative science should look at

 $^{^{\}rm 90}$ De la Rive Box, 2001.

⁹¹ Lammerink and Wolffers, 1994:19.

 $^{^{92}\,\}text{This}$ multi-level definition from Wils, 1995:7.

⁹³ Baud, 2002:56.

peoples relations with the rest of nature in its broadest context and combines specialized research with self-reflection and with frequent re-examination of goals.⁹⁴

Scientific knowledge: knowledge that requires some distance from the particular in order to compare and to generalize.

Sustainable development: is the complex of activities that can be expected to improve the human condition and maintenance of the environmental quality in such a manner that the improvement can be maintained. It is a social and political process. The ultimate challenge is not a scientific or technical one, but one that requires changing human behaviour.

Systems thinking: is a conceptual framework, a body of knowledge and tools that has been developed to show full patterns and allow stepping back from the details. It can avoid several kinds of narrowness, like short time frame, limitation to species, isolation from other disciplines, and a failure to come at grips with pressing social issues that affect vulnerability. It avoids great sophistication in the small, accompanied by a growing irrationality in the large. It helps to see how to change a pattern. It is especially powerful way of thinking in interdisciplinary research. The underlying worldview is intuitive. It is a way of integrating the disciplines, fusing them into a coherent body of theory and practice.

Traditional knowledge: knowledge derived from detailed, intimate, perceptive, and very specific familiarity that people have with their own circumstances.

⁹⁴ Richard Levins, "When Science Fails Us," in Forests, Trees, and People Newsletter, No. 32/33.

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