




Advisory Council  
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Problems



# Framework for a Philippine-Dutch Programme of Biodiversity Research for Development



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# **Framework for a Philippine-Dutch Programme of Biodiversity Research for Development**

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# CONTENTS

## Preface

- 1. Introduction**
  - 1.1. Background
  - 1.2. Objectives and policy principles
  - 1.3. Defining biodiversity
  
- 2. Process approach**
  - 2.1. Selecting the Philippines as a partner country
  - 2.2. Agenda-setting and programme development workshops
  
- 3. The Philippine context**
  - 3.1. A bird's eye view of biodiversity issues in the Philippines
  - 3.2. Government policy
  - 3.3. The biodiversity research environment
  
- 4. Directions for a Philippine-Dutch biodiversity research programme**
  - 4.1. Conceptual framework and cross-cutting concerns
  - 4.2. Focusing on the Mindanao region
  - 4.3. Pre-implementation phase
  - 4.4. Methodologies for elaborating the joint Mindanao programme
  
- 5. Development-related biodiversity research expertise in the Netherlands**
  
- 6. Organizational structure**
  - 6.1. Management structure of the Philippine national biodiversity research programme
  - 6.2. Considerations for setting up the management structure of the joint Mindanao Programme
  - 6.3. Relation to the Biodiversity Stimulation Programme in the Netherlands
  - 6.4. Outline of an organizational structure for the joint Mindanao Programme
  - 6.5. Budget requirements
  - 6.6. Extending the programme to other regions and countries

## Annexes

- |         |   |
|---------|---|
| Annex 1 | Composition of the Programme Study Committee (PSC)  |
| Annex 2 | Composition of the Philippine Working Group (PWG)   |
| Annex 3 | Letter from the Secretary of the Philippine Department of Environment and Natural Resources, Victor O. Ramos, to RAWOO                  |
| Annex 4 | Report of the Workshop "Developing a Philippine-Dutch Biodiversity Research Programme", Leidschendam, The Netherlands, 8-9 October 1997 |
| Annex 5 | List of abbreviations   |

## **Preface**

This report to RAWOO presents an outline for a Philippine-Dutch programme of biodiversity research for development. It must be seen in the context of the RAWOO advisory report “A Medium-term Perspective on Research for Development”, issued in 1994, which recommended that a long-term South-North research programme be established in the area of biodiversity and sustainable development. As the government’s response to this recommendation was positive, RAWOO took the initiative to launch a study aimed at formulating the policy and designing the organizational framework for such a programme. The present report, which is the result of this study, was prepared under RAWOO auspices by a committee made up of members of the Council and representatives of the research community, nature organizations, and the government departments of BuZa/DGIS, LNV and OCenW.

The Council agrees with the programme document presented: with the policy framework and approach suggested for further elaborating the joint programme at the level of the Mindanao region, and with the organizational structure. The report opens up new opportunities for partnerships in biodiversity research--partnerships between the South and the North as well as partnerships that link researchers, government and the wider society, including the local communities and indigenous peoples whose livelihoods depend on the preservation of biodiversity. The Council is of the opinion that the programme document and the process through which it was prepared are consistent with the conditions mentioned in the government’s reaction to the advisory report outlining the medium-term perspective. In the Council’s view, it is important that the Philippine government has endorsed the national biodiversity research agenda drawn up by the Philippine stakeholders, and that the same government has expressed its support for the joint Philippine-Dutch endeavour through a letter to the Council from the Secretary of the Department of Environment and Natural Resources.

As regards the organizational structure, the Council supports the view that it is not desirable to integrate the Joint (Philippine-Dutch) Mindanao Biodiversity Research Programme into the framework developed for the Biodiversity Stimulation Programme in the Netherlands. These are clearly different programmes, focusing on different contexts and needs and with different orientations. Given the basic characteristics of the Mindanao programme (location-specific, interdisciplinary or multidisciplinary, and a landscape level of analysis), its participatory, community-driven approach and its comprehensiveness (support for research as well as human resource development, the establishment of databases and directories, networking, and activities aimed at improving the dissemination and utilization of research results), it would be neither wise nor realistic to bring it under the umbrella of a programme which has other objectives, characteristics and clients. The Council therefore recommends that the Mindanao programme have its own governance and management structure and its own budget. A Joint (Philippine-Dutch) Programme Committee (JPC) should be able to function as an autonomous body and should have the final responsibility for policy and decision-making, including allocating research funds to projects on the basis of its own procedures and criteria for project assessment. The composition of the JPC should reflect the various stakeholders involved.

The Council agrees that cooperation and an exchange of experiences between the Joint Mindanao Programme and the Dutch Biodiversity Stimulation Programme should be actively encouraged. It is evident that such cooperation, if based on the principle of a two-way learning process and joint learning, could be fruitful for both sides, and fruitful not only for researchers, but also for other actors in government and the wider society who have a stake in the wise and sustainable use of biodiversity both in the Philippines and in the Netherlands. There is particular added value when this close interaction takes place in areas of common interest: e.g., research on general topics which are indicated in both programmes. Such research forms an important point of reference for the research of a more location-specific nature. In order to facilitate the above-mentioned process, it is proposed that a link be

established between the two programmes at the level of the governing committees. Two Dutch members of the JPC should be appointed to the NWO programme committee. These persons should act as a liaison between the two programmes and see to it that the opportunities for joint learning and cooperation are actually explored and that the potential is actually realized. This can be done through a platform for sharing and exchanging knowledge and information.

As regards the Support and Liaison Office (S&L office) in the Netherlands, this office should be hosted by an organization that supports the policy principles and approach underlying the programme. It should be accountable to the JPC only. In the Council's view, it is important that the host organization's main agenda corresponds with the agenda and policy principles of the programme, and that this organization has professional experience in developing countries in the fields of demand-driven research and institutional development.

As outlined in the report, a pre-implementation phase is needed to put the Philippines-Netherlands programme on the ground in Mindanao through an interactive, multi-stakeholder approach involving researchers, GOs, NGOs and representatives of the local communities and indigenous peoples. The pre-implementation phase is also needed to put in place the organizational structure for the programme's implementation. This phase should be conducted under the responsibility of the Council in order to ensure that the right conditions for a successful programme are created. After its inception, the JPC will take over this responsibility.

The Council would like to thank the members of the preparatory committee, in particular its chair, RAWOO member Dr. Johan Bouma; the members of the Philippine working group, in particular Dr. Percy Sajise; and all the other persons and organizations in the Philippines and in the Netherlands who contributed to the preparatory process that led to this report.

Finally, the Council hopes that the Joint Mindanao Programme will break new ground in developing a location-specific, interactive and integrated approach to biodiversity research, and that it will contribute to the conservation, restoration and sustainable use of biological diversity in the Mindanao region. The Council trusts that the relevant government departments will react positively to the proposal as presented and will supply the necessary financial resources for its implementation.

Mr. G.H.O. van Maanen  
Chairman, RAWOO

## 1. INTRODUCTION

### 1.1 Background

This report presents the results of a study aimed at formulating a collaborative (South-North) programme of biodiversity research for development. It describes the origin and objectives of the initiative, the policy principles underlying it, the selection of the Philippines as the partner country to be incorporated into the programme, and the interactive process of involving in the programming exercise the various stakeholders: the research community (both in the Philippines and in the Netherlands), policy-makers, and representatives of the end users in society. It also presents an outline of the joint Philippine-Dutch biodiversity research programme as proposed, including its organizational structure and the possibilities for Dutch research groups to contribute to its implementation. Finally, this report concludes by outlining how to proceed in order get the programme started and to move from design to implementation.

The present study was conducted under the responsibility of the Advisory Council for Scientific Research in Development Problems (RAWOO). Funding for this study was provided through the Sector Council's Consultative Committee (COS).

It all started with the RAWOO advisory report "A Medium-term Perspective on Research for Development", issued in 1994, which recommended, among other things, that a long-term South-North research partnership be established in the area of biodiversity and sustainable development. This recommendation emerged against the background of the Biodiversity Convention, which calls for scientific and technical cooperation between contracting parties. The Convention specifically urges that there be research partnerships between the South and the North.

The Minister for Development Cooperation (speaking also on behalf of the Minister of Education, Culture and Science, and the Minister of Agriculture, Nature Management and Fisheries) responded positively to the RAWOO recommendation and expressed the government's willingness to help fund a multi-annual biodiversity research programme for development. However, he also mentioned a number of conditions that the programme must comply with, and asked RAWOO to see to it that these conditions would be taken into account.<sup>1</sup>

In 1995 the Netherlands government published its Strategic Action Plan for the conservation of biodiversity, which, among other things, recommended that knowledge of biodiversity issues be enhanced and expanded, and that research be better coordinated through a programmatic approach. This recommendation was taken up by the sector councils concerned and resulted in two so-called programming studies: one conducted by RMNO/NRLO for biodiversity research in the Netherlands, and one conducted by RAWOO for biodiversity research in, and in cooperation with, developing countries. The government's intentions were confirmed in its bi-annual Science Budget 1997, which

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<sup>1</sup> The conditions mentioned by the Minister for Development Cooperation were the following:

- the choice of country (preference for countries with which the Netherlands has long-standing relationships in the area of development cooperation);
- a society-driven or demand-driven approach (the research needs of developing countries should come first; no steering or lobbying from the supply-side);
- attention for capacity-building;
- equal partnerships (the partners from the South should be involved on an equal footing in the formulation and implementation of the programme);
- co-financing (link development with science-funding and try to involve international organizations that support research, such as the EU);
- appropriate governance and management structure (in which the Southern partners have an equal say, thus reflecting genuine cooperation);
- need for innovative and new approaches (no business as usual).

indicated that the relevant government departments had incorporated the biodiversity research programme into their long-term financial planning.

RAWOO appointed a committee to provide guidance during the study's implementation. This committee consisted of RAWOO members and representatives of the Dutch research community, nature organizations, and the relevant ministries (DGIS OC&W and LNV) (*see Annex 1*).

## **1.2 Objectives and policy principles**

The present study had two main objectives:

- (1) to design the policy and organizational framework of a collaborative biodiversity research programme for development:
  - . to identify the countries or regions to be involved in the programme;
  - . to assess biodiversity research needs and priorities, including those in the areas of capacity-building and institution-building;
  - . to propose a governance and management structure for programme implementation;
- (2) to build consensus and commitment among the key actors in the biodiversity research environment - in the South and in the Netherlands - thus achieving support for the framework of the future programme.

The first objective is product-oriented and the second is process-oriented. It was felt that the process of involving all relevant stakeholders in the programming exercise and creating a common understanding and a common approach would be as important as the product itself: a research programme in outline form. Furthermore, a number of starting points or policy principles were formulated which were to give direction to both the design and the implementation of the collaborative research programme. These points of departure take into account the conditions mentioned by the Minister for Development Cooperation, but they are also derived from recommendations put forward by RAWOO in recent advisory reports. The three most important principles are the following:

### **(1) Steering biodiversity research through a society-driven approach**

The proposed research programme should contribute to the conservation, management and sustainable use of biological and genetic resources. This means that the process of setting the research agenda should be driven by societal needs. Steering research through a society-driven approach implies that biodiversity research needs and priorities are assessed and articulated by the relevant stakeholders in research, government and society.

Involving the user community is important not only at the national policy-making level but also at the programme and project level. There is growing awareness that the utilization of research results may be enhanced by involving representatives of user groups in the different stages of the research process.

The user community includes policy-makers and government officials at different administrative levels (national, provincial, district), the private sector, non-governmental organizations (NGOs) and community-based organizations (CBOs) representing local communities, indigenous peoples, farmers and fishermen.

Setting research priorities through a multi-stakeholder approach is not an easy thing to do, mainly because there may be conflicting needs and interests and power issues involved.

### **(2) Developing a comprehensive approach aimed at integrating support for collaborative research and support for building and strengthening national capacity for biodiversity research**

Developing and strengthening sustainable national capacity for biodiversity research in the South should

be one of the central concerns of the programme. This includes support for:

- research training (and making better use of existing, often under-utilised capacity);
- development of methodologies for assessing needs and setting priorities (e.g., through workshops, participatory approaches and networking);
- the building up and strengthening of research institutes and research infrastructure (biological collections, libraries, databases, and information and communication facilities);
- development of mechanisms for linking research, policy and practice (e.g., through networks, seminars, workshops);
- creating an institutional and policy environment that enables Southern countries to design, implement and manage biodiversity research policies and programmes.

### **(3) Research cooperation on an equal footing**

It is important that Southern and Northern researchers participate as equal partners in (South-North) collaborative research programmes. They must have an equal say in the policy-making and decision-making processes, and they must play an equal role in the governance and management structure of research programmes. Such equality is essential for the sustainability of partnerships over the long term.

Lessons learned from the past show that genuine cooperation and equal partnerships cannot be built overnight; these are long-term investments whereby partners from both sides need to familiarize themselves and to get to know each other, and whereby a process of levelling off is often necessary.

### **1.3 Defining biodiversity**

There is still a lot of debate going on about the precise meaning of the concept of biological diversity, or biodiversity. The definition advanced by the Biodiversity Convention is often quoted, but has its limitations.<sup>2</sup> In this study we refer to biodiversity as an umbrella term for nature's variety; it encompasses three hierarchically arranged categories: genetic diversity, species diversity and ecosystem diversity.<sup>3</sup>

*Genetic diversity* is the sum total of genetic information contained in the genes of the individual organisms that inhabit the earth. It refers to the variation of genes within a species.

*Species diversity* refers to the variety of species within a region. The number of living organisms on Earth is estimated to be between five and fifty million or more, although only about 1.4 million have been described.

*Ecosystem diversity* relates to the variety of habitats, biotic communities, and ecological processes in the biosphere, as well as the biodiversity within ecosystems in terms of habitat differences and the variety of ecological processes.

It could be argued that *human cultural diversity* is an integral part of biodiversity and therefore should be incorporated into the definition. This would reflect the fact that biodiversity as an ecosystem feature

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<sup>2</sup> The Convention on Biological Diversity gives the following definition: "Biological diversity means the variability among living organisms from all sources, including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems".

<sup>3</sup> See World Resources Institute (1992), World Resources 1992 -1993: Towards Sustainable Development, Washington DC.

is the product of the interactions between the natural environment and the social system in any given place.

## 2. PROCESS APPROACH

Given the study's objectives and the importance of the consultative process that the objectives imply, a work programme was drawn up consisting of a sequence of activities, meetings and workshops. These included the following steps:

- shortlisting of possible partner countries;
- appraisal mission to the Philippines;
- establishing a Philippine working group;
- agenda-setting workshop in the Philippines;
- information meeting in the Netherlands;
- programme development workshop in the Netherlands.

### 2.1 Selecting the Philippines as a partner country

First, a survey was conducted to obtain a shortlist of possible partner countries. From the countries that were put on this list - Indonesia, Ethiopia and the Philippines - the last was chosen as the first country to be visited by an appraisal mission. A joint Philippine-Dutch team carried out this mission in October 1996. Its aim was to identify possibilities for setting up a long-term biodiversity research partnership and to collect information on the research environment (policies, research infrastructure, organization and funding) and on the key actors in this field: the relevant research organizations, government bureaus and non-governmental organizations. The appraisal mission resulted in a report entitled "We know little of what we pretend to preserve: biodiversity and sustainable development in the Philippines".<sup>4</sup> On the basis of the report's findings, further steps were taken to set up a biodiversity research partnership with the Philippines.

There were several reasons for selecting the Philippines as a partner country in the collaborative research programme. First, while the country ranks as one of the most important areas in the world in terms of biodiversity, its biological and genetic resources are under severe pressure as a consequence of rapid population growth, economic development, and overexploitation of the natural environment. Second, biodiversity is one of the priority areas in the Philippine Agenda 21, which has recently been adopted by the Philippine government. Such a favourable policy environment is an important precondition if research results are actually to be used in policy-making and management. Third, the country has a relatively well-developed national research system and a critical mass of highly qualified and competent researchers. Fourth, the country has a very active and capable NGO community, which is important for defining research questions and for the implementation of research results. Fifth, the Philippine and the Dutch research communities have already established cooperative linkages and contacts which could be further extended and enhanced within a programmatic framework.

In January 1997, a follow-up mission visited the Philippines. Its purpose was to establish a Philippine Working Group (PWG) and to identify the persons who could sit in such a group. This PWG was asked to set in motion the process of preparing an agenda-setting workshop and to identify a focal point or secretariat that could support the working group's activities and the organization of the workshop. The mission succeeded in bringing together a well-balanced group of committed Filipinos under the inspiring and supportive leadership of Dr. Percy Sajise, director of the SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA). (*See Annex 2 for the composition of the Philippine Working Group.*)

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<sup>4</sup> "We know little of what we pretend to preserve. Biodiversity and Sustainable Development in the Philippines: research environment, key actors and research needs". FMD consultants report commissioned by RAWOO.

## **2.2 Agenda-setting and programme development workshops**

A national workshop to set the agenda for biodiversity research was held on 2-4 July 1997 in Los Baños, the Philippines. It brought together researchers, policy-makers and representatives of the user community from all over the Philippines. The workshop had two main objectives: to produce a biodiversity research agenda for the Philippines through a consultative process, and to make recommendations for a management structure and implementation mechanism for the proposed programme of biodiversity research. More than 50 participants representing different sectors (academic, government and non-government) regions (Mindanao, Visayas and Luzon) and areas of expertise (highland, lowland or aquatic ecosystems) attended the workshop.<sup>5</sup>

The recommendations of this meeting were taken up by the Philippine Working Group and - after regional meetings of researchers with representatives of government and non-government organizations in August and September 1997 - were further worked out in a report entitled "National Biodiversity Research Agenda for the Philippines".<sup>6</sup> The Philippine government endorsed this agenda and expressed its support for the RAWOO initiative through a letter to the Council from the Secretary of the Department of Environment and Natural Resources (DENR), Victor O. Ramos. (*See Annex 3.*)

In September 1997, a meeting was conducted for interested researchers and policy-makers in the Netherlands in order to inform them about the study's objectives and policy principles, its approach, and the outcome of the Los Baños workshop, and thus to prepare them for the workshop in the Netherlands and to involve them in the process of developing the joint Philippine-Dutch programme of biodiversity research.

The Philippine agenda served as major input for the workshop "Developing a Philippine-Dutch Biodiversity Research Programme", which took place on 8-9 October 1997 in Leidschendam, the Netherlands. The main objective of this two-day meeting was to discuss the policy and organizational framework of a collaborative programme of biodiversity research, taking into account the directions set out in the Philippine agenda mentioned above. The workshop was attended by approximately 40 participants - including nine from various organizations involved in biodiversity research in the Philippines, researchers, policy-makers and representatives of NGOs. The report of the Leidschendam workshop is attached as Annex 4.

Sections 4, 6 and 7 of the present report are particularly based on the outcome of the two workshops.

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<sup>5</sup> See Highlights of the proceedings of the workshop on agenda setting for biodiversity research in the Philippines. RAWOO/SEARCA, Los Baños, Laguna, Philippines, 2-4 July 1997(August 1997).

<sup>6</sup> National Biodiversity Research Agenda for the Philippines, SEARCA, September 1997.

### **3. The Philippine context**

#### **3.1 A bird's eye view of biodiversity issues in the Philippines**

The current biodiversity situation in the Philippines is highlighted in the national biodiversity research agenda document. The country is considered 'a biodiversity hot spot'; it has an extraordinarily high rate of species diversity, and a high percentage of species are endemic. There is, however, severe danger that a substantial part of this rich natural repository will be lost as a result of human activity.

In the *forest ecosystem*, for example, 5% of the world's plant species are present. Of the more than 8,000 species identified in the Philippines, 3,200 are unique to the Philippines. A high percentage of the forest fauna are endemic to the Philippines: 45% of known vertebrate species and 50% of known insect species. The main threat to the forest ecosystem is, quite predictably, deforestation.

The *freshwater ecosystem* incorporates 14,000 sq. km. of wetlands, which are of international importance. Early indications suggest that there is generally a high degree of biodiversity in the freshwater ecosystem, with many species confined to only one of the 78 lakes in the country.

Perhaps best known are the threats to the *coastal and marine ecosystem* posed by pollution, dynamite fishing, overfishing and land reclamation. The coastal regions and territorial waters of the Philippines cover 2.2 million sq. km. and contain coral reefs which in terms of biodiversity rank second only to the Great Barrier Reef. They also contain mangrove forest and seagrass covers. The condition of all three of these is very poor: a mere 24% of coral reefs are in good or excellent condition, while only 33% of mangrove forest and 20% of seagrass cover remain. The species of marine plants and animals that have been found number 4,951, of which 145 are under threat, including the dugong or seacow.

As regards *agrobiodiversity*, 10 million hectares of land are under cultivation. Of this, 42% is farmed on a small-scale by traditional farmers and is characterized by a high degree of biodiversity. Low diversity characterizes 24% of the land under cultivation. The main threats here include agricultural land conversion, monoculture, intensification and pollution - in one word: commercial farming. A last, but by no means minor, threat is the loss of traditional knowledge of agricultural methods. There is a very clear correlation between high biodiversity and the presence of small-scale farmers.

An integral part of the biodiversity picture in the Philippines is the existence of 60 indigenous minority groups, who together account for 7% of the country's 70 million people. These indigenous groups live mainly in the remote uplands and highlands, areas that are particularly noted for their high degree of biodiversity. Indigenous knowledge and practices have been documented as part of an effort to protect natural resources and conserve biodiversity. The practices themselves are not protected, however. This *cultural diversity* cannot be separated from natural diversity. The conservation of biological diversity has to be pursued through the direct involvement of communities and indigenous peoples.

#### **3.2 Government policy**

The political climate for conserving biodiversity appears to be fairly positive. The Philippines was among the first countries with an UNCED-derived National Agenda 21, which incorporates a very general biodiversity programme. Government at various levels has also passed legislation reflecting official concern in this area. This includes Executive Order 192 (1987), which created the Protected Areas and Wildlife Bureau (PAWB). Other legislation covers bio-prospecting for scientific and/or commercial purposes, and the establishment of the National Integrated Protected Areas Systems (NIPAS). Only very recently, the Philippine government approved the "Indigenous Peoples Rights Act", which recognizes, protects and promotes the rights of indigenous cultural communities and indigenous peoples. It is significant in this respect that local governments are legally empowered to enact regulations that conserve nature.

### **3.3 Biodiversity research environment**

Current biodiversity research in the Philippines is concentrated mostly in Luzon, and to a lesser degree in Visayas and Mindanao, the other two major regions of the country. Most of the research projects are carried out by state colleges and universities. The projects are aimed mostly at developing ways of making a livelihood that also conserve biodiversity. Research is mostly fragmented, uncoordinated, reactive and donor-driven; most current projects of biodiversity research and conservation are externally funded.<sup>7</sup> There are no linkages, no optimalization. Most of these projects will not be self-sustaining unless they are linked to a strategic national programme of conservation. Moreover, it is clear that biodiversity issues are multi-faceted and require a multidisciplinary or interdisciplinary approach. At present, biodiversity research is concentrated mainly on biological aspects and less on socio-cultural aspects, while in fact biodiversity is strongly influenced by human behaviour and must be viewed within the socio-cultural context.

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<sup>7</sup> An overview of current biodiversity research projects is included in the paper "Biodiversity in the Philippine Terrestrial Uplands: status, issues and research agenda, prepared by Percy E. Sajise for the National Workshop on Agenda Setting for Biodiversity Research in the Philippines, 2-4 July 1997, SEARCA, Los Baños, Laguna, Philippines (see note 5).

#### **4. Directions for a Philippine-Dutch biodiversity research programme**

As described in section 2.2, the parties involved in biodiversity research in the Philippines formulated a policy document entitled “National Biodiversity Research Agenda for the Philippines”. This document served as major input for the Leidschendam workshop ‘Developing a Philippine-Dutch Biodiversity Research Programme’, held in October 1997. The main conclusion of the workshop was that it would be possible to develop such a joint programme on the basis of the directions set out in the Philippine document.

The following outline of the proposed Philippine-Dutch Biodiversity Research Programme is based on the results of the workshops both in Los Baños and Leidschendam. It provides a policy framework for further articulating and specifying research needs and priorities in the Mindanao region, which was chosen as the geographical focus of the joint initiative. The joint Mindanao research programme will have the following basic characteristics. It will be development-oriented, needs-based and location-specific, systems-oriented and interdisciplinary, employing a landscape level of analysis (from the uplands to the sea, from the watershed to the ocean).

The Mindanao programme will be further elaborated through a dynamic multi-stakeholder approach involving the academic community, government organizations, non-governmental organizations, and representatives of the local communities and indigenous peoples. This process approach should result in a comprehensive programme of activities which will integrate research, human resources development, the establishment of databases and directories, networking, and activities aimed at improving the dissemination and utilization of research results through the production of informative materials.

##### **4.1 Conceptual framework and cross-cutting issues**

The Philippine Agenda 21, which was finalized in 1997, highlights biodiversity conservation as an important component of sustainable development. The assessment called for more reliable and accurate scientific information upon which future decisions and actions on biodiversity conservation can be based.

In very general terms, the National Biodiversity Research Agenda for the Philippines can be characterized in three words: multi-sectoral, location-derived, and interdisciplinary. It takes into account the fact that there is a variety of stakeholders (local people, local and national government, businesses, and other local, national and international actors and agencies) who may have different or even opposing interests. It also takes into account the fact that in a ‘Third World’ country like the Philippines, people and nature live side-by-side and interact. This implies that biodiversity research must examine both natural systems and social systems. Biodiversity problems are closely related to poverty, yet a further loss of biodiversity will lead to even more poverty.

Hence, the conceptual framework on which the Agenda is based is systems-oriented (holistic rather than concentrated on one issue or discipline) and expresses profound awareness of the interaction between social and natural systems. The importance of a holistic approach is evident in the typical range of family livelihoods on the islands, which range from hunting, gathering and logging in the mountains, to the cultivation of upland fields of rice and other crops, to the farming of fish in ponds, and to fishing in the coastal waters and open sea.

In order to identify key areas for biodiversity research, the following set of criteria for setting priorities was developed and agreed upon by the participants at the Los Baños workshop:

- (1) a degree of urgency: i.e., areas which will address problems immediately;
- (2) policy relevance and implications;
- (3) potential benefits;

(4) strategic nature in terms of location and impact of the research area.

A number of national priorities or generic areas emerged as common concerns from this consultative process. These cross-cutting concerns include both researchable areas and support programmes:

<i>Researchable areas</i>	<i>Support programmes</i>
Validation and standardization of methodologies for biodiversity research and conservation  Increased knowledge of: -Biology (genes, species, ecosystem) -Methods for rehabilitation or restoration -Socio-economic and cultural factors (indigenous knowledge systems, resource valuation, gender concerns)  Policy-oriented research on: - land and resource use - stakeholder analysis - conflict resolution	Human resource development  Development and production of materials for informative and educational purposes  Establishment of databases and directories Networking

These generic areas should be integrated into all of the regional biodiversity research projects that will be implemented under the programme. The support programmes - i.e., to provide training and to strengthen institutions - are essential if the above-mentioned concerns are to be addressed effectively.

The national agenda aims to combine both fundamental and applied science, and both indigenous knowledge and scientific inquiry. It aims to bring the stakeholders on board while infusing the research with technical input. This makes the proposed research programme both socially relevant and at the cutting edge of science.

The national agenda allows for co-financing and for the involvement of international organizations and other donors that support research. The national agenda can be specified in more detail through a joint consultative process with any specific donor.

#### **4.2 Focus on the Mindanao region**

There were a number of reasons for choosing Mindanao as the geographical focus of the Philippine-Dutch biodiversity research initiative. Mindanao is the region where:

- there is currently not much scientific activity.
- the greatest policy impact could be expected (either locally or regionally).
- support systems are already in place (and there are individuals and institutions with whom one could collaborate in the fields of training, education, and human resource development).
- there are many areas rich in biodiversity (and possibly under threat).
- various bio-geographical zones are present.
- all of the tropical ecosystems are present - uplands, lowlands, coastal and marine - thus allowing for a landscape or ecosystem approach.
- rich sources of indigenous knowledge are available.

- biodiversity efforts could be combined with other new or current efforts in the same direction.
- it would be possible to spread the programme's benefits equally among the various research communities in the Philippines.

The biodiversity research agenda for Mindanao is the result of discussions and recommendations of the regional (island group) representatives at the National Workshop conducted in July 1997. The generic areas have been defined slightly differently for the list of regional research priorities.

The research sites proposed for the region are based both on the Philippine Working Group's expert knowledge of the country's biodiversity 'hot spots', and on suggestions and recommendations made by regional experts. The proposed sites conform with the bio-geographical zones identified for the region. (*See Figure 1.*) The identification and prioritization of sites by zone also ensures an equitable distribution of project sites and resources across the region. The final site selection in each zone will be based on a set of criteria that will be developed as part of the pre-implementation activities.

Apart from training programmes and institutional strengthening, the biodiversity research agenda for Mindanao will include the following:

- a) Biodiversity assessment in selected resource-rich areas, some of which are protected. These will represent forest ecosystems, marine and coastal ecosystems, and freshwater ecosystems (for a specification of the areas, see page 48 of the National Biodiversity Research Agenda for the Philippines).
- b) Studies of the impact on biodiversity conservation of certain socio-economic, cultural and resource-management practices in protected areas.
- c) Studies of the role of gender in biodiversity conservation in selected protected areas.
- d) Documentation, assessment and analysis of ethno-biological knowledge in protected areas.
- e) Assessment and analysis of the impact of conservation policies.
- f) Rehabilitation and protection of unique and/or endangered endemic species of flora and fauna.
- g) Biodiversity assessment in coastal economic areas.
- h) Biodiversity assessment of environmentally perturbed areas.
- i) Inventory of biodiversity in agro-ecosystems.

This regional agenda, which is stated in general terms, will have to be translated into specific joint research activities under the umbrella of the Philippine-Dutch Biodiversity Research programme.

### **4.3 Pre-implementation phase**

The need for special activities in order to further elaborate the Mindanao research agenda into specific, detailed research projects has already been emphasized. This is why a pre-implementation phase is needed. This phase will serve the purpose of determining exactly where, what, how and with whom specific research projects are to be carried out. At the same time, it will serve to build further consensus and commitment among the key actors involved in the Mindanao region, and it will help to achieve the organizational and management structure that best fits the joint Philippine-Dutch programme (*see 6.3.*). In short, the pre-implementation phase will develop the biodiversity research agenda into specific projects, and will bring the perspectives of Philippine and Dutch researchers onto a level plane. Experience has taught the necessity of engaging in an exercise that establishes rapport and an equitable relationship between partners from two different scientific communities, in this case in the Philippines and the Netherlands.

As part of the pre-implementation phase, a programme development workshop will be held in Mindanao in order to:

- discuss the general programme orientation, including government policies and protocols that affect biodiversity research;
- identify and prioritize biodiversity research sites;
- further elaborate the multi-stakeholder approach to assessing needs, setting priorities, and developing projects (*see 4.4*);
- discuss methods for assessing biodiversity;
- assess the strengths and weaknesses of Philippine and Dutch researchers.

Representatives of the relevant actors and organizations will be invited to the workshop. The pre-implementation phase should result in a detailed work programme for the joint biodiversity research initiative in Mindanao.

During the Leidschendam workshop, the following four criteria were proposed for the selection of common priority areas. For a particular research area, there must be:

- a) Knowledge and experience available in the Philippines and in the Netherlands.
- b) Possibilities for joint learning (cross-fertilization).
- c) Possibilities for collaboration between various Philippine and Dutch research groups and disciplines so that interdisciplinary and/or multidisciplinary research can be achieved.
- d) Research topics that allow for an integrated approach which at the same time generates knowledge, develops methodology, and is relevant for policy.

These criteria are indeed posing a challenge. Although interdisciplinary expertise is not readily available in the Netherlands, it needs to be actively sought, since interdisciplinary research is crucial. Combining the natural and social sciences allows for checks and balances which ensure that research projects are solution-driven and time-bound.

### **4.4 Methods for further developing the joint Mindanao programme**

The Leidschendam workshop presented two models for designing an integrated, comprehensive programme of biodiversity research in Mindanao through an interactive, multi-stakeholder approach involving researchers, GOs, NGOs, and representatives of the local communities and indigenous

peoples. The models both outline a comprehensive sequence of events which will require further discussion with the Philippine and Dutch researchers who will be involved.

One model integrates the activities into a comprehensive approach (*see Figure 2*). The activities are placed in a series of boxes or modules, beginning with a multidisciplinary, community-involved ('rapid or relaxed') appraisal, and continuing with a series of activities aimed at priority-setting (1), developing commitment and a sense of ownership among stakeholders (2), standardizing research methodologies (3), joint research topic development (4), developing procedures and indicators for biodiversity monitoring and assessment (5), conducting studies of land use (6), analyzing social impact and stakeholders (7), building capacity and developing human resources (8). Coinciding with this process would be an ongoing effort to assess and monitor the biodiversity situation. Community involvement would be a constant factor throughout. This process, by which certain boxes reappear as others disappear, should lead to policy measures that ensure sustainable biodiversity management as an end result.

The other model (*see Figure 3*) attempts to capture not only the interdisciplinary nature of research but also its problem-based and solution-driven character, and to place these into a sequence of events.

**Figure 3**

<i>Natural sciences</i>		<i>social sciences</i>
1. Rapid appraisal of flora and fauna		1. Stakeholders
2. Assessment of ecosystem integrity		2. Resource utilization and management systems
3. Assessment of ecosystem functioning		3. Resource utilization and management systems
4. ←.....	analysis of threats	.....→
5. ←.....	analysis of possible solutions	.....→
6. ←.....	management, restoration	.....→

This process is interactive, with activities taking place up and down the cells between 1 and 6.

These models are still very much in their development stages. Timeframes have not yet been provided - only the order in which the activities will take place. Moreover, the terms used here are generic, and still have to be defined against the real life situations that will present themselves in the research proposals. Basically, the two models indicate that several projects can be conducted simultaneously, and that different situations might require a different mix of methods for research, biodiversity assessment and monitoring, and support activities. The programme could develop into one which can be

used in a variety of settings, not because of its replicability, but because of the flexibility with which it can be applied.

The end result of the joint Mindanao programme should mark general improvements in the areas that were mentioned: improved knowledge of Philippine biodiversity, more appropriate strategies for biodiversity conservation, better policies for using and conserving biodiversity, and more and better qualified Philippine and Dutch scientists doing biodiversity research. At the very end, it is hoped that the programme will result in a whole new paradigm for research - research resulting from a process in which local communities, the academic community, governments, and non-governmental organizations all learn how to preserve biodiversity better than they have done up to now.

## 5. Development-related biodiversity research expertise in the Netherlands

In the past, the experience available at Dutch research institutions has proved to be valuable in a Philippine context. There has been research collaboration between Philippine institutions and IHE-Delft and Leiden University, among others. In the present programme, 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 as identified in the Philippine National Biodiversity Research Agenda. In other words: what could be the contribution of the Netherlands, and which institutes could play a role in a joint programme?

The eight Dutch research institutions that responded in writing (National Museum of Natural History, Leiden; Department of Environmental Science, Wageningen Agricultural University; FMD Consultants, Haarlem; IHE, Delft; CML and the National Herbarium of Leiden University, Leiden; ILRI, Wageningen; IBN-DLO, Wageningen; and ETC/ILEIA, Leusden) had already given an overview of their specific fields of expertise. Others present at the workshop added theirs. Summarized, the relationships between possible Dutch input and the generic areas, or ‘cross-cutting concerns’ from the national biodiversity research agenda, look roughly like this:

**Table 1 Philippine generic areas as related to biodiversity research expertise in the Netherlands**

Generic areas/cross-cutting concerns	Dutch institution/research group
<b>Researchable areas:</b> <b>1.</b> Validation and standardization of methodologies for biodiversity research and conservation: <ul style="list-style-type: none"> <li>- for biodiversity studies</li> <li>- for rehabilitation/restoration</li> <li>- for sustainable biodiversity management</li> </ul>	<b>Institution/research group:</b> <ul style="list-style-type: none"> <li>- Leiden University/Rijksherbarium (parataxonomy, rapid inventory methods)</li> <li>- Leiden University/CML (utilization and conservation of natural forests and community-based management and rehabilitation of grassland areas)</li> <li>- WAU/Department of Environmental Sciences</li> <li>- DLO/IBN (rapid inventories)</li> <li>- DLO/SC</li> <li>- DLO/CPRO (agro-biodiversity assessment, in-situ/ex-situ conservation)</li> <li>- ETC/ILEIA (participatory methodology)</li> <li>- FMD (participatory methodology)</li> </ul>
<b>2.</b> Expansion and improvement of knowledge on biology and socio-economic and cultural aspects of biodiversity:  Biology: <ul style="list-style-type: none"> <li>- genes</li> <li>• species</li> <li>- ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>- Leiden University/Rijksherbarium (plant systematics)</li> <li>- WAU/Department of Environmental Sciences</li> <li>- Vrije Universiteit/Biology and Society Group</li> <li>- University of Nijmegen/Aquatic ecology</li> <li>- University of Groningen/Marine biology</li> <li>- National Museum of Natural History</li> <li>- DLO/CPRO (plant genetic diversity)</li> <li>- DLO/IBN (terrestrial ecosystems)</li> <li>- DLO/SC</li> <li>- IHE/Department of Environmental Science and Water Resources (aquatic and coastal ecosystems)</li> <li>- RIKZ (coastal and marine ecosystems)</li> <li>- Graduate school Production Ecology (integrated terrestrial and agro-ecosystems studies)</li> <li>- Graduate school of Biodiversity (taxonomic, population biological and ecological studies on disturbed ecosystems)</li> </ul>
Socio-economic and cultural factors:	- Leiden University/CML

<ul style="list-style-type: none"> <li>- indigenous knowledge systems</li> <li>- resource valuation</li> <li>- gender concerns</li> </ul>	<ul style="list-style-type: none"> <li>- Leiden University/Ethno-Ecosystems and Development Group (indigenous knowledge systems)</li> <li>- Vrije Universiteit/IVM (resource valuation)</li> <li>- University of Amsterdam/IVAM</li> <li>- University of Amsterdam/Department of Political Science</li> </ul>
<b>3. Policy research</b> <ul style="list-style-type: none"> <li>- land and resource use</li> <li>- stakeholder analysis</li> <li>- conflict resolution</li> </ul>	<ul style="list-style-type: none"> <li>- Leiden University/CML</li> <li>- IHE</li> <li>- DLO/IBN</li> <li>- ILRI</li> <li>- Research School Production Ecology (scenario-building for presenting options for land use using GIS)</li> </ul>
<b>Support Programmes:</b> <b>1. Human resource development</b>	<ul style="list-style-type: none"> <li>- Leiden University/Rijksherbarium (MSc and PhD training)</li> <li>- Leiden University/CML (MSc and PhD training)</li> <li>- WAU/Department of Environmental Sciences</li> <li>- DLO/IBN</li> <li>- DLO/CPRO</li> <li>- DLO/SC</li> <li>- RIKZ (development of training courses for marine protected areas)</li> <li>- IHE/Department of Environmental Science and Water Resources (MSc and PhD training and short tailor-made courses)</li> <li>- FMD (training and short tailor-made courses in particular with respect to participatory approaches)</li> </ul>
<b>2. Development and preparation of IEC materials</b>	<ul style="list-style-type: none"> <li>- Leiden University/Rijksherbarium (production of multi-media presentations)</li> </ul>
<b>3. Establishment of databases/directories</b>	<ul style="list-style-type: none"> <li>- University of Amsterdam (database development)</li> <li>- Leiden University/Rijksherbarium</li> </ul>
<b>4. Networking</b>	<ul style="list-style-type: none"> <li>-</li> </ul>

Table 1 shows that for most of the generic areas identified in the Philippine national agenda, expertise could be provided, although it is clear that no definite answers can be given because the information available is incomplete. Table 1 also clearly shows that the social and economic sciences are under-represented. This implies that an additional effort is needed to locate relevant socio-economic research groups and to involve them in the programme.

There is of course a difference between the existence of Dutch expertise, and researchers' availability and willingness to cooperate in the joint Mindanao programme. It is safe to assume that the research groups represented at the Leidschendam workshop are interested and willing to collaborate with the Filipinos, but this cannot be assumed for the institutions and research groups that were not there. For this reason, it is proposed that these groups be approached and asked if they would be willing and able to cooperate with the Filipinos in the joint Mindanao programme. This should be done as part of the pre-implementation phase.

## 6. Organizational structure

The organizational structure of a Philippine-Dutch Biodiversity Research Programme was discussed during the Leidschendam workshop, but it appeared that it was still too early to come to a final proposal. It was agreed that the organizational set-up of the joint programme should be in line with the management structure proposed in the Philippine national agenda document, and should reflect the principles of equal partnership. The final details of the structure should be decided, however, only after the research strategy and the content of the Mindanao programme have been further worked out and discussed with the Philippine partners.

### 6.1 Management structure of the Philippine national biodiversity research programme

The organizational structure of the Philippine national biodiversity research programme has the following major features:

- \* A **National Steering Committee**, an 11-member body with three representatives from each region (Luzon, Visayas, and Mindanao) and two members elected at large. For the regional programme components and other programme activities, the Committee will determine the scientific direction, administrative policies and budgetary allocations.
- \* A **National Secretariat** which will be responsible for project monitoring, disbursements of funds, and programme administration.
- \* A **Regional Consortium** for each of the three regions - Luzon, Visayas and Mindanao - which will define the agenda for the region, direct project implementation, and provide coordination among the actors involved, who include local communities, indigenous peoples, and various institutions and organizations (non-government, government, and academic). The Consortium will also be responsible for support to regional working groups, capacity-building activities, the exchange of information and sharing of resources, the dissemination of research results, and networking.

The development of this structure has been guided by seven desired features: accessibility, transparency, accountability, effectiveness, inclusiveness, simplicity, and innovativeness. This structure is considered more feasible than other government-established structures in the Philippines, for the following reasons:

- It reduces bureaucratic requirements and procedures.
- It has multi-sectoral representation and is participatory in nature.
- It is highly acceptable for various sectors in the Philippines.
- It espouses multidisciplinary and interdisciplinary concepts.
- It does not constrain activities needed in the field.
- It is flexible enough to combine with and/or complement activities of other organizations, whether private or public.
- It is acceptable to the Philippine government, which has been working with similar structures to examine other concerns.

At present, this structure is not yet in place. The Philippine Working Group will continue to serve as coordinator of the required activities prior to the implementation of the research programme.

To ensure the effective and efficient operation of the structure that is developed, several preliminary activities must be undertaken during the pre-implementation phase, namely:

- the selection of Programme Steering Committee members;
- the establishment of Regional Consortia and Project Management Offices;
- the development of guidelines and criteria for project selection, funding and implementation;
- the establishment of network and institutional linkages.

The research programme will have to establish linkages and close coordination with other bodies engaged in biodiversity conservation and related efforts. These will include the ASEAN Regional Centre for Biodiversity Conservation (ARCDB), which will be based in Laguna, the Philippines; and the Philippine National Biodiversity Centre (NBC), based in Manila. Coordination with other relevant organizations and institutions will also be critical if duplications are to be avoided and resources are to be put to the best use.

## **6.2 Considerations for establishing the management structure for the joint Mindanao biodiversity research programme**

The overall organization and management structure of activities will largely determine whether a Philippine-Dutch research partnership will be able to meet its goal of relevance in terms of both development and science.

In this respect, lessons can be learned from other research collaborations in the past. All too often Northern partners have tended to dominate collaboration with Southern partners, both in agenda-setting and in the end use of research outcomes. Such asymmetric relationships are inclined to have several adverse consequences:

- International priorities tend to take precedence over national or local priorities.
- Southern researchers playing a role in data collection and field experiments only, instead of being involved in all stages of research.
- The North-South connection tends to be overemphasized, to the neglect of networking at national or local level within the South.
- Too much attention is given to the international publication of results, rather than to national needs for dissemination.
- Such asymmetry leads to overemphasis on scientific relevance and underemphasis on development relevance<sup>8</sup>.

The organizational structure of the joint Mindanao programme needs careful consideration if these imbalances are to be avoided as much as possible. The commitment of all actors and a continuous dialogue between stakeholders and researchers regarding the research direction and priorities are crucial for the partnership between Philippine and Dutch researchers. The pre-implementation phase is important for fine-tuning the ideas and expectations of all actors involved in the programme.

## **6.3. Relation to the Biodiversity Stimulation Programme in the Netherlands**

One of the issues discussed during the Leidschendam workshop was whether there are similarities between the Philippine agenda and the biodiversity research agenda drawn up by RMNO/NRLO for the Biodiversity Stimulation Programme. The overall issues have many common features even though the setting is quite different. In fact, certain aspects of the work in the Philippines can have important spin-off for the Netherlands, while the reverse is true as well. The international nature of the biodiversity issue makes it important to identify and document such common features. However, it was noted as well that there are certain differences in emphasis. The Philippine agenda is primarily development-oriented, society-driven, location-specific and comprehensive, with a certain emphasis on

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<sup>8</sup> See further: J. Bunders and C. Mukherjee, "North-South research partnerships: redressing the imbalance". Paper presented at the European Conference on Research Partnerships for Sustainable Development, Leiden, 11-13 March 1997.

the applied side of the research spectrum, although not excluding basic research. The RMNO/NRLO agenda, on the other hand, is primarily driven by the needs of Dutch policy-makers, but also emphasizing basic biological and/or ecological research.

More important is that the joint Mindanao biodiversity research programme is a comprehensive pilot programme aimed at developing a new approach and new methods for biodiversity research and conservation which incorporate all relevant stakeholders into the research process, not in the least the local communities.

All in all, the agendas differ because there are different needs related to the specific circumstances and contexts in the two countries. The committee concludes therefore that it would not be wise nor realistic to merge or integrate the joint Mindanao biodiversity research programme into the framework developed for the Biodiversity Stimulation Programme. These are clearly different programmes, focusing on different contexts and needs and with different orientations. The joint Mindanao programme should be a separate programme with its own (joint) management structure and its own budget. As indicated in section 6.4., a Joint (Philippine-Dutch) Programme Committee (JPC) should be responsible for steering the joint programme, for directing the programme's policies, and for allocating research grants to projects<sup>9</sup>.

This does not mean, however, that there could not be close interaction between the joint Mindanao programme and the Biodiversity Stimulation Programme. In fact, cooperation and exchange of experiences should be actively encouraged. It is evident that such cooperation, if based on the principle of a two-way learning process and joint learning, could be fruitful for both sides—and fruitful not only for researchers, but also for other actors in government and the wider society who have a stake in the wise and sustainable use of biodiversity both in the Philippines and in the Netherlands. When both programmes have gone through their initial stages and the projects begin to yield results, joint seminars and workshops can be organized to exchange views and discuss research results and developments with respect to theoretical perspectives, methodologies, multidisciplinary and interdisciplinary approaches, community involvement and participation, indigenous knowledge, scenario studies, and the interface between research and biodiversity policy and management. What might evolve from these discussions are new ideas and opportunities for comparative studies focusing on biodiversity issues in the Netherlands and in the Philippines, whereby researchers from the two countries can collaborate.

In order to facilitate the above-mentioned process, it is proposed that a link be established between the two programmes at the level of the governing committees. One or two Dutch researchers should be appointed to both committees. These persons should act as a liaison between the two programmes and see to it that the opportunities and potential for joint learning and cooperation are actually explored and realized. This could be done through the organization of a platform for sharing and exchanging knowledge and information.

#### **6.4 Outline of an organizational structure for the joint Mindanao Programme**

This section presents an outline of an organizational structure for the joint Mindanao Programme which is based on both the structure proposed in the Philippine national agenda document and the principles of equal partnership (*see Figure 4*). As said above, the details will have to be worked out later as part of the pre-implementation phase.

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<sup>9</sup> A few committee members do not agree with this conclusion. According to them, emphasis should be placed on the similarities between biodiversity issues in the Philippines and in the Netherlands. In their view, there should be one integrated programme; they do not see the need for a special, independent status for the Joint Mindanao Programme.

A Joint (Philippine-Dutch) Working Group (JWG) will guide the pre-implementation phase and can be dissolved after the organizational structure is in place. It will link up with the present Philippine Working Group, and its principal task will be to formulate the Mindanao programme into a specific proposal or programme document that can be submitted to the funding agencies. The JWG will consist of members from both the Philippines and the Netherlands. Members will be appointed by the PWG and the RAWOO.

In the final set-up of the programme, a Joint Programme Committee (JPC) will be needed, which steers the joint Mindanao programme. The JPC will be responsible for directing the programme's policies, for approving the annual work programmes and related budgets, for allocating and distributing grants to projects, and for reporting to the funding agencies. The JPC will have members from the Philippines and from the Netherlands. From the Philippine side it will reflect the various regional stakeholders (i.e., government, the academic community, and non-governmental organizations). Members from the Dutch side will be nominated by RAWOO and appointed by the funding agencies. At the level of the governing bodies, links will have to be established between the Joint (Philippine-Dutch) Mindanao Programme and the NWO Biodiversity Stimulation Programme, for example by appointing one or two Dutch researchers to both the JPC and the NWO programme committee.

A Philippines-based executive secretariat is responsible for implementing the policy and decisions of the JPC and for administering the programme. This includes: preparing meetings; drawing up the annual work programmes and related budgets; organizing the process of soliciting, ranking and assessing research proposals; facilitating the work of working groups; managing the budget; handling administrative and financial affairs; drawing up progress reports; and communicating with all relevant actors inside and outside Mindanao, in particular with the Netherlands-based Support and Liaison Office and the programme's sponsors.

The secretariat is (or is hosted by) a legal entity which signs the contract with the funding agencies and is responsible for managing the finances on conditions defined by those agencies. If necessary, an Executive Director may be appointed.

For the proper functioning of the programme in the Netherlands, a Netherlands-based Support and Liaison Office is needed which will act as an intermediary between the Philippine and Dutch research communities. This office will work closely with the Philippines-based secretariat, actively exchanging information and coordinating practical matters. The office will serve mainly as a clearing house, and will also work to involve Dutch research groups in the joint programme and to promote cooperation and coordination on the Dutch side. It will also keep in close contact with the secretariat of the NWO Biodiversity Stimulation Programme, exchanging relevant project information and holding regular meetings or exchange platforms for sharing knowledge and information between the two programmes.

It was stressed at the Leidschendam workshop that the structure should be kept as lean as possible; whatever organizational structure is adopted in the end, it must not constrain what must be done in the field.

## **6.5. Budget requirements**

In order to move the joint programme from the design phase to implementation, it has to be fleshed out and given roots in Mindanao. As outlined in section 4.3., a pre-implementation phase is needed to further elaborate the joint Mindanao programme through an interactive, multi-stakeholder approach and to put in place the organizational structure for its implementation. It is proposed that the Philippine Working Group and RAWOO continue to guide this pre-implementation phase.

The preparatory stage will result in a five-year research plan that will be submitted to the funding

agencies. This will include not only research, but also activities related to human resource development, databases, networking, and the dissemination of research results. The committee expects that the programme as envisaged will require between 8 and 10 million guilders for a five-year period. This is a reasonable amount if one takes into account the innovative and experimental nature of the programme, and its comprehensiveness (the broad range of activities that will be supported). The committee also thinks that it is important to make clear right from the start how the financial resources will be divided between the Philippines and the Netherlands. The funding agencies should give some indications in this respect, thereby taking into account the contributions of the government ministries involved. One possibility would be a formula by which 70 percent of the budget is spent in the Philippines and 30 percent in the Netherlands. Again, this is highly dependent on the resources provided by the ministries concerned.

#### **6.6. Extending the programme to other regions and countries**

As said earlier, the Mindanao programme must be regarded as a pilot programme for introducing a new approach to biodiversity research and action—a programme that could serve as an example or model for research elsewhere in the Philippines. The committee finds it important that the experiences with this new approach are well documented and scrutinized so that research initiatives in other Philippine regions can capitalize on the lessons learned in Mindanao. This could probably best be done through a review study. The Steering Committee of the Philippine national biodiversity research programme would probably be in the best position to undertake such a study.

It is important that the Mindanao programme links up with other relevant programmes in the South-East Asian region. The regional network of SEARCA could be very helpful in this respect, as could the EU-funded ASEAN Biodiversity Centre to be located in the Philippines. The Mindanao regional consortium can be effective in stimulating external research support agencies to coordinate their biodiversity research activities with the Netherlands-funded Mindanao programme. At the same time, the national Steering Committee can play a role in promoting international coordination by maintaining contacts with international research support organizations and networks. The committee believes that the Steering Committee should give high priority to the issue of co-financing by other donors. Mobilizing additional funding for the regional programmes is essential. The committee recommends that an effort be made to involve other European partners in the programme so that research proposals can be submitted to the European Commission for funding, both to its science directorate (DGXII) and to its development directorate (DG 8).

## **ANNEX 1 Composition of the Programme Study Committee (PSC)**

### **Chairman:**

Prof.dr.ir. J. Bouma, *member of RAWOO; Wageningen Agricultural University (as of 1 January 1997)*

Prof.dr. L. Reijnders, *former member of RAWOO (till 1 January 1997)*

### **Secretary:**

Drs. A.P. Smits, *RAWOO secretariat*

### **Members:**

Drs. R. van Akker, *Ministry of Education, Culture and Science*

Dr. W. Bergmans, *IUCN/Netherlands*

Prof.dr. L. Brussaard, *Wageningen Agricultural University*

Drs. H. de Iongh, *Centre for Environmental Science, Leiden University*

Ir. H. Slot, *Ministry of Foreign Affairs, DGIS DCO/OZ*

Drs. M. Vernooij, *Ministry of Agriculture, Nature Management and Fisheries*

Dr. B. Visser, *Centre for Plant Breeding and Reproduction Research, CPRO/DLO (CGN)*

### **Corresponding member:**

Ms Dr. M. Guhathakurta, *member of RAWOO*

### **External advisor:**

Dr. M.P. Lammerink, *Forestry Manpower Developments Consultants*

## **ANNEX 2 Composition of the Philippine Working Group (PWG)**

### **Chairman:**

Dr. P.E. Sajise, *Director, SEARCA*

### **Members:**

Mr. C.T. Añonuevo, *Executive Director, Tambuyog Development Center*

Dr. D.J. Ganapin, *Undersecretary for Environment and Programs Development, Department of Environment and Natural Resources*

Dr. L.T. McManus, *Associate Professor, Marine Science Institute, University of the Philippines Diliman*

Ms. A.S. Perez, *Project Coordinator, Natural Resources Management Program, SEARCA*

Mr. N.T. Perlas, *President, Center for Alternative Development Initiative*

Dr. G.C. Saguiguit, Jr., *Head, Research and Development, SEARCA*

Dr. M.V. Ticsay-Ruscoe, *Project Officer, Southeast Asian University Agro-ecosystems Network, University of the Philippines Los Baños*

**ANNEX 3 Letter from the secretary of the Philippine Department Of Environment and Natural Resources, Victor O. Ramos, to RAWOO**

**Report of the workshop “Developing a Philippine-Dutch  
Biodiversity Research Programme”**

*held on October 8 & 9, 1997 in Leidschendam, The Netherlands*

*organized*

*by RAWOO, the Dutch Advisory Council for Scientific Research in Development Problems*

**November 1997**

**compiled by Bram Posthumus**

## 0. Introduction

This workshop was part of an ongoing process which can perhaps be traced back to the Earth Summit Declaration, made in 1992 in Rio de Janeiro, where the concept of “sustainable development” was given a world-wide political platform. Each country was challenged to draw up an Agenda 21, in which they would present how they were planning to combine the demands of human activity with the necessity of environmental protection and nature conservation. The Philippines finalized its Agenda 21 in 1997, and biodiversity conservation is highlighted ‘as an important component of sustainable development.’

This assessment calls for more focused research on biodiversity in the Philippines and hence for a National Biodiversity Research Agenda, which is to be as broadly based as possible - incorporating a great variety of stakeholders (government, non-government, and various academic disciplines), covering all of the geographical regions of the country, and encompassing all existing ecosystems in the Philippines (e.g., in the forests and rivers, on land cultivated by farmers, in the coastal areas, and at sea).

To this end, a wide-ranging consultation process was set up in the Philippines with assistance from the independent Dutch Advisory Council for Scientific Research in Development Problems (RAWOO), an institution that focuses - in the words of its secretary, Mr. Ed Maan - on the relationship between society and scientific research.

This in-country consultation process resulted in a national workshop in July 1997 under the title ‘Agenda-setting for Biodiversity Research’, at which most of the stakeholders were indeed represented. The Biodiversity Research Agenda that has come out of this particular exercise was the prime input for the Leidschendam workshop. The Philippine government has endorsed the proposed agenda through the Department of Environment and Natural Resources (DENR). This was reiterated in a message to the workshop sent by the Under-Secretary for Environment and Programs Development of DENR, Dr. Delphin Ganapin.

On the Dutch side, participants included representatives of research institutions and universities, the majority of which are engaged in activities related to nature conservation. Two Dutch ministries were also represented: the Ministry of Foreign Affairs (Directorate General for International Cooperation), and the Ministry of Education, Culture and Science. The nine-member delegation from the Philippines represented the research community, government and non-governmental organizations. A full list of participants is included as Appendix 1.

The unique nature of this process was emphasized throughout the workshop. It has two aspects: 1) the broad-based consultation exercise which has laid the foundation for the Philippine Research Agenda, and 2) the fact that external support from RAWOO has been on the basis of equality. As Dr. Percy Sajise said at his presentation: ‘RAWOO was there but they did not dominate.’

In his opening remarks, the chairman of the RAWOO biodiversity programming study committee, Dr. Johan Bouma of Wageningen Agricultural University, spelled out the objectives of the October 8-9 efforts:

- to inform researchers and policy-makers in the Netherlands on biodiversity issues and related research needs and priorities in the Philippines;
- to inform the guests from the Philippines about relevant biodiversity research expertise in the Netherlands and the views of the Dutch research community on the possibilities for joint research and capacity-building activities within the framework of the Philippine national agenda;
- to explore the possibilities for a joint Philippines-Netherlands biodiversity research programme;

- to initially discuss the general principles for organizing and managing the joint research programme. The workshop mechanics were devised to achieve these objectives. The first session would consist of a major Philippine presentation, explaining the National Biodiversity Research Agenda, its background and thrust. Separate smaller workshops would help to explain aspects of the Philippine programme to the Dutch research community. A second set of small workshops would then explore possible areas of Philippine-Dutch collaboration, which would then be presented in the second and last plenary session of the first day. For reasons of consistency in the discussions, it was intended that the composition of the groups participating in the smaller workshops would not change.

The second day would begin with a plenary session, after which the now familiar groups would conduct two small workshops in order to arrive at a common understanding of the policy directions of the joint programme, and to discuss organizational aspects. The final session would consolidate the entire output. The meeting was indeed conducted according to this plan, except that the number of smaller, separate workshops was reduced from three to two on the first day. 'The ideas are starting to gel,' was the expression Dr. Bouma used to describe the state of affairs at the end of the second day. Still, it was felt that the objectives which the participants had set for themselves were indeed achieved.

It is expected that on the basis of this consultation process, a programme document for the Philippine-Dutch biodiversity research programme can be drawn up towards the end of the year. It is clear that as far as RAWOO is concerned, the National Research Agenda conceived in the Philippines provides a good basis for the exploration of joint research work, which has to be conducted with urgency given the situation in the Philippines.

## 1. The situation in the Philippines

### *Biodiversity*

Dr. Percy Sajise gave an extensive introduction in which he described the current biodiversity situation in the Philippines. 'We are in a race against time for biodiversity conservation,' he said at one point. The situation in the Philippines is characterized by a combination of a precarious state of affairs as regards biodiversity and a fairly favourable political climate in terms of environmental awareness and government cooperation in these matters. To begin with the former: the Philippines is considered 'a biodiversity hot spot'. 'We have a high degree of endemism,' Dr. Sajise said. The Philippines has an extraordinarily high rate of species diversity. It is also among those Asian countries with the highest number of species for selected organisms. There are 15 bio-geographic zones in the country. There is, however, a severe threat that a substantial portion of this rich natural repository will be lost.

### *Ecosystems and threats*

Dr. Sajise listed some of the most important features of Philippine biodiversity and linked these to their importance on a world scale. In the *forest ecosystem*, for example, 5% of the world's plant species are present. Of the more than 8,000 species identified in the Philippines, 3,200 are unique to the Philippines. A high percentage of the forest fauna are endemic to the Philippines: 45% of known vertebrate species and 50% of known insect species. The main threat to the forest ecosystem is, quite predictably, deforestation.

The *freshwater ecosystem* incorporates 14,000 sq. km. of wetlands, which are of international importance. Early indications suggest that there is generally a high degree of biodiversity in the freshwater ecosystem, with many species confined to only one of the 78 lakes in the country.

Perhaps best known are the threats to the *coastal and marine ecosystem* posed by pollution, dynamite fishing, overfishing and land reclamation. The coastal regions and territorial waters of the Philippines cover 2.2 million sq. km. and contain coral reefs which in terms of biodiversity rank second only to the Great Barrier Reef. They also contain mangrove forest and seagrass covers. The condition of all three of these is very poor: a mere 24% of coral reefs are in good or excellent condition, while only 33% of mangrove forest and 20% of seagrass cover remain. The species of marine plants and animals that have been found number 4,951, of which 145 are under threat, including the dugong or seacow.

As regards *agrobiodiversity*, 10 million hectares of land are under cultivation. Of this, 42% is farmed on a small-scale by traditional farmers and is characterized by a high degree of biodiversity. Low diversity characterizes 24% of the land under cultivation. The main threats here include agricultural land conversion, monoculture, intensification and pollution - in one word: commercial farming. A last, but by no means minor, threat is the loss of traditional knowledge of agricultural methods. According to Dr. Sajise, 'There is a very clear correlation between high biodiversity and the presence of small-scale farmers.'

An integral part of the biodiversity picture in the Philippines is the existence of 60 indigenous minority groups, who together account for 7% of the country's 70 million people. These indigenous groups live mainly in the remote uplands and highlands, areas that are particularly noted for their high degree of biodiversity. Indigenous knowledge and practices have been documented as part of an effort to protect natural resources and conserve biodiversity. The practices themselves are not protected, however. This *cultural diversity* cannot be separated from natural diversity (this and other data can be found after page 10 of the National Biodiversity Research Agenda document.).

### *Political climate*

All this is happening in a country where the political climate for conservation appears to be fairly

positive. The Philippines was among the first countries with an UNCED-derived National Agenda 21, which incorporates a very general biodiversity programme. Government at various levels has also passed legislation reflecting official concern in this area. This includes Executive Order 192 (1987), which created the Protected Areas and Wildlife Bureau (PAWB). The PAWB was also represented at the Leidschendam workshop. Other legislation covers bio-prospecting for scientific and/or commercial purposes, and the establishment of the National Integrated Protected Areas Systems (NIPAS). It is significant in this respect that local governments are legally empowered to enact regulations that conserve nature. (The policy environment is outlined on pages 24 and 25 of the National Biodiversity Research Agenda document.)

#### *Current research*

Current biodiversity research in the Philippines is concentrated mostly in Luzon, and to a lesser degree in Visayas and Mindanao, the other two major regions of the country. Most of the research projects are carried out by state colleges and universities. The projects are aimed mostly at developing ways of making a livelihood that also conserves biodiversity. Research is mostly fragmented, uncoordinated and donor-driven. (A list of 24 current projects of biodiversity research and conservation was shown, of which no fewer than 16 are internationally funded.) Speaking about donor influences, Dr. Liana McManus made it clear during one of the workshops that 'it is incumbent upon the recipient countries to coordinate what is being done.' And Dr. Sajise commented on the variety of research projects: 'These cannot just float on by themselves. They must be linked to a strategic national programme of conservation.' This gives the reader the background against which the drafting and presentation of the National Biodiversity Research Agenda must be seen.

#### *National Biodiversity Research Agenda*

Criteria for setting priorities are based on urgency—on what Dr. Sajise called the 'race against time', as well as on policy relevance and implications, potential benefits, and the strategic nature that is required of the entire research programme. The Agenda's structure, which will be discussed later, is an attempt to bring the current variety of regional, national, and local efforts—which are locally and internationally funded - together into a joint National Biodiversity Research Programme, so that they no longer 'float on'. In very general terms, the Agenda can be characterized in three words: multi-sectoral, location-derived, and interdisciplinary. It takes into account the fact that there is a variety of stakeholders (local people, local and national governments, businesses, and other local, national and international actors and agencies), and those stakeholders may have different and sometimes even opposing interests. It also takes into account the fact that in a 'Third World' country like the Philippines, people and nature live side-by-side and interact, which implies that in biodiversity research, social systems are considered as well as natural systems. In Dr. Sajise's words, biodiversity problems are closely related to poverty: the exhortation to "please conserve this tree" will not cut ice with a poor shifting cultivator who needs food. Yet a further loss of biodiversity will lead to even more poverty.

Not surprisingly, therefore, the conceptual framework on which the Agenda is based is systems-oriented (holistic rather than concentrated on one issue or discipline), deeply aware of the interaction between social and natural systems, and hierarchical (taking into account the local, landscape, regional, national and global levels). This all-encompassing character is something Dr. Sajise calls 'basic to our thinking.' One example of an upland-coastal-oceanic continuum illustrated the point: the activities on which a single family's livelihood depends on the island of Leyte (Visayas) might range all the way from hunting, gathering and logging in the mountains, to farming in uplands and ricefields, to cultivating fish in ponds, to fishing in coastal waters and the open sea. 'Development under such conditions requires a holistic concept that considers the interconnectedness of the ecosystems and their respective importance for certain ecosystem functions for the entire island,' is the footnote to this example. (See also: Dr. M.P. Lammerink et al, 'We know very little of what we pretend to preserve', 1996.)

A number of national priorities are evident in the Agenda. They have emerged as common concerns

from the consultation process referred to earlier. They can be subdivided into researchable areas and support programmes. Dr. Sajise placed them in the following table:

<i>Researchable areas</i>	<i>Support programmes</i>
Validation and standardization of methodologies for biodiversity research and conservation  Increased knowledge of:  -Biology (genes, species, ecosystem) -Methods for rehabilitation or restoration -Socio-economic and cultural factors (indigenous knowledge systems, resource valuation, gender concerns)  Policy-oriented research on:  - land and resource use - stakeholder analysis - conflict resolution	Human resource development  Development and production of materials for informative and educational purposes  Establishment of databases and directories Networking

From this it is possible to derive the following generic areas: policy research; knowledge of biodiversity; socio-economics and culture; development of methodology for biodiversity studies; rehabilitation or restoration and sustainable biodiversity management; and finally, the support programmes as listed above. These work out slightly differently for each of the regional research priorities, as the schemes for Luzon, Visayas and Mindanao indicated.

The Philippine scientists are the first to say that this is a comprehensive agenda indeed. This is why the working group that prepared the Agenda has identified a priority region. Mindanao has been selected for reasons that include the magnitude of the expected impact and the fact that relatively little research has been carried out there. A discussion of the criteria is included in Chapter 4. (In the document, the Executive Summary and pages 34 to 40 offer more detailed information on the Biodiversity Research Agenda.)

#### *Pre-implementation phase*

The agenda's comprehensive nature also explains why a pre-implementation phase (*see below*) has been included. It serves the purpose of pinning down just exactly where, what, how and with whom specific research projects are to be carried out. In short, the pre-implementation phase will develop the biodiversity research agenda into specific projects, and will bring the perspectives of Philippine and Dutch researchers onto a level plane. To this end, a series of six activities is planned:

1. Assessment of the strengths and weaknesses of Philippine and Dutch scientists.
2. General orientation of the programme (seminars and conferences).
3. Identification of research sites and their placement in order of priority (workshop).
4. Standardization of methods for assessing biodiversity (workshop).
5. A workshop or conference on (and with) indigenous peoples.
6. Orientation to government policies and protocols that affect biodiversity research.

#### *Results*

The end result should be improvement in the generic areas that were mentioned: improved knowledge

of Philippine biodiversity, more appropriate strategies for biodiversity conservation, better policies regarding the use and conservation of biodiversity, and more and better qualified Philippine and Dutch scientists doing biodiversity research. At the very end, Dr. Sajise would like to see a whole new paradigm for research, resulting from a process in which local communities, the academic community and governments learn how to preserve biodiversity better than they have done up to now.

### *Organization*

It is perhaps instructive to insert here the presentation made by Dr. Liana McManus on the organizational structure of the Philippine national biodiversity research programme.

The design criteria for this structure were straightforward: accessibility, transparency, accountability, effectiveness, inclusiveness, simplicity and innovation. During her presentation, Dr. McManus also mentioned the importance of four factors: a reduced bureaucracy, acceptability to the various sectors, a multi-sectoral approach (i.e. incorporating government, the academic community and non-governmental organizations), and the multidisciplinary character that should permeate the programme.

There is a National Programme Steering Committee, which is concerned mainly with science and policy. The three regions (Luzon, Visayas and Mindanao) are represented in this body. A National Secretariat is the executive body; it carries out programme monitoring and administration, and disburses funds. Regionally, there are consortia, in which the stakeholders are represented. These consortia define the research agenda at the regional level. They also implement the projects and coordinate the participants at this level. This structure is replicated in the regions themselves, where steering committee and secretariat operate at the regional level and the consortia are locally based. (Information pertaining to the structure is in the document, pp 38-42.)

## 2. Clarification: questions and answers

The questions from representatives of the Dutch research community focused on a great many aspects of the Agenda: its scope, organization, focus, thrust, and methodology. They are represented below.

On the question whether the focus would be on biodiversity as such or on ecosystems and sustainable development, the answer was very clear. There are economic, cultural, biological and functional sides to biodiversity. Therefore, it is imperative that the approach be from an applied perspective (a developmental orientation, since people are living there) but there is most certainly also a need for a rational, systematic research base, which needs to be brought about with considerable speed. This involves (among other things):

- a tightly scheduled exercise of appraisal (rapid biodiversity appraisal, elsewhere called the ‘quick and dirty’ method of analysis);
- training of para-taxonomists

A real challenge lies in the combination of the bottom-up approach (involving local communities) with a variety of scientific methodologies.

The question whether the focus should be on the functioning of the ecosystem or the external threats it has to endure, was answered with equal clarity. The focus should be on both, but the threats are especially important. Where possible, disturbed and undisturbed systems may be compared, although this will prove very difficult in practice since there are precious few pristine areas left. Since protection alone does not necessarily mean preservation, the economic and cultural functions of the system should also be studied in order to arrive at comprehensive plans for land use, zoning and restoration.

In response to questions regarding the spatial scope of the research, it was said that the appropriate scale is the landscape: from watershed to ocean. ‘Upstream - downstream interactions happen on an island—in a ‘Third World’ ecology where people depend on nature for their living,’ as Dr. McManus said during a workshop. The interdisciplinary nature was mentioned again: biological, ecological and cultural systems are at work, no matter what the size of your research area. (The term ethnobiology was mentioned.) In terms of regions, the choice had fallen on Mindanao because this is possibly where the highest incidence of biodiversity is combined with the least scientific activity in this field. Urban research is as yet not a priority.

Deficiencies in the research had already been indicated in the Agenda document and the previous presentation (fragmentation, donor-driven nature, uncoordinated, not representative of bio-geographical zones), yet there was another gap concerning the research efforts as a whole: the fact that the basic requirements were seldom met. Orientations towards policies, and the interdisciplinary character, have not yet been in evidence. The much-needed scientific bridge-building between the local and the national (in terms of interests and policies) has not been taking place on a major scale as a result. The National Agenda also seeks to address this.

Questions also arose regarding the scope of the research agenda, support mechanisms, and the length of the pre-implementation phase. The agenda was considered extremely broad by some, and the Philippine team did not hide the fact that this is deliberately so. The agenda is the outcome of the consultations held with the various stakeholders. It is also meant for a variety of donors. For each donor, the agenda must indeed be narrowed down through joint consultation.

The production of materials for educational, informative and communication purposes is considered necessary in order to engender sufficient public support for the entire exercise. Since the country is not in possession of a reference collection, setting up a biological database as one of the support systems is also considered essential to the success of the whole effort.

The lengthy, cautious, and - according to some - delaying nature of the pre-implementation phase can be explained by lessons from the past. Experience has taught the necessity of engaging in an exercise of “levelling off” among partners in the Philippines and among scientists from different scientific communities, in this case the Philippines and the Netherlands. Local knowledge is an indispensable input in the pre-implementation phase.

### 3. Relevant Dutch expertise

In the past, the experience available at Dutch research institutions has proved to be valuable in a Philippine context. There has been research collaboration between Philippine institutions and IHE-Delft and Leiden University, among others. In the present programme, Dutch experience must be made relevant within the framework of an agenda drawn up in the Philippines without a great deal of Dutch influence. Therefore, links should be found between Dutch expertise and the generic research areas as identified in the Philippine National Biodiversity Research Agenda: knowledge, methodology, policy research, and support programmes. The pre-implementation phase is added because of its pivotal nature.

The eight Dutch research institutions that responded in writing (National Museum of Natural History, Leiden; Department of Environmental Science, Wageningen Agricultural University; FMD Consultants, Haarlem; IHE, Delft; CML and the National Herbarium of Leiden University, Leiden; ILRI, Wageningen; IBN-DLO, Wageningen; and ETC/ILEIA, Leusden) had already given an overview of their specific fields of expertise. Others present at the workshop added theirs. Summarized, the relationships between possible Dutch input and the generic areas from the national biodiversity research agenda, look roughly like this:

#### 1. Pre-implementation phase:

- participatory methods;
- systematic approaches;
- problem-oriented programmes.

Priority-setting was also mentioned, in terms of pure science (taxonomy) as well as in a local participatory context (Tropenbos).

#### 2. Knowledge of biodiversity:

- rapid inventories (Rijksherbarium, Tropenbos);
- molecular diversity assessments (CGN, Wageningen);
- aquatic and coastal ecosystems (IHE, Nijmegen University);
- interlinkages among ecosystems (WAU);
- integrated terrestrial and agro-ecosystems studies (WAU).

#### 3. Methodology development:

- participatory approach (FMD, CGN);
- problem-solving approach (IBN, Tropenbos);
- floristic methods, including the 'quick and dirty' taxonomy (Rijksherbarium);
- rehabilitation of degraded forests (Tropenbos).

Also mentioned were: standardization of participatory methodologies for biodiversity research and conservation (FMD).

#### 4. Policy research:

- scenario-building for presenting options for land use, using GIS (WAU).

#### 5. Support programmes:

- institutional and technical support for agrobiodiversity research;
- training at different levels in, for example:
  - participatory methods;
  - parataxonomy, rapid inventory methods;

- production of multi-media presentations (Rijksherbarium);
- development of feedback systems for the communication of research results.
- information technology (including database technology).

Also mentioned were access to networks and databases.

#### *Biodiversity in the Netherlands*

Mr. Bert de Wit of the Dutch Advisory Council for Research on Nature and the Environment held a brief presentation on October 8 about the biodiversity research programme designed for the Netherlands. Spatial factors, the economic importance of genetic diversity, policy objectives, and the need to win public support for conserving biodiversity, formed the greater part of the thread running through the presentation. Five main research themes were subsequently presented:

1. Operationalization of the objectives for the conservation of biodiversity in the Netherlands.
2. Development of instruments for scenario analysis (and the models in particular).
3. Management and the use of biodiversity.
4. Socio-scientific research to improve the implementation of policies on biodiversity.
5. The importance of biodiversity for the functioning of ecosystems.

From the Philippine side came a few questions and comments. Dr. Sajise felt that emphasis was being placed on the fundamental end of the research spectrum. He wondered whether perhaps methods had already been developed which could be applied in tropical countries. Dr. Perry Ong noted that the programme reflects the 'Diversitas' theme, which has a certain biological and ecological emphasis, whereas the Philippine agenda was derived from the Global Biodiversity Assessment document produced by UNEP, which places more emphasis on the societal demand for knowledge and on the applied end of research. Mr. De Wit responded that the biodiversity research agenda for the Netherlands is primarily policy-driven, although fundamental research is also seen as indispensable.

Time constraints prevented a full discussion from taking place. Dr. Brussaard noted that of the research themes presented, two might well be relevant for the Philippines: 1) Development of instruments for scenario analysis, and 2) Management and the use of biodiversity.

#### **4. Discussions, priorities and some decisions**

##### *Priorities*

There was no disagreement regarding the four criteria that would form the basis for selecting common priority areas for the Philippine-Dutch programme:

- a) available knowledge and experience in the Philippines and the Netherlands;
- b) possibilities for joint learning;
- c) interdisciplinary and/or multidisciplinary character: i.e., possibilities for collaboration between various Philippine and Dutch research groups and disciplines;
- d) research areas that allow for an integrated approach that generates knowledge, develops methods, and can be applied to policy-making.

The discussions revolved around a number of issues that were either raised in discussions about the research agenda (interdisciplinarity, choice of site, stakeholders, methodology, sequencing of events), or came directly out of the discussions here (centre of excellence, funds). They are of course interrelated in a variety of ways.

##### *Interdisciplinarity*

It appears that in the Netherlands, the theme “Biodiversity” does not attract social scientists in large numbers. This must be the conclusion after the Leidschendam workshop, where the majority of participants were agricultural, biological or environmental scientists. On the Philippine side, the point was stressed time and again that interdisciplinary research is indeed crucial. Combining the natural and social sciences allows for ‘checks and balances in ensuring that research programmes are solution-driven and time-bound,’ as Dr. McManus put it. There was some discussion in the Dutch community represented here about whether sufficient interdisciplinary work is being done or has been done in the past. Some answered the question affirmatively; others had their doubts. The under-representation of Dutch social scientists was regretted on the Philippine side. And perhaps it is true what someone in a workshop asserted: interdisciplinary work really needs to be actively sought, since this expertise is not readily available in the Netherlands.

Something similar is at stake in the context of fundamental and applied science. The Philippine Agenda aims to combine both fundamental and applied science, and both indigenous knowledge and scientific inquiry. It aims to bring the stakeholders on board while infusing the research with technical input. This makes the proposed research programme both socially relevant and at the cutting edge of science.

##### *Choice of site (see also page 5 and 6)*

There are a number of reasons for choosing Mindanao as the the priority site for the research agenda, with Visayas following at a later stage. These criteria were spelled out during the workshop and include the following:

- There is currently not much scientific activity.
- The greatest policy impact could be expected (either locally or regionally).
- Support systems are already in place (and there are individuals and institutions with whom one could collaborate in the fields of training, education, and human resource development).
- It is a biodiversity hot spot (possibly under threat).
- Various bio-geographical zones are present.
- There is a landscape setting, running from the uplands to the sea.
- Rich sources of indigenous knowledge are available.
- Biodiversity efforts could be combined with other new or current efforts in the same direction.
- It would be possible to spread the programme's benefits equally among the various research communities in the Philippines.

### *Stakeholders*

Someone raised the legitimate question: what does one do when conservation runs counter - or appears to run counter - to the interests of the stakeholders (primarily the local inhabitants, but also governments and businesses)? The question could not be answered in any detail, but it did point towards the very essential question of trust. Trust must be established and this can be facilitated by making the researcher's agenda explicit and by providing clarity about the benefits for the local inhabitants. This can be achieved, for instance, by giving the results of the rapid appraisal exercise back to the local community, as one participant suggested. This issue is important for another reason: local knowledge is crucial, and this knowledge can only be gathered and harnessed if the local community is assured of the intentions of the researcher and the benefits that may accrue. Acceptance on these grounds may lead to participation, which in turn may lead to more mutual trust at the local level. In principle, local communities have every reason to be suspicious of curious visitors.

### *Choice of methodology and sequencing of events*

Once a site has been selected and the stakeholders have been identified and properly informed, work can commence. A great deal of time and thought were devoted to setting up a sequence of events which would create the integrated and comprehensive research programme that is wished for. There were basically two ideas that came out of the two smaller workshops that were held on October 8.

Partly under influence of the IBN-DLO approach to biodiversity research presented during one of the working group sessions, one model is an attempt to capture not only the interdisciplinary nature of research but also its problem-based and solution-driven character, and to place these into a sequence of events.

<i>natural sciences</i>		<i>social sciences</i>
1. Rapid appraisal of flora/fauna		1. Stakeholders
2. Assessment of ecosystem integrity		2. Resources utilization and management systems
3. Assessment of ecosystem functioning		3. Resources utilization and management systems
4. ←.....	analysis of threats	.....→
5. ←.....	analysis of possible solutions	.....→
6. ←.....	management, restoration	.....→

This process is interactive, moving up and down through cells 1 to 6.

The other working group did something similar, but chose to make an attempt at integrating the sequence of activities into a broader approach (see figure 2, page ..). The activities are placed in a series of boxes or modules, beginning with a multidisciplinary, community-involved ('rapid or relaxed') appraisal, and continuing with a series of activities aimed at priority-setting (1) developing commitment and a sense of ownership among stakeholders (2), standardizing research methodologies (3), joint research topic development (4), developing procedures and indicators for biodiversity monitoring and assessment (5), conducting studies of land use (6), analyzing social impact and stakeholders (7),

building capacity and developing human resources (8). Coinciding with this process would be an ongoing effort to assess and monitor the biodiversity situation. Community involvement would be a constant factor throughout. This process, by which certain boxes reappear as others disappear, should lead to policy measures that ensure sustainable biodiversity management as an end result.

The point about this idea, which like the other attempt is still very much a 'work in progress', is that it aims to indicate that several activities can go on simultaneously and that different situations may require a different 'mix' of research, capacity-building, monitoring, etc. The programme could develop into one which can be used in a variety of settings, not because of its replicability, but because of the flexibility with which it can be applied.

#### *Programmes or centre of excellence?*

A topic discussed briefly was whether a development-oriented research programme is desirable, or should one programme be developed in one area to act as a centre of excellence. A centre, it was argued, could bring the existing experience (methodology, knowledge, human resources) together in one place, and from there - through visits and exchanges—the best practices could be dispersed throughout the country. Indeed, from such a centre, efforts could be made to consolidate and upgrade existing programmes. However, a warning went out against creating a white elephant in Mindanao, where such a centre would be established, given the geographic priorities of the Philippine Agenda. The basic question remains whether such a place would solve the problem of uncoordinated research.

#### *Organization*

The criteria for setting up the structure as presented were broadly supported by the participants. Some suggestions were made regarding how a structure might actually be fleshed out. One suggestion regarding the organizational structure (more clearly defined responsibilities, perhaps appointing an Executive Director since policy decisions in committees are notoriously cumbersome) will be taken up in the Philippines and some response will be forthcoming. It was stressed that the structure should be kept as lean as possible; whichever organizational structure is adopted in the end, it must not constrain what must be done in the field. Some steering committee functions may be delegated to a lower level, and there may also be a need for an Executive Director at a regional level.

#### *Funds*

One thorny issue that was deliberately skirted so as not to hamper the free flow of ideas, was money. At one point or other, however, it had to be mentioned. The issue is this: in order to execute this ambitious research agenda, the institutions would have to make use of their core funding, but this funding may not be used for such a purpose. The programme must be funded separately. This means a project-based approach, which appears to run counter to the firmly programmatic idea behind the Philippine research agenda. Here is a problem that is not likely to disappear. At present, several donors are in the process of being approached regarding different aspects of the programme, since there is no single donor capable of funding the entire research agenda - quite apart from the fact that funding from a single source would probably not be very desirable anyway.

## **5. Finally**

“This is research for development,” Dr. Sajise asserted at the end of the workshop. With the input gathered in Leidschendam, the Philippine team will go to Mindanao to consult the local stakeholders. “We have not yet put the Agenda on the ground in Mindanao,” Dr. Sajise said, and the first step in doing so will be to sound out the local stakeholders.

The landscape approach will be employed in Mindanao. An integrated pilot project will mark a first step in executing the Research Agenda. “We are very keen to get going with the pre-implementation phase,” Dr. Sajise said. “And we would like our Dutch colleagues to come on board and be involved at an early stage, and to work towards a joint research programme that probably could be ready by mid-1998. Right now, not much more can be done here since the decisions are going to be made in the Philippines.” In the meantime, at the end of a workshop which chairman Dr. Bouma said had been successful in achieving the objectives that had been set, Dr. Sajise and his colleagues invited all present to engage in intensive (electronic) communication, and to make this effort a success - not so much for the sake of science but for the sake of those whose environment can no longer sustain more encroachment.

## **Appendix 1:**

### **LIST OF PARTICIPANTS, WORKSHOP IN LEIDSCHENDAM**

#### **MEMBERS OF THE PHILIPPINE TEAM:**

**Mr. C.T. Añonuevo**

Executive Director  
Tambuyog Development Center  
Rm 108, Philippine Social Science Center  
Diliman, Quezon City  
Philippines

**Mr. C.C. Custodio**

Chief, Ecosystems Management Specialist  
Protected Areas and Wildlife Bureau  
Department of Environment and Natural Resources  
Quezon Avenue, Diliman  
Quezon City  
Philippines

**Mr. S. Gulayan**

Program Officer  
Bohol Intergrated Development Foundation, Inc.  
39 Hontanosas St., Tagbilaran City  
Bohol 6300  
Philippines

**Ms. L.T. McManus**

Associate Professor  
Marine Science Institute  
University of the Philippines, Diliman  
Quezon City  
Philippines

**Mr. E. B. Metillo**

Executive Assistant for Special Projects  
Zamboanga State College of Marine Sciences and Technology  
Zamboanga City  
Philippines

**Mr. P. Ong**

Deputy Director for Research and Extension  
Institute of Biology  
University of the Philippines, Diliman  
Quezon City  
Philippines

**Mr. G.C. Saguiguit, Jr.**

Head, Research and Development

SEARCA, College, Laguna 4031  
Philippines

**Mr. P.E. Sajise**

Director, SEAMEO Regional Center for Study and Research in Agriculture (SEARCA)  
College, Laguna 4031  
Philippines

**PARTICIPANTS FROM THE NETHERLANDS:**

**Mr. R. van Akker**

Ministry of Education, Culture and Science (OC&W)  
Department for Research and Science Policy  
Division Science, Technology and Environment  
P.O. Box 25000  
2700 LZ Zoetermeer

**Mr. J. Bouma**

Wageningen Agricultural University (WAU)  
Laboratory of Soil Sciences and Geology  
P.O. Box 37  
6700 AA Wageningen

**Mr. L. Brussaard**

Wageningen Agricultural University (WAU)  
Subdepartment of Nature Conservation  
Bornsesteeg 69  
6708 PD Wageningen

**Mr. A.W.M Eijs**

Ministry of Housing, Spatial Planning and Environment (VROM)  
DGM/SVS ipc 655  
P.O. Box 30945  
2500 GX The Hague

**Mr. J.M Hootsmans**

IHE-Delft  
International Institute for Infrastructural, Hydraulic and Environmental Engineering  
Dept. of Environmental Science & Water Resources  
P.O. Box 3015  
2601 DA Delft

**Mr. H. de Iongh**

Leiden University  
Centre for Environmental Sciences  
P.O. Box 9518  
2300 RA Leiden

**Mr. M.P. Lammerink**

FMD Consultants  
Forestry Manpower Developments Consultants (FMD)

Santpoorterstraat 17  
2023 DA Haarlem

**Mr. G.W. von Liebenstein**

Centre for International Research and Advisory Networks (CIRAN)  
P.O.Box 29777  
2502 LT The Hague

**Mr. H.J. Lof**

Educational Training Consultants (ETC)  
Kastanjelaan 5  
3833 AV Leusden

**Mr. E.E. Maan**

Advisory Council for Scientific Research in Development Problems (RAWOO)  
P.O. Box 29777  
2502 LT The Hague

**Mr. G.A. Persoon**

Leiden University  
Centre for Environmental Sciences  
P.O. Box 9518  
2300 RA Leiden

**Mr. M.J.H.P. Pinkers**

International Institute for Land Reclamation and Improvement (ILRI)  
P.O. Box 45  
6700 AA Wageningen

**Mr. C.E. Ridsdale**

Soomerlustplein 23A  
2275 XM Voorburg

**Mr. H. Rijkssen**

IBN/DLO  
Institute for Forestry and Nature Research  
Agricultural Research Department  
P.O. Box 23  
6700 AA Wageningen

**Mr. M. Roos**

Rijksherbarium/Botanical Garden  
Leiden University  
Van Steenisgebouw  
P.O. Box 9514  
2300 RA Leiden

**Mr. H. Siepel**

IBN-DLO  
Institute for Forestry and Nature Research  
Agricultural Research Department  
P.O. Box 23

6700 AA Wageningen

**Mr. H. Slot**

Ministry of Foreign Affairs  
DGIS DCO/OZ  
P.O. Box 20061  
2500 EB The Hague

**Mr. J. Sluijsman**

ILRI/LAWOO  
International Institute for Land Reclamation and Improvement  
P.O. Box 45  
6700 AA Wageningen

**Mr. A.P. Smits**

Advisory Council for Scientific Research in Development Problems (RAWOO)  
P.O. Box 29777  
2502 LT The Hague

**Mr. G. van den Top**

Centre for Environmental Sciences  
Leiden University  
P.O. Box 9518  
2300 RA Leiden

**Mr. G. van der Velde**

Laboratory for Aquatic Ecology  
Katholieke Universiteit Nijmegen  
P.O. Box 9010  
6500 GL Nijmegen

**Mr. H.C. Vellema**

“Tropenbos” Foundation  
P.O. Box 232  
6700 AE Wageningen

**Ms. N.A. Verschoor**

NWO  
Secretary Priority Programme Biodiversity  
Netherlands Organization for Scientific Research  
P.O. Box 93138  
2509 AC The Hague

**Mr. L. Visser**

Director CPRO-DLO  
Agricultural Research Department  
P.O. Box 16  
6700 AA Wageningen

**Mr. T. van der Zon**

Ministry of Foreign Affairs

DGIS DML/BD  
Directorate General for International Cooperation  
P.O. Box 20061  
2500 EB The Hague

## **ANNEX 5 List of abbreviations**

<b>ARCDB</b>	ASEAN Regional Centre for Biodiversity Conservation
<b>CBO</b>	Community-Based Organization
<b>CGN</b>	Centre for Genetic Resources
<b>CML</b>	Centre for Environmental Sciences
<b>COS</b>	Sector Councils Consultative Committee
<b>CPRO-DLO</b>	Centre for Plant Breeding and Reproduction Research (DLO)
<b>DENR</b>	Department of Environment and Natural Resources
<b>DGIS</b>	Directorate General for International Cooperation
<b>DLO</b>	Department of Agricultural Research
<b>ETC</b>	Educational Training Consultants
<b>EU</b>	European Union
<b>FMD</b>	Forestry Manpower Developments Consultants
<b>GO</b>	Governmental Organization
<b>IBN-DLO</b>	Institute for Forestry and Nature Conservation Research (DLO)
<b>IHE-Delft</b>	International Institute for Infrastructural, Hydraulic and Environmental Engineering (Delft)
<b>ILEIA</b>	Centre for Research and Information on Low External Input and Sustainable Agriculture
<b>ILRI</b>	International Institute of Land Reclamation and Improvement
<b>IVM</b>	Institute for Environmental Studies, Vrije Universiteit Amsterdam
<b>JPC</b>	Joint (Philippine-Dutch) Programme Committee
<b>JWG</b>	Joint (Philippine-Dutch) Working Group
<b>LNV</b>	Ministry of Agriculture, Nature Management and Fisheries
<b>NBC</b>	National Biodiversity Centre
<b>NGO</b>	Non-Governmental Organization
<b>NIPAS</b>	National Integrated Protected Areas Systems
<b>NRLO</b>	National Council for Agricultural Research
<b>OC&amp;W</b>	Ministry of Education, Culture and Science
<b>PAWB</b>	Protected Areas and Wildlife Bureau
<b>PSC</b>	Programme Study Committee
<b>PWG</b>	Philippine Working Group
<b>RAWOO</b>	Advisory Council for Scientific Research in Development Problems
<b>RIKZ</b>	National Institute for Coastal and Marine Management
<b>RMNO</b>	Advisory Council for Research on Nature and Environment
<b>SC-DLO</b>	The Winand Staring Centre for Integrated Land, Soil and Water Research (DLO)
<b>SEARCA</b>	SEAMEO Regional Center for Graduate Study and Research in Agriculture
<b>UNCED</b>	United Nations Conference on Environment and Development
<b>VROM</b>	Ministry of Housing, Spatial Planning and Environment
<b>WAU</b>	Wageningen Agricultural University