

Two Drylands Research Programmes in Eastern Africa

Main Report

**Tom Alberts
Seme Debela
Coert Geldenhuys**

**Department for Research
Cooperation**

Two Drylands Research Programmes in Eastern Africa

Main Report

**Tom Alberts
Seme Debela
Coert Geldenhuys**

Sida Evaluation 02/28

Department for Research Cooperation

This report is part of *Sida Evaluations*, a series comprising evaluations of Swedish development assistance. Sida's other series concerned with evaluations, *Sida Studies in Evaluation*, concerns methodologically oriented studies commissioned by Sida. Both series are administered by the Department for Evaluation and Internal Audit, an independent department reporting directly to Sida's Board of Directors.

Reports may be ordered from:

Infocenter, Sida
S-105 25 Stockholm
Telephone: (+46) (0)8 506 423 80
Telefax: (+46) (0)8 506 423 52
E-mail: info@sida.se

Reports are also available to download at:

<http://www.sida.se>

Authors: Tom Alberts, Seme Debela, Coert Geldenhuys

The views and interpretations expressed in this report are the authors' and do not necessarily reflect those of the Swedish International Development Cooperation Agency, Sida.

Sida Evaluation 02/28

Commissioned by Sida, Department for Research Cooperation

Copyright: Sida and the authors

Registration No.: 2001-001373

Date of Final Report: November 2002

Printed by Elanders Novum

Art. no. SIDA2057en

ISBN 91-586-8729-7

ISSN 1401-0402

Department for Research Cooperation

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm

Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64

Telegram: sida stockholm. Postgiro: 1 56 34-9

E-mail: info@sida.se. Homepage: <http://www.sida.se>

List of acronyms

AAU	Addis Ababa University
ACTS	African Centre for Technology Studies
APDA	Agro-pastoral Development Agent (DHP)
APF	African Pastoral Forum
CCD	Convention to Combat Desertification
DHP	Dryland Husbandry Project
DRM	Department of Range Management, University of Nairobi
EPOS	Research Programme on Environmental Policy and Society
FMC	Field Management Committee (DHP)
GOK	Government of Kenya
GTZ	German Technical Co-operation
ICCD	International Convention to Combat Desertification
IGAD	Intergovernmental Authority on Development
ILRI	International Livestock Research Institute
ISNAR	International Service for National Agricultural Research
KARI	Kenya Agricultural Research Institute
LA21	Local Agenda 21
LFA	Logical Framework Analysis
NARO	National Agricultural Research Organisation (Uganda)
NC	National Coordinator (DHP)
NFP	National Focal Person (PINEP)
NGO	Non-governmental organisation
NSC	National Steering Committee (DHP)
NMK	National Museums of Kenya
OSSREA	Organisation for Social Science Research in Eastern and Southern Africa
PDA	Pastoral Development Agents (DHP)
PINEP	Pastoral Information Network Programme
PMA	Plan for Modernisation of Agriculture (Uganda)
PRA	Participatory Rural Appraisal
REDPA	Regional Dryland Programme in Eastern Africa
RPDCC	Regional Dryland Program Coordinating Committee (REDPA)
RRA	Rapid Rural Appraisal
SAREC	Swedish Agency for Research Cooperation with Developing Countries
Sida	Swedish International Development Authority
ToR	Terms of Reference
UDSM	University of Dar es Salaam
VS	Veterinary Scouts (DHP)

Table of contents

Executive summary	1
Background	1
Main results of the evaluation	2
Introduction	3
Regional dryland programme in eastern Africa – REDPA	6
Introduction	6
Pastoral information network programme – PINEP	8
<i>Background</i>	8
<i>Activities and outputs</i>	8
<i>Assessment of performance</i>	11
Dryland husbandry project (DHP)	14
<i>Introduction</i>	14
<i>Organisational structure of DHP</i>	15
<i>Evaluation and discussion</i>	16
<i>Conclusions and recommendations</i>	23
Research programme on environmental policy and society – EPOS	25
Research programme for sustainable use of dryland biodiversity – RPSUD	27
Introduction	27
Activities and outputs	28
<i>Training</i>	28
<i>Small grant scheme</i>	29
<i>Dissemination</i>	29
<i>Staff exchange</i>	30
Assessment of performance	30
<i>Relevance and importance</i>	30
<i>Sustainability</i>	30
<i>Scientific results and dissemination</i>	31
<i>Capacity building</i>	31
<i>Collaboration between parties</i>	32
<i>Methods and program models</i>	32
<i>Gender</i>	33
<i>Cost effectiveness</i>	33
<i>Swedish resources base</i>	34
Conclusions and recommendations	34
<i>Usefulness of the program</i>	34
<i>Sustainability</i>	34
<i>Program organisation</i>	35
<i>Regional collaboration</i>	35
<i>Strengthening and expanding the teaching program</i>	35
<i>Information dissemination</i>	36
Major conclusions and recommendations	37
Some general considerations	37
The role of donors	37

Research	38
Dissemination of research results	39
Relevance and importance	39
Sustainability	40
Capacity building	40
Collaboration between parties.....	40
Methods and programme models	40
Gender	41
Cost effectiveness	41
Swedish resource base	42
Regional collaboration	42
Options for Sida/SAREC	43
Phasing out Sida/SAREC support	43
Regional programme on management of dryland resources in eastern Africa	43
<i>Short term measures to be taken</i>	44
<i>Medium terms measures</i>	44
Appendix 1	
Terms of Reference	45
Appendix 2	
Proposal for integrating the regional programmes of REDPA and RPSUD	51
Appendix 3	
Regional programme on management of dryland resources in eastern Africa: Rationale and programme components	54

Executive summary

Background

This is an evaluation of two dryland research programmes in eastern Africa supported by Sida/SAREC. The major area of the 6.2 million km² eastern African countries (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Tanzania and Uganda) is arid or semi-arid, receiving less than 400 mm rain per annum. This includes desert, semi-desert, rangeland, woodland, and forest. Over 70% of the estimated population of 153 million depend for their livelihood on arable farming, agro-pastoralism or pastoralism. The ecological degradation of the drylands of Eastern Africa is related to the aridity, vulnerability and unpredictability of the environment, deteriorating socio-economic livelihoods of the people, and inappropriate pastoral-agricultural development policies.

The **Regional Dryland Programme in Eastern Africa-REDPA** was formed in 1999, following the recommendations of an external review in 1997, of SAREC supported dryland research programmes in East Africa. It has three major parts and includes **PINEP**, Pastoral Information Network, **DHP**, Dryland Husbandry Project and **EPOS**, Research Programme on Environmental Policy and Society. The REDPA co-operation aims at combining university training and academic research on a local basis. Originally the intention was to include Kenya, Tanzania, Uganda, Sudan, Ethiopia, Djibouti and Eritrea. In practice the latter two countries have not participated.

In 1995 Sida/SAREC approved support to a regional programme, Research Programme for Sustainable Use of Dryland Biodiversity-RPSUD. RPSUD is co-ordinated by the National Museums of Kenya (NMK) in Nairobi. However, implementation could not start until 1997. RPSUD is a consortium of institutions from Kenya, Ethiopia and Tanzania. The Department of Plant Ecology at Uppsala University is the collaborating Swedish part. The programme consists of three components, a regional M.Sc. course carried out at Addis Ababa University, a research grants scheme and the dissemination of research results.

Main results of the evaluation

REDPA as such has not functioned according to intentions. The expected synergetic effects of the PINEP and DHP co-operation never materialised and both PINEP and DHP continued to function as separate programmes.

PINEP has two main components, a M.Sc. training course, started in 1989, offered every two years and a network of researchers, including a research grants scheme, workshops and dissemination of research results. PINEP has financed 26 students of which only two women. By the end of 2002 a total of 23 PINEP M.Sc. students will have graduated. The major research publication is the *African Pastoral Forum* and during the period 1998–2001, 24 issues have been published.

DHP is co-ordinated by OSSREA (Organisation for Social Science Research in Eastern and Southern Africa) from Addis Ababa in Ethiopia. It has active field sites in Kenya, Uganda, Sudan and Ethiopia. Activities in Eritrea were discontinued. In all countries action oriented research has taken place. A lot of relevant research has been done, but very little has been published in refereed journals.

EPOS' role has primarily been to provide support. Since REDPA never became operational most support has been provided to PINEP.

RPSUD became operational in 1997 and the programme runs through 2001. Of the intake of 22 students there were only 5 women. Some twenty students will graduate under the present programme. The programme also includes a research grant scheme. So far a total of 20 young researchers have benefited from the small research grant scheme. At this stage no international publications have been made.

Both programmes relate to dryland resource management and have many common features. Both programmes have wide objectives ranging from capacity building including training at all levels to extension. Both have a common denominator being M.Sc. training and research. The RPSUD has a somewhat stronger focus on academic research than REDPA, which also includes extension activities. Surprisingly enough, there has been no interaction between the two programmes.

Both programmes have generated a significant volume of relevant research, though very little has been published in refereed journals. As is to be expected the quality vary. The social sciences components remain weak.

There has been some progress in the dissemination of research results but there is scope for significant improvements. Both programmes address very relevant problems in East Africa.

Both programmes depend heavily on donor funding. While there is professional competence to secure the sustainability, the programmes are not yet financially sustainable.

The two programmes have followed similar approaches in capacity building. They offer a M.Sc. course, which have similar contents. The research networking used has been an effective way of engaging a large number of researchers in the region. The research capacity has been enhanced.

The collaboration between the REDPA partners has not functioned according to intentions. Given the difficult context of regional co-operation, the RPSUD collaboration has worked well.

The methods and programme models have in general been successful since the programmes use teaching, research, publications and workshops to build local capacity for research and the dissemination of research results. Several of the programmes' activities lack clearly defined objectives, outputs and verifiable indicators to monitor progress.

Both programmes exhibit serious gender imbalances. Gender research is, with few exceptions, virtually absent.

Both REDPA and RPSUD operate M.Sc. programmes. The small intake of students implies high costs per student. In this context the programmes are not cost effective.

The support provided by the Swedish Resource Base has in general been appreciated and useful.

In spite of the participation of many countries the Regional Collaboration has been weak. No regional research agenda have been set and there are no regional research projects. Neither the University of Nairobi nor Addis Ababa University rely on teachers outside the respective countries.

Both programmes have many similarities. The main recommendation is that the programmes explore the possibilities of closer co-operation with the objective to launch a joint programme. As a first step it is recommended that the programmes establish a small secretariat. During the presentation of the Draft Final Report outside Dar es Salaam it was agreed that the National Museums of Kenya would co-ordinate the initial work. It is recommended that support to PINEP and DHP is phased out during the next three year period and support be provided to the new joint programme.

Introduction

This is an evaluation of two major research programmes supported by Sida/SAREC. The major area of the 6.2 million km² eastern African countries (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Tanzania and Uganda) is arid or semi-arid, receiving less than 400 mm rain per annum. This includes desert, semi-desert, rangeland, woodland, and forest. Over 70% of the estimated population of 153 million depends for their livelihood on arable farming, agro-pastoralism or pastoralism. The ecological degradation of the drylands of Eastern Africa is related to the aridity, vulnerability and unpredictability of the environment, deteriorating socio-economic livelihoods of the people, and inappropriate pastoral-agricultural development policies (adapted from REDPA document, 1998). Dryland management and pastoralist populations suffered from:

- inappropriate strategic plans for pastoral-agricultural rangeland development and management because they i) favoured project-driven commercial livestock development, ii) lacked adapted interventions in traditional subsistence pastoral-agricultural practices, iii) focused on food aid and relief, national conservation plans, and energy saving and renewable energy, and iv) lacked integrated government service department interventions and services which are required for dryland husbandry;
- high investment risk because of the ecologically unpredictable and vulnerable environment; and
- wrong perceptions of the ability of the traditional pastoral-agricultural societies to change and adapt.

An overview of dryland management identified the following priorities for regional research and development co-operation:

- to reduce pressure on marginal land;
- to counteract land degradation; and
- to increase biomass production and the development of alternative energy sources.

The Regional Dryland Programme in Eastern Africa-REDPA was formed in 1999 following the recommendations of an external review, in 1997, of SAREC supported dryland research programmes in East Africa. It has three major parts and includes PINEP, Pastoral Information Network, DHP, Dryland Husbandry Project and EPOS, Research Programme on Environmental Policy and Society, Linköping University.

The REDPA co-operation aims at combining university training, action and academic research on a local basis. Originally the intention was to include Kenya, Tanzania, Uganda, Sudan, Ethiopia, Djibouti and Eritrea. In practice the latter two countries have not participated.

Since July 1995 Sida/SAREC has supported a regional programme, Research Programme for Sustainable Use of Dryland Biodiversity-RPSUD. RPSUD is co-ordinated by the National Museums of Kenya (NMK) in Nairobi. RPSUD is a consortium of institutions from Kenya, Ethiopia and Tanzania. The Department of Plant Ecology at Uppsala University is the collaborating Swedish part. The programme consists of two components, a regional M.Sc. course is carried out at Addis Ababa University and a research grants scheme.

One of the major aims of this evaluation is to provide Sida/SAREC with information to make a decision on future support. Notwithstanding the aforementioned, the evaluation should also provide the participating institutions with recommendations on dryland research and research training.

The Terms of Reference (ToR), specifies a number of tasks and specific issues to be covered and include the following broad topics:

- Relevance and importance
- Sustainability
- Scientific results and dissemination
- Capacity building
- Collaboration between parties
- Methods and programme models
- Gender
- Cost effectiveness
- Swedish resource base

The first draft of the ToR was prepared by Sida and was forwarded to the participating institutions in February 2001¹. Several comments were made and the ToR were revised in the light of these comments. The ToR were again discussed during the kick-off meeting held in Nairobi 18-19 April. On the basis of these discussions the ToR were finalised and can be found in Appendix 5.

As is stressed in the ToR the evaluation Team should cover a wide spectrum of experiences and competence. Discussions with the consultant on this evaluation were commenced in January and the contract was concluded in March 2001. A team of three consultants was formed composed of Dr. Tom Alberts, Team leader (Rural development economist from Sweden), Dr. Seme Debela (Expert on agricultural research from Ethiopia) and Dr. Coert Geldenhuys (Forestry and natural resource use expert from South Africa).

From the outset the Team opted for a participatory approach and has sought to engage all major stakeholders during this process. To this end the kick-off meeting was held in Nairobi 18-19 April and the *Draft Final Report* was presented at the Jangwani Seabreeze Lodge some 30 km North of Dar es Salaam on 14-15 September.

To develop a common approach the team worked together for a significant part of the time and visited institutions and interviewed people in Kenya and Ethiopia 18 April-2 May. Since then the team members worked individually as follows:

Dr. Coert Geldenhuys	Uganda 2–5 May
Dr. Seme Debela	Ethiopia 3–6 May
	Sudan 10–15 May
Dr. Tom Alberts	Tanzania 3–5 May.

Each team member prepared reports from the visits made. They should primarily be seen as working documents to enable the other team members to share the information and findings. Since the content might be of use to the different programme and programme components the Team has decided to include these in this report. For details see Appendix 3.

As had been agreed with Sida, prior to preparing the Evaluation Report as such, the Team would present its findings and recommendations. The Report *Evaluation of Two Dryland Research Programmes in*

¹ In addition during the evaluation process important information was made available on the Internet: http://home.swipnet.se/tom_alberts. There could also be found the ToR, the CVs of the team members, the 1997 evaluation, the *Main Findings and Recommendations* from May 20 and the *Draft Final Report* of 6 September.

Eastern Africa. Main Findings and Recommendations was forwarded to Sida on May 20. All stakeholders were invited to make comments. Only Sida, EPOS and Professor Backéus forwarded comments to the Team. This fact was of concern to the Team as its major recommendation was to pave the way for a new *Regional Programme on Management of Dryland Resources in Eastern Africa*. The alternative was to phase out support to the programmes.

The *Draft Final Report* was forwarded to the participating institutions on 6 September. The Team presented the Report to the participating institutions during a seminar held outside Dar es Salaam 14-15 September. Many constructive and useful comments were received. To a large extent most of them have been incorporated into the Final report. Suffice to say that the views and interpretations expressed in this report are those of the authors.

The methodology followed is primarily based on a Logical Framework Approach, LFA and involved the identification of objectives, outputs, activities and inputs. This evaluation is based on a large number of interviews, including peasants. In addition the Team has had access to a wide range of materials, e.g. research reports, letters, and agreements, and spent some time reviewing them. A list of the documents consulted can be found in Appendix 6.

During the course of work, the Team intended to discuss the experiences of regional university co-operation and prospects with senior staff of the universities involved in the co-operation. In Kenya, the Team met with the Vice Chancellor of the University of Nairobi. He expressed the University's strong positive views of the PINEP programme. He was also positive to extend the regional co-operation further and promised to provide support to this end. Unfortunately, due to political violence in Ethiopia it was not possible to meet with key university staff members. In Tanzania, key senior staff was attending a conference and could not be interviewed. Still, it is the impression that in spite of the difficulties involved, the universities in the region recognise the need for enlarging co-operation among themselves.

The Team would like to express its deep gratitude for the assistance provided by everybody. Everywhere where we met people, the support they provided, and their willingness to share their experiences with us went beyond the normal duty. As can be seen from the long list of persons we met, attached as Appendix 4, it will not be possible to extend our gratitude on an individual basis. Having said this, all participating institutions, involving among others PINEP and the University of Nairobi, DHP and OSSREA, EPOS at the University of Linköping, the Department of Biology and the University of Addis Ababa, the Department of Plant Ecology and Uppsala University and the National Museums of Kenya were extremely helpful at all stages in our work.

Regional dryland programme in eastern Africa-REDPA

Introduction

The Regional Dryland Programme in Eastern Africa: Training and Research for Sustainable Livelihoods, REDPA, is a programme composed of three components, Pastoral Information Network Programme, PINEP, Dryland Husbandry Project, DHP and the Environmental Policy and Society, EPOS, located at Linköping University.

Although PINEP as such was established in 1991, several of the key participants had already collaborated for many years. It forms part of the Department for Range Management (DRM) of the University of Nairobi. The M.Sc. course was already initiated in 1989, prior to the establishment of PINEP. The curricula of the ongoing M.Sc. programme at DRM have been adapted to include a social science dimension as well. In addition there is a loose network of researchers in the region. Main focus though is Kenya. PINEP has received financing from Sida since 1992.

DHP is housed at the Organisation for Social Science Research in Eastern and Southern Africa (OSSREA) on the campus of the University of Addis Ababa, Ethiopia. It has received support from Sida since 1995².

In 1997 SAREC commissioned an evaluation of *SAREC Supported Dryland Research Programmes in East Africa*.

This evaluation was subject to much criticism of the participating institutions. This is understandable because the evaluation was very critical and there was also a large number of recommendations some of which had far reaching implications. The programmes have had several Sida/SAREC desk officers during the last years. This is in itself difficult because every person has his/her perceptions of the programme. From the point of view of the recipient institutions, there were difficulties in interpreting what was expected from them in order to secure future financing.

One of the major changes recommended in the evaluation was that: "The relationship and structure between the partners needs to be rethought and a more integrated structure with consistent internal objectives is needed." The authors of the REDPA programme recognise this fact by stating that there is a need to create: "a stronger link, synergy and synchronisation between the project specific activities". As a result the REDPA programme emerged. On the basis of this recommendation and their own internal discussions PINEP, DHP and EPOS finalised a plan for REDPA in December 1998. During the course of interviewing key officials, it seems clear that they felt that the REDPA model was imposed onto them by the donor. This in turn created a lack of ownership, a prerequisite for a successful programme.

However, there is no over-all objective stated for the Programme as such though the Executive Summary states:

The main ambition of REDPA is to contribute to the regional needs through information, training and research with special emphasis of Local Agenda 21 (LA21) and International Convention to Combat Desertification (ICCD) issues.

This lack of a clear over-all objective probably has been one major cause for the difficulties in managing the programme.

² The Swedish aid organisations were merged in 1995 under the name Sida. OSSREA has received support from Sida and SAREC prior to 1995.

But another factor has probably been the lack of an effective co-ordination structure. The Programme states that the REDPA organisation chart is complex. However, the major problem is that an effective co-ordination entity was never created. In fact, the organisation chart, in the Executive Summary, does not include any co-ordination committee (p. 5). In the main report reference is made to a Regional Dryland Co-ordinating Committee. This committee did neither have a secretariat nor a co-ordinator.

Since the funding was not channelled through a joint account but rather to the accounts of the different participating institutions, there was no incentive to work for the programme as such. In fact, this set-up has the inherent danger that each participating institution would primarily defend its own interests. In addition, by having several different contracts, with the participating institutions, Sida/SAREC had to assume more administrative work. Also, as there were conflicts, Sida/SAREC had to play a more active role. This again strained the administrative capacity of Sida/SAREC and caused delays in programme implementation.

In the end, it appears as if the programme is the summation of the activities of the different participating institutions. The division of work was envisaged as follows:

PINEP	M.Sc. training
	Research
	Research information dissemination
EPOS	M.Sc. and informal training (participatory; information dissemination)
	LA21 research
	ICCD policy issues
DHP	Extension Methodology
	Action Research
	Policy Issues

The REDPA programme as such was never implemented as intended. In fact, there was no REDPA programme. As a result, the anticipated synergetic effects of bringing PINEP and DHP together were never realised. A series of factors explain this state of affairs. The Team believes that one of the more important reasons was that an effective co-ordination mechanism was never established. But other factors might have played a role as well such as the disciplinary origins of the different components, cultural differences and also personal chemistry. In spite of this failure, the different components have continued to make significant progress.

REDPA is ineffective as an umbrella co-ordinating body for DHP, PINEP and EPOS, although it is considered as a workable model. It is considered that the following preconditions need to be put in place if such a model is to be effective:

- An appropriate management body with a secretariat is assigned through project funding;
- The management body and the secretariat have no direct institutional affiliation with partner institutions involved in project implementation at national or regional levels;
- A clear terms of reference, defining authority and responsibility, is worked out;
- The exact mechanism of co-ordination is jointly developed and fully endorsed by partner institutions; and
- A separate budget

For this reason this evaluation will deal with each of the participating institutions separately.

Pastoral information network programme-PINEP

Background

According to the REDPA programme document, the PINEP programme has three over-all objectives, namely:

- To provide advanced pastoralist based training for Masters students in Range Management with emphasis on rehabilitation, resource management, conservation of resources in the pastoral production systems, gender relations in resource management and pastoral institutional transformations and the role of gender³;
- To generate relevant knowledge for appropriate intervention in drylands development and rehabilitation through formal research⁴; and
- To provide a forum for research information dissemination, by bringing together people interested in the field of pastoral development at the policy making, practitioner and researcher levels.

PINEP is located at the Department of Range Management at the university of Nairobi. The PINEP secretariat consists of seven qualified professionals. Five are PhD degree holders.

Most of these professionals, if not all, are also employed by the university. This can to some extent be justified by the extra workload incurred. But, the impression is that the extra salaries provided are substantial compared to the salaries they get from the university. From a departmental management point of view this may also create problems by providing special benefits to certain staff members. To overcome, or at least to attenuate this problem, transparent university rules are needed. PINEP is to some extent a privileged island within the department of Range Management. This might also be a potential source of conflicts. On the positive side mentioned by PINEP is the fact that competent professionals are engaged in research and remain within the university instead of becoming consultants.

Activities and outputs

Training

The University of Nairobi through its Department of Range Management (DRM) has operated a M.Sc. programme since 1989 when its first intake was made. Thus the M.Sc. programme existed prior to Sida/SAREC support. It is a programme, which starts every two years.

Table 1. Table M.Sc. Course in Range Management. Yearly intakes by gender.

Year	Number of intakes		Total	Dropouts	Graduated
	Males	Females			
1989	8	0	8	0	8
1991	13	0	13	3	10
1993	10	0	10	2	8
1995	8	0	8	2	6
1997	6	1	7	0	7
1999	8	1	9	0	
Total	53	2	55	7	39

³ This is taking from the Summary, p. 4. The main text, p. 11, does not make any reference to gender. One is left with the impression that the Summary has been adapted to what is "politically correct".

⁴ The main text refers to small grants.

Since the course started in 1989 a total of 55 students were admitted and out of these 39 have graduated. The students from the 1999 intake are still studying. The number of dropouts, 7 students, or 13%, is high but can be considered as reasonable. It should be noted that only two women were admitted.

Table 2. Source of financing of students

Source of financing	Number of students
GOK/University of Nairobi	13
Dutch Government/KARI	1
ILRI	1
GTZ	3
EU/KARI	8
Swiss donors	2
PINEP	26
Total	54

In total 54 students were financed and PINEP accounted for almost half of these. The Government of Kenya, GOK, (University of Nairobi) financed about one quarter while other donors accounted for the remaining quarter.

Table 3. PINEP financing

Year	Kenya	Uganda	Tanzania	Ethiopia	Eritrea	Sudan	Djibouti	Total
1993	2	1	1	-	1	2	1	8
1995	3	1	1	2	1	-	-	8
1997	1	2	-	2	-	-	-	5
1999	2	1	1	1	-	-	-	5
Total	8	5	3	5	2	2	1	26

Out of a total of 26 PINEP financed students, 17 or more than two thirds came from outside Kenya.

Many PINEP students were interviewed both in Kenya and outside. In general the students were quite satisfied with the training received. Some of the foreign students had initial practical problems when they arrived. The library services were appreciated and also the access to PCs although several students would have wished to have more access.

Scientific results and dissemination

One of the major outlets of research of PINEP is the *African Pastoral Forum – APF*⁵. It is produced in Kenya. Until 1998 the total number of issues was 13. During the period 1998–2000 a total of 9 issues were published. The publications were as follows:

1998

No. 14. *Effects of water deprivation on milk yield and body weight gain of Husani and growth rate of their kids in the western lowlands of Eritrea*. Kahsay Negash, G., Nashon K.R. Musimba and Kniuthia R. Ngugi.

No. 15. *The role of livestock as capital and in ex-ante and ex-post management of food insecurity in sub-Saharan*

⁵ It would be useful for the reader to have a list of APF papers printed in each issue of the APF papers.

Africa: The case of agro-pastoralists in South-east Kenya. Dickson M. Nyariki.

No. 16. *Impact of land use on woody vegetation in the semi-arid area of Abala district, North Afar, Ethiopia.* Diress T. Alemu, Kassim O. Farah and David M. Mbuvi.

No. 17. *Indigenous knowledge and the use of medicinal plants in small ruminant Theriogenology in arid and semi-arid areas of Kenya.* S.J.M. Munyua, K.M. Mbai, D.I Kariuku and D.M. Chibeu.

No. 18. *The role of crop residue as a livestock feed in semi-arid Adami-tulu district, Ethiopia.* Tesfaye Alemu Aredo, Nashon K. R. Musimba and David M. Mbuvi.

1999

No. 19. *Socio-economic impact of smallholder irrigation schemes on the pastoral nomads of Garissa District, Northeastern Kenya.* Noor, A.A., K.O. Farah and N.K.R. Musimba.

No. 20. *Constraints to the delivery of animal health services in pastoral areas of Kenya: A Review.* Mogoa, E. G. and M.M. Nyangito.

No. 21. *Traditional camel production among the Somali and Borana pastoralists of Moyale District, Kenya.* Noor I.M., Guliye A.Y. and K.O. Farah.

2000

No. 22. *In search of an appropriate land tenure model for pastoral communities.* G.C. Mulaku.

2001

No. 23. *Land use and spatial distribution of two gum and incense producing tree species in the Blue-Nile valley of Wogidi District, Ethiopia.* Chane, G.T., N.K.R. Musimba, W.N. Ekaya and K.O. Farah.

No. 24. *Indigenous knowledge: The basis of the Maasai ethnoveterinary diagnostic skills.* J. O. Ole-Miaron.

In the REDPA Plan, the number of publications would be in the order of three per year. During the period 1998-2000 a total of nine were published. In terms of quantitative output, the Programme has met its goal.

To assess the quality, several considerations will have to be made. The AFP is neither a strict academic journal nor a journal targeted for a broad audience. It is a working paper series. Although there were differences in opinion, all the persons interviewed felt that AFP filled an important gap. It is only printed in 500 copies. Of these, 200 are sent to EPOS in Sweden for international distribution. This is partly done to reduce distribution costs. 100 are sent within the region, mainly to universities, research institutes and individuals. Surprisingly enough, line ministries are not included in the mailing list. 100 are distributed at workshops. PINEP has no extra copies available. Given the fact that PINEP has a relatively good IT system, it is surprising that the papers cannot be downloaded from the Internet.

The University of Nairobi has recently established WebPages. This will enable PINEP to make more of its research available to a wider audience. There is a need, however, to provide training to PINEP staff in Information Technology and in the use of the Internet.

PINEP expressed a concern over the high costs to publish and to disseminate the APF. Only the printing costs amount to 74 000 shillings. PINEP is considering different methods of cutting costs. One way could be to have several papers in each issue of the APF.

Prior to publication the articles are reviewed. However, contrary to intentions, EPOS has not been fully engaged in this process.

It is positive to note that some research has been published in international journals. Mr. Angelo Mwilawa was a student in the 1993/94 intake and based on his thesis an article was first published in the APF and subsequently in the *Journal of Social Sciences* in 1998. Mr. Alemo, 1995/96 intake, his thesis also resulted in an articles in the *Journal of Human Ecology* published in 1999. Finally, the research of Mr. Diress of the 1995/96 intake resulted in an article in *Journal of Social Science* in 2000. And another paper was published in the *Journal of Social Sciences* in 1999. In summary, a total of 4 papers have been published in refereed journals. According to the 2000 Annual Report more publications are in the pipeline.

There is also a small grants system, similar to that of RPSUD. The annual reports contain very little information on the results during the last years. The applications are channelled through the National Focal Point who does the initial screening prior to sending them to the PINEP secretariat. One reviewer then assesses the proposal. Unfortunately the review process is slow. There is funding for one grant per country and year. The maximum amount is 2xUSD 2,500. PINEP considers that the funding for small grants is inadequate.

According to the REDPA plan there would be two regional exchanges of scientists per year and with EPOS also the same number. While there is general information on linkages, the PINEP annual reports do not make specific references to exchanges of scientists.

One would have expected that the Programme would also include the possibility to have international scientists visiting PINEP as well as from the different universities in the region. Apart from the staff at Linköping University, there has only been one teacher from Tanzania who during a visit to PINEP also gave lectures and held seminars. Two Kenyan professors outside the University of Nairobi have also been engaged as teachers.

Since many PINEP researchers in the region have interacted for many years, it would be natural to find several of them also teaching at the University of Nairobi. Unfortunately, there has hardly been any regional exchanges of scientists.

The PINEP programme organised a national seminar in October 1999 in Kenya and the theme was *Sustainable pastoral production systems and environmental securities*. In May 2000 there was a regional workshop in Kenya. *Towards sustainable pastoral production systems in Eastern Africa: Approaches, constraints and prospects*. In relation to planned outputs the target has been achieved. These activities were very much appreciated by researchers interviewed. However, having these activities only in Kenya limits the possible synergetic effects.

The PINEP programme has to a large extent been centralised to Kenya. Unfortunately, the PINEP coordinator has not made regular visits in the region. Several DHP participants resented this fact.

Assessment of performance

Relevance and Importance

PINEP's objectives are clearly both relevant and important. Although the stated focus of the M.Sc. course is on range management, the *de facto* focus is more of a programme of resource management.

The research network is potentially an efficient way to generate relevant research and research capacity. However, PINEP is highly centralised to Kenya and the potential benefits of regional networking have not yet been fully explored.

Sustainability

From the point of view of financial sustainability, PINEP is not sustainable. It depends on one donor and the contribution from the GOK is insufficient to maintain present levels of activities. Even the M.Sc. course depends on an important input of donor funding. In its present form, the PINEP network relies exclusively on donor funding.

From the point of view of technical and managerial capacity, with adequate funding, PINEP has the necessary capacity.

The department of Range Management has not yet explored the possibilities to market the M.Sc. course in a wider African context.

Scientific Results and Dissemination

It is positive to note that four papers have been published in internationally refereed journals. These have mainly been based on M.Sc. theses, which subsequently resulted in articles in international journals. But the research network has an important number of eminent professionals. In this context the results are meagre.

While a strong focus is on policy relevant research, with the exception of Kenya, the dissemination to extension organisations and local communities has been weak. However, this was never the stated objective of PINEP, which focussed more on knowledge generation.

Capacity building

There have been important advances in capacity building. Students have received their M.Sc. degree. In some cases their research has been internationally published.

RPSUD and PINEP have many similarities in their methods. PINEP is more of a network of individuals while RPSUD has a stronger institutional basis since there are three public institutions participating, National Museums of Kenya, the University of Addis Ababa and the University of Dar es Salaam.

There is a considerable overlap in the courses offered and there has been practically no contact between the two programmes. There are several similar research programmes in the region and there is a need to make a survey of these with the objective to streamline and rationalise the use of resources, not least the human resources.

The course work offered is generally in line with the needs of the region. Socio-economic training and research has not yet received sufficient attention.

Contrary to many other training programmes, the graduated students have not had any difficulties in finding employment. Out of a total of 26 PINEP financed students, 7 are still studying. Out of the remaining 19 students three discontinued their studies. All the remaining 16 M.Sc. graduates are employed and several in senior positions. Roughly one third are engaged in research.

Unfortunately regional expertise has not been involved in the course work at the University of Nairobi. Apart from EPOS, no international scientists have been attached to the programme.

Collaboration between parties

Collaboration between PINEP and DHP has been full of conflicts. Unfortunately, *de facto* the two programmes have operated independently from each other, contrary to the intentions. With the exception DHP in Kenya, the possibility of using DHP sites for M.Sc. students was never developed.

Due to the close and long lasting personal links between the PINEP regional co-ordinator and Prof. Anders Hjort at the University of Linköping, co-operation has been working very well. However, the international networking of Prof. Hjort has not been sufficiently transferred to PINEP. There is an absence of research projects where researchers from both the South and the North participate.

Methods and programme models

The combination of a M.Sc. training programme, which in a longer perspective could also become a PhD programme with research networking, is definitely a viable strategy. However, this is a M.Sc. course offered by the University of Nairobi. To develop the course into a joint regional programme is a difficult, but not impossible, task. Unless the course can be integrated in a regional co-operation arrangement between other universities in the region, it is doubtful that quality and continuity can be sustained.

There has been too little attention in enlisting support from other donors. This dependency on one donor only results in a weak bargaining position and an unnecessary exposure to risks.

Gender issues

In spite of the recommendations in the previous evaluation very little progress has been made in relation to gender issues. Gender issues have not received any priority. The professional staff of the PINEP secretariat is almost exclusively male. Only one student out of 53 students that were admitted to the M.Sc. programme was a woman.

Gender research and female researchers are virtually non-existent.

Some advances have been made at the Kibwezi DHP site in Kenya where women play a more active role.

Cost effectiveness

Since management is not using the budget as a management tool a lot of work would be required to assess the issue of cost-effectiveness. The total cost of the PINEP has been in the order of SEK 9 million and an additional SEK 2 million has been earmarked for the PhD programme.

Still some rough considerations can be made. There has been an output of 9 APF papers, 4 internationally published papers, two workshops have been held and there have been about 9 M.Sc. graduates. In this context the costs of the programme have probably been on the high side.

Swedish resource base

EPOS has played an important role in several areas. It has provided a social science input, including lecturing at the M.Sc. course. In the short run this can be justified, but this competence is available in the region and it would seem more cost effective to utilise the regional capacity. If need should arise some specialist support could be sought.

EPOS has provided a very much appreciated support to develop the PINEP library, in the form of providing scientific articles, journals and books. This has been necessary because the University of Nairobi cannot provide these facilities. EPOS support has definitely filled a gap. However, in a longer perspective this is not sustainable.

Major conclusions and recommendations

PINEP is the continuation of informal networking taking place for many years in East Africa. Some of the key actors sponsored the creation of PINEP. It is an important network. Although it is primarily concentrated to Kenya it encompasses regional networking as well.

The 1997 evaluation highlighted a series of problems and provided recommendations. Most of the problems identified in the previous evaluation persist, although in some cases some progress has been made.

PINEP has several objectives, M.Sc. training, generate knowledge and to act as a forum research dissemination. On the one hand these objectives can be seen as complementary but on the other hand they may also be conflicting. The argument is the following. Resources are scarce. To the extent that more resources are allocated to training there will be less for research. As it stands now, the over-all objective is not clear.

Because of this practically any activity can be justified. This problem is not typical of PINEP but is an over-all problem in international collaboration. One method to deal with this is the Logical Framework Analysis – LFA. PINEP might consider some training course for its senior staff.

PINEP management is not directly in control of the management of the funds and the accounts rest with the University. While the university has an over-all responsibility-accountability, it is recommended that senior management should use the budget and the monitoring of expenditures as a management tool. Again this is not a typical PINEP problem, but rather of many universities in the South and the North as well. With public financing becoming less, the universities have had a difficult time to adopt to a more market orientation.

This in turn leads into another important area. Since financing will not be automatic, the universities are adapting themselves to the new conditions. They are increasingly playing a more active role in marketing their produce, e.g. courses. In this respect, PINEP has not yet explored the possibilities of marketing its M.Sc. course in Africa. The Team is of the opinion that there is an important market in Africa.

Being more market oriented has several implications. In the case of the PINEP's M.Sc. course, it is offered every two years. With a better control over finances, it would be relatively easy to estimate the average cost per M.Sc. student. But what is equally important is to know the marginal cost, i.e. the cost of accepting an additional student. It is probably true that at the present level of intake the marginal cost is significantly lower than the average cost. By expanding the number of students, the cost per student would decrease.

PINEP activities overlap to some extent with those of RPSUD. There has been little, if any, interaction between these two programmes. It is the view of the Team that combining the resources can capture significant synergetic effects. While the potential for positive results are great, there are also risks involved. The REDPA experiences are a testimony of this. Nevertheless, the Team believes that these risks can be reduced and that there is a need to take a more comprehensive approach to the *Management of Dryland Resources in Eastern Africa*. These ideas are further elaborated in Appendix 2.

Dryland husbandry project (DHP)

Introduction

The Dryland Husbandry Project (DHP) originated as a SIDA supported project within the IGAD but was taken over and partly restructured by SAREC in 1994. Since then the DHP is managed as a development project under agreement signed between OSSREA (Organisation for Social Science Research in Eastern and Southern Africa) in Addis Ababa, Ethiopia, and Sida/SAREC. The first phase of activity covered the period 1995–1998. The 1997 evaluation report suggested a stronger research component through linkage with PINEP, EPOS and other institutions via the REDPA programme.

The initial agreement between OSSREA and Sida/SAREC mentioned two objectives for DHP: i) to establish, support and administer a network of institutions for research and development in pastoral areas through co-operation between research institutions, extension organisations, NGO's and local communities; ii) to establish, support and administer a training programme for paravets and/or pastoral development agents.

In development of the REDPA programme in 1998, the DHP stipulated several long-term and immediate objectives. The main focus of DHP is technology development for improved resource management, together with institution and capacity building, at community level. It is important to note that the DHP focus is not on academic research, but action or adaptive management research (applying academic research results through participatory techniques at community level), to address the specific needs of pastoralists and/or agro-pastoralists. The outputs planned for the 1999-2000 period were national projects in line with a regional framework with focus on⁶:

- Extension methodology, to assess, improve and develop extension approaches;
- Trial-based action-orientated research, to cover rangeland and water resource management, animal husbandry, indigenous knowledge systems and practices, production and marketing, and other activities such as tree nursery, bee-keeping and ecotourism;
- Gender-based activities, to assess and address gender relations in resource management, gender specific needs;
- Policy dialogue, to address policy impact through sensitisation, lobbying and institutional building; and
- Networking, via regional and national workshops, research linkages and web sites.

DHP is active at field sites in Kenya (Kibwezi), Uganda (Kazo), Sudan (Kassala) and Ethiopia (Aba'ala). Activities in Eritrea were discontinued.

SAREC financial support (6.8 million SEK) was provided from 1995 until the last external evaluation in 1997. During the period 1998-2000 8.2 million SEK was allocated. SAREC's total allocation to DHP has been 15 million SEK.

Organisational structure of DHP

Theoretically, the DHP function under the REDPA umbrella. REDPA is structured to facilitate regional co-ordination through the establishment of a Regional Dryland Program Coordinating Committee (RPDCC). It is composed of the heads of individual projects/programmes.

OSSREA is the facilitating and co-ordinating organisation for DHP. Two other dryland programmes, managed from OSSREA but funded from other resources, deal with academic research in DHP sites: the African Drylands Program; and the program on Pastoral Resource Competition in the Horn of Africa. A full-time Regional Coordinator (RC) deals with the DHP regional issues, and is funded by the DHP. A National Coordinator (NC in the case of DHP) and a National Focal Person (NFP in the case of PINEP) are responsible for activities at national level. To further improve coordination among the projects at national level, the NC for DHP also doubles up as the NFP of PINEP. A Regional Advisory Committee (RAC), composed of all RCs and NFPs/NCs, was established to deliberate and decide on the activities of the regional programmes/projects.

⁶ The DHP Project Document for Phase II (1999-2000) is vague regarding expected outputs. Many of these are in fact not outputs but activities.

The DHP is currently operational in four participating member countries (Kenya, Uganda, Ethiopia and Sudan). DHP activity in Eritrea has been discontinued. The Regional Advisory Committee for the DHP has been established and has had two meetings so far. It is reported that all project activities are progressing well.

A description of each DHP site and current activities is provided in Appendix 7.

Evaluation and discussion

Relevance and importance

The indication is that the DHP activities in the four participating countries are relevant in terms of national and regional priorities and policies. In all cases the DHP fills a niche in dryland resource management, research and extension that are not provided by the different ministries, or the research and education institutions.

In Kibwezi, Kenya, the District Officer and the government agricultural officers commended the good work of DHP-Kenya to really assist the people to improve production. The work is relevant in resource rehabilitation and extension (assist in training Paravets, PDA's and APDA's). It is particularly useful in the situation of retrenched government extension staff-the volunteers provide a broader coverage of extension services, and transfer information in a practical 'language'. This acknowledges the value of knowledge in the community, such as improved maize varieties and livestock improvement (health care and introduction of improved stock).

The relevance of DHP-Uganda in terms of national priorities is as follows:

- The Uganda Government has released a Plan for Modernisation of Agriculture (PMA) as part of its commitment, strategy and operational framework to eradicate poverty. The agricultural sector employs over 80% of the labour force, and contributes 48% of the GDP. However, it suffers from rudimentary technology, low yielding/low value enterprises, unsustainable land utilisation, and lack of commercial orientation. It is considered that agricultural growth can be accelerated substantially by the uptake of modern farming techniques, and that the agriculture-based livelihoods of the poor households can be improved by enhancing their natural, physical, financial, human and social capital assets. The National Coordinator of DHP-Uganda, and several members of its National Steering Committee (NSC) are involved in the implementation of the PMA. Hence DHP-Uganda has an important role in the PMA through its activities.
- The National Agricultural Research Organisation (NARO), with nine research institutes, has very low priorities for pastoral research and no co-ordinated program on Rangeland Management. Its activities are confined to resource monitoring as an early warning system in terms of pasture status. The public extension service is decentralised to the districts, and is moving towards privatisation. DHP-Uganda is one of the few projects in Uganda that are working directly with pastoralists with the aim of improving livestock production. DHP-Uganda is also involved in a move to develop an independent, self-sustaining institution, together with Makerere University, Ministry of Agriculture, and NARO, to cater for the needs of Dryland Research and Management in Uganda.
- A Presidential directive has been issued to line ministries to supplement and strengthen the water supply resources in the dryland areas. The DHP-Uganda approach to water management is considered as an important component in this process.

The DHP-Ethiopia is a very important and relevant initiative to support the federal and regional governments' efforts to improve the livelihoods of the local pastoral communities subsisting in the harsh arid/semi-arid environment of the afar plains. There have been several pastoral oriented projects in

this area, chief among which is the Third Livestock Development Project supported through World Bank funding. Despite such efforts, success is limited and a lot more effort is needed to deal with the multi-faceted problems facing the pastoral communities in the area.

In Sudan, the NSC, FMC, participants in DHP-Uganda, acknowledge that range improvement and water management are priority issues in the Sudan Government's development agenda, and incorporated these issues in their activities, particularly through generation of technical, social and technological information.

- DHP-Sudan links very closely with relevant line ministries and institutions of higher learning, and utilises available human and material resources from these institutions in project implementation. The Director of the Institute of Ecological Studies is a member of the NSC of DHP-Sudan.
- At field level, the project operates from the Ministry of Agriculture of Kassala State and the Chairperson of the Field Management Committee is a Director-General of a department in this ministry.
- There has been an on-going debate in government circles in relation to the future prospects of the pastoral/nomadic communities in such areas. The issue is whether to encourage a policy of converting the nomadic groups into pastoral/agro-pastoral communities or maintain the traditional nomadic way of life. The pastoralist members of the Range and Water Management committees indicated, in discussions, a preference to maintain their current life style, but with better access to modern amenities such as clean and abundant water, health care and other services. All those interviewed during the visit indicated that the DHP-Sudan is playing a most important and significant role, both in terms of the needs of government and the pastoral communities.

Recommendation: It would be useful to develop a regional framework for dryland management, research and extension services to guide the specific regional and national activities of the DHP within the responsibilities of the respective national governments for sustainable dryland resource management.

Sustainability

Development of an environment for sustainable research and capacity building requires collaboration at different levels. Formal higher education and specialised ecological, social and economic research will have to be provided by relevant institutions, i.e. outside the scope of the DHP. The DHP activities are focused at the local level where the need is for integration of development in all spheres of the daily livelihood of the people. It requires inter-disciplinary collaboration and resource management within the life-styles of the different cultural groups in the drylands of East Africa. The question is whether the local people involved in the DHP activities will be able to continue to adopt and adapt new information and technologies to improve their livelihoods. Community mobilisation at grass roots level now seems to be self-generated locally, which will make the DHP activities sustainable. The participating farmer families everywhere showed much enthusiasm for their achievements and successes, a desire to obtain more information for the problems that still exist, willingness to work hard to improve their own livelihoods, active co-operation amongst farmers to learn from one another, and good integration between the DHP and other projects to fully utilise the relatively little funds available through the DHP project. For example, in Kazo, Uganda, the needs were expressed for more knowledge and guidance, rather than for goods and money. The indication is that the DHP activities have developed an environment to stimulate the interest and will amongst the agro-pastoralists and leaders to take charge of their own future.

Previous projects initiated by the governments largely emphasised infrastructure development without adequate consultation with and participation of the local communities in identifying and assessing the feasibility and sustainability of such projects. The DHP departed from previous interventions and focused on local capacity building, action-oriented research and awareness-raising through various mechanisms, creating close linkages and interaction with local stakeholders as well as government agencies. As such the project is playing a significant role in creating and sustaining an environment conducive to research and development. The project has facilitated the linkage and collaboration among a large number of institutions, including the academic institutions, in project design and implementation. It is particularly relevant to develop and utilise ways for efficient and effective utilisation of the scarce biological resources in the harsh environments in the relevant areas. There has been a long-term interest of policy makers, development workers and the pastoral communities.

Recommendation: Many of the activities are still in the infant stages, and need continued input and support over a longer period to support sustainable improvement and development in the rural areas.

Methods and programme models

The DHP uses multi-disciplinary and participatory approaches in the execution of its activities through action research in on-farm trials, as indicated for each DHP site in the description of the current activities (Appendix 7). The objective is to develop economically viable and ecologically sound pastoral and agro-pastoral practices and techniques, particularly rangeland management (including bush encroachment control), improved crop and livestock production, and water management. It requires an integrated approach at grass roots level, and many different issues have to be addressed. Action or adaptive-management research of particular issues, in the context of the total daily livelihoods of rural communities, are relevant to help the farmers.

There seems to be few studies directed at developing an understanding of the natural ecological processes operating in the drylands that underlie the dynamics of the vegetation. For example, fire is often excluded from resource management practices, but is an integral part of the dynamics of moister drylands. Re-introduction of fire as a veld management tool is one option to deal with bush encroachment, improvement of pastures and grazing, and tsetse fly control. Carrying capacity also needs to be addressed, particularly during marginal periods.

The approach used in generating data and information on technical and social factors relevant to the community is generally satisfactory, although there is room for improvement. At present, research results are generated only from the trial-cum-demonstration sites managed by the project staff. For example, DHP-Ethiopia plans to establish several (at least two in the immediate future) trial-cum-demonstration sites in other locations within the Woreda. Sites have been selected and site preparation activities have been started. However, these are 'fenced' sites and will be project managed. The concept of 'farmer-managed' on-farm testing schemes, using participatory approaches, need to be considered, although it may be difficult to organise such a trial scheme under pastoralist conditions.

Improving livestock productivity through improving the nutritional quality of natural pastures by planting grass/legume mixtures and introduction of improved fodder species and multi-purpose trees is successful. Many farmers are requesting seed to apply to their pastures, and seeking advice and training in pasture improvement trials. We discussed the need to perhaps implement different treatments, to maintain careful record-keeping (by the farmer, which means further training) of activities, costs and benefits, and to write up these results as scientific reports. It will also be useful to have a photographic record for wider demonstration.

The studies related to social and technical issues are undertaken by specialists and deal with specific disciplines. The areas covered are broad, but they do not always represent inter-disciplinary

collaboration. For example, in Ethiopia, the project is guided and supervised by a 'national' steering committee, although the members of the committee are mostly from the MU and local community. The committee could be more effective if it could include members from the national research services and other national bodies.

In spite of the need for integration of development actions into the total daily livelihoods, a clear distinction should be made in terms of what DHP can and should be doing, and what DHP should do to get relevant support from elsewhere. Some activities are not research or action orientated, but are part of the local initiatives of people to improve their own livelihoods. Unless DHP can transform these into research into local small business development, better land tenure, combined with local pastoral development actions, such DHP activities cannot be funded.

Recommendation: Although the actions are successful to mobilise the farmers, the DHP could benefit from a common development framework, and improved design of and data collection from the very relevant action or adaptive research programmes implemented in the DHP sites. Such a development framework should also consider the study of natural ecological processes in relation to management practices, and ecological carrying capacity. This would facilitate

- Comparative action research across DHP sites
- Definition of measurable outputs
- Publication in refereed journals
- Improved credibility of action research in academic circles
- Improved multi-disciplinary, multi-sectoral collaboration and co-ordination between the DHP sites and the PINEP/RPSUD grantee & M.Sc. programmes, and other externally funded programmes

Scientific results and dissemination

The main outputs from the DHP are not in terms of scientific publications or academic excellence, but improved resource management. The RC and NCs insist that scientific publication is not the objective of the DHP, as all activities are aimed at studies and research that result in immediate benefits to the local community. Hence, publications are designed to be simple and relevant to the immediate target groups. It is considered a bonus if results from a study are published in international refereed journals. However, in general the outputs from the project are poorly defined.

Only two of the completed studies of DHP-Ethiopia have been published in refereed international journals to date (Appendix 7). In general there seems to be no attempt to improve the reports on completed studies to an acceptable standard for international refereed journals or other regional or international publications. However, reading through the reports indicates that they can be easily converted into useful articles worth publishing in such journals.

Dissemination of results are taken care of through various means, including workshops, seminars, and presentations through the mass media. The regional workshops have all produced proceedings that were distributed to the participants, and relevant stakeholders. Several national workshops were hosted in the different countries. The DHP publication series is another avenue for dissemination of research results. Five publications have been produced to date.

Progress reports are prepared and distributed to relevant stakeholders. The activities of the project have also been popularised through radio and television programs associated with field days and other similar occasions.

Recommendation: The Project will benefit from defining measurable outputs, as indicated in the previous section, to facilitate publication of results in the open literature.

Capacity building

Capacity building is necessary at a strategic level, i.e. for the design of action research and the management of action research activities, and at a local level, i.e. for institutional capacity at community level and empowerment of farmers and extension agents. Development of research capacity is important in research and academic institutions. Institutional capacity is relevant at community level to enable people to organise themselves to benefit from the DHP activities. The most relevant capacity building in and around the DHP field sites, is empowering the farmers with knowledge and understanding which they can use to adapt and improve, where necessary, their traditional methods.

A number of farmers have been trained. For example, the five training courses presented in Ethiopia during 1999–2000 were attended by 85 persons (34 women). Two of the courses were directed at women (Income generation and credit service, and Traditional birth attendance). The other three courses were attended by 65 persons (only 7 women). In Kazo certificates were presented to about 70 trainees.

The training programmes for pastoralists, extension workers, women and government officials are very much appreciated by the trainees. The training of regular extension agents in pastoral extension approaches and methodologies is appreciated by the regional Department of Agriculture, as it would have been difficult to train and hire a new cadre of pastoral extension agents. The training of paravets, PDA's, APDA's and traditional birth attendants (mid wives) is considered a very good initiative. These trainees are part of the pastoral community and give required support at short notice with only minor remuneration, if any.

The Regional Workshops, which rotate between the different DHP sites, contribute to Regional cooperation and sharing of ideas. Similarly, National Workshops help to develop capacity through sharing of experiences and achievements. Capacity in the design of cost-effective, scientific acceptable action or adaptive management research requires attention.

There is scope for improvement in training of DHP staff at M.Sc. level. Only the current Project Manager of DHP-Ethiopia has attended the M.Sc. Program in Range Management provided through PINEP and conducted at the University of Nairobi. Within DHP-Sudan there are practically no opportunities for higher education at graduate or post-graduate levels, mainly due to lack of budget allocations in the project. PINEP has no linkage with DHP-Sudan and project staff and others have no opportunity to benefit from PINEP funds. In both Ethiopia and Sudan there is no post-graduate program specific to range management, although there are several universities and colleges offering agriculture related degrees. Informal discussion with the Vice Chancellor of the University of Khartoum and also with the Director of the School of Graduate Studies seem to indicate that there is a plan to initiate such a program in the immediate future. Capacity building in the DHP-Sudan context is strictly limited to short-term skill development activities.

Recommendation: Regional and National workshops could be designed around themes to develop capacity in, for example

- Design and implementation of appropriate inter-disciplinary action research
- Comparative studies within various topics across DHP sites.

Collaboration between parties

In general, there is good collaboration within DHP between the different countries, and between the RC and the NCs, except with NC of DHP-Kenya due to an unresolved conflict or misunderstanding (this issue was discussed between the relevant parties during the meeting at Jangwani Seabreeze Lodge, 14 September 2001). Some of the collaboration schemes include participation in regional workshops organised by one of the collaborating countries. This is a good trend and needs to be strengthened in future years. DHP-Sudan apparently has very little contact with DHP operating in collaborating countries of Ethiopia, Kenya and Uganda. The only exception is the contacts made through regional workshops and through visits by the Regional Coordinator of DHP. There is no opportunity for exchange of staff or sharing of experiences through individual contacts. The recommended regional framework of resource management needs and priorities, and of research requirements, can help to further improve and strengthen regional collaboration. Comparative studies between countries within specific themes can also contribute to better collaboration.

At national level, there is generally good collaboration within each country between the relevant DHP and the national ministries, research institutes and academic institutions. DHP-Ethiopia relies for technological information as well as for human and material resources from partner organisations to implement its plans and programmes. So far, it has formed close linkages with the Mekelle University whose president is both the NC and chairperson of the NSC. There is thus an acceptable level of networking at national level. DHP-Sudan has close collaboration with concerned parties within the project area. The various aspects of project activities are shared among relevant line ministries and a local NGO (ADS Plan Sudan). Involvement is through serving as 'co-ordinator' or serving as a member of the FMC. Line ministries for the implementation of their respective projects are adopting many of the training manuals and the methodological approaches in conducting trials and selecting interventions. A good example of project contribution is the adoption of results from the project in implementing an environment rehabilitation program by the Organisation of African Unity (OAU) operating within the DHP-Sudan project area. Similarly good collaboration exists within Kenya and Uganda, as indicated in the section on 'Relevance and importance'.

A concern is the lack of effective collaboration between the different dryland programmes funded by Sida/SAREC. The NC DHP-Uganda is also the country focal person of PINEP in Uganda, but the communication with the Regional Coordinator of PINEP at Department of Range Management in Nairobi is poor. Collaboration between DHP-Ethiopia and the other two evaluated REDPA programmes (PINEP and EPOS) is very poor, if any. There is little contact between the RC of DHP and EPOS, while that between DHP and PINEP is far from satisfactory. The RC of PINEP has never visited the NC of DHP-Ethiopia, although the NC is supposed to serve as the NFP of PINEP. Also, communication, written or otherwise, between the parties is non-existent. DHP-Ethiopia does not receive copies of the African Pastoralist Forum published by PINEP. DHP-Sudan operates almost in isolation with respect to collaboration at regional level. There is very little, if any, contact between the project and the other REDPA components (PINEP and EPOS). One exception is Kenya, where PINEP is involved in the DHP activities in the Kibwezi site through their specialist activities (Master students & grantees), such as Agroforestry and Participatory Rural Appraisal (PRA) approaches in community interaction, to generate and transfer knowledge.

There seems to be no current collaboration between the DHP and the RPSUD programme in any of the countries, even in Kenya and Ethiopia, where both programmes are functional. There are many issues at grass root level which could be dealt with through closer collaboration between the programmes. For example, rangeland management in on-farm action research may impact on components of the biodiversity, which could be dealt with by the RPSUD programme.

Gender

In all the countries, gender issues are receiving attention within the DHP. Women are part of the NSCs and the FMC's. In both Ethiopia and Sudan caution was expressed to press gender issues. The DHP-Ethiopia field site is based in a very remote area where local traditions and religious taboos hold a major sway. Implementation of gender participation by DHP-Sudan also needs caution at the present, due to cultural and other reasons. Therefore, there is a need to take caution in introducing new ideas. Despite that, however, DHP-Ethiopia and DHP-Sudan are including gender (female) issues in several of their activities. These include the following:

- Ethiopia has one woman in the NSC, and Sudan has one woman in the NSC and two women in the FMC.
- In both countries there have been a case study related to women-headed pastoralist households, and female researchers undertook the studies.
- In Ethiopia, two training activities are designed specifically for women: income generating schemes, dealing with ways and means of utilising credit for initiating or expanding female owned business activities; and training of birth attendants. In Sudan, there has been a training course offered on energy/fuel saving devices, mainly energy-saving stoves, and the plan is to undertake training for female paravets.
- In Ethiopia, one of the project staff is a woman with a diploma in agriculture.

In Uganda, two women serve on the NSC, and women are involved in the FMC, and in action research, and have received Paravet, PDA or APDA training. The composition of the NSC of DHP-Kenya is not currently available, but there are women involved in Paravet, PDA or APDA training.

In all the countries there is scope for intensified research into the roles and activities of women in the rural livelihoods. It may also be useful to study what the constraints are for women to participate effectively in the programmes.

Cost effectiveness

The time was too short to evaluate the cost-effectiveness of the research and training with respect to human resources, facilities and institutional arrangements in relation to the funds available. In all the DHP sites, our perception is that the achievements were more than what could have been expected from the allocated funds. This was also mentioned during discussions with the DHP-Ethiopia NC and members of the NSC. Major support is provided by Mekelle University, in terms of logistics, funds and advice. The local government has provided office space, land and water free of charge. The project has developed a unique relationship with a local NGO with funds from Norway. The steering committees established by each project have now been merged into one, thus improving co-operation as well as collaboration in trial and demonstration activities for the benefit of the community.

There seems to be an imbalance between operating and administrative costs. For example, in DHP-Ethiopia it was calculated that almost one-third of the total project cost for the two-year period (of SEK 886,000) was for 'Secretarial and Project Administration'. Although this is a justified budget item, it has an impact on the other project activities. The funds for studies, trials, training and capital equipment are considered to be inadequate. The project is doing quite well in carrying out a large number of activities with such a funding constraint.

In Sudan, the general indications, subject to confirmation from project staff in Sudan, are that:

- Most training programmes were generally long, involving both theoretical and practical activities. Hence, teaching staff and facilities were needed for a significant period, requiring time and financial

outlays. The costs associated with training of middle level technicians in various line agencies are considered worthwhile.

- Costs associated with paravets may need re-consideration. While the objective as well as the process used in the selection of trainees are commendable, the ultimate impact may not be as expected. This is caused by two important factors:
 - high attrition rates. For example, out of 20 paravets trained in the first batch, only seven were found in their job only six months later.
 - At graduation, the successful graduates are given a kit containing some essential drugs and administering equipments. These are not replenished when finished due to inadequate income generated from services given and there is no credit facility to rely on.
- It is not easy to assess the cost-effectiveness of the research activities, especially when the research is carried out in an on-farm research approach. The time and data were inadequate to assess whether the research activities were cost-effective. It is easier and probably more relevant to form judgment with respect to the objective of the research effort and the way in which the research activities are conducted. From field observations it appears that the large-plot testing approach is mainly aimed at adaptability testing. For example, in the approach used to raise the water table in the summer (rainy season) grazing areas, the procedure used appears to succeed in facilitating the availability of water in the shallow wells that normally dry up in dry season. To do this, both machine and human power were used both to form the embankment of the basins and the digging of a series of parallel shallow wells. Now, whether or not the digging of the 14 wells is required to facilitate water storage in the basins requires long-term replicated experiments using appropriate experimental design.

Recommendation: Specific attention should be given to set clear objectives and associated budget/cost allocation items by activities, for:

- Human resources
- Facilities
- Institutional arrangements
- Secretarial & project administration
- Scientific output

This will enable a cost-benefit analysis for the different activities.

Swedish resource base

Representatives of EPOS attended the DHP Regional meetings, but the general contribution was negligible.

DHP-Uganda received copies of papers and reports from EPOS from time to time.

DHP-Ethiopia has no links with other Swedish agencies except Sida/SAREC. However, it taps on resources from other agencies operating within the Afar and Tigray regional states. DHP-Sudan receives no support from other Swedish funding agencies, and relies solely on the expertise and funds available through the DHP and from local government agencies and NGOs. This aspect was not specifically discussed with DHP-Kenya, but it assumed that the Swedish resource base was used through PINEP, because the NC of DHP-Kenya is also the CFP of PINEP.

Conclusions and recommendations

Action Research of the DHP function through improved on-site water, pasture, livestock and crop management, with interaction between farmers, local governmental and non-governmental implementing institutions, policy makers and research institutions. Useful studies have been conducted

that provide in the specific needs of the pastoralists and agro-pastoralists, and fills the gap in research and extension services which are not provided by these other institutions. In general, DHP has a good relation with the pastoral and agro-pastoral farmers in the different DHP field sites. It has succeeded to develop a responsibility amongst the farmers to take charge of their own destiny. The enthusiasm of the farmers met in the field sites demonstrates their appreciation for the role of the DHP activities in improving their livelihoods.

DHP is supposed to be a regional collaborative project, but there is very little regionality in its implementation in spite of the regular regional workshops. One would have expected joint projects, joint publications, exchange of experts, etc from such a regional project. Many of the studies are of inadequate standard to publish in international refereed journals. Future support to this regional project must ensure that adequate mechanisms are built not only to facilitate but also to ensure regional collaboration in the true sense of the word. A starting point could be the implementation of a true regional organisational structure, development of a regional framework for collaboration, prioritisation of research requirements, setting of specific objectives and outputs, and provision of incentives for collaboration. This could be supported by selection of relevant teams for the studies, ensuring adequate supervision during the study and/or write up, and providing adequate funding (and time) for the studies. The programme should encourage multi-disciplinary and multi-institutional collaboration to achieve a higher scientific standard in the action research. Local communities as well as scientific and management expertise need to be involved in the development of the research topics and experimental design of the action research.

There seems to be a need for studies and discussions on specific relevant issues, as indicated above in the evaluation. Pastoralism and agro-pastoralism will continue irrespective of water shortage, natural hazards such as drought, and bush encroachment. Carrying capacity of the natural resources in terms of numbers of cattle, as determined by marginal conditions (seasonal dry periods and droughts), and not by periods of optimum conditions, will have to be considered by the farmers through relevant action research. Exceeding the carrying capacity will be at a cost for the farmers. Fire as a tool in rangeland management needs more study at the farm-level activities. In spite of the primary focus of the DHP on improved resource management, improved experimental design, through collaboration with relevant research institutions, will lead to higher quality of research.

Much more effort is needed to turn research output in publications in refereed journals. The responsibility of ensuring publications of high standard rests with the RC and the national steering committees, but can be delegated to the NCs or to outside evaluators and editors.

There is a shortage of appropriate publications to meet local needs. The project has initiated the process of preparing training manuals for some of its training programmes (e.g., training in animal health). This needs to be strengthened. There is a definite need for research into extension methodologies at the local level, i.e. what is the best means of transferring information: demonstration sites, picture books, textbooks, etc.

Training programmes are run for pastoral and agro-pastoral development agents and paravets (recruited from local community and farmer leaders), to make meaningful inputs in their communities. The local participants are active and enthusiastic about the benefits they derive from the action research and training programmes. It has been suggested that the project needs to expand to other districts, and that more paravets, PDA's, APDA's, traditional birth attendants. Such expansion requires extra funding and this has the inherent danger of creating a dependency on donor funds. The local government and the local community have to take responsibility for and an increasing share of such expansion costs. It emphasises the need to train local trainers to cater for the skills need of the highly

scattered pastoral communities. With adequate supervision and support, the local trainers should gradually take over the training at community level, to reduce the burden of the DHP staff and funds.

There is an effort to address gender issues and gendered resource use.

Working relations between the RC at the DHP's OSSREA office in Addis Ababa and all NCs are good, except with DHP Kenya because of an unresolved conflict since 1998. In spite of this conflict, DHP Kenya site activities are making good progress, like the other DHP sites. There is practically no interaction between DHP and PINEP, and the relationship between Department of Range Management lecturers and PINEP Masters students from countries other than Kenya, working in DHP sites, are poor. There is no relationship with RPSUD. However, the needs for dealing with bush encroachment pose an important role for RPSUD to understand the impacts of interventions on the biodiversity of the area.

Funding for the DHP is limited when compared to the stated objectives and activities. It has already been indicated that there is substantial local contribution, both in kind and labor, in the implementation of the planned project activities. This needs to be acknowledged. It is also important to consider the use of local funds for many of the operational activities, while donor funds could be used for capacity building, procurement of capital items and the costs associated with publications. Sharing of costs between the local government, local NGOs and the project could enable expanding project activities. It is important to further emphasise the unique collaboration between the Norwegian NGO and DHP-Ethiopia, where the costs of mutually desirable activities are shared between them.

The proposed new structure for a Regional Programme for Management of the Dryland Resources in Eastern Africa will provide for an integration of the benefits of the research and training components of PINEP, EPOS and RPSUD into the DHP activities. The responsibilities of different partners in such a regional programme need to be clearly indicated. The DHP activities will benefit from a framework of prioritised activities, setting of specific goals for the annual plan of activities and specific measurable outputs. Properly designed action research, to enable statistical analysis, without jeopardising the participation of the farmers, will contribute to scientific papers in reputed international journals. However, the need for popular, local outputs should also be catered for, through the training programmes and appropriate extension material.

Research programme on environmental policy and society-EPOS

EPOS started in 1992 with support from Sida and the Swedish Research council in Uppsala. Since then it has been transferred to Linköping University. EPOS provides basically the framework of activities developed by Professor Anders Hjort at the University of Linköping. The university pays his salary.

EPOS has a small secretariat and Sida SAREC has financed a major share of these costs. EPOS views its role as a support function and that REDPA is essentially a South activity and that EPOS can contribute towards competence building and training.

With Sida/SAREC funding some support has been provided to REDPA, mainly to PINEP. A large number of books and articles has been forwarded to PINEP. Researchers and students all appreciated the support to the PINEP library. The students considered the course on participatory methods as very good.

However, both these activities are short-term solutions. In a longer perspective the University of Nairobi must develop these library services. Also, there exists regional capacity in participatory methods and they should be mobilised.

EPOS has provided some peer review services but this function needs to be strengthened. DHP has not considered the EPOS services needed for its activities, except for occasional requests for literature. EPOS has participated in the different DHP regional meetings but its contributions to these events were limited.

There is to some extent a conflict between capacity building, M.Sc. and subsequent PhD training programmes on the one hand, and high quality scientific research on the other. Since human resources are scarce there is a trade-off between the two foci. EPOS support has primarily been directed at the training programme.

In 1999 there was an interesting collaborative research effort. A paper was produced: *Interactive research co-operation for local participation in East Africa: planning ahead from past experiences* prepared by Anders Hjort, Kassim O. Farah and Tegegne Teka in 1999.

To our knowledge, this is the only collaborative research involving both the South and the North and also involving different disciplines.

Although some attempts were made, the EPOS network of researchers has not been engaged in research and/or teaching within REDPA.

According to the REDPA Plan EPOS would be responsible for LA21 research and ICCD policy issues. Very little concrete results have been obtained.

For the future, the role of EPOS needs to be discussed. If the primary PINEP objective is training, the M.Sc. course, EPOS has been able to provide an important support to PINEP. It is also highly appreciated. But a major part of this work should be the responsibility of the University of Nairobi. Also much of the support provided by EPOS can be purchased locally in Kenya at a much smaller cost. But in practice this might be difficult to accomplish. Relying on EPOS provides PINEP with a flexible solution.

The 1997 evaluation highlighted a series of problems and provided recommendations. The recommendations were directed at the different institutions. EPOS has provided a note on the issues called: *Comments on and actions taken by EPOS 1998–2000 regarding the criticism and recommendations from the Sida evaluation team in 1998 on PINEP and DHP activities involving EPOS*. (30 March 2001).

Without doubt, EPOS has made an effort in addressing some of the problems. However, given the modality of work, demand driven, the responsibility lies ultimately with PINEP and DHP.

With the *de facto* disintegration of REDPA there is a need to discuss the role of EPOS in a completely different context.

Research programme for sustainable use of dryland biodiversity-RPSUD

Introduction

The RPSUD is a regional program involving four institutions in three eastern African countries: the National Museums of Kenya; the Addis Ababa University and the Institute of Biodiversity Conservation and Research (formerly the Plant Genetic Resources Center) of Ethiopia; and the University of Dar Es Salaam of Tanzania. The program was initiated as a collaborative effort among these countries with the financial support from Sida/SAREC. In the implementation of the regional program, the NMK plays the leading role by hosting the regional co-ordinating office and interacting with donors, while the AAU is the host university that gives a specialised M.Sc. course in biodiversity. While the overall management of the program is done by an Executive Committee made up of two representatives from each participating country, the day-to-day program-related activities are handled by the Regional Coordinator and his staff based in NMK. The program includes post-graduate (M.Sc.) training, small-grant research scheme and information dissemination in which all the three consortium countries share opportunities on a par basis.

The rationale for initiating the program basically rests on the need to develop regional capacity for sustainable use of the biodiversity existing in the extensive dryland of the greater eastern African countries which also includes Djibouti, Eritrea, Somalia and Sudan along with the countries mentioned above. It is reported that something like 80% of the total area in this sub-region can be categorised as arid or semi-arid. At the present moment most of these areas are used almost exclusively for pastoral, and to a limited extent, agro-pastoral activities under nomadic or semi-nomadic conditions. Despite that, land degradation in these areas is severe due to increased pressures from animals as well as humans, inappropriate land use practices and climate related factors. Therefore, there is a felt need to develop appropriate technologies and management practices to facilitate the sustainable use of dryland biological resources. The concerns of the international community in the sustainable management of these dryland biodiversity are expressed through various international agreements and conventions, chief among which are the *Convention on Biological Diversity* and the *International Convention on Combating Desertification*.

Therefore, the RPSUD is an attempt to deal with these concerns in the east African context. The overall objective of the program is "to provide a framework for biodiversity research and conservation for sustainable development in semi-arid and arid lands through support and co-operation in the fields of research and training, as well as enhancement of institutional capacities of the participating institutions". The specific objectives of the program are:

- Promote a research-driven sustainable management of dryland biodiversity in the countries of eastern Africa;
- Build and enhance institutional research capacity;
- Support training and develop curriculum that are dedicated to and address dryland biodiversity issues;
- Undertake research in dryland aimed at generating information on the status, ecology and systems dynamics, the understanding of which leads to sustainable use of dryland resources; and
- Promote regional and institutional co-operation and networking in multi-disciplinary research.

The program was initially designed for a 3.5 year period between July 1995 and December 1998. Due to various reasons, it was not effectively on the ground until 1997 and, therefore, the program life span can be considered as the period between 1997 and 2001. The Sida/SAREC evaluation focuses on the achievement of the above-mentioned specific objectives in relation to the activities planned to be undertaken over the course of period the program was operational.

Activities and outputs

The main activities planned to be undertaken over the project period included training, research and information dissemination. Being a 'regional' program, there was also an intention to facilitate regional collaboration through staff exchange both in training and research. The achievements as well as the shortcomings in project implementation will be summarised as follows.

Training

Curriculum development

Formal training in biodiversity is a new initiative in the regional collaboration of the eastern African countries involved in the program. As a result, a new curriculum has to be developed through adequate consultation among the institutions of the participating countries and the support of the Department of Ecology at Uppsala University in Sweden. The new M.Sc. course is agreed by the consortium countries to be offered by the Addis Ababa University. The course is designed as a two-year course where one year is used for taught courses while the second year is used for field research (thesis) work in the students' respective home countries. The students obtain their degree after successfully defending their thesis as a partial fulfilment to the requirement for an M.Sc. degree.

After some delay, a curriculum consisting of 24 credit hours of course work and an M.Sc. thesis of 6 credit hours was designed and agreed upon by the concerned institutions. Implementation started in 1997.

Student intakes

Student intake was to follow an agreed upon plan of two candidates per year from each participating country for the duration of the program. Based on this calculation, six (6) students will have been trained from each country resulting in a total of 18 students graduated by the end of the original program period (1995–1998). As indicated in Table 1 below, this arrangement was not possible to implement. Although a total of 22 candidates have been accepted into the program so far, nine (9) have already successfully graduated in the two years between 1997/98 and 1999/00. All of them are employed and about half of them are engaged in research. Another 11 are expected to graduate in the remaining two years between 2000/01 and 2001/02.

It is useful to note the following in respect to student intakes: a) the planned intake of three batches in the initial training plan has been extended to four, b) one accepted candidate from Tanzania withdrew for medical reasons while an Ethiopian was dismissed for academic reason and c) the above figures do not include the four (4) Ethiopian students accepted into the course through scholarships offered by the AAU. In fact, the AAU plans to continue offering two scholarships per year to the course for outstanding candidates, in addition to accepting self-financed candidates as well.

Table 1. Student intake to the RPSUD M.Sc. course, 1997–2000

Country	1997/98		1998/99		1999/00		2000/01		Total	
	M	F	M	F	M	F	M	F	M	F
Ethiopia	1	-	3	-	2	-	1**	1	7	1
Kenya	2	-	1	1	1	-	1	1	5	2
Tanzania	1	-	-	-	2	2*	2	-	5	2
Total	4	-	4	1	5	2	4	2	17	5

Note: * one female student withdrew for medical reasons

** one male student was dismissed for academic reason

Small grant scheme

RPSUD has initiated a small grant scheme aimed at supporting target-oriented research in institutions that have close relevance to the utilisation of biological diversity in dryland environments of consortium/participating countries. Up to four approved research projects are planned to be supported each year per country. Table 2 shows that a total of 20 projects have been supported so far.

Table 2. Accepted proposals under RPSUD research grant scheme, 1997–1999

Country	1997		1998		Total	
	M	F	M	F	M	F
Ethiopia	2	-	4	-	6	-
Kenya	4	-	3	1	7	1
Tanzania	2	-	3	1	5	1
Total	8	-	10	2	18	2

It would be noted that almost the same number of research grants were made available to each participating country over the course of two years. It is reported that there were more applicants than can be accommodated. However, it is also reported that very few senior researchers applied for research support due to the low level of money available per grant. This is also reported be one of the possible causes for limiting the development and submission of joint proposals among scientists/researchers from the collaborating countries. Despite that, however, the approved research topics are very much in line with the requirement that they should address issues relevant to dryland areas.

Dissemination

Useful results from studies and research supported under RPSUD were disseminated to interested parties through workshops, RPSUD Newsletter and articles published in international journals.

Workshops

A regional workshop was planned to take place on annual basis. The venues for the workshops were to rotate among the participating countries. So far, three workshops have been held: the first workshop was held in Kenya in 1997, the second workshop in Ethiopia in 1999 and the last workshop in Tanzania in 2000.

The workshops were to serve as a forum for presenting research results pertaining to resources utilisation in dryland environments. In 1999 eight grantees of the RPSUD small research grant scheme presented research papers, while seven graduates and 17 grantees did the same in the workshop held in 2000.

Newsletter

The program aims to publish a biannual newsletter under the title Dryland Biodiversity, containing short articles on research and development issues on sustainable use of dryland resources. So far only four issues have been published: Issues No. 1 in 1996, No. 2 in 1998, No. 3 in 1999 and No. 4 in 2000.

Publications

The original plan was to convert the research results from the M.Sc. thesis work and from the small grant scheme into articles that will be published in international refereed journals. So far this ambition has not been realised.

Staff exchange

One of the objectives in the regional program was to encourage regional collaboration through staff exchange in the training and other activities. Once again, this objective has not been achieved, except in one instance where a senior staff from the North (Uppsala University) has assisted both in curriculum development and in giving lectures at the AAU.

Assessment of performance

The following can be said, based on the information and data obtained by the Team.

Relevance and importance

The program objective is to improve regional capacity for research in relation to the sustainable utilisation of dryland biodiversity. It is obvious that the region lacks such capacity both at national and institution levels in all the three participating countries. The governments in each of the participating countries consider capacity building as a priority issue in national development efforts. Discussion by the Team with officials of relevant line ministries and higher education institutions clearly indicate the commitment of governments to initiate as well as support efforts aimed at building national capacity for research and development. Thus, the relevance and importance of the program both at national and regional context is obvious and needs to be pursued more vigorously.

The issue of establishing and effectively utilising regional networks for research and development need to be considered more seriously. It is true that some national institutions (e.g., the NMK of Kenya and AAU of Ethiopia) are used for regional purposes. It is also true that acquaintances among students and researchers are being built. However, the fruits from such efforts through building effective networks for research and information transfer are still some ways down the road. Program leaders and directors of institutions need to make more effort in sharing capacities and resources, including human resources, to maximise institutional outputs.

Sustainability

This is also an issue that deserves better analysis. Sustainability can be viewed from at least two perspectives. On the one hand, it relates to institutional, national or regional capacity to financially sustain the program once donor funding withdraws. On the other hand, it could relate to the availability of technical and managerial capacity to operate the program without assistance from foreign agencies.

Based on what has been observed through this evaluation, one can assume that there is a sizeable technical and managerial capacity both at institutional, national and regional levels to sustain a viable research environment. The RPSUD can be said to have added additional fuel to maintain an already running engine. However, one of the main inputs of RPSUD should have been to establish a sustainable mechanism to harness the capacities available at national levels for regional benefit. This effort has only been initiated and needs some time to mature.

There is a big question whether or not the countries of the region, either individually or collectively, are able and/or willing to financially sustain the program so as to enable the sustenance of region-oriented training and research environment. Preliminary indications are that this requires more 'real' awareness and political will. The RPSUD program leaders both at national and regional levels need to develop effective ways and means to raise awareness among policy and decision makers that regional collaboration is more cost effective than going it alone. There is, of course, some glimpse of hope. The 'Biodiversity' course is creating attraction among students as well as some decision makers. On the one hand, more students are registering for the course and on the other hand, the AAU has started offering scholarships to the course for Ethiopian nationals. This, in some ways, should indicate that the future of the regional program is potentially hopeful.

Scientific results and dissemination

There has been a significant number of research outputs from the program so far. A total of 20 M.Sc. thesis research results and at least 22 research papers from the small grant scheme will have been produced by the end of year 2001. Each of these research topics has passed careful reviews by qualified scientist to ensure their scientific merit. This is an acceptable achievement for a beginning program like RPSUD. The only regrettable point from the viewpoint of the Team is none of these results have found their way into reputable international journals. It is strongly suggested that more effort and resources be put into facilitating such publications.

Journal articles, annual workshops and the biannual RPSUD newsletter are the planned means for transferring research results to various stakeholders at international, regional and national levels. As indicated above, there is inadequate effort at addressing the international scientific community through publishing in refereed journals. There is a better effort in addressing a wide range of audiences through the Dryland Biodiversity newsletter, although only two-third of what has been planned has been published. The articles in these newsletters, particularly in the last three, are quite useful to the general reader. They are not specifically aimed at extension workers as such, since the information contained are not 'packaged' for use by the average field extension agent.

The annual regional workshops were held in each of the participating countries on a rotating basis. Each of the workshops was organised under a theme relevant to dryland biodiversity program, thus helping focus attention on specific development and management concerns. In the last two workshops, a number of the papers presented were by students and/or grantees from the RPSUD. As is the case with most workshops, these were aimed at a general audience. Their aim was to give general information rather than specific information targeting a specific audience such as academics, research scientists or development workers. They were well attended, although most of the participants naturally were from the countries where the workshops were held. Also most of the participants were from development organisations/line ministries and academic institutions. There were also some participants from international organisations and foreign institutions.

Capacity building

The RPSUD is a unique program aimed at capacity building for training and research in the area of managing biodiversity. It is aimed both at building institutional capacity as well as raising the availability of trained human capital in the participating countries.

The M.Sc. program in AAU is specially developed to meet regional needs, as there are no other institutions in the region offering such a course at the present moment. In discussing the importance and relevance of each of the nine courses with some of the current students, there was a unanimous agreement that all of them are important as well as relevant to the dryland conditions of the participating countries. It was indicated that the problems are more in relation to the presentations of

some of the courses. For example, Ethno-Biology and Dryland Ecology courses are biased more towards plant science as compared to animal science. Also the lectures in Environment Impact Assessment and Rangeland Management are unsatisfactory. In general, however, the program is considered as contributing adequate knowledge.

It should also be stated that the formatting of the M.Sc. program into taught courses and practical field research is appropriate.

The effectiveness of the program is quite constrained by limitations imposed due to inadequate availability of communication, publication and transport facilities both at the teaching university and the home base of the students where they are supposed to be doing their thesis work. It is reported that the AAU does not have adequate inter-net connection facilities as well as current publications for referral purposes. Lack of vehicles as well as vehicle operating funds limit the amount of practical work associated with the courses. Other problems relate to choosing research topics and the inadequacy of funds for fieldwork. Students choose research topics after they have completed the class work and, therefore, do not have chance to go back home for identifying problems on which to do their thesis work. It is important that mechanisms should be created for easing such problems in the future. Another complaint particularly affecting graduating students is the delay in obtaining their diplomas from the AAU, although the AAU has indicated a temporary solution to this (i.e., giving temporary diploma).

In the initial planning of the M.Sc. course as well as of the research grant scheme, it was anticipated that the students or researchers accepted will be already employed or at least attached with an institution associated with dryland environments. To a large extent, this assumption has been realised and, therefore, the graduates or researchers have gone back to their institutions after completing their course or research work. There are cases where this did not happen and the students are not sure what job opportunities they will have after graduation. It is important that effort should be made to minimise such problems in the future. Another useful point raised by some senior researchers is that the small grant scheme, now targeting only bright young people, should also be extended to more senior researchers.

Collaboration between parties

The RPSUD is designed as a regional collaborative program among the participating countries. There is regional collaboration to the extent that a single university is used to serve as a centre of excellence for M.Sc. degree in biodiversity and that an Executive Committee is established to co-ordinate the teaching and research work activities across the region. By and large, however, that is the sum total of the regional collaboration. No lecturers from the participating countries are used in teaching. There are no research activities where researchers from two or more of the participating countries are jointly implementing despite the fact that one of the criteria for granting funds for research specifically mentions that priority is given to research proposals that are submitted by multi-national scientists.

The Team believes that conducting of regional workshops or publications in a regional newsletter is not necessarily an indication of regional collaboration. There must be more concrete evidence that lecturers and researchers from the consortium countries are working jointly all the way from planning to implementation and reporting of joint programs. Sadly, this is largely missing in the implementation of RPSUD.

Methods and program models

As indicated elsewhere in this report, the program uses teaching, research and publications and workshops to build local capacity for research and the dissemination of research results. By and large, this approach is considered effective for the intended purpose. Considering the young age of the

program, the number of graduates that have obtained M.Sc. degree in biodiversity, the significant number of grantees from the small grant scheme, and the number of workshops held and newsletters published so far, there is adequate ground for optimism. However, certain problems related to funding shortages, inadequacy of logistics support and unsatisfactory conditions for exploiting existing capacities both in human and other resources have certainly limited potential outputs. Thus, although the approach used is quite appropriate, the lack of initial detailed planning in the ways and means for increased and more efficient regional collaboration has contributed to lessening possible outputs and impacts. This is to be expected with new programs and it is expected that such problems will be largely contained in future programs.

Both the M.Sc. course as well as the research activities under the small grant scheme have well developed multi-disciplinary contents. The courses cover a wide area in the natural and social sciences, although increasing the later could have had more positive contributions to the course. Many of the research proposals under the small grant scheme are undertaken by a multi-disciplinary team of researchers, including social scientists. However, members of the team are from the same country and more often from the same institutions. Therefore, the multi-disciplinary and multi-institutional aspect of the research activities are limited to within one country, instead of taking a multi-country approach.

By and large, the small grant scheme is reported to function well. The main limitations are associated with inadequacy of the fund and delays in its disbursement. It is reported that the funds under this scheme are not only too small to attract more senior researchers but also it is practically impossible to enable researchers from the participating countries to work on a joint research program.

Gender

Despite good intentions, the participation of females both in the M.Sc. course and the small grant scheme are far below desirable. It is reported that, so far, only five (28%) and three (13%) women have participated in the training and small research grant schemes respectively. Although the Team has no list of the lecturers in the M.Sc. courses, there is no indication that special efforts have been made to attract female lecturers. There is also no evidence that special conditions more attractive to women have been put in place to increase their participation in the small grant scheme. This is an indication that there is a need to undertake a study to identify the causes for this state of affairs and take measures to improve female participation.

Cost effectiveness

In the absence of comprehensive data in relation to costs and returns from the RPSUD training and research activities, it would be difficult to make an assessment of the cost effectiveness of the activities. Therefore, the Team's view in this respect has to be more of a qualitative judgement.

Training

The training course is offered every year and the total intake per year is a maximum of eight (8) students, including the two scholarships offered by the AAU. Probably this is a low number of intake and need to increase to improve cost effectiveness. The human resources as well as the infrastructure (classrooms and laboratories) used could have accommodated more students than are currently available.

Other factors causing inefficiency in time and resources use relate to the inadequate availability of transport vehicles and computer facilities in AAU. Students complain of inadequate or even lack of practical fieldwork during the training sessions, thus reducing the efficiency of the training program. It is also reported that lack of direct telephone lines constrain inter-net connections to use internationally available information. Therefore, additional effort is needed to improve the cost effectiveness of the training program.

Thesis research

The thesis research is undertaken in the students' home countries. While this is advantageous, there are some problems that need to be resolved to improve efficiency. The major issue raised by students relate to the inadequacy of funds for various purposes, including costs associated with supervisors and field expenses. These are affecting performance and, hence, efficiency in time use.

Publications

The publications output from the program need to increase. Quite a significant amount of research results are now accumulated both through the small grant scheme and thesis research. These definitely represent investment that need to pay dividends through publications in international refereed and other journals.

Swedish resources base

Currently, the only source of funding and, to a limited extent, of technical assistance is Sweden through Sida/SAREC, in the case of the former, and the Department of Ecology at Uppsala University, in the case of the later. There has been effort by the program to tap on resources from other bilateral and multilateral agencies, but to no avail so far. Funding request to the EU has not succeeded as it requires the support of IGAD and this program is not within IGAD's priorities. Similar requests have been submitted to DANIDA, NORAD and the Netherlands, but no success so far.

Conclusions and recommendations

The following conclusions and recommendations can be made based on what have been discussed so far.

Usefulness of the program

There is no question that RPSUD is playing the many of the roles intended for it and what has been attained so far through the program can be considered significant. The establishment and operation of a new M.Sc. course from scratch is no mean achievement, especially considering the nature of the course as well as the process of regional collaboration in formulating it. It has resulted in a new cadre of professionals with a significant level of awareness of as well as commitment to the needs and priorities in the understanding, management and sustainable utilisation of biodiversity in dryland areas that constitute a significant portion of the participating countries in this program.

The competitive small grant research scheme is a unique approach not only to generate data and information in dryland biodiversity, but also in attracting young scientists and professionals to the opportunities as well as constraints associated with dryland areas. The 20 research papers generated so far are a useful addition to the body of knowledge on dryland biodiversity and the communities that survive on them.

Therefore, the Team believes that this is a useful program and should be supported for a further three and even more years until the program is effectively institutionalised as a regular program in regional collaboration.

Sustainability

As indicated elsewhere in this report the operation of RPSUD can be looked from two perspectives as regards sustainability. On the one hand, the human resources required to implement the program are overwhelmingly from the participating countries, clearly indicating that the program is largely sustainable as far as technical expertise is concerned. On the other hand, the financial resources required for the program are mostly foreign based, thus sustainability is doubtful in the absence of

foreign sources. However, it should also be noted that there is significant local contribution, especially in the provision of both financial and infrastructural support. It is, therefore, conceivable that the program can be made sustainable with additional inputs from local, particularly, public and private sources. It is, therefore, recommended that the Executive Council must take serious public relation and awareness raising activities so that the program can be made sustainable through the effort and financial resources of the participating countries in the next 5-6 years.

Program organisation

Although RPSUD is well organised internally, its cost effectiveness could be improved if it is integrated with the sister program REDPA, as both are aimed at catering to the needs and priorities of managing dryland biodiversity through capacity building and research.

Regional collaboration

One of the intentions in the program was to enhance regional collaboration through staff exchange in the teaching activities and the development and implementation of joint research programs. Unfortunately, this has not been realised for one reason or another. But it is important that this goal needs to be achieved not only to maximise benefits from regional capacity, but also to create close linkages among regional institutions for collective development. Therefore, the development of such collaborations must be a condition for future support to the program. It is also recommended that the AAU must take steps to invite teaching staff from the consortium countries to participate in teaching and/or seminar presentations. Additional funds for such activities must be sought from donor countries, i.e., in addition to Sida/SAREC.

Strengthening and expanding the teaching program

The courses that are currently offered at AAU are considered both important and relevant. But there are problems both with the number and the competence of some of the lecturers. There are also problems associated with activities related to fieldwork, library and electronic data gathering and processing. It is imperative that these problems be at least minimised to make the course more effective. As the problems are mostly related to funding, it is recommended that the level of funding should be given serious considerations in the next phase of program support.

As indicated elsewhere in this report, the M.Sc. course is considered useful as can be judged by the number of applicants applying to enrol in the course. It is, therefore, sensible to consider increasing the number of scholarships available to each of the participating countries. As it would not be appropriate for the Team to indicate the level of increase, it is recommended that RPSUD program leaders consider this issue in formulating the next phase of program support.

There is also a suggestion that a few of the M.Sc. graduates be offered a scholarship to pursue a Ph.D. course in biodiversity. This is a useful suggestion, but some assessment must be done on the needs and priorities for such a Ph.D. scholarship. For example, should more M.Sc. be funded or use scarce resources to support Ph.D. level training, as the costs for a Ph.D. could support more M.Sc. trainees.

The facilities available for the teaching and research activities available in the AAU is reported to be very limited. Students are constrained for lack of adequate library, laboratory, transport and Internet facilities. The university is aware of these limitations and is trying to resolve them. The Team, therefore, recommends that the university put more effort in providing the facilities required to make the teaching program effective and efficient. This also goes for removing the delay in granting diplomas to graduating students.

Information dissemination

Quite a significant number of research results have been generated through the M.Sc. thesis work and through the small grant scheme. Many of these results have been communicated through the Dryland Biodiversity newsletter and through the regional workshops held so far. But, there is a need to communicate such information to a wider public of the scientific community as well as to front-line practitioners in the development of dryland areas. While the publication in international refereed journals need to be given greater attention, some other forms of publications need to be introduced to make research results available to other groups of stakeholder, e.g., policy makers, development workers.

Major conclusions and recommendations

Some general considerations

Both programmes relate to dryland resource management and have many common features. Both have a common denominator being M.Sc. training and research. The RPSUD has a somewhat stronger focus on academic research than REDPA, which also includes extension activities. Surprisingly enough, there has been no interaction between them. Both programmes have wide objectives ranging from capacity building including training at all levels to extension.

To what extent a university led programme should broaden its activities to include extension can be discussed. Nevertheless, research should be more demand driven. A model for a research programme linked to solving problems is attached in the Appendix 2. In this context, the research agenda should primarily be based on the needs of the people rather than be set by the researchers themselves. To this end participatory approaches have been successfully developed world-wide⁷. Both programmes have made progress in this respect. Nevertheless, the programmes could have accomplished more, not least PRA activities in short-term studies. There is also a need for more refereed papers and a diversity of outputs. There is a role for the proposed regional co-ordinating entity to look at publication output and dissemination.

The role of the university is foremost academic training and scientific research. For this reason the Team believes that well functioning M.Sc. programmes are essential prerequisites and that an enabling research environment are instrumental for the success of the programmes.

The role of donors

The Team has noted with concern the many *donor driven programmes* in the areas of dryland management in Eastern Africa. The fragmentation of programmes is notorious throughout the region. Even in the case of these two programmes, REDPA and RPSUD, complementary activities were not explored by Sida/SAREC, since the programmes have been supported without exploring the possibilities of capturing synergetic effects. The Team believes that this should be studied in more detail and corrective measures should be taken during the next phase of the programmes.

Developing and financing M.Sc. programmes have to be viewed in a larger perspective of the regional development of universities. The basic question is: to what extent should the different universities a) develop similar training programmes and/or to what extent should the universities b) pool their resources to develop joint training programmes? The Team is of the view that none of the universities in eastern Africa has the capacity, financial resources or the manpower, to develop and sustain M.Sc. and Ph.D. programmes, all on its own, which would cover the whole spectrum of societal needs in resource management in dryland areas. Fortunately, English is a common language in the region. This facilitates regional co-operation. Regional co-operation among the universities in the region to develop some regional M.Sc. programmes could produce more benefits than if each university developed the same programmes.

⁷ See for example Beneficiary, Consumer, Citizen: Perspectives on Participation for Poverty Reduction by Andrea Cornwall. Sida Studies no. 2. Novum Grafiska AB, Gothenburg, 2000. The book contains a very good critical review of the development of participation.

It is assumed that within a foreseeable future, donors will fund a significant share of public sector expenditures on higher education and research in Sub-Saharan Africa. But it should also be recognised that there has been significant input by African governments and society at large into the programme activities.

The way donors fund higher education and research is very important. Therefore, the other basic question refers to fragmentation of donor support. The Team could not assess the full extent of donor driven higher training and research in dryland resource management. Nevertheless, there is a need for the recipient countries and the donors to agree on common areas and modalities of support. The policy basis for such arrangements can be found in donor agreements on SWAPs-Sector Wide Approaches. In February 2000, the Director General of Sida established its policy. Sida is strongly committed to develop joint programmes together with other donors. Sida is presently developing a similar policy for non-sector programmes⁸. Here, Sida/SAREC has an important role in supporting regional initiatives.

Sida/SAREC will not support REDPA and RPSUD indefinitely. How many more years support should be provided remains an open question which has to be addressed. Tentatively the Team would recommend that support be provided for a maximum of two periods of three years each. During this period a limited number of sustainable M.Sc. programmes should be operating in the region. Joint donor-government funding mechanisms should then be in place so that Sida/SAREC can successively reduce its support.

Research

A lot of relevant research has been carried out. As is to be expected the research quality vary. A significant part of the research could be developed into papers to be published in national, regional and/or international scientific journals. Far too little has been accomplished in this respect though PINEP, which has been operational for a longer time period, has published several articles in refereed journals. It is of concern that DHP does not seem to have the ambition to publish research results in refereed journals. Both programmes might benefit from external support in this area.

There are many research activities taking place, but they are not co-ordinated. At present there does not seem to exist any collaborative regional research. Some additional funding might be necessary for this.

In spite of the inclusion of social sciences in the M.Sc. training, the social science components remain weak. This problem is not unique to Africa and is often a problem in the North as well. Adding a few courses in different social sciences will not solve the problem. In the M.Sc. courses it is necessary to define the objectives clearly and tailor the courses accordingly. The students will have to acquire sufficient knowledge so as to be capable of identifying the need for a social science component and to approach different disciplines as needed. Also, during the design of research projects social scientists should be engaged.

This might be an area where Sida/SAREC might consider providing support to the region.

⁸ Some of the more important documents are *The Status of Sector Wide Approaches* by Mich Foster, Andy Norton, Adrienne Brown and Felix Naschold. Prepared by Overseas Development Institute, London. 2nd Draft, February 2000. *DAC Principles for Effective Aid. Principles for Programme Assistance*. OECD 1992. *Sida's Policy for Sector Programme Support and Provisional Guidelines*. February 2000. *Handledning för Sidas arbete med Sektorprogramstöd*. January 2000.

Participation of researchers outside the region appears to be next to nil. In a longer perspective the programmes must also engage world wide renowned scientists. Sida/SAREC support did not assign priority to this dimension of research collaboration.

Dissemination of research results

There was only limited time available to investigate the dissemination of research results. The general impression is that the issue would warrant serious thoughts. At the University of Dar es Salaam neither PINEP, DHP nor RPSUD publications could be found. DHP in Addis Ababa claimed that PINEP publications were not regularly received.

Today, one very cost-effective way of disseminating research results is to establish a Website. The global standard is to use PDF files, which use far less space than for example Word files. Neither REDPA nor PINEP publications can be downloaded from the Web.

DHP results are presented on the OSSREA Website. NMK has a Website, and the University of Nairobi has started a Website. By utilising better the combined resources of the participating institutions, research could become available to a larger audience and the quality could be enhanced.

While there may exist constraints to access the Web, several researchers felt that there was a need to provide more training, particularly for senior staff, in the use of PCs and the Internet. It is recommended that Sida/SAREC provide support in this field.

There is an important potential for publishing more in refereed journals. The following Africa-based Journals could be considered for publication:

- African Journal of Ecology
- Southern African Journal of Forestry
- Eastern African Social Science Research Review (2x/year for the last 17 years) (OSSREA)
- PINEP/RPSUD/DHP publication series

While the publication in international refereed journals need to be given greater attention, some mechanisms need to be considered to make research results available to other groups of stakeholders. This would also imply that the content is adapted to the end-user, including rural communities. For example, some of the research has important policy implications. To forward a M.Sc. thesis to very busy policy makers will most likely not produce any results.

The dissemination of research results is a very important activity and has been relatively weak. This is not a unique problem of the two programmes, but is rather common in Sub Saharan Africa. It is recommended that Sida/SAREC, perhaps jointly with other donors, approach important research institutions in the region, to make a survey of the problem in order to come up with specific recommendations on how to improve the dissemination of research results.

Relevance and importance

Both programmes address very relevant problems affecting a major part of the population and biodiversity in East Africa. The subject matters are of growing importance to the peoples, governments and local institutions in the region, and bio diversity is an issue for humanity at large.

Sustainability

Both programmes are heavily dependent on donor funding. In the case of the M.Sc. programmes, there is a significant contribution from the governments in the region as well. Without donor funding, the level of activities will be greatly reduced. But both M.Sc. Training courses are addressing important Eastern African problems and should be able to attract donor funding. The sustainability is greatly related to the management capacity to adapt the programmes in a changing world.

The research activities of all programmes depend to large extent on donor funding. However, most of the researchers have employment and their livelihoods do not primarily depend on donor research funding. However, without this funding very little research would have taken place.

In order to ease the financial constraint ways and means have to be found. Apart from direct fund raising there are other options. One of the more important ones could be to market the courses better. There is probably a market for such courses and there may be different clients, which could be served.

Capacity building

The two programmes have followed similar approaches in capacity building. Both offer a M.Sc. course, which have similarities in content. Both programmes include research components.

The research networking used has been an effective way of engaging a large number of researchers in the region. The research capacity has been enhanced.

Collaboration between parties

In the case of REDPA the programme as such does not exist. There are unresolved conflicts between PINEP and DHP. In this context it has been difficult for EPOS to relate to REDPA, particularly since its support, demand driven, presupposes that the REDPA as such would function. EPOS co-operation with PINEP is very much appreciated by PINEP. The DHP assessment is quite negative and few benefits of the co-operation could be identified.

Regional collaboration entails difficulties because different cultures and disciplines are involved. Also communication between the countries is often difficult. Although there have been some frictions within the RPSUD programme, in general it has been successful in dealing with the different problems emerging.

In the case of both programmes the Swedish collaborating partners viewed their role as supporting the activities and the institutions. Services and support were provided upon request. By doing so there is a risk that the co-operation becomes more of a traditional aid project and not a collaborative research effort. To what extent the Swedish partners should have played a more pro-active role can be discussed.

Methods and programme models

As indicated elsewhere in this report, the programmes use teaching, research and publications and workshops to build local capacity for research and the dissemination of research results. By and large, this approach is considered effective for the intended purpose.

The idea of REDPA could have made a significant impact. Due to a series of factors REDPA as such never developed. One problem was that the participating institutions felt that the programme was largely imposed on them. The question of ownership, therefore, becomes critical.

The original idea was that the DHP sites would be used for the fieldwork of the M.Sc. Students. Because of the breakdown of REDPA, with the exception of Kenya, and one student in Ethiopia, this objective could not be attained. The original idea was excellent and should be resuscitated. The quality of research proposals needs to be strengthened. The International Service for National Agricultural Research, ISNAR, has developed courses, which might be quite useful to researchers.

Many of the programmes' activities lack clearly defined objectives, outputs and verifiable indicators to monitor progress.

There has been some interdisciplinary work, primarily DHP and also to some extent RPSUD. Still, all programmes suffer from a lack of regional collaboration in research.

The grants system seems to function well although with delays. The funding available seems to be inadequate. To what extent there is an overlap with other programmes was not possible to analyse.

Gender

Both the REDPA and the RPSUD have serious gender imbalances. Very few women are engaged in teaching and research. There is a serious imbalance towards men, since there are too few women in the M.Sc. training. In the case of PINEP there were only two female M.Sc. students out of the intake of 55 students. In the case of RPSUD out of 22 M.Sc. students 5 were women. A lot remains to be done to correct this imbalance.

There has been some gender research, but there is still a lot of scope for improvement. Unless the programmes make a concerted effort in this area, like the case of social sciences, little will be accomplished. The programmes need to become more pro-active.

As a first step, it is recommended that the programmes develop gender policies. When these policies have been adopted, their implementation has to be closely monitored.

The weak participation of women in the programmes probably has many causes. In order to address the problem it is recommended that a survey be carried out. Among other things, it would identify the needs, potentials and constraints for women in training. It should provide specific recommendations on how to successively reduce the male dominance in the programmes.

Cost effectiveness

This would have required a more careful assessment. The team initiated a discussion with the management of the different programmes. As it is the information, e.g. the accounts, is not kept with the management. It is the impression that the costs are reasonable in relation to outputs.

None of the different senior managers at programme level was in direct control of the financial situation of the programmes. The managers did not see the budget as a yearly plan and that the monitoring of budget implementation is an important management tool.

The funding of public universities is inadequate and prospects are not bright. The number of private universities is growing rapidly in many countries. Ways and means have to be found to accomplish more with fewer resources. In this context the cost per student could probably be reduced significantly by increasing the number of students. Also, additional funding could probably be found by marketing the courses more aggressively in Africa.

Swedish resource base

Both PINEP and RPSUD have benefited from the co-operation with Swedish partners. This has been based on co-operation, which existed prior to the programmes.

In the case of both programmes, the collaboration has mainly been in the form of technical assistance and very little, if any, in collaborative research.

In general, the Swedish resource base has provided an important input into the programmes. However, there is a need to view collaboration in a wider context, particularly in a regional context, which will be discussed below.

Regional collaboration

The lack of regional research collaboration and regional research projects has been analysed earlier. Regional co-operation in the teaching of the M.Sc. programmes has been virtually absent.

In the region there are many competent teachers who could provide an important input into a given M.Sc. programme. By broadening the resource base the quality of the M.Sc. programmes could be greatly improved. At the same time it could also stimulate regional research co-operation since a teacher from one country would lecture in a university in another country and would meet other researchers. If funding were available for regional collaborative research projects, such a programme of regional visiting lecturers could have an important synergetic effect.

It is recommended that the programmes develop a programme of regional visiting university professors. It is further recommended that Sida/SAREC provide the necessary financing of such a study.

Options for Sida/SAREC

There are several options for Sida/SAREC to support the REDPA and RPSUD programmes. Both programmes would greatly benefit to be more specific in the formulation of objectives, activities, outputs and the establishment of verifiable indicators for measuring progress. The present management structure of REDPA will not be able to address the problems facing the programme.

Phasing out Sida/SAREC support

One option for Sida/SAREC could be to phase out support to the programmes.

Support to REDPA could be phased out over a three-year period to permit the participating projects to conclude ongoing activities and to enable the institutions to secure some alternative financing. Sida/SAREC would then sign contracts with each of the participating institutions, as is the case presently.

Being a new regional programme RPSUD would probably need another period of three years to permit the programme to secure financing from other sources. When this period has come to an end, Sida/SAREC support would cease.

In this option there would be no expansion of activities into new areas.

Regional programme on management of dryland resources in eastern Africa

A second option is to continue many of the ongoing activities of REDPA and RPSUD. But in this context, it is recommended that they be brought under a new management structure as outlined in Appendix 1. There would be an interim period of 2–3 years during which the east African countries develop a joint programme to be supported by Sida/SAREC. Sida/SAREC would actively support the region to include other major donors to support this programme. Meanwhile neither REDPA nor RPSUD should broaden its scope of work.

Research has an important role to play in solving the dryland problems in eastern Africa. Several studies suggest that the impact of agricultural research on rural development in Sub Saharan Africa has hitherto been negligible.⁹ How research can come to play a more important role is a controversial issue.

Notwithstanding the aforementioned, it is necessary to continue building research capacity, the implementation of research programmes and the dissemination of proven research results. By research capacity is meant the capacity to identify, plan and implement research programmes. This is a long-term endeavour and would have to involve the eastern African countries as well as key donors. How this should be done needs to be studied further.

In order to pave the way for such a process, the Team would recommend that the following issues have to be addressed. These have been further elaborated in Appendix 2.

The new management structure would establish a small secretariat. One of its major tasks would be to develop an eastern African Dryland Resource Management Programme. The details would have to be developed by the countries themselves. There would be a maximum period of three years to develop the programme.

⁹ See for example: *Financing the Future. Options for Agricultural Research and Extension in Sub-Saharan Africa* by Jonathan Beynon with Stephen Akroyd, Alex Duncan and Stephen Jones. Oxford Policy Management 1998.

It is recommended that Sida/SAREC carry out a mid-term review, i.e. after about 18 months to assess progress made.

Short term measures to be taken

Both programmes are receiving bridging funds, which will end this year. There is a need for the different stakeholders to discuss the recommendations contained in this report. They will have to agree on whether to accept the basic underlying principles of these recommendations at an early stage. This is further discussed in Appendix 2.

Assuming that the Sida/SAREC Research Board is to make a decision in November 2001, already in October would a proposal have to be ready for the Board. This in turn would require that the participating institutions, including Sida/SAREC, would have to agree on establishing an administrative arrangement such as an interim Executive Committee with a small secretariat.

A decision would then have to be made already in August/September and an interim executive secretary would have to be contracted. Sida/SAREC would have to provide interim financing of this secretariat.

Medium terms measures

During the evaluation, several of the people interviewed suggested that it would be an advantage to study different regional Master of Science programmes. The Team has found this recommendation worthwhile of pursuing. The African Economic Research Consortium's M.Sc. programme was mentioned as one interesting model. There are probably several other programmes in the region. In addition, Sida/SAREC's support to the newly established Central American graduate programme in Social Sciences could also provide important background information. The objective of the study would be to assess the pros and cons of different regional M.Sc. training models. On the basis of these lessons learnt the REDPA and RPSUD ongoing programmes would be revised and restructured.

There will be a need to establish and to modify the existing curricula of the M.Sc. programmes. In this context there will be a need to revise the social sciences input more in depth. At present it seems as if social anthropology and sociology have been added to the courses at PINEP and RPSUD respectively without an in-depth analysis of the needs. There is also a need to discuss more in depth to what extent the training should be geared to future academic training, PhD training, and/or to professional employment. Meanwhile, it is not recommended to commence with PhD training programmes.

There are many arid and semi-arid research and development programmes. During the course of work of the mission several programmes were mentioned. Different donors such as NORAD, the Netherlands, IDRC and the World Bank supported these. Co-ordination between the donors and also between the different countries in the region seems to be very weak. In the case of two very similar programmes such as REDPA and RPSUD the contacts between the programmes have been practically nil. Also, there has been no interaction between these two programmes and the Sida/SAREC supported programme Man-Land interrelations in Semi-Arid Tanzania (MALISATA) at the University of Dar es Salaam. The team, therefore, recommends that a survey be carried out to identify ongoing and new projects related to Regional Dryland Resource Management in Eastern Africa. Such a survey would enable the countries in eastern Africa as well as donors, to co-operate in the support to research and training on such issues.

Since Sida/SAREC has been engaged in both research and higher university training in the area of arid and semi-arid areas for several decades, Sida/SAREC might consider playing a more active role in securing regional and donor co-operation.

Appendix 1

Terms of reference for the evaluation of two dryland research programmes in eastern Africa

Revised as suggested at meeting on 18 April 2001 at NMK Nairobi.

1. Background

SAREC has provided support to two different programmes concerned with land use in the East African drylands. The overall goals of the programmes are to improve livelihoods in the drylands through research on sustainable use of natural resources. Capacity building, problem oriented research and dissemination of results are the major objectives of the programmes.

Support has been given to:

- a regional programme with co-operation in research and training where universities and extension institutions apply both academic and action research for improving pastoral and agropastoral livelihoods
- a regional programme for training and research on sustainable use of biological diversity in drylands

In an evaluation of the programmes different aspects of SAREC's support shall be assessed. The details and focus of the review are specified below.

1.1 REDPA-Regional Dryland Programme in Eastern Africa

This regional umbrella programme with three main actors (Pastoral Information Network, PINEP; Dryland Husbandry Project, DHP; The Research Programme for Environmental Policy and Society, EPOS) was formed in 1999 following the recommendations of an external review of SAREC supported Dryland Research Programmes in East Africa conducted in 1997. The REDPA Co-operation aims at combining university training, action and academic research on a local basis. The local perspective follows the intentions of the International Convention to Combat Desertification and the Local Agenda 21. Countries involved are Kenya, Tanzania, Uganda, Sudan, Djibouti, Ethiopia, and Eritrea.

The three main components of the programme are:

- i) pastoral-oriented MSc training and research in range management with emphasis on rehabilitation, resource management and conservation of resources in the pastoral production systems, gender relations in resource management and information dissemination through PINEP at Department of Range Management, University of Nairobi,
- ii) technology, extension methodology and policy development through DHP in country specific activities,
- iii) involvement of EPOS at University of Linköping both in MSc training (formal and informal field-based in Eastern Africa) researches (formal as well as action-based), policy work, and information processing and dissemination.

Previous SAREC funding and the main objectives and activities of the three actors are presented below.

1.1.1 PINEP - Pastoral Information Network Programme

This regional programme has been supported in its initiation by SAREC since 1992. Regional co-ordination is based at University of Nairobi, Department of Range Management (DRM). Up to 1997 when the last external evaluation was performed, a total of 11.55 million SEK has been allocated. During the period 1998–2000 10.9 million SEK was allocated. However, out of the 10.9 million SEK 2.0 million SEK are earmarked for a PhD programme and have not yet been disbursed. SAREC's total allocation since the inception in 1992 has been 22.45 million SEK.

The main objectives of the programme are capacity building through training at MSc-level, to generate knowledge for dryland development and rehabilitation, and to provide a forum for result dissemination. Training is in two parts and the first year is course work. The second year of the regional MSc training at DRM consists mainly of thesis research conducted in the DHP field research areas in the home countries of the students. DHP country co-ordinators sometimes function as supervisors. Thesis research tasks are chosen from a range of themes including: indigenous knowledge in pastoral systems, pastoral environment and ecology, pastoral economy, local institutions, rangeland rehabilitation, live-stock/wildlife interface, gender issues with particular emphasis on women. PINEP has a research grant component awarding grants to scientists in the IGAD (Intergovernmental Authority on Drought and Development) sub-region through special application. Information on current research findings, including MSc theses, is spread mainly through PINEP's working paper series-African Pastoral Forum.

PINEP and EPOS suggested that the MSc training should be built-on with a regional PhD training. The University of Nairobi has approved the PhD training and the pilot programme with two candidates is expected to start in early 2001.

1.1.2 DHP-Dryland Husbandry Programme

This programme originated as SIDA supported within the IGAD but was taken over and partly restructured by SAREC in 1994. Co-ordinators are OSSREA (Organisation for Social Science Research in Eastern and Southern Africa). SAREC support from 1995 up until the last external evaluation in 1997 amounts to 6.8 million SEK. During the period 1998–2000 8.2 million SEK was allocated. SAREC's total allocation to DHP has been 15 million SEK.

The main objective of the programme is technology development for improved resource management together with institution and capacity building at community level. A salient feature is to combine local and formal scientific methods in order to contribute to a fruitful dialogue between pastoralists and participating institutions.

1.1.3 EPOS-The Research Programme for Environmental Policy and Society

EPOS has been actively involved in both PINEP and DHP since these programmes started. During the REDPA phase 1999–2000 EPOS was allocated 2 million SEK. Prior to this EPOS received funding through the budget of PINEP.

The role of EPOS is to be actively involved in training, research and information processing and dissemination. EPOS contributes with dialogue and knowledge based on participatory methods. EPOS contributes to the planning and management of REDPA and interacts with Sida in the implementation process.

1.2 RPSUD-Research Programme for Sustainable Use of Dryland Biodiversity

SAREC has since July 1995 supported a regional programme, Research Programme for Sustainable Use of Dryland Biodiversity, RPSUD, which is co-ordinated by National Museums of Kenya (NMK) in Nairobi. RPSUD is a consortium of institutions from three countries, Kenya, Ethiopia and Tanzania. The department of plant ecology at Uppsala University is the collaborating Swedish part. The objective of the agreement is to support NMK to establish and co-ordinate regional Co-operation for developing and strengthening indigenous research and research capability in the field of Dryland biodiversity assessment and utilisation in the region. The programme has two main components: a) a regional MSc course is carried out at Addis Ababa University; b) research grants, announced annually and reviewed by a review committee. The programme has been delayed and the first 3-year phase extended to 5 years. 8.8 million SEK was allocated to the first phase and 650,000 SEK was approved as bridging funds for 1st year MSc course for the academic 2000/2001.

2. Purpose and scope of the evaluation

The current agreement for REDPA and RPSUD terminated at the end of 2000 and the end of 1998 respectively. Bridging funds have and will be provided after consultations and negotiations with SAREC. Proposals for continuing activities will be sent to SAREC and this evaluation will be one essential input for decisions about future support.

The review shall examine and assess the building of research capacity, the quantity and the scientific quality of the result outputs. The relevance as well as the impact of the programmes on a local, national and regional level shall be evaluated. Furthermore, the reviewers shall assess how the interdisciplinary objectives have been accomplished. Finally, the reviewers shall assess the degree to which the regional comparative advantage in the programmes is accomplished. Research on sustainable livelihoods in drylands in Africa has high priority within the natural resources and environment theme group at SAREC. Hence, this evaluation should provide Sida and the participating institutions with recommendations for the following general issues:

Recommendations to the participating institutions on how experiences of and capacities for dryland research and research training gained through the evaluated programmes could be further exploited

Recommendations to Sida on future modes of support to dryland research

The evaluation team shall in their report provide Sida and the participating institutions in the programmes with recommendations of the future objectives and directions of the programmes particularly for the period 2002–2005.

3. The assignment

3.1 Tasks/specific issues to be assessed for the programmes

Relevance and importance

- The relevance of the programme objectives shall be assessed in relation to national/regional priorities and policies
- Is the research network used in an efficient way with respect to generating relevant research and research capacity?

Sustainability

- Are the programmes contributing to sustainable research environments and capacity building?

Scientific results and dissemination

- the quantity and quality of the research output
- dissemination of the results to the scientific community in the region as well as to refereed international journals of acceptable quality
- dissemination of results to the extension organisations and local communities

Capacity building

- approaches in the different programmes to the building of research and institutional capacity
- Are there similar MSc programmes in the region?
- Does the quality of the MSc training respond to the needs of the region in terms of subjects covered, acquaintance with methods, creativity to continue working with dryland questions after graduation
- What is the future of the MSc students after examination?
- To what extent has regional expertise been engaged in teaching the MSc course?

Collaboration between parties

- experience of the Co-operation between the participating institutions, frequency and closeness of contact, strengths and weaknesses

Methods and programme models

- An assessment of the methods that the programmes use with respect to building research capacity and generating relevant research results
- A qualitative assessment of the interdisciplinary work in the programmes
- Does the part with grants function satisfactorily (announcement, recruitment, disbursement, reporting, overlapping with other programmes)

Gender

- Status of female researchers in programmes
- Existence of gender research in programmes
- Use of gender relevant data and methods for analysis

Cost effectiveness

- Is the research and training produced in a resource efficient way with respect to human resources, facilities, institutional arrangements and funds available

Swedish resource base

- Make an assessment whether the programmes have involved relevant parts of the Swedish resource base

3.2 Specific questions to consider in the programmes

REDPA

- Have the recommendations from the earlier evaluation, included in the programme proposal for this phase, been followed?
- An assessment of the relevance and quality of the action research
- Have the DHP sites and personnel been efficiently used in the MSc teaching?

- Are all aspects of the conventions covered adequately by the programme? Should i.e. intellectual property rights issues in biological diversity be included in the training?

4. Methodology, evaluation team and time schedule

4.1 Organisation of evaluation

The team leader is responsible for contracting an evaluation team with the composition and competence described below. The team leader shall present a plan, budget and methodology for the evaluation, including division of work. Sida and the partners in the research Co-operation should approve the plan.

4.2 Composition and competence of the evaluation team

The team should consist of four evaluators experienced in academic studies of social and natural sciences in developing countries. The evaluators should cover the following competence together. Skills:

- in assessing policy relevance and impact
- in assessing research capacity building in regional collaboration
- in assessing research training
- in assessing scientific quality in the relevant fields

4.3 Participation of the Co-operation partners

Project co-ordinators shall at the request of the team co-ordinator provide the evaluation team with material (proposals, reports, publications, contracts etc.). They should facilitate for the evaluation team to interview students, researchers, local communities and other project participants. Such materials may be requested in advance of the visit.

4.4 Role of the Sida officials

Sida officials are responsible for assigning the evaluation team and for co-ordinating the approvals of the valuation plan and reports. Sida official may be interviewed regarding the role of Sida/SAREC.

4.5 Suggestions of persons/institutes to interview/contact

OSSREA-University of Addis Ababa
 PINEP-University of Nairobi
 EPOS-University of Linköping
 NMK-Nairobi
 University of Addis Ababa
 Makerere University
 University of Dar es Salaam
 Centre of Biodiversity, Addis Ababa
 Field sites in Sudan, Ethiopia, Kenya and Uganda

4.6 Time table

The team leader shall present a detailed plan for the evaluation including a division of labour between team members. This plan should be presented to Sida no later than 23 March, 2001. The plan will be finally approved at a meeting that will initiate the evaluation where the evaluation team, programme co-ordinators and Sida officials will participate.

Total time for the assignment is 22 weeks to be divided by the evaluators.

Field trips should cover totally two weeks per evaluator.

Copies of a report with main findings and recommendations shall be submitted to Sida and the participating organisations, no later than May 15, 2001. The experts should by this time have submitted their reports to the team leader.

5. Reporting

The report shall be written in English and should not exceed 60 pages excluding annexes (and a summary of maximum 6 pages). The outline shall follow Sida evaluation report-standardised format (Annex 3, page 71 of the Evaluation Manual for Sida). 10 copies of a draft report shall be submitted to Sida and the participating organisations, no later than September 15, 2001. Within two weeks after receiving Sida's comments, a final version in 5 copies and on a diskette shall be sent to Sida. Subject to decision by Sida, the report will be published and distributed as a publication within the Sida evaluation series. The report shall be written in Word 6.1 for Windows or compatible format, and should be presented in way that enables publication without further editing.

The report includes the production of a summary according to the guidelines for Sida Evaluation Newsletter (Annex 1) and the completion of Sida Evaluation data Work Sheet (Annex 2). This separate summary and data work sheet shall be submitted along with the final report.

Appendix 2

Proposal for integrating the regional programmes of REDPA and RPSUD

Background

Sida/SAREC has been supporting two programmes in Eastern Africa aimed at raising capacities and developing methodologies that enhance the sustainable use of biological resources (biodiversity) in dryland areas, particularly those used by pastoralists and agro-pastoralists. The participating countries in these programmes (Ethiopia, Kenya, Sudan, Tanzania and Uganda) have environmental similarities in that quite a significant portion of their areas are arid or semi-arid and can be used only for pastoral or agro-pastoral activities, unless there are opportunities for irrigated agriculture. The two programmes are Regional Dryland Program for Eastern Africa (REDPA) and Research Program for Sustainable Use of Dryland Biodiversity (RPSUD).

The REDPA is composed of three complementary components: Pastoral Information Network Program (PINEP), Dryland Husbandry Project (DHP), Environment Policy and Society (EPOS). Although the set up of the REDPA organisation structure to serve as a co-ordination mechanism is of recent origin, the component program/projects have been going on for some time now. Their complementarity was supposed to be brought about through their focus on training (M.Sc. in range management), trials and action research, and information and dissemination. The M.Sc. training is given through an already established graduate program in the Range Management Department of the University of Nairobi (Kenya). However, the desired collaboration among the three components that was intended to facilitate complementarity did not materialise.

The RPSUD is a relatively more recent introduction into the Sida/SAREC support program for eastern African countries. This program is also targeted into capacity building through a specialised M.Sc. training in biodiversity, research, and information dissemination. The M.Sc. training is a new initiative and is offered by the Biology Department of the Addis Ababa University (Ethiopia).

Justification for rationalizing the two programmes

The Following reasons can be advanced for integrating the activities implemented through the REDPA and RPSUD:

- *Geographic coverage:* both programmes target beneficiaries in IGAD countries. Currently, these include Ethiopia, Kenya, Tanzania, Sudan and Uganda, although Djibouti, Eritrea and Somalia could be included in the future if conditions permit.
- *Target agro-ecologies:* both programmes focus on dryland areas that suffer from inadequate and erratic rainfall.
- *Purpose:* the main aim of both programmes is the sustainable use of dryland resources, including land, water, flora and fauna.
- *Approach:* both programmes use similar approaches that focus on capacity building, undertaking research and information dissemination. The training program includes specialised M.Sc. programmes (both in range management as well as in biodiversity) for professional staff, on the one hand, and short-term skill development programmes for pastoralists and technical staff, on the other.
- *Institutions:* both programmes rely on utilising the available institutional capacities in the sub-region, i.e., teaching/research facilities, expertise and good will (political). However, the current

programmes, although designed to operate on a regional basis, have not effectively used regional resources. In fact, they are more national than regional collaborations.

For all intents and purposes, there is very little justification, if at all, for maintaining two independent programmes dealing with the management of dryland biological resources in the sub-region. On the contrary, there is a lot to be gained by integrating these programmes into one coherent program under an agreed upon organisation set up. It should, of course, be noted that the effort at integrating the three components of the REDPA was not successful. Based on the views expressed by programme/project co-ordinators of the program/projects, one can almost pinpoint the underlying causes for the failure:

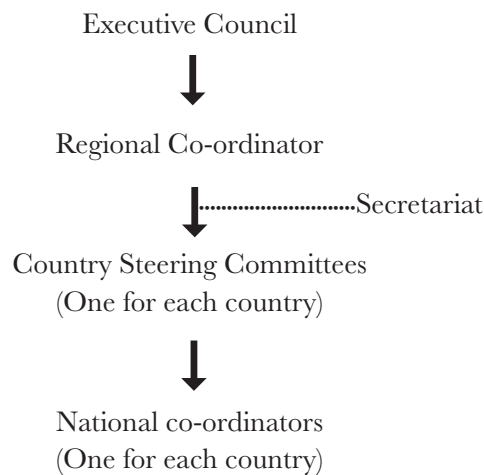
- *Lack of an effective line of command:* there was an almost deliberate vagueness in defining the institutional arrangement for co-ordinating the component program/projects.
- *Lack of terms of reference:* there were no clear TOR defining the roles and responsibilities of either the umbrella co-ordinating organ or the regional co-ordinators of the component program/projects
- *Institutional affiliation:* there was (and still is) a clear indication of regional co-ordinators protecting their institutional identity and authority, although the danger associated with eroding institutional identity and authority by enhancing regional collaboration is more imagined than real.
- *Lack of participatory approach:* there is a feeling among regional co-ordinators that the development of the organisation set up of REDPA is not adequately participatory. Allowing more time to develop the system in close consultation among the relevant partners would have had a better chance of success, according to the views of the regional co-ordinators, particularly DHP/OSSREA and PINEP/UON.

A proposed model

The Sida/SAREC Evaluation Team could develop an organisation structure for consideration both by Sida/SAREC and the collaborating partners. However, the Team fully recognises the danger associated with such an approach. Therefore, the intention here is not to draw up an organisation structure *per se* but to indicate the general outline of an organisation structure that needs to be developed if effective co-ordination is to be achieved.

We propose that the organisation structure to be developed should have the following characteristics:

- It must indicate the co-ordinating and collaborating institutions involved in the implementation of the unified regional program.
- It must establish a clear line of command, indicating the relationship between the guiding and supervising organ, on the one hand, and the implementing institutions/individuals, on the other.
- There must be a Secretariat that is free of institutional affiliation. It must be set up in a neutral environment to avoid undue institutional preferences and pressures.
- A terms of reference must be developed for each position in the structure, clearly indicating the roles and responsibilities of participating bodies (individuals and institutions).
- One option in establishing such a system can be indicated by the following model:



Advantages

The advantages from integrating the activities of the program/projects in REDPA with that of RPSUD should outweigh the disadvantages. Some of the obvious advantages in such integration could be summarised as follows:

- *Complimentarity and synergy*: since both programmes have similar purposes, objectives and target beneficiaries, co-ordinating their efforts will result in greater and more effective outputs than can be achieved individually.
- *Sharing of responsibilities and resources*: the regional institutions have capacities and resources unique to each of them. These include quantity and quality of human resources, teaching and research facilities, and agro-ecology with its associated biotic and a-biotic resources. There is a need to emphasise regional collaboration in the real sense of the word. Lecturers and scientists, research field sites as well as laboratory facilities need to be made available for regional collaborative activities.
- *Administrative cost*: there is a definite saving in administrative matters, including human resources requirements, time inputs and costs.

The Role of Sida/SAREC

Sida/SAREC need to take the following steps in the development of the proposed integration:

- The organisation arrangement needs to be developed through mutual consultation among the collaborating regional institutions through participatory approaches.
- The participating partners need to establish an Interim Committee that is given responsibility to develop a draft organisation structure, along with the required ToR.
- Sida/SAREC may facilitate the establishment of the IC by calling the first meeting and assigning a facilitator whose neutrality, integrity and competence is acceptable to the participating partners.
- The time required for the development and acceptance of the new organisational arrangement need to be fixed by Sida/SAREC, depending upon its own schedule of operations.
- There is a need to make clear to partner institutions that failure to come with an agreed organisation set up within the provided time frame risks the discontinuation of the current program/projects in their current organisational format.
- However, the program/projects will continue to be supported by Sida/SAREC during the interim period allowed for the development of an acceptable organisation structure.

Appendix 3

Regional programme on management of dryland resources in eastern Africa: Rationale and programme components

Background

The ecological degradation of the drylands of Eastern Africa (Sudan, Eritrea, Ethiopia, Djibouti, Somalia, Tanzania, Kenya and Uganda) is related to the aridity, vulnerability and unpredictability of the environment, deteriorating socio-economic livelihoods of the people, and inappropriate pastoral-agricultural development policies. Dryland husbandry and pastoralist populations suffered from

- inappropriate strategic plans for pastoral-agricultural rangeland development and management because they i) favoured project-driven commercial livestock development, ii) lacked adapted interventions in traditional subsistence pastoral-agricultural practices, iii) focussed on food aid and relief, national conservation plans, and energy saving and renewable energy, and iv) lacked integrated government service department interventions and services which are required for dryland husbandry;
- high investment risk because of the ecologically unpredictable and vulnerable environment; and
- wrong perceptions of the ability of the traditional pastoral-agricultural societies to change and adapt.

An overview of dryland management identified the following priorities for regional research and development co-operation:

- to reduce pressure on marginal land;
- to counteract land degradation; and
- to increase biomass production and the development of alternative energy sources.

Regional initiatives of the Sida/SAREC funded programmes of REDPA (PINEP, DHP & EPOS) and RPSUD lack synergy, true regional co-operation and effective integrated organisational structures to address these priorities effectively and sustainably. During the evaluation of these programmes, it was considered to recommend one integrated programme to improve regional co-operation. The purpose of this document is to outline the rationale and programme components of a new programme for regional dryland resource management in Eastern Africa for funding by Sida/SAREC, to replace the former programmes. The proposed organisational structure is discussed in Appendix 1.

Rationale

Sustainable development of dryland livelihoods requires an integrated approach to address environmental, social and economic needs. The components and processes within both the biophysical and human environments (see Figure 1) provide the basis for the development of integrated, sustainable rural resource management policies, strategies and practices. The plant and animal populations, communities and ecosystems in the region became adapted to disturbance and recovery processes (resource dynamics) associated with the aridity, vulnerability and unpredictability of the environment. Similarly, the lifestyles of people and their communities adapted to the resource availability and constraints in their environments. Changed lifestyles in response to technology and infrastructure developments, changing social, institutional and political structures, and regional conflicts impacted on the relationships between the people and their natural environment. The rate of socio-economic change requires continuous adaptation in resource management systems to ensure sustainable development.

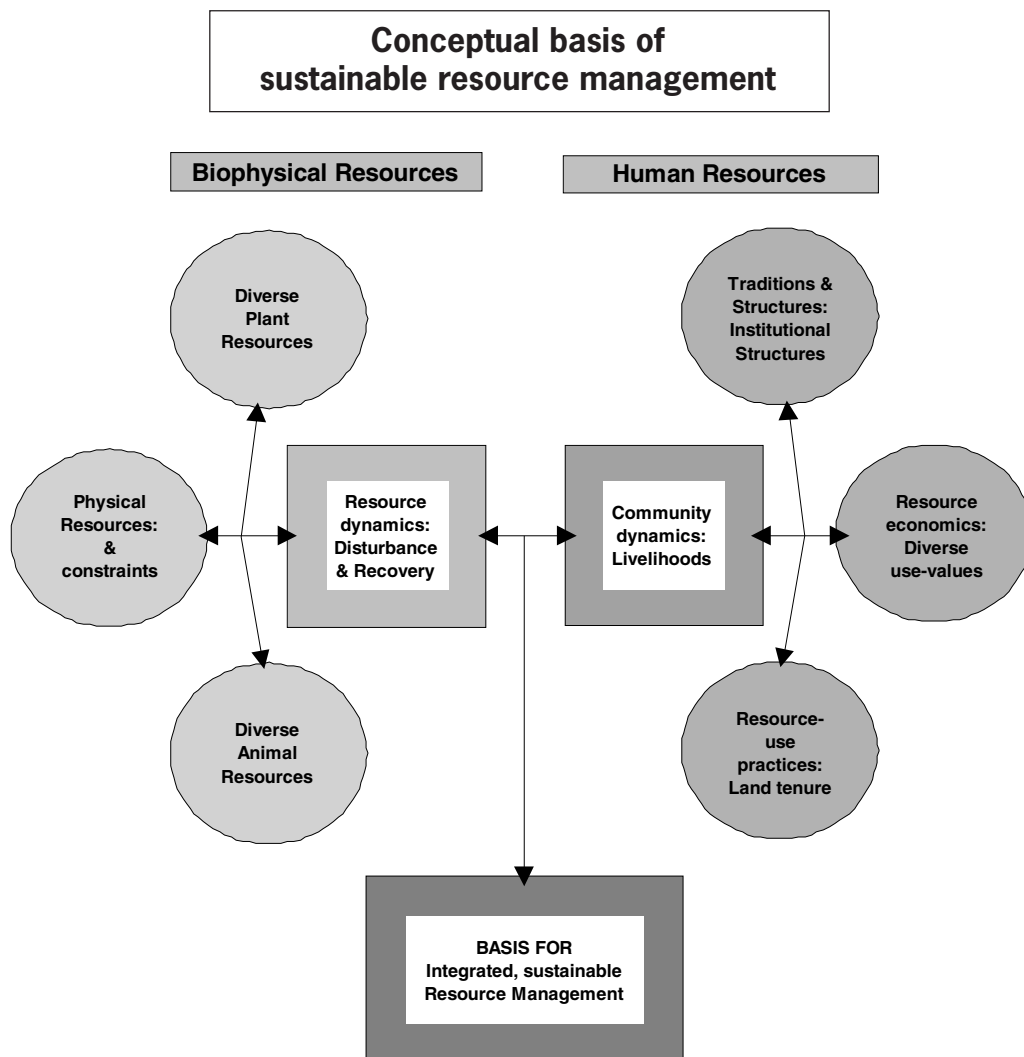


Figure 1. The biophysical and human components and processes which underlie integrated, sustainable rural resource management

The basic need for development is to develop a capacity in all levels of society to deal effectively with the challenges of dryland management for viable and sustainable rural livelihoods. Research, training and knowledge transfer are the basic components of capacity building and the proposed programme (Figure 2). Research, training and extension activities need to consider, in an integrated manner, both the biophysical and socio-cultural-economic environments. Academic and technical training require knowledge of these interacting environments, but also need to develop the capacity to acquire the knowledge. A framework of the needs and priorities for basic and applied research (including action or adaptive management research) to meet the challenges for sustainable resource management should be developed to guide research activities of universities (including post-graduate research) and research institutions (including grant research). Information transfer and development of resource management capacity have different target groups, including line ministries (policy makers), NGOs and resource users, and activities (such as adaptive management research, training workshops, scientific and popular publications, and support/empowerment of specific user groups). The ultimate objective would be to develop sustainable resource management systems, which satisfy both the needs of the rural communities and the requirements of a functional natural environment.

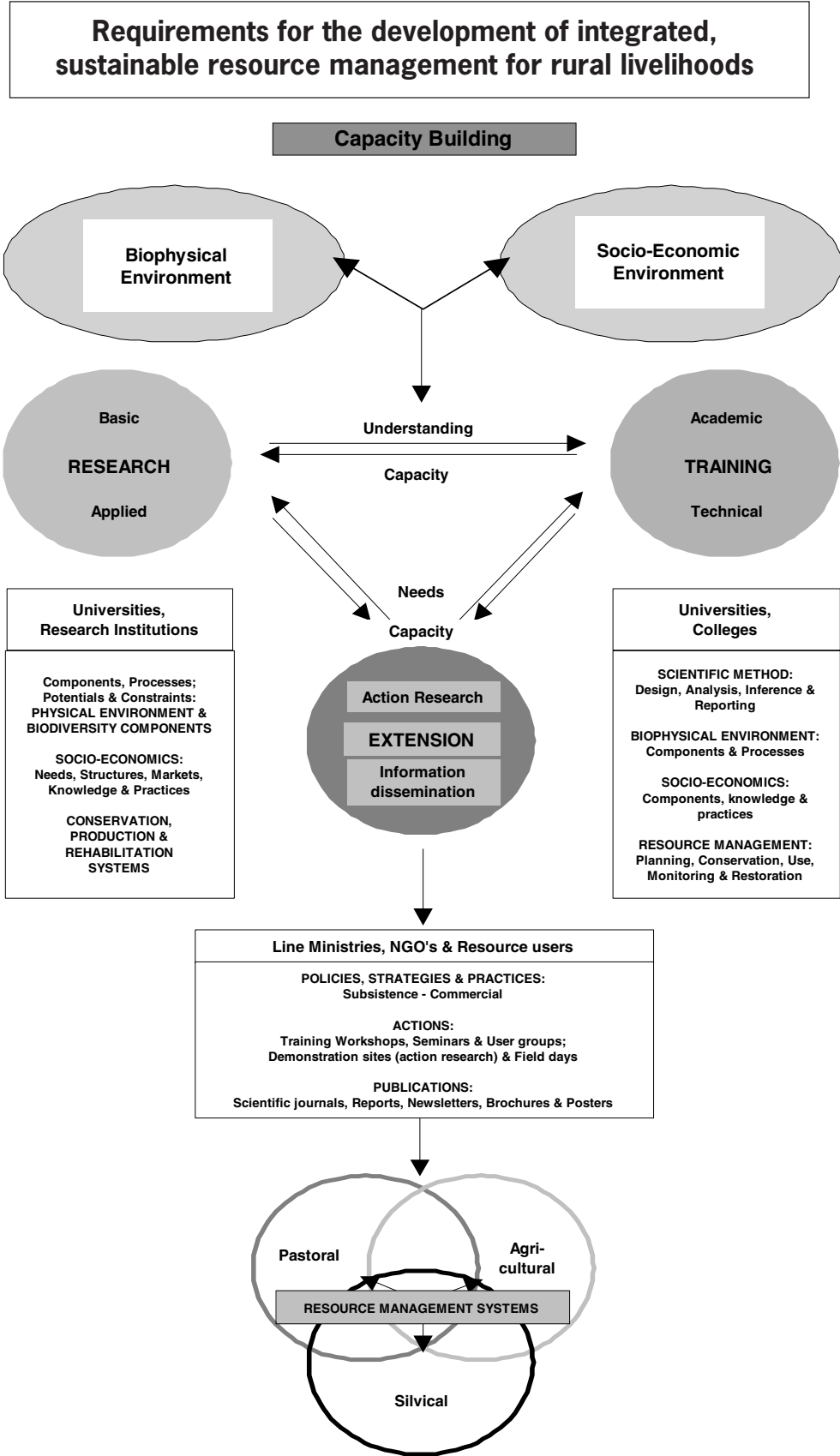


Figure 2. The components of capacity building for integrated, sustainable resource management in rural livelihoods

Principles for succesful rural development

Underlying principles which are considered as criteria for successful facilitation of rural development include

- Short, medium and long term objectives;
- Multi-disciplinary and integrated resource management practices which satisfy the diverse daily livelihood needs at the village level while achieving environmental, social and economic sustainability;
- Appropriate technologies developed for different levels of skills and affordability;
- Capacity development for research, training and extension services to develop appropriate policies, strategies and production systems;
- Equity in participation and benefit sharing between countries and gender through integrated programme activities;
- Assessment and incorporation of traditional knowledge systems, where feasible, in the development of new technologies;
- Sourcing of existing relevant information, knowledge and expertise locally, nationally, regionally and internationally to fast-track research, training and sustainable resource management;
- Implementing adaptive management and action research and monitoring programmes in representative study areas in the rural environment, based on academic research and traditional knowledge systems, to develop appropriate and effective rural practices.

Implementation

An appropriate organisational structure (see Appendix 1), incorporating the strengths of the RPSUD, PINEP, EPOS and DHP programmes, need to be put in place to develop the Eastern African Dryland Resource Management Programme. It should identify the research, training and information transfer needs together with the agro-pastoralist communities of the area.

Recent Sida Evaluations

- 02/17 Sida Supported ICT Projects at Universities and Research Organizations in Sri Lanka.**
Alan Greenberg, George Sadowsky
Department for Research Cooperation
- 02/18 Development of a National Quality Infrastructure in Namibia. Evaluation of Phase I of the Programme and Appraisal of a Programme Proposal for Phase I.**
Bertil Sjöberg
Department for Infrastructure and Economic Cooperation
- 02/19 Estrategias de Suecia y Holanda para la Promoción de la Equidad de Género en Bolivia.**
Tomas Dahl-Östergaard, Sarah Forti, Mónica Crespo
Department for Latin America
- 02/20 The Partnership Programme of Swedish Mission Council (SMC).**
Gordon Tamm, Charlotte Mathiassen, Malin Nystrand
Department for Cooperation with Non-Governmental Organisations and Humanitarian Assistance
- 02/21 Support to Regional Development in Estonia through Business Development: an Evaluation of the NUTEK Implemented Projects 1992–1998.**
Claes Lindahl
Department for Central and Eastern Europe
- 02/22 Water Utility Partnership's Project for Water Utility Management and Unaccounted for Water, Phase 1.**
Olle Colling
Department for Infrastructure and Economic Cooperation
- 02/23 Sida Supported Programme withn the African Energy Policy Research Network (AFREPREN).**
Joy Clancy, Ian H. Rowlands
Department for Research Cooperation
- 02/24 UAPS enters the 21st Century: Final Report from Assessment.**
Bertil Egerö
Department for Research Cooperation
- 02/25 Swedish/UNDP Governance in Honduras.**
Lars Eriksson, Lena Blomquist, Margarita Oseguera
Department for Latin America
- 02/26 GRUPHEL towards a Fourth Phase: an Assessment**
Bertil Egerö
Department for Research Cooperation
- 02/27 Caritas Sweden Programme for Peace, Democracy and Human Rights in South America, 1997–2001.**
Jocke Nyberg, Lilian Sala, Anna Tibblin
Department for Latin America

Sida Evaluations may be ordered from:

Infocenter, Sida
S-105 25 Stockholm
Phone: +46 (0)8 506 423 80
Fax: +46 (0)8 506 423 52
info@sida.se

A complete backlist of earlier evaluation reports may be ordered from:

Sida, UTV, S-105 25 Stockholm
Phone: +46 (0)8 698 51 63
Fax: +46 (0)8 698 56 10
Homepage:<http://www.sida.se>



SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
S-105 25 Stockholm, Sweden
Tel: +46 (0)8-698 50 00. Fax: +46 (0)8-20 88 64
Telegram: sida stockholm. Postgiro: 1 56 34-9
E-mail: info@sida.se. Homepage: <http://www.sida.se>