



**ANNUAL REPORT**

**2007**

© 2008. Association for Strengthening Agricultural Research in Eastern and Central Africa

Correct citation

[ASARECA] Association for Strengthening Agricultural Research in Eastern and Central Africa. 2008. *Annual report 2007*. ASARECA, Entebbe.

This publication may be reproduced with the intention of increasing its availability to those who need it. ASARECA encourages fair use of reproduced material. Proper citation is requested.

Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)

Plot 5, Mpigi Rd

PO Box 765

Entebbe, Uganda

tel: +256 414 320212 / 320556 / 321885

fax: +256 414 321126 / 322593

email: [asareca@asareca.org](mailto:asareca@asareca.org)

website: [www.asareca.org](http://www.asareca.org)

ISBN 978-92-95070-14-1 (print)

ISBN 978-92-95070-15-8 (pdf)

Photo credits

Cover and back, p 25–27, 29 PRAPACE; p 17 BARNESA; p 23 ECABREN; p 24 ECAMAW; p 34 ECABIO; p 37, 39 RAIN

Editor: Dali Mwangore, Support to Development Communication, Nairobi

Designer: Conrad Mudibo, Ecomedia Limited, Nairobi

Printer: Kulgraphics Ltd, Nairobi

# Contents

Preface .....	VI
Executive summary.....	IX
1 Introduction.....	1
2 Report of progress.....	3
Governance .....	3
Management.....	3
ASARECA role in FARA initiatives .....	9
3 Research progress .....	12
Result 2: Generation and uptake of demand-driven agricultural technologies and innovations facilitated .....	12
Result 3: Policy options for enhancing the performance of the agricultural sector in the ECA subregion facilitated.....	25
Result 4: Capacity for implementing agricultural research in IAR4D in the ECA subregion strengthened .....	28
Result 5: Availability of information on agricultural innovation enhanced .....	36
4 Challenges and constraints to implementing programmes .....	44
5 Publications list .....	45
6 Staff list.....	54
7 Board of Directors .....	56
8 Summary report on financial management .....	58
Annex 1: Auditors' report and financial statements .....	59

# Preface

The year 2006, now behind us, will be remembered in ASARECA as a watershed year. This is the year when the decision was made to transform ASARECA from its original form and function, to a new form and a new function. The transformation would involve:

- expanding the Board of Directors from the original 10 directors of member national agricultural research institutes, to include ASARECA's other stakeholders namely, the private sector, farmer organisations, international research centres, universities, COMESA (Common Market for Eastern and Southern Africa) and civil society
- adopting a programme approach in developing and managing the research portfolio, and to have seven programmes
- as a consequence, phasing out the networks, programmes and projects that had hitherto been the principle basis for programme development and coordination.

These far-reaching decisions in 2006 dictated that 2007 would largely be spent in efforts to implement them.

A key activity for the ASARECA Secretariat in 2007 was planning for the new organisation and establishing resources needed to make it function, building consensus around the new

organisational mandate and direction, and determining its priorities. All these have been clearly laid out in ASARECA's first ever operational plan that covers the period 2008–2012. We are pleased with this achievement and we believe we have prepared good ground for the new ASARECA to take off in earnest.

However, there were also the inevitable challenges the most serious of which was probably the halting of a grant by the European Commission at the end of June 2007. The reasons are discussed in this report. I sincerely apologise to partners whose research projects were disrupted as a result of this decision, and to assure them that we are doing our best to redeem the projects.

Termination of the networks, programmes and projects (NPPs) was far from easy. As this report shows, the NPPs had been the main drivers of ASARECA's research programme and many were producing promising research outputs. Terminating them did not only involve halting research activities but also involved parting with individuals with whom we had worked and known personally.

We are indebted to all the NPP coordinators and their staff for their understanding and cooperation before and during winding up the activities of some of the units. We believe that this was possible because of their inherent support for the ideals that the new ASARECA stands for.

Many individuals were directly or indirectly involved in attaining ASARECA's achievements as set out in this report. Whereas it is impossible to acknowledge the roles played by every individual or group, we especially recognise the efforts of the executive director and all staff of ASARECA who worked tirelessly, sometimes under difficult circumstances, to advance the work of the Association.

I am also grateful to members of the Board of Directors for their cooperation and wise counsel, and to ASARECA's development partners for their unreserved support and advice.

We look forward to continued cooperation with everyone.

Prof. Dr. Azhari A. Hamada  
**Chairman, Board of Directors**

# Executive summary

During 2007, the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) was engaged in implementing recommendations of stakeholders and of its Committee of Directors. One of these recommendations was to transform ASARECA into a centralised, programme-based institution from the decentralised structure that was based on networks, programmes and projects (NPPs). As part of this change, the Committee of Directors changed into the Board of Directors with an expanded membership to include representatives of key sectors not catered for in the previous governance structure. These new members represent the civil society, farmer organisations, universities, COMESA (Common Market for Eastern and Southern Africa), international research centres and the private sector.

The NPPs were phased out and seven new programmes, each headed by a programme manager, were established. These programmes are Staple Crops, Non-Staple Crops, Livestock and Fisheries, Agrobiodiversity and Biotechnology, Natural Resources Management and Forestry, Policy Analysis and Advocacy, and Upscaling and Knowledge Management. The reorganisation also saw several new units and new positions created in a reorganised organogram for the Secretariat. But the most significant

change was the creation of a general assembly, which becomes the supreme governance organ to which the Board of Directors will report.

Accordingly, the ASARECA constitution was amended and its governance manual reviewed to accommodate the new changes. The logframe was reviewed and additional results on governance and management were included. The monitoring and evaluation strategy was also revised to reflect a programmatic approach to implementation.

The transition process and overall ASARECA activities, including actual research activities, were heavily constrained by the European Commission's (EC) unexpected termination of the Regional Support Programme contract over legal reasons. Funds already disbursed to partner institutions for research activities were frozen. Following protracted discussions, the EC eventually decided it would channel its support to ASARECA through a World Bank Multi-Donor Trust Fund. Negotiations to establish the fund commenced late in 2007, with the hope that it would become operational early in 2008.

Due to limited funding, ASARECA recruited only three programme managers, for Agrobiodiversity and Biotechnology, Policy Analysis and Advocacy, and Staple Crops programmes.

ASARECA maintained active contacts with the donor community during the year. From this effort, the UK's Department for International Development (DFID) extended a grant of US\$600,000 to finance the transition. Phase II of a grant by USAID East Africa was approved. ASARECA signed an agreement with the Forum for Agricultural Research in Africa (FARA) to access US\$259,000 from the Canadian International Development Agency (CIDA) to support core Secretariat activities. These three grants facilitated limited transition.

A needs assessment in information, communication and knowledge management was launched, an initial activity for implementing its strategy. A roadmap was drawn to address needs that would help ASARECA achieve its strategic objectives.

The performance of NPPs was reviewed and their achievements and lessons learned were documented. These lessons and experiences were later used to inform the design of the new programmes. This review was additional to the Programme Review and Monitoring Panel, which routinely evaluated ASARECA activities supported by the EC grant, and was also helpful in learning lessons on a continuing basis.

ASARECA conducted a partner institutional viability assessment, one of the requirements in reporting to USAID. This exercise revealed considerable institutional growth in several areas but also highlighted shortcomings in others. The shortcomings will be addressed as part of the change process in ASARECA. On the research front, this report profiles some of the key achievements and progress made under the NPPs.

ASARECA also conducted a needs assessment in a bid to enhance capacity in the integrated agricultural research for development approach among its NARS partners. A proposal for capacity building has been prepared.

During the year, ASARECA's key players reached consensus on its roles and responsibilities in implementing Pillar IV on agricultural research, technology dissemination and adoption, of the Comprehensive Africa Agricultural Development Programme along the Framework for African Agricultural Productivity principles. ASARECA will contribute to implementing agricultural education and training programmes, extension and farmer empowerment in its member countries in partnership with specialised institutions.

ASARECA played an active role in implementing some of the FARA initiatives for the subregion. These include

- the Sub-Saharan Africa Challenge Programme
- Strengthening Capacity for Agricultural Research and Development in Africa: ASARECA commissioned a scoping study to identify specific capacity needs in eastern and central Africa. These needs were aggregated into three main areas of intervention: 1) improving the quality of research, 2) improving relevance and impact of research through professional development, and 3) strengthening management of agricultural research and training institutions.
- Regional Agricultural Information and Learning Systems: one of the defunct networks, the Regional

Agricultural Information Network (RAIN), developed a proposal to establish learning systems

- Dissemination of New Agricultural Technologies in Africa: ASARECA in collaboration with national agricultural research institutes, CIMMYT (the International Centre for Maize and Wheat Improvement) and CIP (the International Potato Centre) developed implementation plans to disseminate quality-protein maize and the orange-fleshed sweet potato.

ASARECA together with some of its stakeholders completed conceptualising its Technology Uptake and Upscaling Support Initiative. They developed a strategic plan, identified programme priorities and subsequently wrote

project concept proposals for implementation.

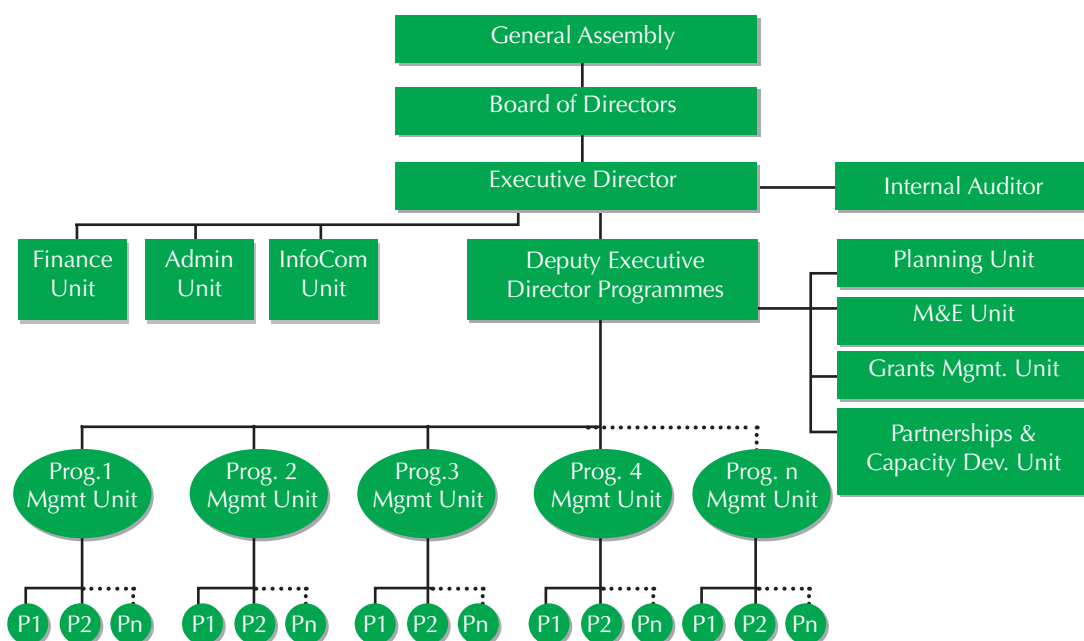
The main challenge in 2007 was phasing out the NPPs while maintaining some of their research activities. But it is gratifying that this was successfully achieved. The unexpected suspension of funding by the European Commission paralysed many activities, a good number of which ground to a halt. It is hoped that this crisis situation will be overcome soon to enable ASARECA achieve its goals. Another cross-cutting constraint was inadequate resources to effect the transition, in particular the lack of resources to develop many of the new programmes. Consequently 2007, originally dubbed the transition year, never was and the transition process spilled into 2008.



# 1 Introduction

In 2006, ASARECA stakeholders proposed transforming it from a decentralised structure based on networks, programmes and projects to a centralised, programme-based institution. The Committee of Directors consented to this proposal, and to change itself to a board of directors and expand it from the original 10 members to 16. This additional membership would include representatives of civil society, farmer organisations, universities, COMESA (the Common Market for Eastern and Southern Africa),

international research centres (the Consultative Group on International Agricultural Research—CGIAR) and the private sector. ASARECA's constitution and governance manual were also to be revised to accommodate these changes. The networks, programmes and projects (NPPs) would be phased out and seven new positions to head the new programmes established at the Secretariat in Entebbe. Several senior positions were also established under a new organogram (figure 1).



**Figure 1. ASARECA governance and management structure**

In addition, during its second Board of Directors meeting in February 2007 in Bujumbura, Burundi, ASARECA's development partners challenged it to re-evaluate its role particularly in implementing Pillar IV (Agricultural Research, Technology Dissemination and Adoption) of the Comprehensive Africa Agricultural Development Programme (CAADP), along the Framework for African Agricultural Productivity (FAAP) principles. This challenge effectively required ASARECA to expand its roles and functions in the subregion.

In 2007 the Secretariat was preoccupied with managing this transition and normalising its activities. But during the same period the European Commission

discovered problems with the Regional Support Programme it had entered into with ASARECA. The Commission suspended the contract, leading to severing of research activities, including freezing funds that ASARECA had already disbursed to partner institutions. The year was spent in protracted discussions seeking alternative ways to implement activities.

This report profiles progress made in the transition and in resolving the Regional Support Programme crisis. Nevertheless, some research activities continued under the NPPs, and we report on their progress and achievements towards meeting our goals and objectives.

# 2 Report of progress

## Governance

Once the ASARECA Board of Directors had approved changes in board membership, the executive director consulted on appointing representatives to the expanded board. The new board comprised the following representatives: directors of national agricultural research institutes–10, COMESA–1, university agricultural faculties–1, farmer organisations–1, international agricultural research institutes–1, private sector–1 and civil society–1. By the end of the reporting period, all but two positions—the private sector and civil society—had been filled.

In addition, revision of the ASARECA constitution and preparation of the governance manual progressed well. The Board reviewed the first drafts of these documents at their third meeting in August 2007.

## Management

The most daunting transitional challenges were phasing out the NPPs, developing new programmes and appointing new staff, and managing the EC-supported Regional Support Programme. The transition was constrained by limited financial resources and was not completed in 2007 as originally envisaged.

### *Problems with the Regional Support Programme*

The Regional Support Programme probably had the greatest impact on ASARECA operations during 2007. In October 2006, ASARECA submitted one addendum to the Competitive Grant System (CGS) contract 'Operation of the ASARECA CGS', and another addendum to the financing agreement. The CGS grant contract was to be extended, additional funds recommitted from work programmes that had been decommitted, and financial modalities amended to facilitate implementation of the grant system. The financing agreement rider foresaw extending the Regional Support Programme to 2010, and reallocating funds primarily to make use of funds released from the cancelled endowment fund.

Beginning 2007, EC Brussels started to question the grant management system applied by the Regional Support Programme, and sought alternative ways to manage the programme. The bone of contention was that the executive secretary was also the regional authorising officer, and grant contracts were used as the legal instruments for the CGS. These issues were raised after years of being implemented under the system now under question. After discussions lasting several months, the EC in June 2007 proposed that from 2008 the European Development Fund's contribution to ASARECA be channelled

through a World Bank Multi-Donor Trust Fund, which would be established for this purpose. In October 2007, the financing agreement was finally extended to December 2010 with budget amendments, and allowing the trust fund as the funding instrument. Until the Trust Fund becomes operational, the EC will provide interim funding to ASARECA to support only such essential expenditure as salaries and office provisions. A programme estimate was made for the period July–December. No interim funding was provided for research, and research funds already disbursed to ASARECA partners but that had not been spent by 30 June 2007 were returned to the EC, to be later channelled through the Trust Fund.

The CGS grant contract was not extended and ended on 30 June 2007. The general grant contract ‘Support to Regional Agricultural Research for Development’ was also not extended and ended on 30 September 2007. The delays associated with the lengthy decision making and early phasing out of existing grant contracts without alternative financial instruments significantly affected the programme’s performance, ASARECA reputation as a subregional research funding organisation, and the project team’s motivation. Altogether, 8 CGS Funding Stream–A projects and 30 Funding Stream–B projects with a total value of about €5.1 million were suspended indefinitely at the end of June 2007. Fourteen Funding Stream–A projects that had been scheduled to start at the beginning of 2007 were also postponed indefinitely. ASARECA was obliged to use substantial funds from its reserves to finance ongoing key ac-

tivities. However, all CGS projects remained on hold.

### ***Phasing out networks, programmes and projects***

Following the decision to phase out the NPPs, a deadline had to be determined. By coincidence, the first phase of the USAID grant to ASARECA and the EC-funded contracts for NPP coordinators were both ending on 30 September 2007. This was an appropriate date to terminate employment of NPP coordinators, signalling the end of ASARECA’s networks, programmes and projects. Coordinators had been informed earlier of the phasing out process, which included preparing terminal and hand over reports and handing over assets.

Funding was not available in early 2007 to recruit programme managers in time for NPPs to hand over to them. Available funds allowed recruitment of three programme managers, and most of the NPP coordinators handed over to the Programme Management Unit.

### ***Recruitment of programme staff***

By the last quarter of 2006, funds were available to recruit four programme managers, for Staple Crops, Non-Staple Crops, Policy Analysis and Advocacy, and Agrobiodiversity and Biotechnology programmes. The positions were advertised in early 2007 and interviews conducted in February in Bujumbura. Three programme managers were recruited but a suitable candidate was not found for the Non-Staple Crops Programme, and the position was re-advertised.

The new programme managers for Staple Crops, Policy Analysis and Advocacy, and Agrobiodiversity and Biotechnology Programmes started work between March and June 2007, and developed their respective programme strategies and priorities.

The remaining four positions were advertised in June 2007 in anticipation of funding from donors. Funds were not available in time, the number of applicants was unsatisfactory, and the four positions were re-advertised. Through bidding, KPMG—a professional services consultancy firm—won the tender to recruit the programme managers and heads of the Information and Communication Unit and the Administration Unit. KPMG placed advertisements in national newspapers of all ASARECA countries in the third week of December 2007.

### ***Maintaining contact with donors***

Contacts were maintained with all donors and ASARECA submitted all technical and financial reports as required. During the reporting year, we welcomed two new donors—the UK Department for International Development (DFID), which provided ASARECA with an initial grant of about US\$600,000 to finance various aspects of the transition, and the Canadian International Development Agency (CIDA) with a sub-grant through FARA of US\$259,000. We look forward to implementing an expanded portfolio made possible by these and future contributions from them.

On their part, ASARECA's development partners began to coordinate under a multi-donor support framework. Under this framework, development partners

coordinate their views and approaches and advise as a group; previously they operated individually. This approach has eased our relationships with donors, and enabled us to harmonise financial, reporting, and monitoring and evaluation systems.

USAID East Africa Phase I support ended on 30 September 2007. Phase II of the grant was already approved to run concurrently. This latter grant supported recruitment of the three programme managers and initial transition activities.

As stated earlier, a problem with the grant contract the EC had signed with ASARECA resulted in the EC halting financing for research activities at the end of June 2007, and for other activities at the end of September 2007. Partners who had already been advanced funds were not allowed to use them after expiry of the grant contract. Following protracted negotiations with the EC, the following were agreed to.

In future, EC funds to ASARECA would be channelled through a World Bank Multi-Donor Trust Fund. The EC would also pay outstanding funds into the Trust Fund, which would then disburse the funds to ASARECA in accordance with Trust Fund procedures.

In the interim, the EC would provide funding to support essential expenditure only, such as salaries and office provisions. No interim funding would be provided for research programmes and other non-research activities.

Funds already disbursed to ASARECA partners but not yet spent by 30 June 2007 would be returned to the EC and will be part of the payments to the Trust Fund.

### ***Finalising the operational plan and strategy***

At the February 2007 Board of Directors meeting in Bujumbura, donors challenged ASARECA to expand its roles and responsibilities, in particular to implement CAADP Pillar IV along the FAAP principles. Consequently a meeting was convened in May 2007 that brought together donors, partners and COMESA, and a few potential partners to agree on the new mandate for ASARECA. This meeting agreed in principle that ASARECA would in future support implementation of CAADP Pillar IV by facilitating agricultural education and training, extension and farmer empowerment. ASARECA would partner with specialised institutions such as the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), the African Network for Agriculture, Agroforestry and Natural Resource Education (ANAFE) and the African Forum on Agricultural Advisory Services.

Several subsequent meetings endorsed this added mandate and the ASARECA vision and mission were revised to include this expanded responsibility, as was the operational plan for 2008–2012.

### ***Other Secretariat activities***

#### REVIEW OF NPPS

The year 2007 was eventful for ASARECA: it shifted from the decentralised NPP mode of operation to the more centralised programmatic mode; the first phase of USAID funding was coming to an end and the second phase was commencing. Part of USAID Phase II funding was used to

support the review of the performance and management of NPPs so that lessons learned would inform the new programme strategies. An external review of NPPs was commissioned and the Natural Resources Institute of the UK won the tender. The review took place during the third quarter of 2007 and a report was already available by the close of the year.

#### PROGRAMME REVIEW AND MONITORING PANEL

The external review of NPPs was in addition to the Programme Review and Monitoring Panel (PRMP), an external standing panel commissioned by the EC to review the performance and management of programme activities supported through the EC grant. The PRMP did not visit ASARECA in 2007 as their service contract had come to an end, and the EC did not tender the contract again because of the legal uncertainties with the EC-funded Regional Support Programme. However, it is foreseen to have the PRMP operational again in 2008.

#### DEVELOPING A PROPOSAL FOR IAR4D CAPACITY-STRENGTHENING INITIATIVE

ASARECA is committed to an approach that integrates agricultural research for development. To enhance and consolidate activities in a coherent integrated agricultural research for development (IAR4D) approach, ASARECA has developed a capacity-strengthening programme to get away from uncoordinated and ad hoc capacity-building activities.

To transform agriculture in the subregion, research institutions must move away from the traditional approach of doing research and

embrace an innovation approach that addresses obstacles along the entire production-to-consumption chain, that is, focus on IAR4D. IAR4D is a concept that is not yet well understood and capacity must be built to prepare the research community in the subregion to embrace this practice. This is the basis for the proposal.

The Royal Tropical Institute won the tender to write the IAR4D proposal, which it did during the second and third quarters of 2007. The programme proposal was available at the Secretariat by the close of 2007.

#### DEVELOPING AND IMPLEMENTING THE TECHNOLOGY UPTAKE AND UPSCALING SUPPORT INITIATIVE STRATEGY

ASARECA's Technology Uptake and Upscaling Support Initiative (TUUSI) started in November 2006. The following year, 2007, was essentially a conceptualisation phase and activities concentrated on developing, through a participatory process, the strategic plan, programme priorities and project concept notes that will be implemented over the next five years. A stakeholders inception workshop in February explored the potential roles and value added by TUUSI. A second workshop in September tabled and discussed the TUUSI draft strategy and potential results. The meeting reached consensus on three broad thematic niches and an implementation plan for TUUSI. Additional inputs were obtained through discussions with key stakeholders in agricultural advisory (the African Forum for Agricultural Advisory Services) and farmer empowerment (Eastern African Farmers Federation) to identify specific strategic issues in these

areas to begin to work on. More inputs were obtained through consultations with the three programme managers to determine areas of interaction and convergence. Finally, a project development workshop was held in December 2007, at which draft concept notes for a number of projects targeting the initiative's priorities were developed.

#### MONITORING AND EVALUATION

During the second Board of Directors meeting held in Bujumbura, Burundi in 2007, donors requested ASARECA to review its strategic and operational plans to take into account the FAAP and CAADP agendas. The Monitoring and Evaluation (M&E) Unit coordinated the preparation of an issues paper defining the ASARECA strategic niche as a subregional organisation and its possible role in implementing the CAADP agenda. Progress was also realised in the following areas.

*Capacity strengthening.* The M&E Unit had planned a series of capacity-strengthening workshops for the new programmes and project management units. Owing to the delay in recruiting programme managers and in developing programme strategies, the workshops were not conducted. The activities will be conducted in 2008.

*Establishing appropriate M&E systems and structures.* The logframe was reviewed and an additional result on governance and management included following expansion of the ASARECA mandate and a recommendation from donors. In addition, the M&E strategy was revised to reflect a programmatic approach to implementation. Automation of the M&E system

progressed well and with funding from USAID East Africa, the consultancy firm Abt Associates was commissioned to develop MS Excel workbooks for data capture and reporting. A fully automated M&E system is expected to be in place by mid-2008.

*Outcome and impact evaluation.* In July 2007, the Natural Resources Institute was commissioned to carry out an end-of-phase review of the NPPs. The review highlighted notable achievements in implementing research through the networks. The review lauded the involvement of key stakeholders in designing and monitoring projects, and the facilitative role played by commodity networks in developing the research capacity of the weaker national agricultural research systems (NARS).

However, the report noted that NPP coordinators lacked capacity to provide the required levels of technical backstopping owing largely to increased administrative responsibilities.

Recommendations from the report were used to design the new programmes.

### ***Information and Communication Unit***

The first activity of the Communication and Knowledge Management Strategy in 2007 was to undertake a needs assessment for implementing an integrated programme management information system. As the portfolio of research projects and associated activities grows, there is urgent need to improve management information systems for core programme functions—planning, CGS, resource management, movement of funds and grants, M&E and reporting against results. ASARECA contracted Virtual City, a service provider

from Kenya, to work jointly with it to develop the management information system. In consultation with Secretariat staff, Virtual City carried out a needs assessment study that documents management information needs for the future, a roadmap to address these needs, and information systems and tools that can help ASARECA achieve its strategic objectives and interact and communicate more effectively and efficiently with its partners and collaborators. A three-year plan outlining the time and phases for implementing the information system and the related costs was developed and the action plan for 2008 finalised.

### ***Outreach and partnership activities***

The executive director and senior staff of ASARECA attended numerous meetings at the invitation of partners, within and outside the ASARECA region. This is evidence to demonstrate that ASARECA staff is playing an important role in intellectual debates and exchanges.

ASARECA set up a web-based database of best-bet research outputs generated through past research efforts supported through the NPPs ([www.asareca.org/tuusi](http://www.asareca.org/tuusi)). It also synthesised abstracts of the 37 research outputs displayed on the database, which are about to be published as a booklet for dissemination. The annual report for 2006 was published and disseminated as were a number of other technical documents and scientific papers.

### ***Partner institutional viability assessment***

A consultant helped staff to undertake a partner institutional viability assessment, one of the requirements



for reporting to USAID. The exercise involved applying specific tools to assess progress made over a period of time on different facets of institutional growth and development. As expected, the exercise showed ASARECA had grown considerably in some areas and not so much in others. Generally, the recommendations showed an institution that is developing albeit with some challenges. Areas that needed attention will be addressed with the transition.

## ASARECA role in FARA initiatives

As an implementing partner for FARA, ASARECA engaged in the following activities to implement FARA flagship initiatives.

### ***Sub-Saharan Africa Challenge Programme***

The Sub-Saharan Africa Challenge Programme (SSA-CP) was originally designed as a large-scale action research and capacity-building project to disseminate knowledge throughout Africa of best practices for carrying out IAR4D. Three pilot learning sites were carefully selected in each of Africa's three sub-Saharan subregions. Lake Kivu Basin was selected for the ASARECA subregion. Participatory diagnostic studies were carried out with diverse stakeholders in each participatory learning site, and work plans were developed to address challenges through local 'innovation platforms' that address cross-cutting constraints in agricultural development. By the end of 2006, the three learning sites were ready to begin IAR4D fieldwork.

In April 2007 and with ASARECA endorsement, the International Centre for Tropical Agriculture (CIAT) signed an agreement with FARA to be the lead institution for implementing SSA-CP in the Lake Kivu site. In this capacity, CIAT is expected to coordinate and provide technical backstopping to the taskforces that were formed earlier in the inception phase. CIAT convened a meeting of the partner organisations that constitute the three taskforces, including ASARECA, in Kampala, Uganda, 5–6 July 2007, the objectives of which were to:

- revise each taskforce's projects and obtain consensus on final integration of research plans by the three taskforces
- update partner organisations making up the taskforces on the renewed emphasis on proof of the IAR4D approach
- align the projects with the SSA-CP medium-term plan, and revise the budgets and develop timelines for activities agreed upon
- discuss and agree on key issues concerning contractual sub-agreements between CIAT (the lead institution) and partners making up the taskforces.

The outcome of the meeting was a joint framework articulating the specific activities necessary to achieve each project output of the taskforces, and the roles of the various partner institutions in undertaking these activities. Follow-up meetings by the taskforce teams were held in Kawanda (September 2007) and Kigali (October 2007) to agree on a final combined workplan for

the participatory learning site project for the first year, combined activities and budgets for three years, work plan and budget for the first quarter, capacity development needs, and draft agreement for use to develop contracts. The next major event planned by the three taskforces will be site selection.

### ***Strengthening Capacity in Agricultural Research and Development in Africa***

Strengthening Capacity in Agricultural Research and Development in Africa (SCARDA) is a programme led by FARA in partnership with subregional organisations and key stakeholders. A six-month inception phase for SCARDA was conducted during 2007 and it is anticipated that this will be followed by an initial three-year implementation period to be funded by DFID. The initiative will implement some of the recommendations of an assessment of the capacities of NARS in sub-Saharan Africa commissioned by FARA and subregional organisations.

ASARECA commissioned a scoping study (March to August 2007) to identify the specific capacity needs in the subregion. The objectives of the study were:

- together with other capacity-strengthening institutions such as ANAFE, RUFORUM and ISNAR (the International Service for National Agriculture), to analyse capacity-strengthening needs of NARS in the ASARECA member countries and recommend strategies for addressing them
- to propose partnerships, roles and responsibilities of various actors in addressing the capacity-strengthening needs
- to suggest programme management structures and operational procedures that are consistent with ASARECA policies and practices.

The study approach involved country consultations followed by subregional stakeholder workshops. Following a synthesis of the outcomes of the scoping study and the stakeholder consultative workshop, the capacity-strengthening needs were aggregated into three main intervention areas 1) strengthening capacity to carry out quality research, 2) improving relevance and impact of research through professional development, and 3) strengthening management of agricultural research and training institutions.

An implementation plan for the SCARDA project was developed with key stakeholders based on the study outcomes. In keeping with the principle of being in solidarity with the weaker NARS, Rwanda and Burundi were selected as the focal countries to implement the project. However, all NARS in the ASARECA subregion will benefit from the capacity-strengthening initiatives.

### ***Regional Agricultural Information and Learning Systems***

ASARECA is implementing activities under the framework of the FARA Regional Agricultural Information and Learning Systems (RAILS). RAILS is a five-year project funded by the African Development Bank. Its major objective is to enhance access, retrieval and use of agricultural information and technologies by agricultural research for development stakeholders in the global arena of knowledge exchange.

Major activities include:

- creating a platform to facilitate information exchange and learning by different stakeholders
- strengthening information and communication technology infrastructure
- advocating increased investment in agricultural information.

ASARECA participated in the RAILS implementation workshop organised at the FARA Secretariat in Accra, Ghana in January 2007. During the workshop, an implementation framework and a programme for RAILS were developed. These will be coordinated by FARA and implemented by subregional organisations and NARS, together with international service providers.

An ASARECA / RAIN regional steering committee prepared a concept note for a workshop to be held in ECA under the auspices of RAILS. The workshop will inform ASARECA stakeholders about FARA-RAILS, obtain buy-in on the proposed activities for the

subregion, and develop a workplan involving stakeholders in planning and implementing activities. The concept note is available.

### ***Dissemination of New Agricultural Technologies in Africa***

Dissemination of New Agricultural Technologies in Africa (DONATA) is intended to build the capacity (theory and skills) of stakeholders in agricultural research and development to effectively and efficiently facilitate adoption of successful agricultural technologies across countries and throughout Africa. The programme will be implemented under the leadership of subregional research organisations. During 2007, ASARECA developed implementation plans for disseminating quality-protein maize and the orange-fleshed sweet potato—technologies developed in the subregion in partnership with CIMMYT and CIP, respectively. These plans are pending approval by FARA prior to implementation.

# 3 Research progress

In 2007 the NPP coordinators faced the challenge of winding up their work and handing over, prematurely, by 30 September 2007. These challenges were not only operational but also emotional given that most coordinators were losing employment. Nevertheless, they continued to do their best to coordinate research activities and produce tangible results highlighted below.

## Result 2: Generation and uptake of demand-driven agricultural technologies and innovations facilitated

### ***ASARECA Animal Agriculture Research Network***

#### STRENGTHENING CAPACITY FOR FORAGE SEED PRODUCTION

The ASARECA Animal Agriculture Research Network (A-AARNET) implemented an initiative to strengthen capacity for producing forage seed and conserving forage germplasm in representative sites of the major ecological zones in ASARECA member countries. The initiative will increase supply of forage seed within the region.

#### NEW COLLABORATIVE RESEARCH PROJECTS

The network developed three new collaborative research projects that

address three themes from its strategic research agenda: 1) improving access to markets, 2) improving use of innovations to enhance market opportunities, and 3) improving value addition in input and output marketing chains. These were submitted to ASARECA for funding under ASARECA CGS Funding Stream-B.

#### CONCEPTUAL FRAMEWORK FOR CROSSBREEDING

A-AARNET facilitated the adoption of a conceptual framework for evaluating crossbreeding programmes to be used to build simulation models for crossbreeding.

#### STUDY ON MEAT AND DAIRY MARKETS

A-AARNET observed that in the functioning of the dairy and meat niche markets in Kenya and Tanzania, only 3–16% and 8–10%, respectively, of supermarket shoppers purchased dairy and beef products. The dairy niche market demanded good hygiene standards, freshness, taste, absence of milk adulteration, adequate pasteurisation, and good smell and colour. The requirements for beef were tenderness, juiciness, good colour, less fibrousness, cleanliness, fat content, fat cover, age of slaughter, freshness, storage condition, palatability, presence of official stamp and absence of gristle and blood spots. Safety attributes for milk products were packaging and labelling showing expiry date, while for

beef slaughter of cattle at recognised places, beef cuts packed in special bags and inspected and frozen were considered important.

### **Banana Research Network for Eastern and Southern Africa**

#### DISSEMINATING BANANA TISSUE CULTURE TECHNOLOGY

The Banana Research Network for Eastern and Southern Africa (BARNESA) made the following milestones in its work to transfer banana tissue culture technology to farmers in Uganda (and not in Tanzania due to a ban on cross-border movement of banana materials):

- it procured banana mother plants and started production of tissue culture plants
- it sensitised farmers in the study areas on modern banana agronomic techniques and practices
- it identified and trained plant nursery operators and farmers, in separate sessions, on tissue culture. Nursery operators provided land for

constructing nurseries that will serve as plantlet distribution centres to the farmers. Farmers provided one field each to establish demonstration gardens

- it established two plant nurseries and 40 demonstration gardens. The nurseries provide easy access to clean banana planting material and the demonstration gardens are used to train farmers in modern farming practices.

#### RESEARCH PROTOCOL WITH PARTNERS

Together with partners in Ecuador, Morocco and Uganda, BARNESA developed a research protocol through a series of workshops held in the three countries, and subsequently tested it with national partner institutions.

#### CONTROLLING BANANA *XANTHOMONAS* WILT

BARNESA and Bioversity International in partnership with Uganda's National Agricultural Research Organisation (NARO), completed an on-farm assessment of banana *Xanthomonas*



wilt (BXW) control options in Ziobwe subcounty, Luwero District in Central Uganda. Activities involved evaluating control options, developing new cheap and less labour-demanding technologies to control the disease, rehabilitating farms destroyed by BXW, and conducting campaigns on disease awareness.

BARNESA conducted studies on systemicity of *Xanthomonas* wilt bacterium of 'Pisang Awak' (a banana variety commonly known as Kayinja in Uganda), which revealed that in flower-infected plants, the *Xanthomonas* bacterium is restricted to the upper parts of the plant (for example, during early symptoms such as shrivelling of the male bud bracts). BARNESA established that cutting these plants off the mat at the corm level prevents the bacterium from spreading to the attacked sucker. Furthermore, timely de-budding effectively controls BXW infection on the flowers.

BARNESA established that a heavily infected BXW farm requires at least 6 months of fallow before being replanted with banana. Crop rotation in fields with non-host crops for at least one season was found to be equally effective in controlling BXW. Farmers preferred early de-budding as it proved to be an economically viable option to control BXW. Additionally, farmers also preferred using herbicides to the laborious complete uprooting of the whole mat to kill BXW-infected plants.

#### PARTICIPATORY MONITORING AND EVALUATION WITH NARS

BARNESA developed a tool to monitor and evaluate implementation of activities agreed with NARS in 1) attaining desired competencies by farmers to recognise and control disease, 2) generating quality information, 3) implementing agreed national workplans, and 4) developing disease incidence and distribution in benchmark sites as indicators of the effectiveness of capacity-building activity of the Crop Crisis Control Programme. Monitoring and evaluation tools were translated into the local language with the help of farmers from Luwero and Lugazi in central Uganda. Preliminary findings show that farmer competencies were most correlated with disease incidence and distribution.

#### LINKING FARMERS WITH RESEARCHERS

BARNESA linked research end-users (farmers) with NARS scientists to enable increased use of innovative approaches by farmers. It also provided a forum for engaging NARS scientists across ECA, and supported several grassroot organisations to enable sustainable changes in livelihoods through increased incomes.

# Eastern Africa Plant Genetic Resources Network

Eastern Africa remains one of the most important biodiversity hotspots in the world. The subregion is one of several areas in the world where crop plants were originally domesticated from wild species. Crops that were originally domesticated outside of the eastern African highlands exhibit extreme secondary diversification in eastern Africa.

The region is host to a wide range of important rare and endemic species, habitats and ecosystems. Endemism, which is the proportion of species not found anywhere else in the world, is high in the region. Within the subregion, Madagascar is very rich in the number of endemic species. The highlands of Ethiopia and Eritrea, the forests of Burundi, Kenya, Rwanda and Uganda are considered biodiversity hotspots.

The rich diversity of plants that have been selected and cultivated over the centuries forms the basis of genetic resources that farmers, breeders, researchers and other agriculturalists draw upon. The conservation and sustainable use of local varieties and wild relatives of domesticated crops are considered a genetic insurance policy for adapting to changing environmental conditions, such as climate change, pest and diseases, and for improving yield and quality.

In eastern Africa medicinal plants contribute substantially to the rural

primary health delivery system and income to the traditional healers. Moreover plant genetic resources (PGRs) provide a wide range of essential services to the sustainable functioning of agro-ecosystems through nutrient cycling, carbon sequestration, soil stabilisation and water filtration, nitrogen fixation especially the leguminous species, and pest and disease control. The loss of biodiversity poses a serious threat to agriculture and the livelihoods of millions of people. Conserving biodiversity and using it wisely is a global imperative. PGRs provide the foundation for our agricultural systems. They provide the sources of traits to improve yield, quality, resistance to pests and diseases and adapt to changing environmental conditions, such as global warming.

The subregion's PGR is under threat of genetic erosion from human and natural factors such as climate change, natural habitat degradation, social and political unrest, invasion of alien species, desertification, deforestation, overgrazing. Introduction of uniform improved varieties, useful as they are, has gradually contributed to a decrease and in some cases led to the loss of genetic diversity in traditional varieties. Expanding population pressure, urbanisation and catastrophes such as drought also contribute to the loss of agricultural genetic resources in eastern Africa.

In the subregion, PGR conservation and management systems generally suffer from lack of appropriate institutional arrangements and harmonised supportive national and regional policies. Unlike other fields of science, there is limited human capacity in the PGR realm to undertake effective PGR research, management and utilisation.

Basically there are two complementary conservation strategies: *ex situ* and *in situ*. Enhanced utilisation and the *ex situ* and *in situ* conservation programme of PGRs in eastern Africa is of paramount importance on a global scale, and also for small-scale farmer subsistence agriculture in the subregion. *Ex situ* (off-site) conservation of germplasm takes place outside the natural habitat or outside the production system, in facilities (genebanks) specifically created for this purpose. Depending on the type of species to be conserved, different *ex situ* conservation methods may be used. *In situ* conservation of traditional crop varieties serves as a source of famine mitigation and also provides the genetic materials for farmers to select special lines to meet their changing needs and environmental challenges.

During the period under review the Eastern Africa Plant Genetic Resources Network (EAPGREN) undertook various PGR activities including germplasm collecting, characterisation, evaluation, documentation, regenerating old germplasm accessions and capacity-development initiatives.

## COUNTRY INITIATIVES TO CONSERVE AND MANAGE PLANT GENETIC RESOURCES

### Burundi

*Conserving and characterising dry bean genotypes.* EAPGREN-Burundi collected 574 bean accessions from 11 agro-ecological zones in Burundi during the harvest periods of 2007. Seventy percent of these accessions were dry bean genotypes. This raised the number of accessions in the national genebank to 752 by December 2007. These accessions were being processed for long-term conservation and other related PGR activities.

A preliminary morphological characterisation (separation based on colour and other visible characters) of dry beans was carried out. Of these, 55 samples were evaluated to determine their protein, starch and mineral content.

*Evaluating tolerance to cassava mosaic disease.* Sixty-two cassava accessions being conserved for their tolerance to cassava mosaic disease were evaluated. Only four samples were found to be resistant and have potential as sources of resistance for national and regional cassava improvement programmes.

### Eritrea

*Conserving wild plant species.* EAPGREN-Eritrea conducted a gap-filling germplasm collecting mission targeting wild plant species from western Eritrea. Thirty accessions of wild plants were collected from western Eritrea, 17 of which were crop plant species; of these 10 were not represented in the genebank, 10 were high-potential forage species, and 7 were wild relatives of food crops.



*Morphological characterisation of plants.* EAPGREN completed multiplying seed of 69 accessions and preliminary morphological characterising of 38 accessions of 22 species of plants in Eritrea. The aim is to enhance their use in plant improvement.

*Regenerating chickpea.* Thirty long-term accessions of chickpea were regenerated.

*Reinforcing institutional capacity.* The genebank was reinforced with 12 deep-chest freezers, hard drives for computers and a backup generator.

## **Ethiopia**

*Conserving local bamboos.* The Ethiopian genebank through EAPGREN support carried out studies to determine the precise conditions for germination of local bamboos conserved in the genebank. However, there were no results yet by the close of the reporting period.

As part of EAPGREN intervention, the genebank also demarcated the site for lowland bamboo (*Oxyenantha abyssinica*) natural forest.

Seeds of *Arundinaria alpine* were collected from southern Ethiopia and stored in the genebank. This is an isolated natural bamboo forest faced with the threat of replacement or overexploitation.

*Halting extinction.* The EAPGREN programme collected seeds of four plant genera (*Oxyenantha*, *Ptilosma*, *Securidica* and *Vitex*) from which about 16,800 seedlings have been raised and planted in the ex situ conservation site in Ethiopia and some were distributed to the local community. This activity was

undertaken to enhance the sustainable management of the species and reduce the danger of genetic depletion as a result of prevailing overexploitation and other human and natural factors.

EAPGREN collected seeds of some edible wild fruits and other useful trees and shrubs in Ethiopia. In addition, 192 accessions of 13 indigenous trees and shrubs were collected from different parts of the country and samples conserved in the genebank. Some indigenous trees and shrubs were raised in the nursery of the local botanic gardens and planted in different conservation sites. The objective was to ensure they are conserved in the short and long term and used sustainably.

*Capacity building.* EAPGREN conducted a workshop to create awareness on biodiversity. Eighty participants from the surrounding community, decision makers and agricultural offices attended the workshop.

## **Kenya**

*Regenerating minor crops.* EAPGREN in collaboration with Bioversity Kenya identified minor crops that need regeneration. The genebank also worked on the total regeneration needs for such crops in ex situ collections.

*Work with KARI.* EAPGREN-Kenya regenerated and multiplied 41 accessions of *Dolichos lablab* and characterised 47 accessions of cucurbits at the Kenya Agricultural Research Institute's (KARI) Kiboko subcentre. The network characterised 16 accessions of maize landraces at the Muguga centre and tested 40 accessions of *Sorghum bicolor* for initial viability.

*Determining the genetic variation of yams.* EAPGREN supported work aimed at determining the genetic variation of yams at the National Genebank of Kenya. Early results showed a wide range of yam diversity in local materials, highlighting the potential to genetically exploit and conserve its genetic diversity before it is depleted.

### **Sudan**

*Cataloguing sorghum germplasm.* EAPGREN-Sudan collected 173 accessions of sorghum in central Sudan. The materials were processed and placed under long-term storage conditions in the seed bank of the Plant Genetic Resources Unit of the Agricultural Research Council (ARC) in Wad Medani. The passport data of these sorghum collections is being synthesised and characterised to help to produce a catalogue of sorghum germplasm in the genebank.

### **Rwanda**

EAPGREN-Rwanda generated a list of endangered plant species that need to be conserved and used sustainably. The Institut des Sciences Agronomiques du Rwanda (ISAR) collected a number of accessions of *Cleome*, *Myrianthus* and other genera with potential food and medicinal values.

### **Uganda**

EAPGREN collected 218 accessions of *Acacia senegal* and started processing them into the genebank. A further 197 accessions of beans were multiplied while 60 seedlings of *Syzygium guineense*, 35 of *Rhus vulgaris*, 30 of *Saba comorensis*, 17 of *Landolphia dawei* and 1 of *Parinari curatellifolia*

were transplanted in the national botanic gardens in Entebbe. Ten accessions of *Chenopodium quinoa* were multiplied at Kacwekano.

### **Eastern Africa Root Crops Research Network**

#### DEVELOPING AND IMPROVING CASSAVA GERMPLASM

*In Uganda...* The Eastern Africa Root Crops Research Network (EARRNET) and the International Institute of Tropical Agriculture (IITA) developed and improved cassava germplasm in Uganda. The materials developed were advanced to another level in trials established at Serere and Namulonge. Additionally, 241 genotypes introduced from IITA Nigeria were evaluated in a screen house at Sendusu, Namulonge. Eighty-two genotypes were lost in a short time due to cassava bacterial blight. Four months after planting in the field, 13 genotypes had symptoms of cassava brown streak disease.

*...in Kenya.* EARRNET together with the Kenya Plant Health Inspectorate Service (KEPHIS) and the Plant Quarantine Station continued to ensure safe introduction, maintenance and exchange of cassava germplasm through tissue culture conservation. Sixteen clones with 442 plantlets were distributed in Rwanda, 4 clones with 60 plantlets were distributed in Burundi, while 41 clones with 100 plantlets each were conserved under in vitro conditions.

#### LINKING WITH PARTNERS TO DISSEMINATE AND COMMERCIALISE CASSAVA

The network also linked up with the Catholic Relief Service's regional



programme to promote varieties resistant to cassava mosaic disease in Burundi, DR Congo, Kenya, Rwanda, Tanzania and Uganda.

EARRNET established new links with SIGMA in Kenya to buy cassava chips from farmer groups to process into animal feed.

### ***Eastern and Central Africa Programme for Biotechnology and Biosafety***

#### **DROUGHT-TOLERANT MAIZE**

The Eastern and Central Africa Programme for Biotechnology and Biosafety (ECABIO) successfully genetically transformed Sudanese maize inbred lines and open-pollinated varieties for drought tolerance.

#### **SORGHUM STAYS GREEN**

ECABIO introgressed the stay-green trait into two Ugandan and two Kenyan farmer-preferred sorghum varieties to enhance terminal drought tolerance.

#### **FIGHTING THE MOSAIC NECROTIC VIRUS IN BEANS**

ECABIO used marker-assisted breeding/selection to improve the common bean (*Phaseolus vulgaris*) against mosaic necrotic virus in Kenya, Rwanda and Uganda.

### ***Eastern and Central Africa Bean Research Network***

#### **RELEASING MICRONUTRIENT-RICH BEANS**

Micronutrient-rich bean lines were at pre-release stage in national

performance trials and on farms in participating countries—DR Congo, Kenya, Rwanda and Uganda—and may be released in the first or second quarter of 2008. MLB-49-89A and 620, Maharagi Soja, Gofta, Roba 1, Kiangara, Ngwinurare and NUA are among the fast-track lines farmers in member countries selected for their high yield, disease resistance, acceptable market traits and adaptation to low fertility soils.

### ***Eastern and Central Africa Maize and Wheat Research***

#### ADVANCES IN QUALITY-PROTEIN MAIZE

The Eastern and Central Africa Maize and Wheat Research (ECAMAW), in partnership with the Catholic Relief Services and the Catholic Diocese of Embu, planted 48 mother trials of released quality-protein maize varieties on farmer field schools in four districts of Kenya. These varieties were from two private companies—Western Seed Company and Freshco Seed. A total of 6,538 baby trials in the form of test packets of 150 g, 500 g or 1 kg each were distributed to farmers to evaluate on their farms under their own management conditions.



ECAMAW's three hybrid imidizolinone-resistant maize varieties were in the third year of national performance trials in Ethiopia. ECAMAW evaluated two normal highland maize three-way-cross hybrids on station and on farmers' fields for possible release in 2007/08. Parents of these hybrids were also multiplied in breeding nurseries through controlled pollination. In addition, several crosses (top cross, single and three-way cross) were made at the regional breeding centre in Ambo for evaluation and verification. By the end of 2007, highland hybrid AMH800 and highland synthetic HORA were already released in Ethiopia. In tests conducted in Rwanda, farmers ranked these varieties first and second, and plans are under way to release them in the country.

Based on multilocation testing in 2006, the Ethiopian Institute of Agricultural Research selected yellow quality-protein maize hybrid at its Bako research centre, and quality-protein maize open-pollinated variety at its Melkassa centre and planted them for verification by the seed release committee before release in 2008. In Burundi prerelease of new varieties has continued through 26 farmer associations. The varieties distributed were ECAVL 1, ECAVL 2, ECAVL 16 STR, ZM 621, ZM 521 and Espoir.

ECAMAW evaluated hybrids formed from the newly developed quality-protein maize, highland maize, and drought- and low N-tolerant inbred lines with high specific combining ability for adaptation across the ECA subregion. From these hybrids, breeders were expected to select the best-adapted hybrids for use in breeding programmes. NARS in all highland countries in

the region requested several best-performing normal and quality-protein single, three-way and double-cross hybrids. By end of the year, plans were advanced to release some of these in a few of the highland countries. Quality-protein maize best hybrids and open-pollinated varieties were available for all agro-ecologies.

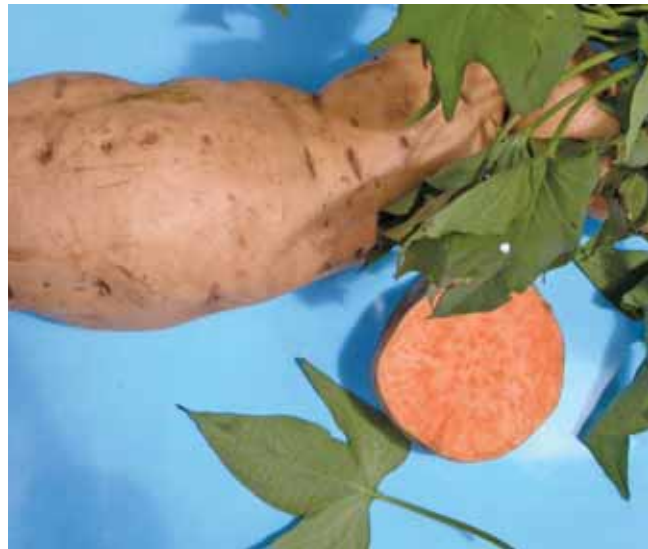
#### CREATING AWARENESS OF QUALITY-PROTEIN MAIZE

ECAMAW promoted quality-protein maize and highland maize in Ethiopia, Tanzania and Uganda. The events received local, national and international media coverage (on radio, TV and newspapers in Uganda). In addition, 12 radio spot advertisements for field days on quality-protein maize were broadcast. Also in Uganda, 10 banners and 10,000 flyers on quality-protein maize were produced in local languages, 200 T-shirts were produced for the 'Source of the Nile National Agricultural Show', and various quality-protein maize products (mandazi, buns, roasted maize, flour) were prepared and displayed at the quality-protein maize pavilion during the show.

#### **Potato and Sweet Potato Regional Research Network**

##### FASTER MULTIPLICATION OF SEED POTATO

The Potato and Sweet Potato Regional Research Network (PRAPACE) developed a system for producing dry-season planting material away from wetlands. This was achieved through manipulating light intensity and using aqueous extracts from bulbils of the 'aerial potato', *Dioscorea bulbifera*. The process involves a semi-automated



hydroponics system to intensively cultivate sweet potato planting material indoors. A prototype of the system referred to as compact multi-entry screening troughs had potential to preserve about 2500 vines for over 90 days in an area measuring 4 m<sup>2</sup>. With this system, vines can be kept for a period longer than a normal dry season lasts in the region.

##### INTEGRATED DISEASE MANAGEMENT

In collaboration with NGOs and public extension services, PRAPACE validated and demonstrated on farmers' fields three additional integrated disease management techniques. This was done through participatory research for development using 11 farmer field schools set up in Burundi, Madagascar and Tanzania. These three elements, useful when used as a package, are 1) planting in rows, 2) strict sanitation measures 3) soil tilling. These were in addition to use of healthy seed, positive selection technique, use of the small seed plot technique, and crop rotation

*Orange-fleshed sweet potato products*





that were demonstrated in 2006 in Ethiopia, Kenya, Rwanda and Uganda.

#### PUBLIC–PRIVATE COMMERCIAL PARTNERSHIPS COME OF AGE

PRAPACE and partners made strides in moving research products into private sector commercial enterprises. In Uganda, two recently released orange-fleshed sweet potato varieties (Kakamega and Ejumula) and one popular white-fleshed sweet potato (NASPOT-1) were taken up by two private enterprises (SULMA Food Ltd and BIOFRESH Ltd) as part of their commodities for both local and export markets. SULMA Foods won a contract to supply Uchumi supermarkets in Kampala with fresh NASPOT-1 sweet potato variety, while BIOFRESH signed contracts to supply retailers in England with orange-fleshed sweet potato. The two companies were part of 54 market chain actors that were targeting working together with national and regional research systems to strengthen their businesses through improving market chains. The market chain actors identified and pursued three business

opportunities based on PRAPACE's research outputs.

Several market chain actors in Rwanda sought stronger collaboration with the country's national potato programme to improve the potato-based domestic and intercountry trade. These were the largest potato-producing districts of Nyabihu and Rubavu, three major producers and marketing cooperative unions, a trade union, an NGO and over 20 farmer associations. Four regional potato varieties—CIP 381381.20 (Victoria), CIP 800949 (Sangema), CIP 720118 (Cruza) and CIP 720097 (Uganda 11/ Rutuku)—and a similar number of nationally released varieties—CIP 8212-5 (Kirundo), CIP 8212-6 (Mabondo), CIP 381381-3 (Nderera), and CIP 383140-6 (Mugogo)—earned farmers US\$600 per metric tonne and the district US\$5000 per month from taxes and tariffs. Over 4000 metric tonnes of sweet potato were exported annually in 2006 and 2007 from Rwanda to Burundi. Rwanda also exported unknown quantities of sweet potato to Tanzania and DR Congo.

# Eastern and Central Africa Programme for Agricultural Policy Analysis

## *Milk gets richer in Uganda*

The Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA) initiated an impact assessment of the national dairy policy in Uganda. Preliminary results showed that milk production was increasing and stood at about 1.4 billion litres per year. Out of the total milk produced, about 30% is consumed on farm and 70% is sold to off-farm consumers through two main channels: formal and informal. Approximately 80% of this milk was marketed through the informal channel as raw milk, while only 20% was processed. The domestic market was the major market for milk and milk products in Uganda, although some processed milk was exported to DR Congo, Kenya, Rwanda and Tanzania. Some important observations include the following.

### EMPOWERING THE INFORMAL SECTOR

In Uganda milk is sold in milk bars owned by small-scale traders who are accredited and regulated by the Dairy Development Authority. The authority provides training on hygienic handling of milk and gives certificates to those who have complied with its standards of milk quality and safety. It also registers, licences and monitors milk traders nationally. The benefits include access to wider markets by small-scale farmers owning dairy cows, higher milk prices, employment on farm and through trade. Quantifying this impact is part of our ongoing efforts under the rationalisation and harmonisation project.

Vehicles for transporting milk are owned by private traders and cooperatives.

Their role is to bulk the small quantities from individual farmers and to deliver them to high-consumption areas and processing plants, often in urban areas. Individual farmers who live far from big urban markets cannot do that on their own. Some traders who have been trained on safe handling of milk and business development also double as trainers to milk producers and other traders. Training and milk bulking are ensuring there are sustainable volumes of quality raw milk necessary to kickstart small-scale processing of milk products.

### FACILITATING REGIONAL CROSS-BORDER TRADE

The goal of the project is to improve efficiency in milk marketing in eastern and central Africa by providing an enabling policy and institutional environment for integrating small-scale milk traders into formal milk marketing value chains in the region.

ECAPAPA has been contributing to facilitating cross-border learning of lessons. Recent actions resulting from the regional consultations include signing a memorandum of understanding among dairy sector regulators in Kenya, Rwanda, Tanzania and Uganda to uphold basic common requirements to rationalise and harmonise dairy policies and standards in the region. The agreement includes, among others, requirements for free movement of certified milk products across borders. This will support government efforts to reduce poverty through empowering the informal sector, and improve milk safety for better nutrition and improved health.



## Result 3: Policy options for enhancing the performance of the agricultural sector in the ECA subregion facilitated

### *Facilitating policies on plant genetic resources*

#### SUDAN

In March 2007 EAPGREN-Sudan organised a national workshop on a plant genetic resources policy and programme. The workshop brought together 59 participants from seven national institutes working in biodiversity and plant genetic resources policy, legislation, research and conservation.

#### UGANDA

EAPGREN-Uganda in collaboration with national partners and stakeholders completed drafting the national policy on plant genetic resources for food and agriculture. The policy document was forwarded to the responsible ministry for gazetting.

### *Developing standards for cassava*

In collaboration with ECAPAPA, EARRNET continued with regional consultative meetings of experts on quality standards for the cassava subsector. Uganda and Kenya discussed their draft documents on policy and quality standards with stakeholders.

EARRNET and ECAPAPA linked up with national bureaus of standards and the ministries of Agriculture, Trade and

Commerce of the three participating countries—Kenya, Madagascar and Uganda—to develop standards for cassava and cassava-based products to enhance national and regional trade.

### *Regional framework for intellectual property rights*

In partnership with stakeholders, ECABIO drafted an intellectual property rights policy framework for ECA. Individual countries are welcome to use and follow the framework to develop their own national policies.

### *Facilitating release and availability of potato varieties*

PRAPACE together with partners made recommendations for three additional policy issues that will pave way for a harmonised regulatory framework to facilitate release and availability of regional varieties in Ethiopia, Kenya and Uganda. The recommendations await dialogue and action at the national level. The three seed-related policies are:



- harmonising potato and sweet potato seed policies on variety release and dissemination in member countries
- deregulating the seed industry in a manner that will enable both the formal and informal seed systems to provide quality seed to consumers
- emphasising quality control instead of restrictive legal frameworks that involve mandatory varietal notification and seed certification

### ***Towards a regional framework for biosafety***

ECAPAPA and RABESA (Regional Approach to Biotechnology and Biosafety initiative) presented policy issues for harmonisation for discussion by regional forums of COMESA. In these meetings, it was agreed that undertaking assessments or audits on the impact of planting, trading in and receiving food containing genetically modified organisms should be a regional responsibility, led by COMESA. However, the final decision on whether or not to plant, trade in or receive GMO food aid was left to each member state. COMESA presented these resolutions for policy action and implementation at the agricultural ministers meeting held in Khartoum, Sudan in March 2007. The ministers approved them for implementation.

ECAPAPA mooted RABESA Phase II and a planning group met on 4 April and 20 August 2007. A decision was reached to nominate experts to constitute a steering committee and a panel of experts to oversee the development of biosafety guidelines in line with the ministerial recommendations of March 2007. The list of nominees was sent to COMESA for ratification.

ECAPAPA and RABESA continued to inform the establishment of similar regional approaches on the continent. The Regional Approach to Biosafety in Southern African Countries was modelled after RABESA and covers Malawi, Mauritius and South Africa. It is supported by the Programme for Biosafety Systems and coordinated by the Food Agriculture and Natural Resources Policy Analysis Network.

### ***Developing regional standards for cassava and potato***

A study on subsector analysis of cassava by ECAPAPA and EARRNET confirmed a common regional approach was needed to form and develop quality standards of appropriate policies for cassava and potato-based products in ECA. Activities for developing cassava and potato standards and policies in Ethiopia, Kenya, Madagascar and Uganda continued during the year. Technical committee meetings for standards and policies in Kenya and Uganda were used to revise and update the draft standards and policy documents.

ECAPAPA and its stakeholders reviewed a report on harmonising variety release of potato and sweet potato in Kenya, Rwanda and Uganda. Based on the report, a policy for potato development is in draft form while one on sweet potato is yet to be developed in Uganda.

### ***Filling in the gaps***

In Kenya, KEPHIS capacity to conduct distinction uniformity stability and national performance trials is weak.

Rwanda has not had a national variety release committee (NVRC) since

1999 and there is no comprehensive policy on seed and variety release in particular. Whereas the law authorises the agricultural minister to constitute a NVRC, this has not been done for a long time. This has affected the flow of superior varieties to farmers and has allowed inferior germplasm from on-farm trials to get to farmers. The way forward is to constitute the NVRC as a matter of extreme urgency.

### ***A biosafety bill for Kenya***

ECAPAPA helped develop the Kenya Biosafety Bill, which was published in June 2007. The Bill elicited heated debate from lobby groups. However, it did not make it to the final reading as parliament was dissolved in October.

### ***Rationalising seed policies and regulations in the subregion***

ECAPAPA and the Eastern Africa Seed Committee held consultations with national plant protection officers on their quarantine pest list of the 10 selected crops in East Africa. Some information in the draft quarantine pest list needed to be verified before the list was published. Participants came from Tanzania Plant Health Services, the Uganda Ministry of Agriculture, Animal Industry and Fisheries, Kenya's KEPHIS, and Rwanda. All the participants, with the exception of one from Rwanda, agreed that further consultations were needed before the list is published.

ECAPAPA and the Eastern Africa Seed Committee organised a technical working group forum of the 10 seed inspectors (3 each from Kenya, Tanzania and Uganda, and 1 from Rwanda) in June 2007, in Nairobi. The working

group consolidated observations of the joint inspections on selected crops in Kenya, Tanzania and Uganda. The team also received and reviewed analyses reports of the same seed lots tested in national seed testing laboratories of the three countries.

At the country level, ECAPAPA and national stakeholders achieved the following:

#### ETHIOPIA

The Government of Ethiopia in partnership with the Eastern Africa Seed Committee worked towards facilitating seed business in the country. The first step was to evaluate national documents for certification and variety release from different organisations. Consultations on the existing certification and national variety release guidelines were held with Ethiopian seed enterprises, exporters and breeding institutions. Relevant literature on Organisation for Economic Cooperation and Development (OECD) field schemes and the International Seed Testing Association (ISTA), the Association of Official Seed Certifying Agencies (AOSCA), and the Southern Africa Development Community (SADC) region were obtained.

#### KENYA

Kenya produced a draft Seeds and Plant Varieties Act (Amendment) Bill 2007 and a draft Seeds and Plant Breeders' Rights Regulations, which contain regional seed certification standards and comply with the International Union for the Protection of New Varieties of Plants (UPOV) 1991 Convention. These two bills were under consideration by the Ministry of Agriculture.

Kenya also produced a draft national seed policy document providing for liberalising the seed sector. The document was also with the Ministry of Agriculture for consideration.

#### RWANDA

Rwanda drafted decrees (regulations) for operationalising the Seed Act passed in 2003.

#### SUDAN

Technical information on harmonised standards for phytosanitary requirements for various crops and quarantine pests was disseminated as a way of building capacity of the Ministry of Agriculture and Forestry of Southern Sudan. Plans were initiated to form a Southern Sudan Seed Traders Association.

#### TANZANIA

- The Seed Regulations 2007 was gazetted to fully operationalise the Seeds Act of 2003. These regulations contain regionally agreed seed certification standards.
- A law on Plant Breeders' Rights was operationalised in 2005, following passing of the Plant Variety Protection Act of 2002.
- The process of acceding to the OECD field schemes and the ISTA laboratory testing rules was initiated.
- Reference materials and varieties were collected to test distinctiveness, uniformity and stability, and for national performance trials.

#### UGANDA

- A Seeds and Plant Bill 2007 approved by the Government of Uganda was under publication by the close of the

year. This Bill repeals the Seeds and Plant Statute of 1994 and contains agreed regional seed certification standards.

- The process of acceding to ISTA laboratory testing rules was initiated.

## Result 4: Capacity for implementing agricultural research in IAR4D in the ECA subregion strengthened

### *Animal research*

A-AARNET, ILRI and the World Agroforestry Centre (ICRAF) facilitated training in statistical methods for animal agricultural research. The training, held in Nairobi, Kenya, was attended by 18 scientists from nine ASARECA member countries.

A-AARNET continued to support training of seven master's students in various universities within ECA and abroad.

### *Building capacity in banana research*

#### TRAINING IN DIAGNOSING AND MANAGING BXW

BARNESA and Bioversity International provided administrative and technical support to the Crop Crisis Control Programme's capacity-building workshops to manage BXW in the subregion. Participants in Burundi, DR Congo and Rwanda were provided with

information on how to develop and use tools to diagnose and manage BXW.

BARNESA and Bioversity International participated in strengthening capacity of regional and national stakeholders (research and extension) in diagnosing and managing BXW by training trainers at regional (tier 1), national (tier 2) and district (tier 3) levels, and developing and disseminating diagnostic and management tools. In addition, sensitisation materials (posters, pamphlets, manuals) in English, French and vernacular languages were disseminated to stakeholders. Farmer exchange visits were organised to enhance farmer-to-farmer exchange of ideas, skills and strategies.

BARNESA trained scientists working with NGOs and in national institutes in DR Congo and Rwanda in participatory rural appraisal, baseline surveys, seed systems, banana nematology, banana macro-propagation, and monitoring and evaluation.

#### SUPPORT TO POSTGRADUATE STUDENTS

BARNESA supported 10 MSc-related projects mainly in DR Congo and Rwanda, and some from partners in Belgian universities. CIALCA (Improvement of Agricultural-based Livelihoods in Central Africa) provided funding to three PhD students.

#### TRAINING IN EXPERIMENTAL DESIGN AND DATA MANAGEMENT

BARNESA, together with Bioversity International, trained senior research scientists (mainly working in biotech laboratories and germplasm conservation centres) and development project managers from the 13 BARNESA

member countries, in experimental design and data management, in September 2007 in Uganda.

#### FACILITATING FARMER-TO-FARMER EXCHANGE VISITS

BARNESA facilitated farmer exchange visits to enhance farmer-to-farmer sharing of ideas, skills and strategies. Five farmers from Kenya visited Uganda and five from Uganda visited Tanzania during the reporting year.

### ***Building national capacities in plant genetic resources use and conservation***

#### KENYA

In collaboration with Bioversity Kenya, EAPGREN through the National Genebank of Kenya conducted a national plant genetic resources training workshop in Kenya. Twenty-eight participants drawn from eight national institutions and international organisations attended the workshop. Bioversity Kenya provided technical and resource personnel for the workshop.

With support from UK's Department for Environment Food and Rural Affairs and FAO, EAPGREN and the National Genebank of Kenya hosted a two-week regional training workshop on conserving and handling difficult seeds. Kenya facilitated the training with local assistance from the national genebank, the National Museums of Kenya and the Kenya Forestry Research Institute.

EAPGREN supported two staff from the Kenyan genebank doing PhD work at the Jomo Kenyatta University of Agriculture and Technology, Kenya.



#### ETHIOPIA

EAPGREN and the Institute of Biodiversity Conservation conducted a regional workshop in Ethiopia on in situ conservation, and organised hands-on training for national technicians from Burundi, Rwanda and Sudan.

EAPGREN bolstered the capacity of the genebank in Ethiopia by procuring key spare parts for its genebank locally.

#### SUDAN

The network also supported a Sudanese researcher in the plant genetic resources programme doing a PhD degree at a local university in Sudan. His research thrust is on 'Characterisation and evaluation of banana genetic resources collected from various localities in Sudan'. This effort has led to collection of up to 145 accessions of banana germplasm from four states. These accessions were planted in the banana field genebank in eastern Sudan.

#### UGANDA

EAPGREN supported a PhD study in Uganda on the 'Genetic diversity of *Acacia senegal* in the cattle corridor of Uganda'. This study is expected to provide information on botanical and molecular-level genetic variation in the species, and the distribution of the variation in the acacia corridor in Uganda.

Two MSc students were supported—one at Makerere University and another at Uppsala University in Sweden.

#### MADAGASCAR

EAPGREN initiated renovation of the germplasm storage facilities and completed a shelter for wild rice. The conservation equipment and facilities, which were stranded at the port for tax reasons, were finally released and delivered to the Centre National de Recherche Appliqué au Développement Rural (FOFIFA), the national agricultural

research institute. This enhanced the capacity of the unit to undertake basic genebank activities.

EAPGREN, FOFIFA and Bioversity International conducted a three-day intensive in-country training workshop in Antananarivo on germplasm conservation and sustainable use. Scientists and technicians working in research and development attended. The training will allow profiling PGR conservation and use.

#### RWANDA

EAPGREN organised an in-country training workshop on plant genetic resources in Rwanda that covered taxonomy, statistics, germplasm sampling, plant conservation and their contribution to livelihoods. Twenty participants from institutions of higher learning, secondary schools, primary schools, farmers' syndicate, religious institutions and ISAR research programmes attended the workshop.

#### **EARRNET**

Eight farmer groups from Kenya and Uganda were trained in group dynamics and entrepreneurship skills in cassava businesses.

Through an attachment programme in Uganda, EARRNET trained three scientists from Southern Sudan in developing a cassava programme and in other aspects of cassava production and research methods.

#### **ECABIO**

- Established partnerships with the African Agricultural Technology Foundation (AATF) and Cornell

University on intellectual property matters.

- Carried out an inventory of human and infrastructure capacity for biotechnology in the region.
- Established the Tissue Culture Business Network for the ECA countries.

#### ***Enhancing capacity in bean production and marketing***

##### TRAINING FOR IMPROVED HEALTH AND INCOMES

ECABREN trained 587 participants (458 women) from rural and urban areas of eastern DR Congo and northern Tanzania, in how to prepare nutritious and income-generating bean dishes. Participants included representatives from tourist hotels and restaurants, colleges offering training in hotel management, health centres, women groups, housewives and community-based organisations.

##### PRODUCING QUALITY SEED BEANS

ECABREN trained 11 scientists and technicians from western DR Congo (Mbanza Ngungu region) in participatory bean breeding. Also, 75 men and 60 women farmers were trained in participatory variety selection and germplasm conservation and maintenance.

ECABREN trained 1019 people (532 male and 487 female) from Burundi, Ethiopia, Tanzania and Uganda and in good-quality seed production, group dynamics, marketing, integrated pest management and in the farmer field school approach.

##### UPSCALING AND OUTSCALING BEAN TECHNOLOGIES

ECABREN created strategic partnerships for disseminating and promoting bean technologies in all the member countries.

Platforms formed in western Kenya by Lagrotech and in DR Congo and Madagascar continued functioning as models for promoting micronutrient-rich beans and other bean-based technologies. Farmer cooperative unions in Ethiopia continued to be a model for other countries.

## **ECAMAW**

### EMPOWERING PARTNERS WITH KNOWLEDGE

ECAMAW held its annual maize and wheat mini-symposium, and its management and steering committee meetings with its partners—seed regulatory agents, private seed producers and merchants, women’s associations, NGOs and community-based organisations. These meetings improved partners’ knowledge of selecting candidate varieties for release.

### IMPROVING PRODUCTION FOR QUALITY-PROTEIN MAIZE SEED

The network also collaborated with 17 seed companies, community-based organisations and NGOs in seed production and distribution. The companies produced more than 30 tonnes of breeders’ and foundation seed of quality-protein maize varieties.

### STRENGTHENING INSTITUTIONAL CAPACITY

ECAMAW completed upgrading the Melkasa quality control laboratory for quality-protein maize, by installing new equipment received in 2006. Additional laboratory furniture was purchased and installed by the Ethiopian Institute of Agricultural Research during the year.

The new tryptophan analytical method based on glyoxylic acid rather than acetic acid was tested in the laboratory with positive results.

### SUPPORTING POSTGRADUATE STUDIES

In a bid to promote regional and inter-institutional collaboration in research and training, ECAMAW, supported five MSc and PhD students attached to the Kenyan maize breeding programme. The network funded four scientists to participate in the Eighth African Crop Science Conference in Egypt in October 2007.

### ***Building capacity in agricultural information and communication management***

- RAIN completed upgrading the ICT equipment and internet connectivity for ARC in Sudan.
- RAIN presented the AICM programme to the FARA General Assembly and RUFORUM Board of Directors. The programme raised great enthusiasm among delegates.
- RAIN and RUFORUM supported short training courses in scientific writing and communication skills at the College of Agriculture and Veterinary Science of the University of Nairobi. The training included modules on research proposal writing and research methods. Participants were drawn from academic staff and postgraduate students of the university. It is expected that this training will lead to an increase in the number of grant-winning proposals prepared by staff and students.





## Enhancing skills in agricultural information and communication management

RAIN's first activity, the priority-setting exercise conducted in 2003, established that training in information and communication management was paramount. As a result, upgrading communications and technology skills has been at the core of all RAIN's programmes. But why are skills in communication and technology necessary?

Effective information and communication management (ICM) can promote economic growth, help reduce hunger and poverty, and enhance resource use in various ways. For example, it makes agricultural research and technology dissemination more efficient, improves development planning, supports agricultural marketing, and enlightens

and empowers communities on sound natural resources management practices. The digital age has given rise to a global knowledge economy. To compete in this economy, the agricultural sector in Africa needs to adopt sound information and communication policies and practices and use appropriate technologies.

RAIN found the solution—a programme in agricultural information and communication management (AICM) that is an amalgam of ICM and agriculture.

### SOWING THE SEED OF INFORMATION AND COMMUNICATION MANAGEMENT

In 2004–2005, RAIN carried out a training needs assessment that evaluated institutional and individual ICT/ICM

policy and capacity in information management. The study also looked at the status of communication and technology management in 97 institutions in seven ASARECA countries (Burundi, Ethiopia, Kenya, Madagascar, Rwanda, Tanzania and Uganda). The consultants interviewed 250 people and analysed an additional 66 questionnaire responses.

When the final report was produced, it showed clearly that there was an extreme shortage of personnel qualified in both agricultural science and information technology and its management. Agricultural researchers, NARI educators and technologists, academics and extension service officers did not have the basic grounding to generate and disseminate technical information. Knowledge gaps existed in areas such as digitised or electronic data, geographical information systems, databases, scientific editing, graphic design and desktop publishing, managing of research data, using the internet to receive and disseminate information and managing ICT/ICM technology and networks. There was clearly a need for a scholastic programme that could fill this knowledge void.

RAIN's first step was to commission a team of experts to develop the programme's content and structure. Consultations with academics in several universities in the region showed that while there was growing recognition of ICM as a development profession, no university course dealt with ICT and ICM together in depth. Neither was there any course on agricultural information and communication management. After ongoing

deliberations throughout 2006 and 2007, a technical working group of university lecturers drawn from across the region met to fine-tune the graduate profiles for the programme and to develop the learning outcomes. The fruits of this painstaking and exhaustive work will be harvested in August 2008 when the first intake of AICM students will be admitted at select universities in the region to pilot the programme.

#### COURSE PROGRAMMES

- A two-year MSc course either through coursework and thesis or by extended coursework and a project paper. It is targeting graduates from a variety of backgrounds and specialisations. The areas of specialisation are agricultural knowledge management, agricultural communication management, records and archives management, web resources management and scholarly publishing.
- A one-year postgraduate diploma course that draws on the same core and remedial coursework but does not include elective and specialisation courses.
- A module on agricultural information and communications management designed to enrich the content of ongoing MSc programmes in agriculture and related sciences. It gives students the skills to conduct research, to teach and to be competent in writing for the media, scientific journals and other publications.

It is hoped that the programme will attract a large number of students so that a critical mass of graduates skilled in AICM can be released into the marketplace to fill the existing professional gap. Long-distance learners will access some of these modules online.

#### STRENGTHENING INSTITUTIONAL CAPACITY

A rich institutional development programme will run parallel to the postgraduate programme. This includes refresher courses for lecturers and upgrading internet infrastructure and computer laboratories. A research internship programme will attach academics from other universities in Africa and beyond to the postgraduate programme universities and by doing so forge stronger South–South and North–South collaboration.

The re-entry grants scheme has been designed to ease the return of graduates into national employment and thus stem Africa's brain drain. Other creative aspects include the postdoctoral fellowship scheme and the collaborative scientist scheme. The former will recruit worldwide for young doctoral graduates so that these budding scientists can introduce new research ideas and techniques to the host university. The

latter invites senior scientists on study visits to work as a team member on a research project and give lectures and seminars to students.

#### QUALITY CONTROL

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) will assume the lead in coordinating the next steps in monitoring and guiding the programme. Already a collaborating partner, RUFORUM is an association of 12 universities in eastern and southern Africa offering postgraduate courses in agriculture and related sciences. It recognises the important but largely unrealised responsibility that academia has in contributing to the improved livelihoods of small-scale farmers. It already has plans for taking the postgraduate programme beyond the ASARECA region to southern African countries.



## **ECAPAPA**

### NATIONAL SEED DATABASES

ECAPAPA and the Eastern Africa Seed Committee initiated the setting up of seed databases in Kenya, Rwanda, Tanzania and Uganda. Four resource persons, one from each country, were assigned to undertake a national study on the status of the seed industry. Information to be supplied includes seed volumes traded, the value of seed, imports and exports, varieties traded in the region and the key players involved in the seed trade.

### IMPROVING MILK PRODUCTION AND MARKETING

ECAPAPA, together with key actors, produced harmonised generic training guides for milk traders and their trainers. Modules developed:

- Hygienic collection and testing: a training guide for milk collection-centre operators in eastern Africa
- Hygienic milk handling and transportation: a training guide for milk transporters in eastern Africa
- Hygienic small-scale milk processing: a training guide for small-scale milk processors in eastern Africa
- Fundamentals of marketing and dairy business management: a training guide for small-scale dairy farmers, milk traders, transporters and processors in eastern Africa.

### TRAINING ON SPATIAL EQUILIBRIUM MODELLING

ECAPAPA and IFPRI (International Food Policy Research Institute) trained

stakeholders in eastern Africa on spatial equilibrium modelling for a project on 'Impact of non-tariff barriers on cross-border trade in eastern Africa'. The training was held at ILRI in Nairobi. Field activities for data collection commenced thereafter.

## **Result 5: Availability of information on agricultural innovation enhanced**

### **A-AARNET**

#### DOCUMENTING FEEDING PRACTICES

The network documented existing feeding practices and strategies and how they affect livestock productivity in Kenya, Tanzania and Uganda. Data were being analysed by the close of the year.

Significant progress was made in establishing a feed resources database for East and Central African countries.

#### INFORMATION SHARING AND COMMUNICATION

- Developed and strengthened tools and mechanisms for communicating and disseminating information. These included the newsletter, early warning bulletins, three publications and maintaining the A-AARNET website.
- Conducted a market study in north-west Tanzania. The study revealed that market information useful to pastoralists to help them make decisions on selling livestock during crises situations does not reach them. Government levies and lack of mechanisms to control

middlemen negatively affect livestock marketing and returns to pastoralists.

- Established a community-based livestock monitoring mechanism and a communication system among stakeholders involved in collecting, collating and analysing data for early warning. Contingency plans were being developed using data on resources, disease hotspots and marketplaces on migration routes in Ethiopia, Kenya and Tanzania.
- Produced and distributed drought early warning bulletins to stakeholders, particularly the pastoral communities.

#### EVALUATING FACTORS DETERMINING BREED SELECTION

A-AARNET evaluated cattle breeds and related socio-economic issues in Kenya and Tanzania. The main findings were that farmers chose breeds for several reasons of which tolerance to disease and providing draught power were the most important. Because draught power stimulates other agricultural activities, the overall value of these breeds was perceived to be even higher. Decreased grazing land, pests (especially ticks), tick-borne diseases and trypanosomiasis are increasingly becoming constraints preventing the keeping of highly valued breeds.

#### **BARNESA**

BARNESA and Bioversity International produced materials (posters, pamphlets, manuals) on how to manage banana *Xanthomonas* wilt in English, French and vernacular languages and distributed them to stakeholders.

#### **EAPGREN**

##### NATIONAL INVENTORIES OF PLANT GENETIC RESOURCES

EAPGREN inventoried forest plant species and remnants of local natural forest in unique sites in Ethiopia, to enhance appropriate species and ecosystem conservation. Data were collected from 79 plots and 232 plant specimens were collected and pressed for taxonomic purposes and herbarium collection.

EAPGREN drafted a training manual on in situ conservation that is being published for the national PGR teams.

##### INFORMATION SHARING AND COMMUNICATION

*A regional information hub is born.*

EAPGREN has put in place basic infrastructure (hardware) for setting up a regional information hub at its coordinating office in Entebbe. Nordic Genebank trained technicians on the spot and provided hardware for this purpose. Similar facilities were installed at NARO in Entebbe with a possible future link to the regional PGR information network.

EAPGREN through its focal institutions prepared awareness, information and promotional materials for dissemination in Ethiopia, Sudan and Uganda. Some of these materials were shared with EAPGREN programmes in other countries to stimulate similar undertakings and spillover effects in PGR sensitisation and policy harmonisation. The Coordinating Unit published various posters on its PGR activities and their implications for research and development in ECA.

## Sudan

The PGR Unit of the Agricultural Research Centre in Sudan produced 1000 copies of a descriptor list for watermelon for use in characterising and standardising the exchange of scientific information within the region and beyond. These were shared with partners working on watermelon germplasm within and outside the region.

EAPGREN-Sudan produced 2000 brochures on PGR activities in Sudan in English and Arabic that were circulated in the local community and in the region. In addition, 500 posters depicting agrobiodiversity in Sudan were produced for the local and international community.

## Uganda

EAPGREN facilitated the publication of an article on establishing and operationalising the National Genebank of Uganda in the *Journal of Agricultural Industry in Africa*. The article's aim was to enhance awareness and demonstrate Uganda's commitment to conservation and use of plant genetic resources. The journal has a wide circulation in eastern Africa.

EAPGREN developed an information guide for different age groups of visitors to the botanic gardens. Students from four tertiary institutions were trained in nursery management and germplasm handling. In addition, the students were given brochures showing activities of NARO and the national botanic gardens.

## EARRNET

### MORE GOOD NEWS ON CASSAVA

EARRNET, IITA and the Catholic Relief Services conducted an inventory of improved cassava in Lobone (Southern Sudan) to link cassava farmers with potential sources of demand such as NGOs and development agencies involved in food security programmes. Five improved cassava varieties—Abeyife, TME 14, SS4, TMS 192/0057 and MH 95/0414—were found growing and all are suitable for commercial purposes. Improved cassava varieties had low incidence of cassava mosaic disease; cassava brown streak disease had not been observed in the area. The incidence and severity of cassava bacterial blight were low; the incidence and severity of cassava green mite were very high. All the farmers who had previously acquired improved materials were willing to sell to other farmers at a price range of US\$4.6–8.7 per bag with an average of 70 cuttings.

EARRNET, IITA, the Catholic Relief Services and the national cassava programmes of Kenya, Tanzania and Uganda conducted a second inventory in 11 districts in Kenya and 9 districts in Uganda. In Kenya approximately 1,287,000 cuttings, mainly varieties MH 95/0183, SS4 and Migyera, were available for planting. These cuttings were not uniformly distributed in the country. In Uganda over 3,000,000 cuttings were immediately available for planting. The dominant varieties were TMS 192/0067 and MH 97/2961. Similarly, the materials were not uniformly distributed in the study areas.

## INFORMATION SHARING AND COMMUNICATION

EARRNET produced and translated into local languages the following cassava leaflets and distributed them within the region:

- Cassava production guide
- Guide on characteristics of improved varieties
- Guide on making bitter cassava safe for consumption

- Guide on spread and control of cassava mosaic disease
- Fighting poverty and creating wealth using cassava

EARRNET updated its website to make information easily accessible by beneficiaries. The Crop Crisis Control Programme confirmed on its website the spread of cassava brown streak disease in the region.

## ECABIO research on East Coast fever

East Coast fever (ECF) is an economically important disease of cattle in eastern, central and southern Africa causing over a million cattle deaths annually. ECABIO conducted a study that focused on characterising the differences in specific immune responses to ECF among cattle breeds, and developing resistance markers for improving the existing vaccine regime. This study aimed at investigating whether indigenous cattle constantly exposed to the disease are better protected than improved cattle breeds. The information will be useful to extension workers and veterinarians.

At national level, the information will:

- improve decision making in use of ECF vaccine and promote restocking of cattle into endemic areas
- reduce over-reliance on acaricides and antibiotics in treatment of ECF
- enhance land use, soil fertility and higher crop yields.

At regional and international level, the information will have spillover effects on the design and delivery of infection

and treatment methods for ECF control. This endeavour provides a good example of the important role of ASARECA in networking to provide solutions to regional agricultural problems. The project has also developed the capacity of young national professionals and NARS within the ECA region, and has enhanced regional and international research collaboration on ECF control.

The development and deployment of an effective ECF vaccination regime will lead to sustainable improvement of livestock productivity and is an effort towards alleviating poverty in the region. This is in line with CAADP Pillars I, III and IV as well as the Millennium Development Goals of halving the number of people who live in poverty by increasing livestock productivity, and thus improving livelihoods.

The research has demonstrated the impact of farmer perceptions and practices in forecasting tick control strategies on the epidemiology of ticks and ECF.

## COMMUNICATING BIOTECHNOLOGY

The network also developed a draft of a biotechnology communication strategy for the ECA subregion.

### **ECABREN**

The network developed and distributed promotional materials (leaflets, catalogues and posters) to create awareness of the use of bean-based technologies. *Bean Recipe Book* (Kiswahili) version 1 was updated and 250 copies produced and distributed to a wide audience at national and regional levels. The booklet includes some income-generating bean recipes (bean samosas, bean biscuits, bean rolls and fingers, and bean kalimati). The recipe book was translated into Kirundi and 60 copies were distributed among the leaders of farmer associations in Burundi.

### **ECAMAW**

ECAMAW improved communication among partners in areas with communication difficulty by publishing fact sheets, brochures, leaflets and posters on developments in maize and wheat research. The publications were distributed to partners and farmers during field days and agricultural exhibitions. In addition, relevant programmes were developed and aired on television and radio to farming communities in several of the network's focal countries.

### **PRAPACE**

- PRAPACE, in collaboration with the Kenyan National Potato Programme, distributed 200 copies of the manual *Guidelines for the*

*production of healthy seed potatoes in East and Central Africa* to four women's groups. This was purposely to empower farmers to produce clean seed on farm. The four groups were the Muteithia Self-help Group, the Kibaranyaki Self-help Group, the Gathumbi Self-help Group and the Naivasha Self-help Group. Each group had 15–25 members.

- PRAPACE published and distributed two regional manuals. One thousand copies of the *Regional potato seed production manual* were produced and 300 copies distributed to end-users in all member countries. PRAPACE also published 1000 copies of a book on recipes using the region's sweet potato varieties. Over 400 copies were distributed to end-users in all member countries.
- PRAPACE prepared 18 publications on potato and presented them at the Seventh African Potato Association held in October 2007 in Alexandria, Egypt. Two publications on sweet potato were prepared and presented during the International Society for Tropical Root Crops symposium in India.

### **RAIN**

RAIN maintained its lead role in integrating national, subregional and regional agricultural research for development information systems in the ECA region through the proposed EGFAR Webring and Global RAIS Knowledge Network within the FARA-RAILS framework.

RAIN provided system support and administration (website support, ICT policy development, online contacts



database) at the ASARECA Secretariat, including analysing all de-bugging, modifications and provisions that needed to be made on the online contacts database.

RAIN and FAO trained stakeholders in the ASARECA region in AGRIS (International System for Agricultural Sciences and Technology). As a result, Kenyan scientists created the Kenyan Agricultural Information Network (KAINet) to promote information exchange and access among researchers and other stakeholders in the agricultural sector.

RAIN, in collaboration with agricultural information stakeholders in Uganda, developed a national inventory of agricultural information resources and realised the following outputs:

- published and disseminated a directory of agricultural institutions, resources, systems and services in Uganda
- identified and integrated data and information resources into a common resource/platform
- by the end of 2006, generated a database of profiles of agricultural institutions, information resource, systems and services in Uganda
- defined a database into a web-based user directory with searchable links to other information directories (see <http://www.naro.go.ug/inventory>)

RAIN documented its activities since its inception in 2003 in a booklet entitled *Taking stock of RAIN: 2003–2007, Sowing the seed of agricultural information management in Africa*. This booklet is a useful resource for NARS

partners (such as NARIs), civil society, NGOs, change agents including those in industry and trade, development partners, training institutions, regional and subregional organisations and the national governments.

## **ECAPAPA**

### MINIMISING CONFLICT IN NATURAL RESOURCE USE

ECAPAPA produced proceedings, a monograph and policy briefs for a regional workshop on 'Minimising conflicts in natural resource use', held in May 2007 at Entebbe, Uganda. These documents spelled out good practices on devolving rights to local communities, diversifying activities around protected wildlife and forest areas, planning and zoning land to guide land use in different areas, and minimising potential for associated conflicts. Other topics included secure tenure to land resources to encourage investment in natural resource management, and participatory mechanisms involving all stakeholders.

### SEED CERTIFICATION STANDARDS PUBLISHED

ECAPAPA helped publish regional seed certification standards for Kenya, Uganda, Tanzania and Rwanda, which were approved during the Eastern Africa Seed Committee's annual general meeting of 2006. The standards are largely compliant with OECD / International Seed Testing Association (OECD/ISTA) and were captured in Kenya's Draft Seed Bill 2007, in Tanzania's Seeds Regulations 2007, and in Uganda's Seeds and Plant Bill 2007.

## NATIONAL FERTILISER CONSULTATIVE WORKSHOP

ECAPAPA held a national fertiliser consultative workshop for Tanzania in August 2007. The workshop recommended:

- formulating policy, specifically on fertiliser
- facilitating the Ministry of Agriculture, Food Security and Cooperatives to develop regulations to implement the fertiliser act
- conducting a study to analyse and identify the best economic options for providing subsidies, which can be an efficient way of improving access to fertilisers by farmers
- increasing competition in the fertiliser market through public–private sector partnerships
- fostering and strengthening integrated approach to input–output marketing, such as through contract and outgrower farming, to enhance the use of agricultural inputs
- improving infrastructure to support handling, transporting and distribution of fertiliser
- advocating regional fertiliser procurement to take advantage of economies of scale.

## TOWARDS A REGIONAL DAIRY REGULATORS' POLICY

ECAPAPA was a party to formalising the East Africa Dairy Regulators Authorities Council (EADRAC), through a memorandum of understanding. EADRAC brings together dairy regulators in Kenya, Rwanda, Tanzania and Uganda.

## MAINSTREAMING GENDER IN AGRICULTURAL RESEARCH

ECAPAPA facilitated a forum to share experiences in providing policy options for strengthening gender mainstreaming in agricultural research in the ECA region. Some practices emerged as strategies for enhancing gender mainstreaming in any organisation. These included:

- providing incentives for scientists to carry out studies on gender
- creating a gender coordinating unit
- holding annual or biannual seminars with a focus on gender
- facilitating exchange visits and networking
- continued training in participatory research and gender analysis.

## RESULTS-BASED M&E TOOLKIT

ECAPAPA developed a first draft of a results-based M&E methodology toolkit in response to demands from stakeholders, researchers and research managers. NARO Uganda produced a draft toolkit for M&E in public agricultural research institutes.

## INFORMATION SHARING AND COMMUNICATION

- Readers evaluated ECAPAPA's electronic newsletter. The outcomes: for content, 78% found the policy material quite useful, 76% rated the news quite useful and 58% found the internet information quite useful, 56% found reports on local meetings useful. There was concern about lack of news on developments in the region. Readers said they wanted more information on scholarships, job

announcements, project grants, and on developments within ASARECA.

- ECAPAPA updated and distributed its 2005 stakeholders' directory in the region.
- ECAPAPA published its Monograph 7, *Effective natural resource management for conflict prevention: tethering plural legal norms in diverse contexts in eastern Africa*.
- ECAPAPA published five policy briefs under the title *Getting it right: policy, natural resource management and conflict minimisation*.

### ***Developing new programmes***

As indicated earlier, 2007 was the beginning of transformation in ASARECA not only in terms of establishing sound governance and management structures and systems, but also in programme structure. Stakeholders had resolved that based on its strategic plan for 2007–2016, ASARECA would deliver its mission

through seven programmes—Staple Crops, Non-Staple Crops, Livestock and Fisheries, Agrobiodiversity and Biotechnology, Natural Resources Management and Forestry, Policy Analysis and Advocacy, and Upscaling and Knowledge Management. Each programme is headed by a programme manager whose principal responsibility is to develop the programme's strategy and implementation plan, and manage projects and other activities that will contribute to the attainment of programme outputs.

Owing to financial constraints, only three—Staple Crops, Agrobiodiversity and Biotechnology, and Policy Analysis and Advocacy—programme managers were recruited during the year. The programme managers were on board in mid-year. By the end of 2007, they had all developed their respective programme strategies and medium-term plans and established programme priorities.

# 4 Challenges and constraints to implementing programmes

The main challenge during the year was executing the transition exercise with skeletal Secretariat staffing and limited financial resources. Hence, only three programmes could be developed during the year. Lack of resources also affected the newly created research support and administration units of the Secretariat—the Partnership and Capacity Building Unit, the Information and Communications Unit, the Administration Unit, and the Internal Auditor. Vacant positions in these units could not be filled due to lack of resources.

This situation was made worse by the EC's unexpected decision not to renew the grant contract to ASARECA. A decision to channel the remaining funds through a World Bank Multi-Donor Trust Fund was quickly made, but the year ended before the trust fund had been established, and research projects and activities that were funded by the EC remained frozen.

# 5 Publications list

## Manuscripts for journal publication

- Biruma M, Pillay M, Tripathi L, Blomme G, Abele S, Mwangi M, Bandyopadhyay R, Muchunguzi P, Kassim S, Nyine M, Turyagyenda LF, Eden-Green S. 2007. Banana *Xanthomonas* wilt: a review of the disease, management strategies and future research directions. *African Journal of Biotechnology* 6:953–962.
- German L, Mansoor H, Alemu G, Mazengia W, Amede T, Stroud A. 2007. Participatory integrated watershed management: evolution of concepts and methods in an ecoregional program of the eastern African highlands. *Agricultural Systems* 94(2):189–204. [www.sciencedirect.com](http://www.sciencedirect.com)
- German L, Stroud A. 2007. A framework for the integration of diverse learning approaches: operationalising agricultural research and development linkages in Eastern Africa. *World Development* 35(5):792–814.
- Sanginga PC, Kamugisha RN, Martin AM. 2007. The dynamics of social capital and conflict management in multiple resource regimes: a case of the south-western highlands of Uganda. *Ecology and Society* 12(1):6. <http://www.ecologyandsociety.org/vol12/iss1/art6/>
- Tinzaara W, Gold CS, Dicke M, Van Huis A, Ragama PE. 2007. Host-plant odours enhance the responses of adult banana weevil to the synthetic aggregation pheromone. *International Journal of Pest Management* 53:127–137.

## Manuscripts in press

- Blomme G, Sebuwufu G, Temesgen A, Turyagyenda FL. Relative performance of root and shoot development in enset (*Ensete ventricosum*) and East African highland bananas. *African Crop Science Journal*.
- Blomme G, Turyagyenda FL, Mukasa H, Eden-Green S. The effectiveness of different herbicides in the destruction of banana *Xanthomonas* wilt infected plants. *African Crop Science Journal*.
- Nantale G, Kakudidi EK, Karamura DA, Karamura E, Soka G. Scientific basis for banana cultivar proportions on-farm in East Africa. *African Crop Science Journal*.
- Nsabimana A, Gaidashova S.V, Nantale G, Karamura D, Van Staden J. Banana cultivar distribution in Rwanda. *African Crop Science Journal*.
- Shimelash D, Alemu T, Addis T, Turyagyenda F.L, Blomme G. Banana *Xanthomonas* wilt in Ethiopia: occurrence and insect vector transmission. *African Crop Science Journal*.
- Temesgen A, Azerefegne F, Blomme G. Density and distribution of enset root mealybugs (*Cataenococcus ensete* Williams and Matile-Ferrero) on enset (*Ensete ventricosum*). *African Crop Science Journal*.
- Tinzaara W, Gold CS, Dicke M, Van Huis A, Ragama PE. Effect of mulching on banana weevil movement relative to pheromone traps. *African Crop Science Journal*.

- Uazire AT, Ribeiro CM, Mussane CRB, Pillay M, Blomme G, Fraser C, Staver C, Karamura E. Preliminary evaluation of improved banana (*Musa* spp.) varieties in Mozambique. *African Crop Science Journal*.
- Welde-Michael G, Bobosha K, Addis T, Blomme G, Mekonnen S, Mengesha T. Mechanical transmission and survival of bacterial wilt (*Xanthomonas campestris* pv. *musacearum*) on enset (*Ensete ventricosum*). *African Crop Science Journal*.
- Welde-Michael G, Bobosha K, Blomme G, Addis T, Mengesha T, Mekonnen S. Evaluation of enset clones against Enset bacterial wilt. *African Crop Science Journal*.
- Proceedings**
- Addis T, Turyagyenda LF, Tamiru A, Blomme G. 2007. Mechanical transmission efficiency of *Xanthomonas* wilt (*Xanthomonas campestris* pv. *musacearum*) on banana and enset in Ethiopia. ISHS/PROMusa symposium on Recent advances in banana crop protection for sustainable production and improved livelihoods. Greenway Woods Resort, White River, South Africa, 10–14 September 2007. Programme and abstracts booklet. p 59.
- Baguma D, Msaazi R, Walekhwa P. Effecting participatory results-based monitoring and evaluation in NARIs: methodological issues, Uganda. Draft report. Undated.
- Blomme G, Turyagyenda LF, Mukasa H, Ssekiwoko F, Mpiira S, Eden-Green S. 2007. The effect of the prompt removal of inflorescence-infected plants, early debudding and bagging of inflorescences on the control of *Xanthomonas* wilt of banana. ISHS/PROMusa symposium on Recent advances in banana crop protection for sustainable production and improved livelihoods. Greenway Woods Resort, White River, South Africa, 10–14 September 2007. Programme and abstracts booklet. p 12.
- Bouwe NB, Gildemacher P, Wagoire WW, Berga Lemaga. 2007. Integrating fungicide applications and host resistance for control of potato late blight (*Phytophthora infestans*) in DR Congo. *African Potato Association Conference Proceedings* 7:121–130.
- Gebremedhin W, Giorgis, Endale Gebre, Bekele Kasse, Atsede Solomon, Berga Lemaga. 2007. Genotype x Environment interaction and tuber yield stability in potatoes. *African Potato Association Conference Proceeding* 7:67–73.
- Gildemacher P, Landeo J, Kakuhenzire R, Wagoire W, Nyongesa M, Tessera M, Bouwe N, Bararyenya A, Hakazimana B, Senkesha N, Gashabuka E, Muhinyuza J, Forbes G, Berga Lemaga. 2007. How to integrate resistant variety selection and spray regime research for IPM of potato late blight in eastern and central Africa. *African Potato Association Conference Proceedings* 7:84–91.
- Gildemacher P, Mwangi J, Demo P, Barker I. 2007. Prevalence of potato viruses in Kenya in consequences for seed potato system research and development. *African Potato Association Conference Proceedings* 7:238–241.
- Gildemacher P, Tessera M, Wagoire W, Kakuhenzire R, Nyongesa M, Nasona B, Bararyenya A, Hakazimana B, Senkesha N, Gashabuka E, Muhinyuza J, Forbes G, Ortiz O, Berga Lemaga. 2007. The researcher field school of potato late blight: building regional research capacity in eastern and central Africa through learning by doing. *African Potato Association Conference Proceedings* 7:313–320.
- Gondwe BJ, Mende DH, Nsemwa LTH. 2007. Evaluation of potato clones for late blight resistance and farmers' practices on management of the disease in the southern highlands of Tanzania.

- African Potato Association Conference Proceedings* 7:330–338.
- Hagmann J, Kibwika P. 2007. Policy Analysis and Advocacy Programme Strategic Planning Workshop documentation. Imperial Resort Beach Hotel, Entebbe, 3–6 September 2007.
- Kakuhenzire R, Wagoire WW, Gimoone G, Gildemacher P, Berga Lemaga, Ekwamu A. 2007. Adapting fungicide spray regime recommendations to farm level conditions and assessing their adoption by farmers in Uganda. *African Potato Association Conference Proceedings* 7:92–101.
- Kameri-Mbote P, Musaasizi J, Waithaka M, Ekiyar V. 2007. Building capacity to minimise conflicts in natural resources use and management. Proceedings of a regional workshop on Capacity building in managing conflict in natural resources management and use, 9–10 May 2007, Entebbe, Uganda.
- Kameri-Mbote P, Musaasizi J, Waithaka M. 2007. *Effective natural resource management for conflict prevention: tethering plural legal norms in diverse contexts in eastern Africa*. ECAPAPA Monograph 7.
- Karamura D, Tinzaara W, Karamura E, Vezina A. 2007. Training manual for *Musa* diversity and genetic improvement. Working document. Bioversity International, Montpellier, France.
- Karamura DA. 2007. *Musa* conservation strategy for East and Southern Africa. A regional working document. Bioversity International, Montpellier.
- Karamura DA, Njuguna J, Nyamongo D. 2007. Kenya *Musa* expedition, 2006. Bioversity International, Montpellier, France.
- Karamura E, Tinzaara W, Turyagyenda LF, eds. in press. Proceedings of the workshop on Review of the strategy for the management of banana *Xanthomonas* wilt, 23–27 July 2007, Hotel la Palisse, Kigali, Rwanda. *African Crop Science Journal*.
- Kibwika P, Hagmann I. compls. 2006. Proceedings of a stakeholders workshop on Development of postgraduate programme for enhancement of skills in agricultural information and communication management in ASARECA subregion, 1–3 November 2006, Entebbe, Uganda. RAIN, ASARECA. Unpublished.
- Kimathi M, Ngeli P, Wanjiru J. 2007. Value chain analysis for cassava flour and related products: a case study of Uganda and Kenya. ECAPAPA report.
- Lore TA, Kurwijila LR, Omere A, eds. 2007. Fundamentals of marketing and dairy business management—a training guide for small-scale dairy farmers, milk traders, transporters and processors in eastern Africa. Module 6. International Livestock Research Institute (ILRI), Nairobi, Kenya.
- 2007. Hygienic collection and testing—a training guide for milk collection centre operators in eastern Africa. Module 2. ILRI, Nairobi, Kenya.
- 2007. Hygienic milk handling and transportation—a training guide for milk transporters in eastern Africa. Module 3. ILRI, Nairobi, Kenya.
- 2007. Hygienic small-scale milk processing—a training guide for small-scale milk processors in eastern Africa. Module 5. ILRI, Nairobi, Kenya.
- Lung'aho C, Nyongesa M, Wakahiu M. 2007. Yield loss caused by potato leaf roll virus and potato virus Y in central Kenya—preliminary investigations. *African Potato Association Conference Proceedings* 7:242–246.
- Melaku Degeftu, Ayele Badebo, Solomon Gelalcha, Dereje Hailu. 2007. The current stem rust (*Puccinia graminies tritici* fsp. *tritici* her) virulence spectra in Ethiopia. A paper presented at the 8th African Crop Science Society, 27–31 October 2007, El Minia, Egypt.

- Mowo JG, Kurothe RS, Shem MN, Kanuya NL, Dusengemungu L. 2007. Adopting the integrated watershed management approach in Rwanda. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds. *Sustainable agriculture and productivity for improved food security and livelihoods*. Proceedings of the National Conference on Agricultural Research Outputs, 26–27 March 2007, Kigali, Rwanda. p 497–505.
- Muhinyuza JB, Nyiransengiyumva S, Nshimiyimana JC, Kirk WW. 2007. The effect of the application frequency and dose of Mancozeb of potato late blight in Rwanda. *African Potato Association Conference Proceedings* 7:131–140.
- Musewe V. 2007. Regional postgraduate programme for enhancement of skills in agricultural information and communication management in the ECA region. Consolidated programme report. Unpublished report to RAIN.
- Mwang'ombe A, Gashaw Kebede, Musewe V. 2007. Regional postgraduate programme for enhancement of skills in agricultural information and communication management in the ECA region. Consolidated programme report to RAIN, draft 4.
- Nyamwaro SO, Murilla GA, Mochabo MOK, Wanjala KB. 2007. Conflict-minimising strategies in natural resource management and use: the case for managing and coping with conflicts between wildlife and agropastoral production resources in Transmara District, Kenya. ECAPAPA report.
- Opondo C, Rao S, Waga M, Mowo J, Tanui J. 2007. Who has stake in community-based INRM research? Emerging lessons from African Highlands Initiative benchmark sites in ECA. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds. *Sustainable agriculture and productivity for improved food security and livelihoods*. Proceedings of the National Conference on Agricultural Research Outputs held in Kigali, Rwanda, 26–27 March 2007. [PAAP] Policy Analysis and Advocacy Programme. 2007. Strategic plan 2008–2013. Draft December 2007.
- Sanginga PC, Kantengwa S, Farrow A, Vanlauwe B, Bishikwabo K, Van Asten P, Abele S, Lodi-Lama J-P, Blomme G, Katana CR. 2007. Entry points for research to improve agricultural-based livelihoods in Central Africa: insights from party numbers. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds., *Sustainable agriculture and productivity for improved food security and livelihoods*, 25–28 March 2007, Kigali Serena Hotel, Rwanda. p 600–622.
- Shetto MC, Isaac F, Kawalama PM, Kisamfu V. 2007. *Rationalisation and harmonisation of policies, regulations, procedures, grades and standards in the fertiliser subsector in East and Central Africa—a case of Tanzania*. Proceedings of a national workshop held at Landmark Hotel, Dar es Salaam, 23 August 2007.
- Smith JJ, Jones DR, Karamura E, Blomme G, Turyagyenda FL. 2007. Pest risk analysis of *Xanthomonas campestris* pv. *musacearum*. An analysis of the risk of *Xanthomonas campestris* pv. *musacearum* to banana cultivations of East, Central and Southern African nations. Monograph, Bioversity International.
- Ssendiwala E, Waitthaka M. 2007. Influencing change: lessons from project evaluation. Draft chapter for ASARECA participatory research and gender analysis book. Unpublished.
- Tanui J, Chemange A, Mowo JG. 2007. Enabling negotiation and conflict resolution for area-wide planning: the case of collective action for watershed management. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds. *Sustainable agriculture and productivity for improved food*



- security and livelihoods*. Proceedings of the National Conference on Agricultural Research Outputs, 26–27 March 2007, Kigali, Rwanda. p 515–524.
- Tinzaara W, Gold CS, Dicke M, van Huis A, Nankinga CM, Kagezi GH. 2007. Pheromone-baited traps enhance dissemination of entomopathogenic fungi to control the banana weevil in Uganda. *Biological Control* 17:111–124.
- Tinzaara W, Gold CS, Karamura E, Tushemereirwe W, Blomme G, Turyagyenda LF. 2007. Understanding the mode of transmission of banana *Xanthomonas* wilt for its management. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds., *Sustainable agriculture and productivity for improved food security and livelihoods*. Proceedings of the National Conference on Agricultural Research Outputs, 26–27 March 2007, Kigali, Rwanda. p 181–195.
- Tinzaara W, Nemeye P, Gold CS, Karamura EB, Tushemereirwe W, Ragama PE, Bagamba F. 2007. Enhancing banana production for improved livelihoods in the Eastern Africa Great Lakes region: challenges for research. In: Njeru RW, Kagabo DM, Ndabamanye T, Kayiranga D, Ragama P, eds. *Sustainable agriculture and productivity for improved food security and livelihoods*. Proceedings of the National Conference on Agricultural Research Outputs, 26–27 March 2007, Kigali, Rwanda. p 204–225
- Turyagyenda LF, Blomme G, Ssekiwoko F, Eden-Green S. 2007. Determination of the appropriate fallow period to control *Xanthomonas* wilt following infection of banana. ISHS/PROMusa symposium on Recent advances in banana crop protection for sustainable production and improved livelihoods, Greenway Woods Resort, White River, South Africa, 10–14 September 2007. Programme and abstracts booklet. p 58–59.
- Kaguongo W, Gildemacher P, Low J. Influence of market and farmer preferences on potato variety adoption. 2007. *African Potato Association Conference Proceedings* 7:321–329.
- Waga Mazengia, Deribe Gamiyo, Tilahun Amede, Matta Daka, Jeremias Mowo. 2007. Challenges of collective action in soil and water conservation: the case of Gununo Watershed, southern Ethiopia. *African Crop Science Conference Proceedings* 8:1541–1545.

## Methods guides

- German L, Kidane B, Charamila S, Mazengia W, Ayele S, Tolera T. 2007. *Niche compatible agroforestry: a methodology for understanding and managing trade-offs in tree species selection at landscape level*. AHI Methods Guide C1.
- German L, Mazengia W, Charamila S, Taye H, Nyangas S, Tanui J, Ayele S, Stroud A. 2007. *Action research: an approach for generating methodological innovations for improved impact from agricultural development and natural resource management*. AHI Methods Guide E1.
- Opondo C, Stroud A, German L, Rao S, Mowo JG, Tanui J. in press. *Institutional change: a guide for facilitating self-led institutional learning and innovation from within*. AHI Methods Guide D1.
- Tanui J, Lutalo R, Lyamchai C, Hewison M. 2007. *Facilitators' guide on district institutional collaboration for integrated livelihoods and conservation*. AHI Methods Guide.

## Briefs

- German L, Tirwomwe W, Tanui J, Nyangas S, Chemangei A. 2007. *Searching for solutions: technology-policy synergies in participatory NRM*. AHI Brief B6.
- Juma I, Kapile S, Wahure O. 2007. Land and water resources in Pangani River Basin in Tanzania. In: Waitthaka M, Kameri-Mbote P, Musaasizi J, eds. *Getting it right: policy, natural resource management and conflict minimisation*. ECAPAPA Policy Brief.

- Leulseged Begashaw, Waga Mazengia, German L. 2007. *Mobilizing collective action for vertebrate pest control: the case of porcupine in Areka*. AHI Brief E3.
- Mowo JG, Nabahungu LN, Dusengemungu L. 2007. *The integrated watershed management approach for livelihoods and natural resource management in Rwanda: moving beyond AHI pilot sites*. AHI Brief D5.
- Musaasizi J, Andama E, Ruta D, Byamukama B. 2007. Conservation-based conflicts in south-western Uganda. In: Waithaka M, Kameri-Mbote P, Musaasizi J, eds. *Getting it right: policy, natural resource management and conflict minimisation*. ECAPAPA Policy Brief.
- Nyamwaro SO, Murilla GA, Mochabo MOK, Wanjala KB. 2007. Wildlife and agropastoral production resources in Transmara District, Kenya. In: Waithaka M, Kameri-Mbote P, Musaasizi J, eds. *Getting it right: policy, natural resource management and conflict minimisation*. ECAPAPA Policy Brief.
- Sanginga P, Kamugisha R, Martin A. 2007. Role of social capital in conflict management. In: Waithaka M, Kameri-Mbote P, Musaasizi J, eds. *Getting it right: policy, natural resource management and conflict minimisation*. ECAPAPA Policy Brief.
- Shenkut Ayele, Amare Ghizaw, Zenebe Admassu, Mesfin Tsegaye, Getachew Alemu, Tessema Tolera, German L. 2007. *Enhancing collective action in spring 'development' and management through negotiation support and by law reforms*. AHI Brief E5.
- Tanui J, Chemengei A, Nyangas S, Cheptegei W, German L. 2007. *Rural development and conservation lies with multi-stakeholder collective action*. AHI Brief B8.
- Tanui J, Nyangas S, Chemangei A, Alinyo F, German L. 2007. *Co-management of protected areas is about cultivating relationships*. AHI Brief B7.
- Waga Mazengia, Anbes Tenaye, Leulseged Begashaw, German L, Yeyes Rezene. 2007. *Enhancing equitable technology access for socially and economically constrained farmers: experience from Gununo Watershed, Ethiopia*. AHI Brief E4.
- Wickama J, Ngailo J, Masuki K, Mkalimoto D. 2007. Eviction of pastoralists from Mkomazi Game Reserve, Tanzania. In: Waithaka M, Kameri-Mbote P, Musaasizi J, eds., *Getting it right: policy, natural resource management and conflict minimisation*. ECAPAPA Policy Brief.
- Zenebe Admassu, Shenkut Ayele, Amare Ghizaw, Mesfin Tsegaye, German L. 2007. *Soil and water conservation through attitude change and negotiation*. AHI Brief A6.

### Posters

- [AHI] African Highlands Initiative. 2007. Farmer research groups for sustainable seed production: experiences from Galessa watershed, Ethiopia. Poster presented at the FARA 4th General Assembly, 10–16 June 2007, Johannesburg, South Africa.
- 2007. Managing water resources as an entry point for natural resource management. Poster presented at the FARA 4th General Assembly, 10–16 June 2007, Johannesburg, South Africa.
- Bararyenya A, Harahagazwe A, Nzokirantevye, Nyawakira D. 2007. Optimizing fungicide applications for integrated management of potato late blight in Burundi. Poster presented at the 8th African Crop Science Society Conference, 27–31 October 2007, Faculty of Agriculture, El Minia University, Egypt.
- Girma H, Opondo C, Mowo J, Tanui J, Tilahun A. 2007. Systems intensification and diversification in the humid highlands of eastern Africa. Poster presented at the FARA 4th General

Assembly, 10–16 June 2007, Johannesburg, South Africa.

Mowo J, Opondo C, Girma H, Lyamchai C, Wickama J, Mmbaga T, Rao S. 2007. Building the financial capital of mountain communities for enhanced integrated NRM: the case of Lushoto District. Poster presented at the FARA 4th General Assembly, 10–16 June 2007, Johannesburg, South Africa.

## Newsletters

One of ASARECA's key result areas is 'Availability of information on agricultural innovation enhanced'. The Policy Analysis and Advocacy Programme's main contribution to this broad mandate is through its bi-monthly electronic newsletter. The newsletter raises awareness among its stakeholders on key policy issues of regional and global importance in agricultural policy. The articles are drawn from a range of stakeholders publishing on issues relevant to regional policy.

## ECAPAPA Electronic Newsletter, 2007 edition

ECAPAPA Newsletter 10(1). Sub-Saharan Africa: developments in 2006 and prospects for the new year. In: *IMF Economic Outlook*, 2007. [www.imf.org/external/pubs/ft/reo/2007/AFR/ENG/sreo0407.pdf](http://www.imf.org/external/pubs/ft/reo/2007/AFR/ENG/sreo0407.pdf).

ECAPAPA Newsletter 10(2). Biofuels: promises and constraints. Laney K, 2006. IPC Discussion Paper, December 2006. [http://www.agritrade.org/Publications/DiscussionPapers/IPC\\_Biofuels\\_Promises%20and%20Constraints.pdf](http://www.agritrade.org/Publications/DiscussionPapers/IPC_Biofuels_Promises%20and%20Constraints.pdf)

ECAPAPA Newsletter 10(2). Africa and the WTO Doha Round: an overview. Jensen, Friis M, Gibbon P, 2007. In: *Development Policy Review* (25)1:5–24, <http://ssrn.com/abstract=956447> or DOI: 10.1111/j.1467-7679.2007.00357.x

ECAPAPA Newsletter 10(4). Building science, technology and innovation capacity: turning ideas into actions. Watkins A, Osifo-Dawodu E, Ehst M, Cisse B, 2007. World Bank Institute. <http://www1.worldbank.org/devoutreach/january07/article.asp?id=393>

ECAPAPA Newsletter 10(5). Economic partnership agreements: an overview of the negotiations in the eastern and southern Africa. In: ECDPM, 2006, Overview of the regional EPA negotiations: ESA-EU Economic Partnership Agreement (ECDPM In Brief 14E). Maastricht. [www.ecdpm.org/inbrief14e](http://www.ecdpm.org/inbrief14e)

ECAPAPA Newsletter 10(6). Processes and partnerships for pro-poor policy change. ECAPAPA Report. [www.asareca.org/paap](http://www.asareca.org/paap)

ECAPAPA Newsletter 10(7). Climate risk management in Africa: learning from best practice. Hellmuth ME, Moorhead A, Thomson, MC, Williams J, eds, 2007. International Research Institute for Climate and Society (IRI), Columbia University, New York, USA. [http://portal.iri.columbia.edu/portal/server.pt/gateway/PTARGS\\_0\\_2\\_1171\\_0\\_0\\_18/Climate%20and%20Society%20No1\\_en.pdf](http://portal.iri.columbia.edu/portal/server.pt/gateway/PTARGS_0_2_1171_0_0_18/Climate%20and%20Society%20No1_en.pdf)

ECAPAPA Newsletter 10(8). The gender impact of trade liberalization on food systems and agricultural markets. In: Spieldoch A, *A row to hoe: the gender impact of trade liberalization on our food system, agricultural markets and women's human rights*, Institute for Agriculture and Trade Policy (IATP), Minneapolis, US, 2007. <http://www.isn.ethz.ch/pubs/ph/details.cfm?v21=107998&lng=en&id=47736>

ECAPAPA Newsletter (10)9. Natural resources management: a review of tools for incorporating community knowledge, preferences, and values into decision making. In: Lynam T, De Jong W, Sheil D, Kusumanto T, Evans

- D, 2007. *Ecology and Society* 12(1):5. <http://www.ecologyandsociety.org/vol12/iss1/art5/>
- ECAPAPA Newsletter 10(10). The dynamics of social capital and conflict management in multiple resource regimes: a case study of the southwestern highlands of Uganda. Sanginga PC, Kamugisha RN, Martin AM, 2007. *Ecology and Society* 12(1):6. <http://www.ecologyandsociety.org/vol12/iss1/art6/>
- ECAPAPA Newsletter 10(11). Capacity building in managing natural resource management conflicts. *ECAPAPA Regional Workshop Proceedings, 9–10 May 2007*.
- ECAPAPA Newsletter 10(12). *Outcome mapping: building learning and reflection into development programmes*. In: Earl E, Carden F, Smutylo T, 2001. International Development Research Centre (IDRC). [www.idrc.ca/evaluation](http://www.idrc.ca/evaluation) or [www.outcomemapping.ca](http://www.outcomemapping.ca)
- ECAPAPA Newsletter 10(13). Globalization: trade and development opportunities for sub-Saharan Africa. In: Uma Subramanian<sup>1</sup> and Matthias Matthijs, Can sub-Saharan Africa leap into global network trade? World Bank Policy Research Working Paper 4112, January 2007. [http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2007/01/09/000016406\\_20070109161635/Rendered/PDF/wps4112.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2007/01/09/000016406_20070109161635/Rendered/PDF/wps4112.pdf)
- ECAPAPA Newsletter 10(14). Rural development and poverty reduction: is agriculture still the key? In: Gustavo Anríquez, Kostas Stamoulis. 2007. ESA Working Paper):07-02. <ftp://ftp.fao.org/docrep/fao/010/ah885e/ah885e.pdf>
- ECAPAPA Newsletter 10(15). Building technological capabilities in LDCs through international market linkages. In: UNCTAD, *The Least Developed Countries report, 2007: knowledge, technological learning and innovation for development*. <http://www.unctad.org/Templates/WebFlyer.asp?intlItemID=4314&lang=1>
- ECAPAPA Newsletter 10(16). Making a difference: monitoring and evaluation of policy research. Hovland I. 2007. Working Paper 281, Overseas Development Institute. [http://www.odi.org.uk/publications/working\\_papers/wp281.pdf](http://www.odi.org.uk/publications/working_papers/wp281.pdf)
- ECAPAPA Newsletter 10(17). The impact of external policy environment on the prospects for integration and development of LDCs. In: Globalization and the Least Developed Countries: making globalization work for the LDCs, Istanbul, 9–11 July 2007, Conference Background Paper. [http://www.undp.org/poverty/docs/istan/eng/12July07-Globalization\\_and\\_LDCs.pdf](http://www.undp.org/poverty/docs/istan/eng/12July07-Globalization_and_LDCs.pdf)
- ECAPAPA Newsletter 10(18). Evaluation of ECAPAPA electronic newsletter.
- ECAPAPA Newsletter 10(19). Advancing African agriculture: EU proposes continental and regional level cooperation. In: Communication from the Commission to the Council and The European Parliament, Advancing African agriculture: proposal for continental and regional level cooperation on agricultural development in Africa, 24 July 2007, Commission of the European Communities, Brussels. [http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007\\_0440en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0440en01.pdf)
- ECAPAPA Newsletter 10(20). Promoting cereal intensification in sub-Saharan Africa: a review of evidence and experience from Ethiopia. In: Byerlee D, Spielman DJ, Dawit Alemu, Madhur Gautam. 2007. Policies to promote cereal intensification in Ethiopia: a review of evidence and experience. IFPRI Discussion Paper 00707. <http://www.ifpri.org/pubs/dp/IFPRIDP00707.pdf>

ECAPAPA Newsletter 10(21). Effective instruments in using agriculture for development. In: World Bank, 2008, *World Development Report 2008, Agriculture for Development*, World Bank, Washington DC. [http://siteresources.worldbank.org/INTWDR2008/Resources/WDR\\_00\\_book.pdf](http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf)

ECAPAPA Newsletter 10(22). Assessing the impact of the National Agricultural

Advisory Services (NAADS) in Uganda. In: Benin S, Nkonya E, Okecho G, Pender J, Nahdy S, Mugarura S, Kato E, Kayobyo G, 2007. IFPRI Discussion Paper 00724. <http://www.ifpri.org/pubs/dp/IFPRIDP00724.pdf>

ECAPAPA Newsletter 10(23). Newsletter evaluation: what the readers say.

ECAPAPA Newsletter 10(24). Communication from Dr. Seyfu Ketema, Executive Director, ASARECA.

# 6 Staff list

## **Executive Director's Office**

Dr. Seyfu Ketema	Executive Director
Ms. Adyeri Marunga	Executive Assistant
Diana Babirye	Messenger

## **Finance**

Mr. Techalew Negash	Finance Officer
Mr. Yosiah Oloo	Senior Accounting Officer
Ms. Rose Asienzo	Accounting Assistant
Mr. Robert Kabasi	Accounting Assistant

## **Administration**

Mrs. Rose Lau Cheaw Obel	Senior Administrative Officer
Ms. Rachael Namuzibwa Musisi	Senior Administrative Assistant
Ms. Zainab Sanyu Kyeyune	Office Assistant
Ms. Monica Nyakaisiki	Messenger
Mr. William Sekyanzi	Driver
Mr. Juma Embatia	Gardener

## **Programme Management Unit**

Dr. Eldad Tukahirwa	Head, Programme Management Unit
Dr. Leonard Oruko	Senior Technical Officer, M&E
Dr. Lydia Kimenye	Regional Expert, TUUSI
Dr. Clesensio Tizikara	CGS Research Manager
Ms. Fatuma Lukwago	Administrative Assistant/Secretary
Ms. Janet Nakimbugwe	Office Messenger/Cleaner

## **Regional Support Unit**

Mr. Michael Duerr	Programme Manager (Technical)
Mr. Tom Barry	Programme Manager (Financial)
Mr. Daniel Mwesige	Management System Specialist
*Ms. Lillian Ajambo	Administrative Assistant
*Mr. Moses Mumbya	Accounts Assistant
*Ms. Josephine Lwasa	Accounts Assistant
*Ms. Mary Kagoro	Secretary

**\*\*Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA)**

Dr. Michael Waithaka	Regional Programme Coordinator
*Mr. Vincent Ekiyar	Programme Assistant
Ms. Ruth Nankinga	Senior Secretary
Ms. Beatrice Anyango	Office Messenger/Cleaner
Mr. Sulaiman Musoke	Driver
Mr. John Baptist Musoke	Gardener

**\*\*Regional Agricultural Information Network (RAIN)**

*Mrs. Dorothy Mukhebi	Coordinator
Ms. Jacqueline Nyagahima	Information Officer
Mr. Felix Onama	Accounts Assistant
*Ms. Gillian Nantume	Secretary

**\*\*ASARECA Biotechnology Programme (ECABIO)**

Dr. Charles Mugoya	Coordinator
Ms. Annet Namuli	Secretary
Ms. Ursula Ondeko	Office Messenger/Cleaner

**Eastern Africa Plant Genetic Resources Network (EAPGREN)**

Dr. Abebe Demissie	Coordinator
Ms. Janet Emeetai	Secretary

**\*\*ASARECA NPPs hosted by other organisations and their respective coordinators**

<i>NPP</i>	<i>Coordinator</i>	<i>Hosting institution</i>
A-AARNET	Dr. Jean Ndikumana	ILRI, Nairobi
AHI	Dr. Laura German	ICRAF, Nairobi
BARNESA	Dr. Eldad Karamura	INIBAP, Kampala
CORNET	Dr. Charles Agwanda	CABI, Nairobi
EARRNET	Dr. Pheneas Ntawuruhunga	IITA, Kampala
ECABREN	Dr. Pyndji Mukishi	CIAT, Arusha
ECAMAW	Dr. Zubeda O Mduruma	CIMMYT, Addis Ababa
ECARRN	Dr. Ashura Luzi-Kihupi	Sokoine University, Dar es Salaam
ECARSAM	Prof. Barnabas Mitaru	ICRISAT, Nairobi
FOODNET	Mr. John Jagwe	IITA, Kampala
PRAPACE	Dr. Berga Lemaga	CIP, Kampala
TOFNET	Dr. Daniel Nyamai	ICRAF, Nairobi
SWMnet	Prof. Nuhu Hatibu	ICRISAT, Nairobi

**Programme Managers**

Dr Charles Mugoya, Agrobiodiversity and Biotechnology Programme  
 Dr Fina Opio, Staple Crops Programme  
 Dr Michael Waithaka, Policy Analysis and Advocacy Programme

---

\* Left during the year

\*\* NPPs phased out end of September 2007

# 7 Board of Directors

Ambassador Salvator Ntihakose  
Director General  
Insitut des Sciences Agronomiques du  
Burundi (ISABU)  
Avenue de la Cathédrale  
BP 795  
Bujumbura, Burundi  
tel: +257 227602 / 223390  
fax: +257 225798  
email: dgisabu@cbinf.com

Prof. Paul Mafuka  
Director General  
Institut National Pour l'Etude et la Recherche  
Agronomiques (INERA)  
13 Avenue Papa Ileo  
BP 2037, Kinshasa/Gombe  
République Démocratique du Congo  
tel: +243 12 33332 / 33334  
mobile: +243 898931713  
fax: +243 12 33549  
email: mpmfuka@yahoo.fr  
or inera\_dg@yahoo.fr (up to June 2007)

Prof. Pene Mbutu Onyembe  
Director General  
Institut National pour l'Etude et la  
Recherche Agronomiques (INERA)  
13 Av. Papa Ileo  
BP 2037, Kinshasa / Gombe  
République Démocratique du Congo  
tel: +243 12 3333 / 33334  
fax: +243 12 33549  
email: ineradg@yahoo.fr (from July 2007)

Dr. Iyassu Ghebretatios  
Director General  
National Agricultural Research Institute  
(NARI), Ministry of Agriculture  
PO Box 4627  
Asmara, Eritrea  
tel: +291 1 159801 / 181324  
fax: +291 1 159803 / 181324  
email: feshaiy@yahoo.com

Dr. Tsedeke Abate  
Director General  
EIAR  
PO Box 2003  
Addis Ababa, Ethiopia  
tel: +251 11 6462270  
fax: +251 11 6461294  
email: dg@eiar.gov.et (up to May 2007)

Dr. Solomon Assefa  
Director General  
Ethiopian Institute of Agricultural Research  
(EIAR)  
PO Box 2003  
Addis Ababa, Ethiopia  
tel: +251 11 6462270 / 6454435  
fax: +251 11 6461294  
email: ddg@eiar.gov.et (from May 2007)

Dr. Ephraim Mukisira  
Director  
Kenya Agricultural Research Institute (KARI)  
Kaptagat Road, Off Waiyaki Way  
PO Box 57811-00200  
Nairobi, Kenya  
tel: +254 20 4183291  
fax: +254 20 4183294  
email: eamukisira@kari.org  
or director@kari.org



Dr. Mark C. Bagabe  
Director General  
Institut des Sciences Agronomiques du  
Rwanda (ISAR)  
47 Rue Kamuzinzi  
BP 5016  
Kigali, Rwanda  
tel: +250 578768 or +250 0830 4197  
fax: +250 578768  
email: markbagabe@yahoo.co.uk

Prof. Azhari A. Hamada  
Chairman, ASARECA Board of Directors  
Director General  
Agricultural Research Corporation (ARC)  
PO Box 126  
Wad Medani, Sudan  
tel: +249 511 842226  
or +249 9125 30809  
fax: +249 511 843213  
email: arcdg@sudanmail.net  
or aahamada56@yahoo.com

Dr. Jeremiah Haki  
Director, Division of Research and  
Development (DRD)  
Ministry of Agriculture and Food Security  
Mandela/Kilimo Road  
PO Box 2066  
Dar es Salaam, Tanzania  
tel: +255 22 2865313 or +255 754 289228  
fax: +255 22 2865312  
email: jeremiah.haki@kilimo.go.tz

Dr. Denis Kyetere  
Director General  
National Agricultural Research Organisation  
(NARO)  
PO Box 295  
Entebbe, Uganda  
tel: +256 414 320512  
mobile: +256 752 692994  
fax: +256 414 321070  
email: dgnaro@infocom.co.ug

Dr. Razafinjara Lala  
Ag. Director General  
Centre National de Recherche Appliqué au  
Développement Rural (FOFIFA)  
BP 1690  
Antananarivo (101), Madagascar  
tel: +261 20 22 40130  
or +261 32 0205517  
fax: +(261) 20 22 40270  
email: fofifadg@wanadoo.mg

Dr Carlos Seré  
CGIAR Centres Representative  
Director General  
International Livestock Research Institute  
(ILRI)  
PO Box 30709-00100  
Nairobi, Kenya  
tel: +254 20 4223201  
fax: +254 20 4223001  
email: c.sere@cgiar.org

# 8 Summary report 8 on financial management

The ASARECA Secretariat financial management reviewed by Ernst & Young, the external auditors, covers the annual financial audits of the general organisation-wide and donors' specifics for the financial year ended on 31 December 2007 as follows:

1. General ASARECA organisation-wide accounts.
2. Two specific audits on the USAID grant disbursements and programme expenditure for:
  - a. Phase-I Cooperative Grant Agreement # 623-A-00-02-00095-00
  - b. Phase-II Cooperative Grant Agreement # 623-A-00-06-00082-00
3. Specific audit on the IFAD grant disbursements and programme expenditures
4. Specific close-out final audit as at 30 September 2007 on the EU General Grant.
5. Specific close-out final audit as at 30 June 2007 on the EU CGS Grant Contract.
6. Specific audit July–December 2007 on the EU Programme Estimate Grant Contract.

The external auditors' reports on organisation-wide and USAID specific audit were presented to the ASARECA Board of Directors at its meeting held on 6 February 2008 in Entebbe and were signed on 9 June 2008.

The relevant parts of the auditor's report of the organisation-wide audit are attached as annex I. As in previous years, the auditor's report was clean and unqualified.

# Auditors' Report and Financial Statements

31 DECEMBER 2007

**Association for Strengthening Agricultural Research  
in Eastern and Central Africa (ASARECA)  
Director's Report  
Year Ended 31 December 2007**

**EXECUTIVE SUMMARY**

**1. FINANCIAL**

**a. Income**

ASARECA received donations totalling US\$13,113,968 compared to US\$8,307,799 in the previous year. Of this, US\$1,985,196 was deferred income (US\$5,444,726 in 2006) largely for on-going activities not completed in 2007 and partly for activities budgeted for 2008 (deferred income). This decrease in deferred income is attributed to the suspension of EU funding to CGS research projects and the freezing of the CGS streams A and B projects in June 2007, General grant in September 2007 and end of USAID-EA phase I grant in September 2007. Significant and new funding sources notably included USAID East Africa Phase II Grant which started in January 2007 and net revenue of US\$700,834 was recognised; EU contributed US\$6,570,431; SIDA US\$1,109,292; IFAD US\$611,014. No funds were received from, World Bank (USAID/AFR), FAO and GTZ. In addition, the Secretariat earned other income from its operations amounting to US\$ 424,067.

**b. Expenditure**

Total expenditure for the year ended 31 December 2007 amounted to US\$13,063,968 (2006: US\$8,107,891). Full implementation of the programme activities and collaborative projects contributed significantly to the increase in expenditure. Of the total expenditure, US\$57,987 was capital expenditure for assets purchased during the year.

**c. Surplus for the year**

An amount of US\$474,067 was surplus from core Secretariat operating for the year ended 31 December 2007, which came largely from bank interest, overhead and other earned incomes. The surplus fund has been transferred to build up the Secretariat operating reserve fund.

**2. OPERATION**

ASARECA operates through regional networking by bringing together scientific communities from national agricultural research institutes, universities, farmer organisations, international agricultural research centres, NGOs and the private sector, to work together to achieve demand-driven and results-oriented agricultural research in the subregion.

Beginning 2007, ASARECA re-oriented itself and changed its operational modalities to programme-based implementation of agricultural research for development (R4D). The Association's operations through earlier established regional research networks, programmes

and projects was phased out in September 2007 and was replaced with a programme-based approach.

The seven new programmes established and coordinating research from the Secretariat are:

1. Staple Crops
2. Non-staple Priority Crops
3. Livestock and Fisheries
4. Agrobiodiversity and Biotechnology
5. Natural Resource Management and Forestry
6. Policy Analysis and Advocacy
7. Upscaling and Knowledge Management

During 2007, only three of the seven proposed programmes (Staple Crops, Agrobiodiversity and Biotechnology, and Policy Analysis and Advocacy) have been operational.

## **PRINCIPAL ACTIVITIES**

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is a not-for-profit subregional organisation, which was formally established in September 1994 by the directors of the national agricultural research institutions (NARIs) of the 10 countries of the eastern and central Africa subregion. The founding member NARIs of ASARECA are ISABU of Burundi, INERA of DR Congo, NARI of Eritrea, EIAR of Ethiopia, KARI of Kenya, FOFIFA of Madagascar, ISAR of Rwanda, ARC of Sudan, DRD of Tanzania and NARO of Uganda.

The Secretariat is headed by an executive director and located in Entebbe. It coordinates and facilitates the implementation of the regional agricultural research portfolio. The seven ASARECA programmes execute the respective components of the project activities through collaborative links with NARIs, universities, international agricultural research centres and advanced research institutes, and overall NARS.

ASARECA's main objective is *Enhancing productivity, value added and competitiveness of the agricultural research system in the subregion*, that is, in the countries of the eastern and central African subregion (Burundi, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda).

ASARECA is committed to deliver the following intermediate results/outputs:

1. Performance-driven governance and management structures and systems established and operational
2. Generation and uptake of demand-driven technologies and innovations facilitated
3. Policy options for enhancing the performance of the agricultural sector in the subregion facilitated
4. Capacity for implementing agricultural research in IAR4D paradigm in the subregion strengthened
5. Availability of information on agricultural innovations enhanced

## FINANCING

ASARECA Secretariat receives assistance to finance its operations and programmes mainly from contributions of member country institutions and international donors.

## GOVERNING BODY AND MANAGEMENT STRUCTURE

ASARECA is governed by a Board of Directors comprising the 10 directors of national agricultural research institutions of the member countries, which form the founding members, and other members selected by appointment from stakeholder groups including farmer organisations, universities, COMESA, CGIAR centres, NGOs and the private sector.

## BOARD OF DIRECTORS

The Board of Directors is ASARECA's highest governance organ and has overall responsibility for strategic leadership and operations. The Board elects its chairman and vice-chairman on rotation for a two-year term.

Members of the Board of Directors who held office during the year:

- Prof. Azhari A. Hamada, Chairman Director General, ARC, Sudan
- Dr. Ephraim A. Mukisira, Vice chair Director, KARI, Kenya
- Dr. Razafinjara Lala, 2nd Vice chair Ag. Director General, FOFIFA, Madagascar
- Dr. Mark Bagabe Director General, ISAR, Rwanda
- Dr. Tsedeke Abate Director General, EIAR, Ethiopia (up to May 2007)
- Dr. Solomon Assefa Director General, EIAR, Ethiopia (from May 2007)
- Dr. Jeremiah Haki Director, DRD, Tanzania
- Ambassador Salvator Ntihabose Director General, ISABU, Burundi
- Dr. Iyassu Ghebretatios Director General, NARI, Eritrea
- Dr. Denis T. Kyetere Director General, NARO, Uganda
- Prof. Paul Mafuka DG, INERA, Congo (up to June 2007)
- Prof. Pene Mbutu Onyembe DG, INERA, Congo (from July 2007)
- Dr. Carols Seré DG, ILRI, CGIAR centres representative
- Dr. Seyfu Ketema Executive Director, ASARECA

## AUDITORS

Ernst & Young, have expressed their willingness to continue in office.

By order of the Board of Directors, as decided at its meeting held on **9 June 2008** in Entebbe, Uganda.

**Executive Director, ASARECA**  
**09 June 2008**

## **Report of the Independent Auditors to the members of the Board of Directors of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)**

We have audited the financial statements on pages 6 to 19 for the year ended 31 December 2007, which have been prepared on the basis of the accounting policies set out on page 10. We obtained all the information and explanations which we considered necessary for our audit.

### **Directors' responsibility for the financial statements**

The directors are responsible for the preparation and fair presentation of the financial statements in accordance with the accounting policies set out on page 10. This responsibility includes designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement whether due to fraud or error, selecting and applying appropriate accounting policies, and making accounting estimates that are reasonable in the circumstances.

### **Auditors' responsibility**

Our responsibility is to express opinion on the financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate for the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Opinion**

In our opinion, proper books of account have been kept and the financial statements, which are in agreement therewith, give a true and fair view of the Association's financial affairs at 31 December 2007 and of its surplus and cash flows for the year then ended in accordance with the accounting policies set out on page 10.

Signed

**ERNST & YOUNG**  
**Kampala, Uganda**

**Association for Strengthening Agricultural Research  
in Eastern and Central Africa (ASARECA)  
Statement of Financial Position  
31 December 2007**

<b>Assets</b>	<b>Notes</b>	<b>2007 US\$</b>	<b>2006 US\$</b>
<b>Non-current assets</b>			
Motor vehicles and equipment	2	<u>103,642</u>	<u>100,321</u>
<b>Current assets</b>			
Accounts receivable: donors	3	847,172	167,407
Accounts receivable: sub-grants / CGS	4	200,771	1,451,965
Other accounts receivable and prepayments	5	8,500	4,358
Bank balances	6	<u>5,305,710</u>	<u>7,075,806</u>
		<u>6,362,153</u>	<u>8,699,536</u>
<b>Total assets</b>		<b><u>6,465,795</u></b>	<b><u>8,799,857</u></b>
<b>Reserves and liabilities</b>			
<b>Capital reserves</b>			
Capital reserve fund	7	698,996	638,000
Operating fund	8	<u>2,457,249</u>	<u>2,040,857</u>
		<u>3,156,245</u>	<u>2,678,857</u>
<b>Current liabilities</b>			
Accounts payable: donors	9	1,985,196	5,444,726
Accounts payable: others	10	1,199,225	413,718
Accruals and provisions	11	<u>125,129</u>	<u>262,556</u>
		<u>3,309,550</u>	<u>6,121,000</u>
<b>Total reserves and liabilities</b>		<b><u>6,465,795</u></b>	<b><u>8,799,857</u></b>

The financial statements were approved by the Board of Directors on **9 June 2008** and were signed on its behalf by:

Mr. Techalew Negash, Finance Officer  
 Dr. Seyfu Ketema, Executive Director  
 Prof. Dr. Azhari A. Hamada, Chairman, Board of Directors



**Association for Strengthening Agricultural Research  
in Eastern and Central Africa (ASARECA)  
Revenue and Expenditure Statement  
for the Year Ended 31 December 2007**

	<u>Notes</u>	<u>2007 US\$</u>	<u>2006 US\$</u>
<b>Revenue</b>			
Income from donations	12(a)	13,113,968	8,307,799
Other income	12(b)	<u>424,067</u>	<u>306,306</u>
<b>Total revenue</b>		<b><u>13,538,035</u></b>	<b><u>8,614,105</u></b>
<b>Expenditure</b>			
Governance and Secretarial management	13(a)	436,132	244,113
Programme support units	13(b)	1,194,142	1,375,647
Technical programmes and networks	13(c)	<u>11,433,694</u>	<u>6,488,131</u>
<b>Total expenditure</b>		<b><u>13,063,968</u></b>	<b><u>8,107,891</u></b>
<b>Surplus for the year</b>		<b><u>474,067</u></b>	<b><u>506,214</u></b>

**Association for Strengthening Agricultural Research  
in Eastern and Central Africa (ASARECA)  
Statement of Changes in Reserves  
for the Year Ended 31 December 2007**

	<b>Capital Fund</b>	<b>Accumulated Surplus</b>	<b>Total</b>
	<u>US\$</u>	<u>US\$</u>	<u>US\$</u>
At 1 January 2006	363,468	1,598,854	1,962,322
Endowment fund	110,000	–	110,000
Surplus for the year	–	506,214	506,214
Capital charge transferred to capital Reserve fund	64,211	(64,211)	–
Investment in fixed assets	<u>100,321</u>	<u>–</u>	<u>100,321</u>
<b>At 31 December 2006</b>	<b><u>638,000</u></b>	<b><u>2,040,857</u></b>	<b><u>2,678,857</u></b>
At 1 January 2007	638,000	2,040,857	2,678,857
2006 Investment in fixed assets	(100,321)		(100,321)
Surplus for the year	–	474,067	474,067
Reserve fund	57,675	(57,675)	–
2007 Investment in fixed assets	<u>103,642</u>	<u>–</u>	<u>103,642</u>
<b>At 31 December 2007</b>	<b><u>698,996</u></b>	<b><u>2,457,249</u></b>	<b><u>3,156,245</u></b>

**Association for Strengthening Agricultural Research  
in Eastern and Central Africa (ASARECA)  
Sources of Revenue and Expenditure Details  
for the Year Ended 31 December 2007**

	<b>2007 US\$</b>	<b>2006 US\$</b>
<b>Operating activities</b>		
Operating surplus (net of assets acquisition)	416,080	461,767
Decrease/(increase) in current assets:		
Donors receivable	(679,765)	(22,500)
Other accounts receivable	1,227,055	61,642
Prepayments	(412)	(103)
(Decrease) / increase in liabilities:		
Donors payable	(3,439,121)	(2,007,898)
Other accounts payable	785,507	(68,915)
Accruals and provisions	<u>(137,427)</u>	<u>106,500</u>
<b>Net cash from operating activities</b>	<b><u>(1,828,083)</u></b>	<b><u>(1,469,507)</u></b>
<b>Investing activities</b>		
Acquisition of motor vehicles and equipment	57,987	44,447
Gain on disposal of motor vehicles and equipment	–	–
Endowment fund (investment)	<u>–</u>	<u>–</u>
<b>Net cash from investment activities</b>	<b><u>57,987</u></b>	<b><u>44,447</u></b>
Net decrease in cash and cash equivalent	(1,770,096)	(1,425,060)
<b>Change in cash reconciled</b>		
Balance on 31 December	5,305,710	7,075,806
Balance on 01 January	<u>7,075,806</u>	<u>8,500,866</u>
<b>Net cash (out flow)/ inflow</b>	<b><u>(1,770,096)</u></b>	<b><u>(1,425,060)</u></b>

## 12 Revenue

Revenue is generated from grant contributions of international donors and member country institutions (NARIs) as well as from other earned income as listed under (a) and (b) below:

### a) Income from donations

	<b>Funds</b>	<b>Receivable</b>	<b>Carry over</b>	<b>2007</b>	<b>2006</b>
	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>
<b>International</b>					
World Bank (USAID/AFR)	–	–	–	–	62,578
USAID East Africa – Phase I	2,284,494	–	–	2,284,494	2,643,345
USAID East Africa – Phase II	708,000	–	7,166	700,834	–
IDRC	75,118	–	–	75,118	19,220
E U	6,049,722	575,320	54,611	6,570,431	2,898,959
SDC–Swiss	435,580	32,931	–	468,511	773,596
SIDA–Sweden	1,279,032	–	169,740	1,109,292	557,913
CIAT	207,291	–	179,442	27,849	99,433
GTZ	–	–	–	–	54,859
AfDB	1,246,169	–	748,882	497,287	170,681
IFAD	559,500	51,514	–	611,014	431,575
FARA	261,244	–	117,443	143,801	90,000
IPGRI/Bioversity International	34,252	–	4,866	29,387	82,001
DFID	630,996	–	611,739	19,257	201,449
HarvestPlus (CGIAR)	617,999	–	91,306	526,693	159,142
FAO	–	–	–	–	13,048
<b>Subtotal</b>	<b><u>14,389,398</u></b>	<b><u>659,765</u></b>	<b><u>1,985,196</u></b>	<b><u>13,063,968</u></b>	<b><u>8,257,799</u></b>
<b>Member NARIs:</b>					
ISABU – Burundi	–	5,000	–	5,000	5,000
INERA – Congo, DR	–	5,000	–	5,000	5,000
NARI – Eritrea	5,000	–	–	5,000	5,000
EIAR – Ethiopia	–	5,000	–	5,000	5,000
KARI – Kenya	5,000	–	–	5,000	5,000
FOFIFA – Madagascar	–	5,000	–	5,000	5,000
ISAR – Rwanda	–	5,000	–	5,000	5,000
ARC – Sudan	–	5,000	–	5,000	5,000
DRD – Tanzania	–	5,000	–	5,000	5,000
NARO – Uganda	–	5,000	–	5,000	5,000
<b>Subtotal</b>	<b><u>10,000</u></b>	<b><u>40,000</u></b>	<b><u>–</u></b>	<b><u>50,000</u></b>	<b><u>50,000</u></b>
<b>Total Donation Income</b>	<b><u>14,399,398</u></b>	<b><u>699,765</u></b>	<b><u>1,985,196</u></b>	<b><u>13,113,968</u></b>	<b><u>8,307,799</u></b>

**b) Other income**

	<b>2007</b>	<b>2006</b>
	<b><u>US\$</u></b>	<b><u>US\$</u></b>
Interest income	209,900	215,518
Overhead income	128,996	68,552
Discount and other miscellaneous	27,469	21,949
Exchange gain	<u>57,732</u>	<u>287</u>
<b>Total other earned income</b>	<b><u>424,067</u></b>	<b><u>306,306</u></b>

# 9 Acronyms and abbreviations

A-AARNET	ASARECA Animal Agriculture Research Network
AICM	agricultural information and communication management
ANAPE	African Network for Agriculture, Agroforestry and Natural Resource Education
ARC	Agricultural Research Corporation
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BARNESA	Banana Research Network for Eastern and Southern Africa
BXW	banana <i>Xanthomonas</i> wilt
CAADP	Comprehensive Africa Agricultural Development Programme
CGS	Competitive Grant System
CIAT	International Centre for Tropical Agriculture
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo (International Maize and Wheat Improvement Centre)
CIP	Centro Internacional de la Papa (International Potato Centre)
COMESA	Common Market for Eastern and Southern Africa
DFID	Department for International Development
EAPGREN	Eastern Africa Plant Genetic Resources Network
EARRNET	Eastern Africa Root Crops Research Network
EC	European Commission
ECA	Eastern and Central Africa
ECABIO	Eastern and Central Africa Programme for Biotechnology and Biosafety
ECABREN	Eastern and Central Africa Bean Research Network
ECAMAW	Eastern and Central Africa Maize and Wheat Research
ECAPAPA	Eastern and Central Africa Programme for Agricultural Policy Analysis
ECARSAM	Eastern and Central Africa Regional Sorghum and Millet Network
EIAR	Ethiopian Institute of Agricultural Research
FAAP	Framework for African Agricultural Productivity
FAO	Food and Agriculture Organization of the United Nations
FARA	Forum for Agricultural Research in Africa
IAR4D	Integrated Agricultural Research for Development
ICM	information and communication management
ICT	information and communication technology
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
ISAR	Institut des Sciences Agronomique du Rwanda
KARI	Kenya Agricultural Research Institute

KEPHIS	Kenya Plant Health Inspectorate Service
M&E	monitoring and evaluation
NARI	national agricultural research institute
NARO	National Agricultural Research Organisation
NARS	national agricultural research system
NGO	non-governmental organisation
NPP	network, programme and project
PAAP	Policy Analysis and Advocacy Programme
PGR	plant genetic resource
PRAPACE	Programme Régional d'Amélioration de la Pomme de Terre et de la Patate Douce en Afrique Centrale et de l'Est (Potato and Sweetpotato Regional Research Network)
RABESA	Regional Approach to Biotechnology and Biosafety
RAILS	Regional Agricultural Information and Learning Systems
RAIN	Regional Agricultural Information Network
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
TUUSI	Technology Uptake and Upscaling Support Initiative



ISBN 978-92-95070-14-1 (print)  
ISBN 978-92-95070-15-8 (pdf)

