Association for Strengthening Agricultural Research in Eastern and Central Africa

ANNUAL WORK PLAN

2006

ECAMAW- Eastern and Central Africa Maize and Wheat Research Network

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ANNUAL WORK PLAN 2006

1. INTRODUCTION

This Annual Work Plan for the year 2006 covers the activities to be implemented by the Eastern and Central Africa Maize and Wheat Research Network (ECAMAW) in the framework of ASARECA's regional research for development strategy and ECAMAW identified research priorities.

- The total financial commitments to the network as of to date for the year 2006 amount to 966,838 US$, equivalent to 805,690 Euros. The following donors have committed funds to ECAMAW:
- EU –European Union
- CIDA -Canadian International Development Agency
- RF – Rockefeller Foundation
- BMZ -Bundesministerium fur Wirtschaftliche Zusammenarbeit und Entwicklung
- NF-Nippon Foundation

2. BACKGROUND

ECAMAW, one of the 19 ASARECA Networks, Programs and Projects (NPPs) was formed in 1996 following stakeholder meetings in Nairobi and Entebbe. The countries that participate in the network include Burundi, the DR Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. **The overall objective of the Network is i**ncreased economic growth and improved livelihoods in the ECA while enhancing the quality of the environment. The purpose of ECAMAW is therefore enhanced sustainable productivity, value added and competitiveness of the regional maize and wheat systems.

So as to realize the purpose, ECAMAW will target four results in its Work Program 2006 namely:

1. Demand driven maize and wheat technologies/innovations generated and promoted.
2. Enabling regional and national policy options for transformation of maize and wheat systems facilitated
3. Regional and national capacity for IAR4D in maize and wheat systems strengthened
4. Availability of information on maize and wheat research and development enhanced.

The annual work plan for 2005 was successfully implemented with the following achievements:

1. A satisfactory coordination and management of the network resulted in strong team research work, high quality implementation of small grant project and documentation of survey results of ECAMAW Existing Technologies in ECA. ECAMAW research teams were revived and empowered to respond to the ASARECA CGS first call for concept notes where six concept notes were submitted to ASARECA.
2. A comprehensive Five-year Strategic Plan for ECAMAW that includes the recent list of priorities and constraints was finalized. However, the recent reconstruction of RSU, ASARECA and NPP log-frames need be included before approval by the steering committee and the stakeholders.
3. The major source of funding for network activities still constituted the special projects implemented under CIMMYT and ECAMAW through a consolidated framework. The special projects funded by CIDA, Rockefeller Foundation, BMZ/GTZ, Nippon Foundation and IFAD provided approximately US$454,905,000 in support of 109 small grants projects, training, infrastructure development and maintenance, as well as meetings and workshops. NARS

scientists gained knowledge to develop, refine proposals and workplans for funding through this mechanism under the expertise of CIMMYT scientists and the network regional coordinator.

4. During 2005, a total of 192 trials were distributed to breeders in the ECA region. The results will be provided in both hardcopy and on CD in February 2006 to enable breeders to choose germplasm most suited to their environment for further multi-location evaluations and release.
5. Out of five Concept Notes and Full Proposals submitted for Stream B funding reviewed, two projects were recommended to ASARECA for funding.
6. 28 young scientists from the ECA region gained knowledge on "Maize Improvement with Emphasis on Quality Protein Maize (QPM) Development and Breeding for Stress Tolerance" after being trained for two weeks

It is envisioned that a successful execution of the 2006 activities will ensure smooth coordination and quality implementation of the ECAMAW activities, a number of improved maize and wheat technologies/ innovations developed, promoted and uptake pathways identified and utilised. The capacity of NARS and other stakeholders will further be strengthened to develop and disseminate client-oriented technologies in maize and wheat systems. The current resources from EDF 8 and other donors enable ECAMAW to implement projects in only three priority themes namely: increased maize and wheat productivity, improving markets and trade opportunities and strengthening institutional support and infrastructure to a lesser extent. The network has to seek for more funds to implement other priority themes namely development and promotion of appropriate post harvest technologies and utilization options, wheat research, influencing policy as well as addressing value addition in the two crops. The 5-Year Strategic Plan for 2006-2010 will be revised elaborating the prioritised themes and sub-themes and following the new RSU and ASARECA Log-Frames.

3. WORK PLAN ACTIVITIES

Project 1: Response farming technology to strengthen maize production in semi-arid areas in ECA

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted.

Project Result 1: Historical impacts of seasonal rainfall variability on maize production strategies currently adopted by farmers and those recommended in each country including input/output markets identified and quantified.

A series of village based PRAs will be conducted to gather farmers perceptions of the general behaviour of rainfall from cropping point views, details of their cropping systems and management. Then, the information gathered will used to establish required input data for WHARF programs.

Farmers and researchers perceptions of rainfall from crop production stand point in general and of maize/sorghum/bean cultivars in particular will be sought. Detailed agronomic information about present and past weather directed cropping systems will be acquired eg. Crop choices, cultivar maturities, land allocation to crops/cultivars, land preparation practices; tillage, seed rates, onset/planting signals etc. Weather and soil data will be collected and entered into WHARFDAT program (Stewart, 1995), and rigorous checks on quality will be made.

Progress Indicators:

- At least one historical impacts of seasonal rainfall variability on maize production strategies identified and /or reviewed
- At least one comprehensive database of climate, soil and crop developed

Project Result 2: Farm-level adaptive response farming maize production strategies to reduce the impacts of seasonal rainfall variability, combining indigenous knowledge and advanced response farming modelling tools developed and verified with stakeholders.

The activities include:

- Conduct evaluation of historical water supply impacts on alternative maize

- production scenarios to determine the most promising packages using WHARF simulators
- Carry out participatory on-farm trials to verify optimal combinations of planting date, soil moisture
- Conserving models, fertility and plant population levels
- Analyse on-farm data and determine most fitting response farming technology for wider application
- Undertake Water Production Function Analysis to develop equations useful for yield forecasting and thereby aid moving of grain maize from excess to deficit areas

Progress Indicators:

- At least 3 response farming rainfall criteria developed for use in maize production planting decision by all participating farmers

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened.

Project Result 3: Capacity for application of response farming seasonal rainfall forecast information in maize production decision-by farmers and relevant stakeholders developed. Workshops will be held at project centers with extensionists, farmers and researchers, and discuss findings and initial response farming recommendations, and modify the latter as appropriate

Progress Indicators:

- At least 3 specific needs assessments for capacity issues relating to the implementation of response farming identified
- At least 3 groups of researchers, extensionists from the target countries trained with the new approaches for effective scaling-up to promote uptake and utilization

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 4: Prototype seasonal response farming rainfall forecast information and training materials to support adaptive decision making by farmers and relevant stakeholders developed.

The activities will include developing and disseminating best bet options through production of response farming maize production guidelines decision calendars and leaflets

Progress Indicators:

- At least 3 response farming priority-related packages of information prepared for use

Project 2: Development and dissemination of normal and nutritionally enhanced highland maize varieties

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Improved highland maize germplasm made available for further use in the ECA region

The project will be conducted in six countries of the east African region: Burundi, Ethiopia, Kenya, Rwanda, Tanzania and Uganda. The regional nursery established at Ambo, Ethiopia in 1998 will be used for germplasm development. Inbred lines, different types of crosses and open pollinated varieties will be developed at the centre. Performances of the lines (*per se*) and varieties formed will be evaluated in all the member countries to identify the materials with regional or specific country adaptation. Early generation inbred lines, F_2 populations and other source materials will be developed/formed at Ambo and delivered to other countries to be used by NARS researchers to develop inbred lines with adaptation to their respective environments.

Progress Indicators:

- Highland normal and QPM maize varieties and production strategies identified and /or reviewed

Project Result 2: Improved normal and nutritionally enhanced maize varieties developed/identified for highland ecologies

Currently, the highland maize research project co-ordination based at Ambo has quite a large number of advanced inbred lines developed during the last project phases in collaboration with NARS of the region. These lines will be recombined based on their heterotic groups at Ambo using controlled pollination to form two diverse heterotic pools. To further enhance the germplasm base of the highland breeding program in ECA, promising maize genotypes will be introduced from CIMMYT highland program and other NARS.

Progress Indicators:

- At least 50 normal and nutritionally enhanced maize germplasm/varieties developed and evaluated in highland ecologies

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 3: Increased availability of seeds of elite and released varieties

Seed production of promising materials will be carried out either in isolation or by hand pollination in each country for use in multi-location regional performance and on-farm mother-baby trials. Multiplication of breeder and foundation seeds of the released varieties will also be carried out in each of the six countries during the project period.

Progress Indicators

- At least 50kg each of five improved varieties produced in >four countries
- At least three effective partnerships and mechanisms for seed production and distribution for uptake identified
- At least two seed production and distribution pathways generated

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 4 Enhanced availability of QPM information for research and development

Brochures/leaflets will also be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.

Progress Indicators:

- **A**t least 3 highland maize priority-related packages of information prepared for use

Project 3: Enhancing wheat production for Food security and improved income in Arid and Semi-arid Areas of ECA

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Demand driven wheat technologies and innovations generated and made available for uptake

The situation of natural resource degradation and food insecurity is much aggravated in the arid and semi-arid areas of Kenya, Uganda, Tanzania, Rwanda, Burundi, Ethiopia, Eritrea and Sudan. The project will put emphasis in strengthening relevant and key stakeholders who have activities in these regions. The following activities will be carried out:

- Stakeholders identification and analysis
- Screening of genotypes and promotion of drought tolerant wheat varieties
- Evaluation and establishment of efficient soil fertility and moisture conservation methods

Progress Indicators:

- Wheat production strategies identified and /or reviewed

- At least two effective partnerships and mechanisms for wheat technologies and innovations uptake identified

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 2: Regional and national capacity for IAR4D in wheat production in arid and semi-arid ecologies strengthened
Participatory evaluation of wheat production technologies will enhance capacity for all stakeholders.
Progress Indicators

- At least two specific needs for capacity issues relating to the implementation of wheat strategies identified

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 3 Enhanced availability of wheat production and marketing information for research and development
The technologies developed under this project will be promoted through participatory evaluation with the key stakeholders, field days, leaflets, on-farm demonstrations and extension service.
User-friendly Brochures/leaflets will be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.
Progress Indicators:

- At least 3 priority-related packages of information prepared for use
- At least one effective partnership and/or linkages for wheat information packaging and delivery established

Project 4: Quality Protein Maize Development Project For The Horn And East Africa

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Increased involvement of stakeholders in the Development and dissemination of stress tolerant QPM cultivars adapted to the maize –producing ecologies of the Horn and Eastern Africa.
Breeding QPM is a major and necessary component of this project to ensure the development of stress tolerant QPM varieties suited to the various agro-ecologies in Ethiopia, Tanzania, Kenya and Uganda. The emphasis will be on production of both OPV and hybrid QPM in accordance with the desires and preferences of the specific NARS and farmers.
Progress Indicators:

- At least three demand-driven regionally significant researchable themes on QPM identified and /or reviewed
- At least two demand driven QPM technologies/innovations generated (includes improved varieties released)
- Number of partners involved in development and dissemination of QPM technologies.
- At least one effective partnerships and mechanisms for QPM technologies and innovations uptake identified

Project Result 2: Increased releases of farmer preferred stress tolerant QPM cultivars adapted to the major agro-ecologies
Farmers participatory evaluation of elite materials will be carried out using mother and baby methodology. Varieties in the mother-baby trial will be evaluated under two management levels, optimal (researcher managed) and sub-optimal (farmer managed). The project will give due consideration to female headed farm families to host the mother-baby trials. Socio-economic data will be collected from both male and female farmers. Farmer preference studies will be conducted to select and seek farmers feed back opinion of the new QPM varieties. The best performing varieties

will be selected and promoted to variety verification trials, NPT trials and tabled for release. Seed of QPM varieties entered into farmer participatory trials and demonstrations will be produced by the NARS breeders

Progress Indicators:

- Number of released cultivars classified by ecology
- Level of satisfaction of farmers with the released QPM cultivars compared to normal maize cultivars (gender aggregated)

Project Result 3: Increased quantities of foundation and breeder seeds of elite QPM varieties available and accessible to seed producers

Seed production of promising materials will be another activity to be carried out either in isolation or by hand pollination in each country for use in multi-location regional performance and on-farm mother-baby trials. Multiplication of breeder and foundation seeds of the released varieties will also be carried out in each of the six countries during the project period. Stakeholders involved in seed production will be trained on breeder and foundation seed production techniques

Progress Indicators

- Quantity of QPM breeder and foundation seed produced
- Level of satisfaction of certified seed producers accessing breeder and foundation seed

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 4 Increased knowledge of and skills in QPM development and Seed production

Demonstration and popularization activities of the released varieties will be carried out in all the Participating countries in collaboration with other stakeholders like extension departments of Ministry of Agriculture, development agents, farmers' organizations, and seed companies

Progress Indicators

- At least five specific needs assessments for capacity issues relating to the implementation of IAR4D identified
- At least one types of skills and expertise imparted
- Number of seed producers and retailers involved in QPM seed production and distribution
- Quality of seed provided by seed producers

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 5: Increased knowledge and awareness of QPM technologies and nutritional benefits particularly amongst farm families

The nutritional value of QPM will be demonstrated by conducting animal feeding experiments and holding field days for all stakeholders. QPM production demonstrations will also be conducted accompanied by field days in the farm communities. The effects of the QPM on community health indicators will be documented and availed across the region. Brochures/leaflets, radio programs, TV programs will be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.

Progress Indicators:

- At least 5 priority-related packages of QPM information prepared for use.
- Proportion of people aware of the existence and nutritional benefits of QPM (gender disaggregated)
- Documents on QPM benefits produced
- Brochures, leaflets and posters on QPM production and utilization produced

Project 5: African Maize Stress Project

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Development of locally- adapted cultivars of maize with increased tolerance to drought, low soil nitrogen and Striga, and with resistance to stemborers, as well as with improved nutritional content.

Under Phase I, more than 5000 maize genotypes were systematically evaluated by project collaborators, and a number of materials with resistance to one or more of the project target stresses have been found superior to varieties that are currently widely grown. Among these promising new materials are early and extra-early varieties that farmers prefer to Katumani, the single most popular "drought-avoiding" maize variety grown in East Africa. Participatory breeding and on-farm and mother-baby trials, are being used to develop and test new technologies with farmers.

The project will continue breeding for stress tolerance, farmer participatory research, training, and network strengthening. To broaden the scope of the project in Phase II, one new activity has been added – the testing and incorporation of QPM varieties developed at CIMMYT Mexico.

Progress Indicators:

- Ten cultivars, including QPM, with at least 10% yield advantage under controlled drought and/or low nitrogen stress compared to the best currently available check varieties developed and promoted.
- At least one effective partnerships and mechanisms for technologies and innovations uptake identified.
- At least three seed companies assisted to identify and produce high quality stress tolerant maize seeds.

Project Result 2: Develop, test and promote the use of complementary crop management practices to ameliorate stress conditions.

AMS I project review recommended strengthening the area of research and dissemination of improved agronomic practices to manage abiotic and biotic stresses. In response to this recommendation, NARSs scientists will continue to carry the primary responsibility for agronomy research under the competitive grants program. Among the agronomy activities planned for Phase II are:

- Initiate on-farm trials of stress tolerant/resistant germplasm and complementary management options on new areas.
- Determine recommended cultural practices related to the management of newly identified and improved germplasm (e.g., date of planting, optimum plant densities and fertilizer rates for newly identified germplasm, particularly the extra-early maturing genotypes, and use of legumes for soil fertility improvement).

Progress Indicators:

- At least two management technologies developed or modified so as to make them more suitable for male and female farmers.
- Soil nitrogen fertility enhancement technologies demonstrated in conjunction with N use efficient maize varieties 2% of farmers in targeted areas.

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 3 Strengthen NARSs' ability to develop stress-tolerant maize.

One of the major accomplishments of AMS Phase I was the creation and strengthening of experiment station infrastructure in the project NARSs to screen and evaluate maize under controlled abiotic and biotic stress conditions. In Phase II, additional capital investment will be used to establish two additional sites in East Africa for screening for turcicum blight, Grey Leaf Spot and streak resistance, which have become important diseases in the region. The maintenance and operations of sites established will be emphasized selected sites for disease screening will be strengthen Training of NARSs researchers will remain a priority on a number of topics, including stress breeding and selection methodologies, participatory

breeding and on-farm research, data management, and report preparation.

Progress Indicators

- 20 technicians trained through group courses; 3 national scientists complete visiting scientist fellowship assignments; and 10 NARS scientists participate in the planned Regional Symposium on stress breeding methodologies.
- At least 10 independent research and extension projects funded by the competitive grant system,

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 4 Enhanced availability of stress tolerant maize information for research and development

The project aims to foster intra-NARSs collaboration, as well as regional cooperation with regard to the exchange of germplasm, information and exchange visits among NARSs scientists to promote cross fertilization of ideas, experience, and successful agronomic practices adapted to specific ecologies. Brochures/leaflets will also be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.

Progress Indicators:

- At least 5 publications related to the themes of the project accepted by international technical journals and publication of the proceedings of the planned African Conference/Symposium for Stress-Tolerance Breeding and Selection.

Project 6: Improving the value of maize as livestock feed to enhance the livelihoods of maize-livestock farmers in East Africa

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Superior dual-purpose maize cultivars identified from existing maize germplasm for diverse agro-ecological zones

This project is a new multidimensional approach to maize improvement to provide maize genotypes that better match the needs of resource poor mixed-crop livestock farmers for food and fodder. It aims at producing cultivars for diverse and often marginal environments in Ethiopia, Kenya and Tanzania that produce higher grain yield under conditions of biotic (gray leaf spot, stem borer) and abiotic (drought, low fertility) stress than currently used cultivars while providing good stover quantity and quality for livestock fodder.

- This project is conducted in agro-ecological zones in the lowlands, mid-altitudes (dry/moist) and highlands (transitional/true) of Ethiopia, Kenya and Tanzania
- Genotypes from least 200 parental lines, 50 advanced lines, 10 released varieties and 3 local checks grown at three locations each under low (farmers level) and high (recommended crop input rates) at low, mid and high altitudes in Ethiopia (Ambo, Bako and Awassa), Kenya (Kitale, Embu and Kakamega) and Tanzania (Hai, Arumeru and Himo Makuyumi) will be investigated.
- On-station and on-farm maize improvement work will be linked through mother/baby trials involving farmers, NARES, NGO's and private entrepreneurs
- Farmers, executing agencies and partners will be involved in project implementation. CIMMYT, ILRI and partners will be responsible for coordination, monitoring and reporting. Development agencies with support of research organizations will be involved in dissemination of outputs.

Progress Indicators:

- At least 2 demand-driven regionally significant researchable themes on food/feed maize identified and /or reviewed
- Increased involvement of stakeholders in the development of improved food/feed maize technologies

Project Result 2: Influence of livestock related factors on farmers choice of maize genotypes assessed in Ethiopia, Kenya and Tanzania

The demand for food-feed-crop maize genotypes that provide good stover fodder quantity and quality besides grain yield was strongly voiced by the stakeholders attending a recent CIMMYT-coordinated workshop on the direction of maize improvement in East Africa and agrees with and confirms the observation of ILRI and others in the region. The project will use existing data to explore factors that influence farmers' choices of cultivars. *F*ield level surveys in the sites identified using participatory appraisal methods to elucidate: a) the desirable traits in maize that determine the choice of genotype; b) the extent to which the different uses of the stover (mulching, feeding to livestock in the same farm, selling for feed in case of non-livestock keepers, etc. influence the choice of genotype of maize;

Progress Indicators:

- Visual, sensorial and quantitative criteria used by farmers to choose maize genotypes determined in three pilot sites in each of three agro-ecological zones of Ethiopia (E), Kenya (K) and Tanzania (T)

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 3 Training and Scientific Interaction

The project will provide for 2 PhD thesis (NIR field technology and development of food-feed maize cultivars)

- Scientists, public and private seed producers, certifying agencies will participate in the Mini-workshops, an annual event for all ECAMAW projects conducted during February.
- Collaborating scientists will participate in conferences to present project results (regional and international livestock and crop conferences/workshops)
- Based on the small grants program in ECAMAW, participating-NARS will have the opportunity to attend appropriate regional training courses and conferences.

Progress Indicators

At least 3 specific needs assessments for capacity issues relating to the implementation of food/feed maize identified

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 4 Additional selection criteria for variety releasing agents and public and private seed industry identified

Progress Indicators: Releasing agents have participated in at least one participatory evaluation and in at least one selection cycles in at least 1 agro-ecological zones in each country

Project 7: Develop and promote value addition-baby corn maize

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Demand driven baby corn technologies and innovations generated and made available for uptake

Maize genetic resources contain various benefits that include multiple uses of maize and maize products. This project explores new opportunities related to horticultural use of maize as baby-corn, which is an important source of cash for growers in ECA region. This trait incorporated into maize germplasm with tolerance to biotic and abiotic stresses will be usable by the communities especially in urban areas of ECA.

New baby corn varieties will be developed and in collaboration with food technologists, nutritionists food processors and consumers, the varieties will be promoted in Kenya, Tanzania, Ethiopia and Uganda. Preliminary work started two years ago in KARI-Kiboko in Kenya. Strategic partners

interested in processing and exporting in the counties will be identified. Consumers will be made aware of the new and existing baby corn varieties promotion campaigns.

Progress Indicators:

At least one demand driven baby corn technology/innovation generated

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 2: Increased knowledge and awareness of stakeholders towards baby corn maize varieties

New products for maize and wheat in ASARECA countries are limited in number due to lack of innovative product development, continued use of old eating behaviors by consumers and lack of capital for entrepreneurs to venture into production of new products. Training on various stakeholders on baby corn and other value added products will help in creating awareness and expertise in development of useful end-products

Progress Indicators:

At least one type of skills and expertise imparted

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 3: Enhanced availability of baby corn production and marketing information for research and development

Brochures/leaflets will also be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.

Progress Indicators: At least 2 priority-related packages of baby corn information prepared for use

Project 8: Strengthening Seed production and distribution systems for small-scale farmers in ECA

NPP Result 1: Demand driven maize and wheat technologies/innovations generated and promoted

Project Result 1: Demand driven quality seed technologies and innovations generated and made available for uptake

For the benefits of improved varieties to reach small-scale, resource-constrained farmers, the farmers must have access to affordable seed of improved varieties. ECAMAW and its partners like CIMMYT will facilitate small national seed companies that do not have breeding capacity to benefit from multiplying and marketing the publicly developed improved varieties- stress tolerant varieties, QPM etc. In addition, the different projects will support public as well as private breeding programs to ensure sufficient breeder and foundation seed of recently released varieties. ECAMAW and its partners will also facilitate community-based seed production by farmer groups where appropriate so that OPV seed readily reach more small-scale farmers at affordable prices.

Progress Indicators: At least 500kg each of five improved varieties produced in >four countries

At least three effective partnerships and mechanisms for seed production and distribution for uptake identified

At least two seed production and distribution pathways generated

NPP Result 2: Enabling regional and national policy options for transformation of maize and wheat systems facilitated

Project Result 2: Enabling regional and national policy options for transformation of maize seed systems facilitated.

- Maize seed production and marketing are at the mercy of the different players who include the producers, public and private seed companies and distributors. Lack of supportive policies

which are in some instances unfavorable continue to hinder production and distribution of seed. ECAMAW partners will identify policies that hinder maize seed production, utilization and marketing and suggest interventions for policies affecting seed production and distribution. The project also aims to promote collaboration of different stakeholders in seed systems and facilitate policy dialogue and change.

Progress Indicators:

- At least one demand driven, regionally significant researchable policy issue on improved seed production identified

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

Project Result 3: Regional and national capacity for IAR4D in quality seed production and distribution strengthened

- The project in collaboration with partners will identify training needs and linkages amongst partners.
- Train and promote establishment of small scale seed producers and rural entrepreneurs
- Work with public and private agencies and NGOs to deliver affordable seed to small scale farmers

Progress Indicators:

At least three specific needs assessments for capacity issues relating to quality seed production and distribution identified

At least one effective partnership and/or linkage for quality seed production and distribution established

NPP Result 4: Availability of information on maize and wheat research and development enhanced.

Project Result 4: Enhanced availability of seed production and distribution information for research and development

Brochures/leaflets will also be produced using local languages of the respective countries and distributed to the farmers and seed producers during the field days.

Progress Indicators: At least 2 priority-related packages of seed production and distribution information prepared for use

Network Co-ordination Unit:

NPP Result 1:

CU Activity 1: Review progress reports of the 2005 on-going research activities and allocate funds for 2006-work plan. Principle investigators of various projects under ECAMAW meet annually to present technical and financial reports, new projects proposals presented for review and selection while on-going projects' budgets are approved. This facilitates communication and information exchange among national programs in addition to accountability. Furthermore, achievements for the year are also documented.

Progress Indicators:

- Existing and new partners of network documented
- Minutes of meetings
- Technical and financial reports from all collaborators on 2004 results and work plans for 2005 documented

NPP Result 3: Regional and national capacity for IAR4D in maize and wheat systems strengthened

CU Activity 1: Strengthened Capacity for NARS to develop client-oriented technologies.
The Network will provide short- and medium-term training opportunities to increase the capacity of national program scientists. Short courses will be identified by the national programs or by the Steering Committee. Courses will be offered either in-country or regionally, depending on the number of potential participants. Topics include data analysis and scientific writing, preparing funding proposals, impact assessment, methods, gender analysis, participatory research and research-extension linkages. Wherever possible, courses will cover across-crop issues.

Medium-term "in-service" training will be offered to selected scientists in the region and allow them to spend 2 to 7 months at an appropriate international center, advanced research institute, or at the Crop Management Research Training Center, Njoro, Kenya. The purpose of in-service training is to improve the knowledge and capabilities of scientist in specific areas related to their home-country research.

Progress Indicators:

- Number of researchers trained
- Types of skills and expertise imparted

CU Activity 2: Conduct Regional Steering Committee Meeting. The SC coordinates and facilitates planning, training, monitoring, evaluating, quality control and reporting of network activities. The SC will also approve the up-dated list of the Stakeholders in ECA. The stakeholders help the SC to develop strategies for implementing regional research programs.

Indicators:

- Implementation of the steering committee workshop with minutes of the meeting

CU Activity 3: Conduct Stakeholders Meeting. There is need to facilitate dissemination and ascertain effective use of research results across the region by involvement and commitment of all the stakeholders in the maize and wheat systems. The improved comprehensive Five-year Strategic Plan for ECAMAW has included the recent list of priorities and constraints. However, the recent changes on logframes must be included. The stakeholders need to receive and approve the document and follow up on the recommendations made. The stakeholders will thus have a document stipulating action plan for implementation of the strategy.

Indicators:

- Implementation of the stakeholders' workshop with minutes of the meeting
- Approved version of the 5 Year Strategic Plan document.

Co-ordination Unit Administration and Operation

CU Activity 1: Coordination unit day to day management. The Coordination unit is guided by the ECAMAW constitution and the decisions of the SC. It is a continuous process that is the foundation of the Network activities and must be maintained to realise all the Network results.

Indicators:

- Implementation of the AWP activities with various documents distributed to stakeholders, SC, ASARECA secretariat and CIMMYT

4. NPP MANAGEMENT

The ECAMAW Regional Coordination Unit (CU) will carry out the daily network management. It will ensure the implementation and monitoring of all activities foreseen under this Work Programme. The Regional Network Coordinator will ensure regular information and contacts, as required by the ASARECA Secretariat as well as the various donors.

The Regional Network Coordinator will report to the Network Steering Committee. The Committee have the following members:

1. Dr. Eshetu Bekele- NARS representative from Ethiopia
2. Dr. Jane Ininda- NARS representative from in Kenya
3. Dr. Peter Matowo- NARS representative from Tanzania
4. Dr. Geroge Bigirwa- NARS representative from Uganda
5. Dr. El Tahir Siddic- NARS representative from Sudan
6. Mr. Athanase Manirakiza- NARS representative from Burundi
7. Mr. Antoine Nyirigira- NARS representative from Rwanda
8. Mr. Ramilison Rodolphe- NARS representative from Madagascar
9. Mr. Mbuya Kankolongo- NARS representative from D.R. Congo
10. Wheat Coordinator NARS representative from Eritrea
11. Dr. Francia Ndambuki- Private sector representative from Kenya
12. Mrs Grace Bakaira- Farmer representative from Uganda
13. Mr. H. Nyangi- extension expert representative from Tanzania
14. Private sector (processor) representative from Sudan
15. Farmer representative from DR. Congo
16. Dr. Aberra Debelo- NGO representative from SG2000-Ethiopia
17. Mr. Nyandwi Gaspard extension expert representative from Burundi

The current Chairperson is Ato Dagne Wegary, the maize coordinator from EARO-Ethiopia. A new chairperson will be selected in February 2006 during the ECAMAW annual planning meetings. The Network Steering Committee will meet regularly. It will oversee and validate the overall direction and policy of the network, receive and approve progress, technical and financial reports and Work Programmes.

ECAMAW PARTNERSHIPS

The network is fostering collaboration and partnerships with key stakeholders at all levels- local/ community, national, regional and international. ECAMAW activities are thus carried outthrough collaboration with several partners including:

- Maize and wheat farmers, farmers' groups and consumers
- Private sector institutions such as seed producers, maize and wheat processing industries, development agencies, etc.
- Government regulatory agencies,
- National Research Institutes (NARIs)
- Universities
- Other ASARECA networks, especially, SWMNET, AHI, FOODNET, TOFNET
- Public extension agencies / departments
- CGIAR centres and advanced research institutes with programmes in the region
- Non-governmental organizations, CBOs
- In the case of QPM, weaning infants, small children and nursing mothers
- Ministries of health and agriculture

There will be a review mission for the African Maize Stress project in February 2006.

5. RISKS AND ASSUMPTIONS

The following assumptions and risks have been made:

1.) The continued commitment of NARS in member counties to ECAMAW activities.
2.) Financial support by donors and governments for activities that cannot be financed by EDF.
3.) The continuing willingness of governments to appoint qualified candidates for training and the trained scientists stay within the NARS.
4.) Working relations between local communities, government, and other stakeholders of the network are responsive to the network agenda

6. REPORTING

The ECAMAW network will submit a consolidated Six-Monthly Progress Report (i.e. for January to June) within three months of the end of the period covered and a consolidated Annual Performance Report within 3 months from the end of the calendar year. NPP reports will be prepared on the basis of project reports submitted to the Coordination Unit. The agreed, uniform reporting format for ASARECA NPPs will be used.

All reports will be presented to the members of the NPP Steering Committee, to the donors providing funds to ECAMAW and to the ASARECA Secretariat in the agreed number of copies.

ANNEXES

ANNEX 1 Updated Logical Framework

ANNEX 2 Medium Term Plan

ANNEX 3 Annual Implementation Schedule

ANNEX 4 Annual Financing Plan