

Annex to FY 2005 Annual Report

USAID Global Climate Change Program Reporting -- GCC Narrative for USAID Activities Conducted in FY 2004

Operating Unit Reporting: REDSO/ESA

Submitted 22 April 2005

“Please describe the most significant climate change achievements of your program for Fiscal Year 2004. Provide as much detail as possible within the 4 page limit. Definitions are provided on page 2. ... The Annex mandates: (1) a Narrative of key accomplishments, and (2) Data Tables providing information on climate change indicators...”

REDSO has been assigned an attribution level of \$500,000 for GCC reporting purposes in FY 04-06. The REDSO SO in which this attribution is counted is SO 5 -- Enhanced African Capacity to Achieve Regional Food Security. The FY 04 - 06 GCC allocations are split among LU, Land Use and VA, Vulnerability and Adaptation, respectively circa \$300,000 and \$200,000 each year. Accordingly, REDSO is reporting against two of the seven indicators USAID uses to measure progress on climate change, namely:

- Indicator 2: Reduced Net Greenhouse Gas Emissions from the Land Use/Forest Management Sector; and
- Indicator 6: Reduced Vulnerability to Impacts of Climate Change

Please see the associated data tables

Indicator 2. Reduced Greenhouse Gas Emissions from Land Use, Forestry Activities, and Natural Resource Management

A. Land Use/Forest Management Activities

It is through its support to ASARECA (Association for Strengthened Agricultural Research in East and Central Africa) that REDSO claims land use GCC-relevant results in the areas of improved land use and agricultural productivity. ASARECA's purpose is to strengthen and increase the efficiency of agricultural research in ECA, and to facilitate economic growth, food security and export competitiveness through productive and sustainable agriculture. ASARECA is a non-political organization of the National Agricultural Research Institutes (NARIs) of ten countries: Burundi, D. R. Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. It aims at increasing the efficiency of agricultural research in the region so as to facilitate economic growth, food security and export competitiveness through productive and sustainable agriculture.

Sustainable NRM practices are promoted among the 10 ASARECA countries and its associated commodity, policy and natural resource networks to develop and disseminate improved technologies and best practices throughout the region. USAID, with UNDP and EU, supports the Secretariat of ASARECA, which manages Program Planning and Coordination, Monitoring and Evaluation, Management Information Systems, a Competitive Grant System, and an Endowment Fund for the Core Budget of the Secretariat.

Nearly 20 commodity and technical networks have been established under the umbrella of ASARECA. All have undertaken regional priority-setting to identify key research for development themes. Among the five key criteria for priority setting are sustainable productivity and NRM promoted. The networks most relevant to improved NRM practices for the GCC purposes are:

- African Highlands Initiative (AHI)
- Eastern Africa Root Crops Research Network (EARRNET)
- Eastern and Central Africa Bean Research Network (ECABREN)
- Sorghum and Millet network
- Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA)
- Regional Potato and Sweet potato Improvement Network in Eastern and Central Africa (PRAPACE)
- Soil and Water Management Network (SWMNET)
- Trees on-Farm Network (TOFNET)

Sustainable Agriculture. These networks work with agricultural systems that increase or maintain carbon in their soil and biomass through time by employing certain proven cultural practices known to reduce carbon transport or emission. This has entailed soil, water and nutrient/crop management in the various commodities, to promote: reduced tillage; erosion control/soil conservation techniques, especially on hillsides; perennial crops in the affected agroecosystems; higher crop yields through better nitrogen and soil management; use of long-term rotations with leguminous crops and agroforestry species; as well as use of organic mulches, crop residues, and other organic inputs into the soil. Likewise, most of the commodity research networks have integrated soil fertility and pest management as among their research priorities, which advances better management of agrichemicals, by stressing careful fertilizer management that will increase yields while minimizing the use of oil-based agrichemicals, which increase emissions.

No specific effort has been made to measure the land area affected by ASARECA-influenced interventions to maintain or increase carbon stocks or reduce their rate of loss. The interventions flow mainly from developing strategic research for development plans and prioritized programs of implementation, moving towards adoption of improved technologies and practices, which place emphasis upon engaging community or household participation in program implementation. These activities include on-the-ground carbon impacts that may or may not have been realized and certainly at this point are not measured or specifically analyzed from this perspective. However some efforts along these lines may be initiated, possibly in connection with the ASARECA-coordinated M&E systems. Also, certain programs like AHI and TOFNet also address site-specific policy constraints.

Ongoing programs of the USAID-supported commodity networks, specifically, are bearing fruit. For instance, an impact assessment undertaken in Uganda this year by the bean network showed that some 153,000 hectares (20% of the total) of new bean varieties are grown by small-holder farmers, with an estimated annual value of over \$19 million. The technology adoption and practice improvements of the sorts mentioned – some or all of which are being undertaken in more than one commodity in several places throughout the 10-country, 20-network area of influence of ASARECA – would be considerable. A conservative estimate would likely exceed one million hectares, for the aggregate amount of land use influenced with the suite of better practices having carbon sequestration benefits, quite generically understood, throughout the 10-country region. This does not include the agroforestry and trees-on-farm interventions leveraged through REDSO's support to the Secretariat.

B. Significant Policy Achievements

Seed policy (import/export documentation) has been harmonized across 3 pilot countries in East Africa (Kenya, Uganda, Tanzania), resulting in faster movement of improved seed. This is being expanded to the 10-country area.

C. Public and Private Funding Leveraged

With the assistance of USAID, UNDP and EU, a monitoring, evaluation, analysis and planning unit (MEAPU) was established in the ASARECA Secretariat. Its main tasks include providing planning and analysis capacity, as well as for monitoring and evaluation of the regional agricultural research portfolio to ensure that the latter is in consonant with the strategic objectives of ASARECA.

In this sense, MEAPU serves as the main organ of the ASARECA CD and Secretariat in planning for the development and disseminating agricultural technologies, policies and institutions, that respond to prevailing markets and create future economic opportunities; while at the same time maintaining sustainability of the agricultural resource base.

The program has a dual focus: institutional strengthening of regional organizations, and program implementation that also has people level impact. For instance, through ASARECA commodity networks, more than 250,000 small-scale farmers have benefited across seven countries from the 100-plus tons of improved bean seeds that were provided in one recent year alone. Similar technology transfer is occurring for cassava, an important staple in many people's diet, with more than 41 NGOs and community based organizations, as well as additional private sector groups, distributing planting material of new high yielding disease resistant varieties in six countries. And the story is repeated several times over for other commodities. Germplasm is being made available to large numbers of farmers across the region through small informal seed systems for most commodities.

Indicator 6. Reduced Vulnerability to Impacts of Climate Change

Because of the regional nature of the programs supported, particularly of the IGAD Climate Prediction and Applications Centre, USAID/REDSO programs that reduce vulnerability to the impacts of climate variability and change can plausibly be claimed to apply to all seven resource categories: coastal resources, water resources, agriculture and food security, biodiversity, human health, urban, and natural resource management.

Key Categories Addressed in REDSO Programs

Category: Agriculture and Food Security (AFS) - Programs that increase resilience of agriculture and food systems to changes in temperature, water availability, pest and pathogen prevalence, soil moisture and other changes in environmental parameters

Program Type H. Crop diversification (drought-tolerant and disease-tolerant crops)

ASARECA commodity networks have been very engaged in identifying, testing and promoting a wide variety of drought tolerant crops. For example, ECABREN, the bean network, has been making widely available drought tolerant bean varieties in drought-stricken countries within the region. Mosaic virus resistant cassava is now widely grown in Kenya and Uganda through the efforts of ASARECA cassava network.

Program Type I. Famine early warning system / modelling climate impacts on agriculture production

USAID/REDSO, through its regional support to the Famine Early Warning Systems Network (FEWS NET) and with the IGAD Climate Prediction and Application Centre (ICPAC), is significantly contributing to improved early warning and response mechanisms in the Greater Horn of Africa. ICPAC, formerly Drought Monitoring Centre, Nairobi (DMCN), enhances national and regional capacities for famine early warning and response. Climate Outlook Forums (COFs) are held twice a

year which bring together the meteorological staff from ten countries of the Greater Horn of Africa (GHA) to predict the weather for the next six months and in turn improve contingency planning for climate-related impacts such as droughts or floods that affect food security.

The GHA Food Security Bulletin comes out bi-monthly, as a collaborative initiative of six regional programs/agencies. FEWSNET has pioneered livelihoods analysis, to provide information about how, and why, people survive (or fail to survive) difficult times. The product of a livelihood analysis may be as simple as a national livelihood zone map or may include in-depth baseline profiling of livelihood patterns among different wealth groups in selected livelihood zones.

This past year, food security professionals were invited to participate in a recently established Food Security Outlook Forum (FSOF) and a more comprehensive analytical approach was adopted. This included focusing on coping mechanisms and livelihood strategies in order to forecast changes in food security conditions in the GHA for the following six months. The FSOF forecast is being used by the U.N. for emergency planning for early 2005. As this approach becomes more systematically adopted it will initially enable improved humanitarian response and later improved linkages between humanitarian and development activities.

From the point of view of climate predication and application, East Africa is being recognized as one of the most “happening” places in the world, thanks to ICPAC. It has assumed an acknowledged coordination role in all matters climate in the region, including being recognized as such by the UN system. The EAC is deferring to ICPAC/DMCN in matters of climate-related water management. ICPAC is focused on quality products which are relevant to decision-making in numerous sectors. It is promulgating *standards* for climate modeling, which helps ensure higher effectiveness. Intriguing and promising case studies were highlighted in several derivative uses of climate forecasts, beyond rainfall to stream flow, vegetative cover, temperatures (mosquito production), etc. For example:

Water Resources -- KenGen manages reservoirs on Tana River using streamflow models to arrive at retrospective decision support and analysis systems to change their models as to how to modify management of power generating plants.

Human Health -- *Programs that reduce vulnerability of human health to climate change impacts.* -- Malaria is climate sensitive, and temperature forecasting has much potential for predicting highland malaria shifts.

Animal Health. -- A very promising model for prediction of Rift Valley Fever, a mosquito-borne livestock disease of great concern to the Red Sea Livestock Trade Commission, is resulting from a strong partnership between stakeholders and resource agencies.