

USAID LONG-TERM AGRICULTURAL TRAINING ASSESSMENT: SOUTHERN AFRICA

Submitted to:

USAID/EGAT

Under:

START IQC: EEE-I-00-01-00011-00
Task Order No. 01

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January 12, 2005

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ACKNOWLEDGEMENTS

The Southern Africa assessment team thanks the many individuals who collaborated with us by sharing their professional experiences, opinions and information: the USAID agriculture officer counterparts in Angola, Madagascar, Malawi, Botswana, and Zambia who generously gave of their time and contributed substantively to the findings; likewise the representatives of universities, research institutions and ministries assisted in articulating complexities and providing insights that ultimately made the assessment complete.

ACRONYMS

| | |
|---------|---|
| ACG | Agricultural Consultative Forum (Zambia) |
| AEEB | Agricultural Economics Education Board |
| ASARECA | Association for Strengthening Agricultural Research in Eastern and Central Africa |
| CGIAR | Consultative Group on International Agricultural Research |
| CRSP | Collaborative Research Support Program |
| EGAT | Bureau for Economic Growth, Agriculture and Trade/USAID |
| ELT | English Language Training |
| FOFIFA | Agricultural Center for Applied Research (Madagascar) |
| GART | Golden Valley Agricultural Research Trust (Zambia) |
| IARCs | International Agricultural Research Centers |
| IEHA | Initiative to End Hunger in Africa |
| ICRISAT | International Crops Research Institute for the Semi-Arid Tropics |
| LLT | Long-Term Training |
| NARS | National Agricultural Research Systems |
| PIs | principal investigators |
| RCAS | Regional Center for Southern Africa/USAID |
| SADC | Southern African Development Community |
| SO | Strategic Objective |

EXECUTIVE SUMMARY

The objective under the Africa/SD contract executed in April of 2002 was to design short and long-term training that would improve the capacity of African agriculturalists. Accordingly assessments were carried out by Development Associates in Mozambique, Kenya, Nigeria and Tanzania in 2004 which led to a series of short-term training activities focused on capacity building. Training workshops were supported in Mozambique, Kenya, and Nigeria between 2002 and December of 2004. A new assessment covering the broader region of Southern Africa was designed to focus on the commitment to long-term training in agriculture aimed at the continued development of African leaders.

The goal of the new assessment was to gather innovative yet practical ideas for the design of a long-term Masters level pilot program that would develop future host-country leaders in agriculture, science and education. The terms of reference for the assessment team included the following objectives for the assessment inquiry.

- ▶ To identify the current knowledge and skill deficits within the agricultural community in specific countries of the Southern Africa Region;
- ▶ To determine Mission and host country interest and needs for long-term training in agriculture;
- ▶ To identify institutions that might serve as partners with US institutions of higher education;
- ▶ To describe international agricultural research centers (IARCs) and local institutions that are potential collaborators in the forthcoming pilot; and
- ▶ To provide information for the design of a forthcoming long-term-training (LLT) pilot project.

SCOPE OF ASSESSMENT

A Development Associates team comprised of a capacity development specialist, an agriculturalist and various in-country representatives knowledgeable of training and development issues participated in the assessment. In each country the team interviewed stakeholders actively engaged in agriculture, training, higher education, research, and project management.

The following paper reports on the results of assessments carried out between September 27 and November 19, 2004 in selected Southern African countries: Angola, Botswana, Madagascar, Malawi, and Zambia. The task complements and builds upon prior agriculture sector assessments carried out separately under the Africa/SD contract in 2003 in Zambia and Mozambique.

CONSTRAINTS AND PRIOR LESSONS LEARNED

Several issues added complexity to the task of assessment and design. First the conventional training design used by USAID for decades in developing host country leaders was to provide fully-funded scholarship opportunities, often at the PhD level, and located at a US university.

Two things argued against continuing the PhD and US-based strategy: first the costliness of the long and demanding PhD program necessitates a reduction in the actual number of recipients thereby minimizing the measurable effect of the pilot; next, the unfortunate past trend on the part of the student to remain in the US instead of returning to the home-country has created a vocal opposition to the US-based training model. Related to this is the issue that host-country employers frequently failed to honor their commitments to support the student or guarantee employment upon their return after long absence.

The absolute number of training scholarships to be granted will depend upon several variables. First, the number of candidates receiving training can be increased if the pilot program design promotes and leads to the search for outside funds and partnerships to complement USAID's core monies. Outside sources include foundations or other philanthropic groups as well as the private sector entities working in each country. Several countries, notably Zambia and Angola have private sector involvement in the economy of the country. Many respondents believed that with the right approach, financial support would be forthcoming. A key recommendation in this regard is to develop a detailed pilot program plan with objectives and a clear statement of corporate participation and potential benefits before approaching a target company for support. Next, numbers of scholarships can be increased if the Sandwich Model is selected with most of the time spent in the region rather than the U.S.

PROACTIVE MISSION AND LOCAL PROGRAM SUPPORT

Staff support on the part of each Southern African Mission is essential to a successful program outcome. The in-country Mission must take responsibility for the selection process and securing visas. For programs in the US, the visa process has become extremely cumbersome since 9/11. Finally the Mission in collaboration with an NGO or other group must manage the logistics and administrative portion of sending a candidate to training abroad whether on the continent or in the US. These steps include inter alia: setting up criteria for selection, constituting a selection committee that can review and cull the unsatisfactory or fraudulent applications, constituting a USAID approval board, handling the pre-departure medical clearance, arranging travel logistics both into the capital city and thence to the training site, arranging English language training (for Madagascar and Angola), disbursing per diem, orienting the departing students, receiving the monitoring reports from each receiving institution. Once a scholarship announcement appears, USAID should expect an outpouring of applications which increase staff workload.

SALIENT DESIGN ISSUES

RELEVANCE

Of the several issues identified in the discussion section of the report that impact the pilot program design, that of relevance to the African context transcends other design considerations.

Though the US training and higher education was extolled as a model which provides extensive course work and demands much of the student, the high tech state of US farming systems does not provide a comparable agricultural model to most of Southern Africa. Specifically, the differing soils, food crops, dietary components, pests, climate, farm systems of Southern Africa call into question [perhaps diminish] the transferability of research experiences designed and carried out in an overseas site. There was near unanimity that research projects be carried out in each student's home country.

SANDWICH PROGRAM

The program which combines course work in the student's home university for basic or introductory courses followed by a period of study at a university in the US or South Africa for example is a lower cost option and it combines the best educational model with greater ease of implementation. That is, the student would have to be away from home, family and job for a shorter period of time but would realize a highly valuable credential especially if the degree were to be awarded by a US university. This 'Sandwich' arrangement requires a partnership between two institutions agreeing on standards, requirements and ultimately which institution would grant the degree.

PILOT PROGRAM DESIGN MODELS

The report describes four design concepts that could govern the pilot program. These emerged from the interviews in Southern Africa. This team has concluded that the MS level training in one of the combined or 'Sandwich' programs that includes study in the home country or region as well as the addition of core or advanced courses at a US institution offers most advantages. The course retains the relevance of coursework, climate, crops and soils of Africa combined with the more advanced and rigorous work demanded in a US university.

Each of the models offers its own advantages and hurdles, however. The models, ranged in ascending order from lowest cost to most costly are:

- ▶ **Local Scholarships** — To an in-country M.S. program at a local institution of higher learning, this would include an in-country practicum or research activity. This offers the advantage of strengthening the local institution.
- ▶ **Regional (Sandwich Programs)** — Scholarships to a regional M.S. program at an institution of higher learning, most likely in South Africa; this model could include a 'twinning' arrangement with the student's home university or with a US university, as well as a supervised practicum or research in the student's home country.
- ▶ **US Based Scholarship Program**
 - **Variant A, Traditional:** a complete two-year or longer scholarship to an existing M.S. program at a US university combined with research or a practicum supervised by the student's US-based advisor in the student's home country.
 - **Variant B, (Sandwich Model):** the student would combine studies in the home institution Masters Program (or a regional institution) but attend a US university

for specifically designated courses thereby offering the student more advanced or a highly specialized core program. The research or practicum would be designed and carried out under the joint supervision of the US and regional institution.

- ▶ ***Non-degree Tailor-Made Programs*** — Scholarships tailor made to the specific needs of a group of students leading to a Certificate of Accomplishment. This would be appropriate for a critical mass of students needing the same course of study. The argument for tailoring the curriculum is to adapt it completely to the Southern African context. A certificate in lieu of a degree is the team's conclusion that US universities could not award a degree for a course significantly outside the approved curriculum.

Note: The proposition of doing intensive study, albeit in the United States higher education environment, but failing to achieve a degree did not receive wide endorsement.

RECOMMENDATION

The assessment team recommends a combined program — the Sandwich Model — in which students enroll in their home university for introductory courses but receive advanced or specialized coursework in the US.

This will require partnership arrangements to be concluded between the local universities and US institutions. Variations of the Sandwich Model are discussed under Program Design Steps in Section V.

USAID LONG-TERM AGRICULTURAL TRAINING ASSESSMENT: SOUTHERN AFRICA

I. OVERVIEW

A. BACKGROUND

Historically, capacity building has been one of the most effective tools in USAID's development tool chest. However, long-term degree training, usually in a US college or university, has given way over the last decade to the lower cost short-term training model. USAID funded scholarships dropped from over 9,000 in 1990 to 1,212 in 2000. The dramatic decline in USAID supported scholarships, a decline mirrored by other donor programs as well, is now making itself felt as leaders in government, education and in the scientific communities retire or leave their posts due to illness.

Recent policy statements relative to foreign assistance emphasize the linkage between development to US security interests. Additionally, the Presidential Initiative to End Hunger in Africa (IEHA) has focused attention on the agricultural sector throughout Africa. The Agriculture Office of USAID's Bureau for Economic Growth, Agriculture and Trade (EGAT) supports the renewal of USAID investments in long-term training. To that end EGAT in collaboration with the Africa Bureau initiated an assessment of needs in the agriculture sector in order to design a pilot program of long-term degree level scholarships in agriculture.¹

B. THE ASSESSMENT TASK

The goal of the assessment was to gather innovative ideas for the design of a long-term training pilot program that would develop future host-country leaders in agriculture, science and education. The terms of reference for the assessment team included the following objectives for the assessment inquiry. The report expands information on each of these points.

- ▶ To identify the current knowledge and skill deficits within the agricultural community in specific countries of the Southern Africa Region;
- ▶ To determine Mission and host country interest and needs for long-term training in agriculture;
- ▶ To identify institutions that might serve as partners with US institutions of higher education;
- ▶ To describe international agricultural research centers (IARCs) and local institutions that are potential collaborators in the forthcoming pilot; and

¹ The initiative supports analysis and recommendations of the Board for International Food and Agricultural Development (BIFAD). See Report, *Renewing USAID Investment in Global Long-Term Training*. 2003.

- ▶ To provide information for the design of a forthcoming long-term-training (LLT) pilot project.

C. PILOT PROGRAM CHARACTERISTICS

The proposed pilot scholarship project endeavors to accomplish two goals: first, to reinvigorate the Missions' use of scholarship programs as part of their Agriculture/Rural Development Strategic Objectives and second, to redress the decline in numbers of rigorously educated African leaders in the agricultural sector and sciences by increasing and sustaining the number of graduate level scholarships. Looking toward the future, the expectation is that Missions will begin to absorb scholarships into their program activity budgets.

The pilot scholarship program is to have the following characteristics:

- The scholarship is primarily to support Masters degrees (the MS);
- Each scholarship is to have a research component to be carried out in the home country;
- Scholarship programs should support each USAID Missions' Strategic Objectives;
- Student candidates should receive some limited personnel support from the local USAID Mission, e.g., recruitment and visa application sponsorship; and
- The program design will incorporate strategies to leverage funding.

Limited funding led to the decision that the scholarship program would be at the Masters level thus enabling a larger pool of recipients. Keeping the scholarship within the shorter time frame of the Masters also reduces the danger of brain drain, broadly recognized as problematic in past PhD programs. Given declining financial resources the assessment teams (one in West Africa and one in Southern Africa) were also charged with finding new and cost effective ways to meet the scholarship funding needs within the African agricultural sector. Several of the models described below in Section IV describe different costing options.

D. METHODOLOGY

Scope of Assessment

The following paper reports on the results of assessments carried out in selected Southern African countries: Angola, Botswana, Madagascar, Malawi, South Africa and Zambia between September 27 and November 19, 2004. South Africa was not included as a potential scholarship recipient but to interview educational and research providers. The task complements prior agriculture sector assessments carried out separately under the Africa/SD contract in 2003 in Zambia and Mozambique. The complete Revised Terms of Reference are included in Appendix A of this report.

Team

The team for the Southern Africa assessment was comprised of a capacity development specialist, an agriculturalist, and usually, a host country facilitator/coordinator. All team members had extensive USAID experience in Africa, as well as experience working on development issues, program design and management. Collaboration with a host country coordinator as well the guidance received from the USAID Mission sector specialists enabled the

team to develop contacts with a broad range of respondents within the government, education and agricultural communities.

Stakeholder Involvement

In each of the six countries the team interviewed a range of host country and donor representatives in the field of agriculture, education and research. Initial meetings with USAID provided the team an overview of the sector and allowed the team to raise and discuss issues underlying USAID's commitment to long-term graduate level scholarships and the relative needs within each country.

Thereafter the team interviewed representatives from agricultural colleges and research facilities both within and independent from the local universities. We met with Ministry representatives and other host country donor organizations and NGOs that also provide training such as FAO, CARE, World Vision, and the World Bank. In Zambia a meeting of the Agricultural Consultative Forum (ACF) provided a stakeholder meeting where both the need for educated leaders and program priorities were discussed.

Finally, the team visited the University of Pretoria and contacted various Southern African deans, researchers and agricultural representatives at a SADC meeting in Pretoria, South Africa.

II. TECHNICAL ANALYSIS

A. CROSS-CUTTING ISSUES

The issues summarized below are intended as a synthesis of topics that emerged during interviews and that are germane to the overall design of the pilot program. Many of the points suggest parameters for the design of the pilot program.

- ▶ ***Course Content Relevance:*** Many respondents emphasized the importance of tying course content and practical research closely to the African reality. Specifically, the differing soils, food crops, dietary components, pests, climate, and farming systems of Southern Africa call into question [perhaps diminish] the transferability of research experiences designed and carried out in an overseas site. There was near unanimity that research projects be carried out in each student's home country. Although courses in research methodology could take place virtually anywhere.
- ▶ ***USAID Mission Objectives:*** None of the Missions visited had LTT as an activity supporting their strategies nor did they anticipate incorporating scholarships into future projects; i.e. cost sharing from Missions' limited budgets is highly unlikely.
- ▶ ***Perception of Need:*** Virtually all Mission Technical Officers agreed with the premise that leadership by mostly US trained agriculture specialists was eroding and rigorously trained replacements were critically needed.
- ▶ ***The Brain-Drain:*** The issue of non-returnees was raised spontaneously by USAID and local respondents. The brain-drain is an undisputable negative aspect of earlier US

training programs. Sandwich programs were offered as a hopeful solution to this problem.

- ▶ ***The Value of Studying in a Developed Country:*** The cross-cultural benefit of studying abroad was recognized as valuable in numerous ways not only by broadening horizons but by providing a standard by which the educators or scientists project could measure the quality of their work. Virtually all respondents, host-country nationals, Americans and Europeans placed value on this. The Sandwich Model described in Section IV, was seen as offering the best of both worlds.
- ▶ ***Thematic Organizing Principle:*** Based on the commonality of needs expressed in all Southern Africa countries, agricultural economics and agribusiness could be the unifying characteristic of the scholarship program.
- ▶ ***Cost Sharing Possibilities:*** Support from the private sector is definitely possible in some countries and should be explored once a design is in place and a specific proposal can be made to local companies. International companies with branch offices in the developing countries were also suggested as a possibility.
- ▶ ***Including English Language Study:*** The language of study should be English in order to promote easier integration with the SADC Countries. ELT should be provided as part of the scholarship model where necessary.
- ▶ ***Critical Mass:*** Limiting the number of recipient countries while maximizing the number of students is to be preferred to very few scholarships offered in more countries. One observer mentioned as many as 30 scholarships as a number that would make a difference in the educational institution for more than anticipated under the pilot.
- ▶ ***Sandwich Program:*** Used loosely to describe a variety of programs. The team has defined *Sandwich Program* to mean a course of study that begins at his/her local university for the basic introductory coursework. This would then be followed by coursework abroad. Lastly, the student would return to his/her own country to conduct the research phase of the program when research is required. This would require a partnership arrangement between two institutions agreeing upon standards and requirements.

B. KNOWLEDGE AND SKILL DEFICITS

The team was charged with updating information gathered during earlier assessments and focusing on specific needs and topics for a long-term training program. When asked to prioritize needs, specific patterns did emerge from each country. First and foremost, respondents listed Agricultural Economics with Agro-Business as being the two most critical disciplines. These two broad areas could be viewed as an organizing principle or a “theme” unifying the pilot program across all participating countries. The commonality of agricultural economic areas should not come as a surprise since all of these countries, to some degree or another, had their brush with socialism and command economies in the past. Most related to agriculture, this usually meant state-controlled marketing boards, or agencies. Typically these boards purchased farmers’ produce at fixed prices and often also sold, or gave away, seed and fertilizer. This

mentality is difficult to change and many respondents thought that market-based training could be the best way.

Though Agricultural Economics emerged as the highest priority, it is important to note that respondents frequently emphasized the need for a practical training focus writ large. Farming systems, credit, trade negotiating skills, and farm-to-market planning and techniques were all mentioned as areas where the application of skills should be emphasized. Biotechnology was regularly mentioned as an area where basic knowledge was needed. Some of these topics could also be provided as short-term courses offered in country by specialists.

Following is a table depicting the priority ranking of the common agricultural needs in the countries studied: (The list of possible research topics is not all inclusive, but is rather a listing of topics mentioned in the course of key informant interviews.)

TABLE B.1
Priority Needs in Agriculture, Southern Africa Region

| <i>Discipline</i> | <i>Major Emphasis</i> | <i>Possible Research Topics*</i> |
|------------------------|----------------------------|----------------------------------|
| Agricultural Economics | Marketing | WTO Negotiations |
| | Planning | Market Linkages |
| | Farming Systems | |
| | Farmer Organizations | |
| | Credit/Micro-finance | Credit/Micro-finance |
| Agro-Business | Farm Management | Farming as a business |
| Agricultural Extension | Extension Methods | |
| Hydrology | Dry Land Agriculture | Small scale irrigation systems |
| Entomology | Integrated Pest-Management | |
| Soil Science | | |
| Bio-Technology | | |
| Natural Resource Mgt. | Environmental Issues | |

* Note: Not all MS programs require research projects.

C. MISSION AND HOST COUNTRY INTEREST RELATIVE TO LONG-TERM TRAINING

The assessment team began the data gathering exercise with interviews and discussions with Mission Strategic Objective teams and, in three instances, with senior staff. All of the USAID Missions visited have Strategic Objectives that incorporate agriculture and natural resource management activities or rural development and rural income strategies that incorporate agriculture. Each of the USAID Mission SO teams provided thoughtful comments on the importance of long-term training, optimal program elements, and management details.

Of the Missions visited only Madagascar had recently used long term training as part of their program strategy. However, all Mission representatives supported the concept of renewing US funded long-term scholarships. All accepted that a Masters level program was valuable including those who preferred the PhD program. All Missions agreed that their respective countries are experiencing attrition in the upper administrative levels of ministries and research institutions. One senior level USAID staff believed it is a 'political imperative' for the US to

ensure trained individuals at the upper levels of government and education. Some Missions were frankly eager to participate in a well designed and managed program. No one was inclined to provide funding for long-term programs. From there numerous differences began to emerge which led to several caveats.

Scholarship Funding from Mission Resources

Several reactions are of particular importance relative to the funding of the pilot program. First, many of the SO technical officers and host country stakeholders frankly shared concerns about the design of the pilot program warning against the futility of programs that are ‘under-funded, short-lived, and poorly designed.’ Several repeated a caveat regarding the importance of providing sufficient funding for the research phase of the scholarship apparently having seen examples of returning scholars required to rely on their own resources or those of partner institutions for support, which was often inadequate.

No one interviewed thought it likely that Missions would incorporate long-term training in their Mission Strategies. Following is an observation expressed cogently by one SO team leader but reinforced in various ways by other experienced field personnel in the various countries. While agreeing that the reduction of US scholarships over the last two decades has affected the quality of leaders in local institutions, the erosion of highly trained African leaders will cost “millions of dollars to redress”. Further, despite how valuable such scholarships might be, Mission resources are so limited that it is unreasonable to think of the possibility of diverting scarce funds from ongoing activities to partially support future scholarships. Thus, the expectation that Missions will redirect funding from current activities to costly long-term scholarships was firmly rejected in most cases.

Some of the constraints to long-term programs are explained by the Agency’s own demands, specifically the requirement to demonstrate results in the short term. Given the shorter term USAID strategies that require demonstrated results within a five year period, there is no incentive for Missions to redirect scarce resources to programs that will show results only many years into the future. In short, though recognizing the importance of the goal of increasing highly trained African scientists and agriculturalists the technical officers believed the mechanism and the funding should be based in Washington.

Local Administrative Support

Some Missions, specifically Madagascar, Zambia and Angola, were eager to participate and willing to support the activity in concrete ways, e.g., by designating a responsible training staff person to handle logistics and assist with recruitment, selection, and visa applications. The assessment team frequently heard the suggestion that the design follow the ATNAS program design in certain details. There was general agreement on the need for an NGO or other organization to provide most of the administrative services in-country.

Private Sector Cost Sharing

There is a possibility for private sector support for training in some places, notably Angola and Zambia. In Angola Chevron-Texaco is already providing support to USAID programs. An Angolan government official encouraged pursuing this approach and raised the possibility that

Coca Cola could be induced to support such a program. Tactically, the multinationals and local businesses should be approached once there is a specific program design coupled with a clear proposal that describes private sector participation and clarifies the direct benefits to the company.

The team also learned of foundations that may participate in future scholarships for Africa. Though Development Associates has followed up a few leads, we were unable to uncover useful information from the non-profit sector.

Finally, one very interested senior USAID staff returned to the cost sharing idea by urging us to get commitments from US universities to reduce tuition and provide other cost reductions such as partial scholarships or housing reductions.

Individual USAID Mission Reactions

Angola

Angola is different from the other Southern African countries visited in that it is now in the transition period from war to peace. Angola finally achieved peace in August of 2002 after 27 years of violent civil war that left a million dead and four times that number dislocated.² Evidence of the intense conflict is apparent in the remnants of tanks and protective earthworks around the airport in Huambo, pock marked buildings and the nearly impassable roads that make transport of goods slow and arduous.

LLT is not currently in the Mission's development strategy. However, the strategy is currently in flux, programs are being defined, and staffing levels decided upon. This could be an appropriate time for a pilot LLT program to be presented. The Mission also has an agreement with Chevron/Texaco to support agriculture, broadly defined. The Mission currently budgets \$10.0 million, which is matched by Chevron/Texaco. LLT is not currently being contemplated as a use of the fund, but the Mission Director thought it reasonable to discuss cost sharing possibilities with the Chevron/Texaco representative. The Mission Director also agreed that other US private companies, e.g., Coca-Cola, Boeing, IBM might be interested in supporting scholarship students within a USAID-managed program.

Botswana — RCSA

Botswana is also unusual in that USAID no longer has a Mission presence serving Botswana programs. Because Botswana is comparatively wealthy and social and governmental institutions are well organized USAID has graduated the country from directly receiving program aid. However, the local institutions — both educational and research groups — were most interested and specific in declaring reasons for being included in the scholarship program. If an open grant system were used allowing all countries to apply for inclusion in the pilot, Botswana would be included by virtue of their location in Southern Africa and the likelihood of synergies among the various countries. For example, Botswana could form part of a partner institution. If a limitation on the number of participating countries is desired, Botswana as the least needy country would probably be eliminated.

² USAID website. USAID Africa: Angola Country Information.

Respondents from the University of Botswana as well as various research institutions provided thoughtful information and suggestions on design issues. These have been incorporated in the appropriate sections.

Madagascar

The Mission Director and USAID officers were enthusiastic about the prospect of participating in the pilot program. The Mission recently supported seven students for Masters Degrees in the US under the Landscape Development Intervention Activity. All seven students have received their degrees and returned to Madagascar to work. Mission respondents considered the program to have been highly successful and offered concrete suggestions relative to recruiting and design. The Mission also expressed that with current staffing they could absorb the recruiting, selection and administrative components of a pilot program.

LLT in agriculture is not currently a part of the Mission's development strategy. However, there was an indication that this could change in the future, especially if the term agriculture could be expanded to include Natural Resource Management since that is the most critical need for trained scientists in the country. The Mission also agreed that current Mission staff could absorb the administrative burden of a LLT program.

Malawi

The Mission in Malawi expressed that it could assist students in obtaining visas but not in recruitment, selection or other planning and monitoring aspects of a program. All other administrative and logistic support would have to be contracted out locally using a contractor or an NGO. This, of course, would add to the administrative costs and outside oversight responsibilities. The departments of agriculture in the local universities were universally supportive of the idea and frankly hoped to benefit from the program no matter the model chosen.

Zambia

The Mission, both senior staff and the technical officers, was very supportive of the team in organizing visits and providing time for briefings. The Mission also endorsed the concept of long-term training to strengthen key Zambian leaders. They would be willing to assign staff to assist with some administrative tasks associated with recruiting and processing students.

III. REGIONAL INSTITUTIONS AS POTENTIAL US PARTNERS

The team focused information gathering efforts on two types of local institutions:

- a) Agricultural Faculties of Universities
 - as potential collaborators in one of the sandwich models,
 - as potential placements for MS student research,; and
 - or as the conduit institution identifying candidate pools.

b) Host-County Research Agency or Programs

- as the agency that would offer a scientist/supervisor for MS student research; and
- as the location where projects and trials might be carried out.

A. EDUCATIONAL PARTNERS

Developing a partnership arrangement between a US and a local university would offer several advantages to USAID Missions. Partnerships with a strong US agricultural university would contribute to the strengthening and therefore sustainability of the local institution by providing outside input into curriculum and research methods. The universities in Zambia, Malawi, Angola and Madagascar all have existing Masters level programs in some fields. The quality of the programs is not known. There are several universities in the Republic of South Africa (RSA) that offer well-developed programs in relevant agricultural fields. These might also participate in a regional program

Angola — Agostino Neto University, Faculty of Agrarian Science

The agricultural college Agostino Neto located in the town of Huambo reopened in 2003 after a ten year closure. Despite pervasive evidence of conflict, efforts to achieve normalcy have produced visible results. The buildings at the agricultural college are in process of being rehabilitated (financed at least in part by Chevron-Texaco). The team visited a well-used, new computer classroom. The very great need combined with the hopeful atmosphere and sound planning argue for inclusion of Angola in the pilot program. Scholarships in agriculture would not be premised on the need to replace retiring and ailing leaders educated through the 1980s; rather, in Angola's case the justification is foundational — what little they had at the time of independence from Portugal has been badly damaged by war. Nevertheless, they are reinstituting their programs.

During the Portuguese era very little was done in terms of either institution building, or human capacity building. Upon independence in 1975, the central government turned to socialism at almost the same time as the country became embroiled in what was to become a 27-year civil war, which not only resulted in tens of thousands of deaths and hundreds of thousands of displaced persons, but the destruction of much of the country's infrastructure.

Many of the agriculturalists that remain were trained in the Eastern Bloc or the ex-Soviet Union. (Of the two economists at the Agricultural College, one had been trained in Bulgaria and the other in the Soviet Union.) Of Agostino Neto's faculty of 36 professors, only 12 have Ph.D.s, 3 have M.S. degrees, and the rest have B.S. degrees. As such, the justification for including Angola in a scholarship program is a combination of economic stimulation, assisting in the transition from socialism to a market-driven economy, and attempting to reverse some of the destruction left by the civil war.

Discussions concerning the appropriate disciplines for students to study centered on the fact that they must be practical, "since the greatest void is a lack of practical people." This was further echoed when the team questioned the appropriateness of an M.S. degree versus a Ph.D. "This country is in such need that M.S. degrees are sufficient", was the reply of one prominent government observer. Likewise, a university dean responded that the practical focus of the MS

was preferred to the PhD. When asked about priorities, however, Agricultural Economics, Agricultural Extension, Agricultural Engineering, Food Technology, Natural Resource Management, and Biotechnology were the main disciplines mentioned.

Botswana — Botswana College of Agriculture

The Botswana College of Agriculture is a viable institution that already monitors and supervises the research of students from other African universities; usually in the areas of dry land livestock rearing and horticulture; the two areas where the college excels. They could accept students from the LLT pilot program for a fee. Botswana was not a country studied to the depth of the other countries since its relative wealth and advanced state of development suggest that it will not receive any pilot program scholarships. It also has no country mission and therefore no country strategy.

Botswana is also a relatively wealthy country and apparently uses its wealth wisely; at least in providing for education, including scholarships abroad. Nevertheless, everything is relative and all people interviewed agreed that Botswana needed more scholarships, and hoped to benefit from the pilot project. Preferred fields include Animal Sciences, Water Management, and Horticulture were the priority areas identified by a group of University of Botswana, College of Agriculture administrators. They also requested that Ph.D. degrees be considered since degrees at the M.S. level were less appealing.

Madagascar — The University of Antananarivo, Ecole Supérieure des Sciences Agronomiques

The concept of a Sandwich Program was well understood in Madagascar and is being used, often involving French-speaking universities, but South Africa or the US were not to be ruled out as partners.

Both the University of Antananarivo and the Agricultural Center for Applied Research (FOFIFA) expressed interest in supervising the research/practica of students. The team was not able to visit the network of research centers located in rural areas under FOFIFA; however, their capacity including qualified staff to supervise students would have to be examined carefully before considering this agency a suitable partner.

In the visit to Antananarivo University the faculty panel displayed great interest in faculty upgrading, institutional strengthening, and student exchanges (Madagascar's vast bio-diversity puts it high on the list for students from developing countries.) The team received brochures from several departments including the Department of Water and Forestry, Agronomy, Agro-Management, and a project supporting small farmer production of natural products. They are currently discussing starting a PhD program. The faculty expressed willingness to collaborate with US professors in the supervision of M.S. student research; and indeed, are already collaborating on projects with Cornell and Rutgers.

Malawi — Bunda Agricultural College

Bunda Agricultural College of the University of Malawi has sufficient staff with the necessary graduate degree level training to offer masters' level degrees in some agriculture disciplines. If

an exchange program with a US-based university were arranged, Bunda could also host in-country research at the Bunda facilities. However, a lack of space, housing and offices was noted as a limitation. The Southern African Development Community (SADC) has recognized Bunda Agricultural College as a Center of Excellence in Agricultural Economics. However, as is the case with most Malawian public institutions, staff salaries are low leading to desertion and moonlighting, and the physical facilities fall significantly behind demand. Nevertheless, Bunda College was also discussed as a place for a student to start his/her studies in a sandwich-type program. This basic coursework would then be followed by additional course work in the partner institution.

Zambia — The University of Zambia

The University of Zambia, College of Agriculture is also a SADC authorized “center of excellence” in the Crop Sciences and offers M.S. degrees in both Crop and Animal science, and a Ph.D. in Soil Science. While it is relatively better off in terms of their physical infrastructure, their curriculum needs updating, and their staff is reaching retirement. (Indeed, many who are eligible to retire cannot because the government does not have the funds to pay their severance pay or pensions.) Nevertheless, the University does have the facilities and staff to be able to supervise and monitor student research; albeit for a fee. While undergraduate education is free in Zambia, graduate training is not. The team was later to find that this is common in surrounding countries. This often precludes some of the best students from graduate training. The Rockefeller Foundation in Nairobi has provided several scholarships for African students to come to the University of Zambia for coursework. In some cases student research has been carried out through CGIAR facilities elsewhere in Africa.

In a meeting of the Agricultural Consultative Forum the involvement of a South African university was favored because of the relevance issue mentioned elsewhere. There was also consensus that Farm Management, Extension Methodologies, and a practical level “Farming as a Business” course were the priority areas for the country.

South Africa — The University of Pretoria

The team visited South Africa specifically to attempt to identify partner relationships in education and research. In visiting the campus of the University of Pretoria we were able to observe and compare infrastructure with the neighboring institutions in Zambia, Angola, Malawi, Madagascar, and Botswana as well as discuss potential collaborations.

The University of Pretoria is interested and willing to participate in a future USAID pilot program or conversely to receive students supported by USAID. They have developed a proposal for a collaborative Masters level program akin to the program supported by the Rockefeller Foundation and located in Kenya. As part of the Agricultural Economics Education Board (AEEB) their thinking is well advanced toward a regional degree program in which foundational courses would be taught at the students’ home university but the student would travel to Pretoria for the more highly specialized courses. These specialized courses would be taught by professors recruited by the University of Pretoria from throughout Africa.

Patterned on the above a scholarship model designed for limited time away from the home country (as in the so-called ‘sandwich programs’), a US land grant universities could partner

with a local university to receive students already enrolled in, say the Soils Conservation program at the University of Zambia but provide the more advanced coursework in the US. The students would return to their home countries to complete their research, perhaps with advisors from both universities. One would assume the degree would be awarded by the enrolling university (the home institution) but this could be an issue for discussion between the two institutions. A combined US and African Masters program supported by IFPRI is currently in the design stage.

B. POTENTIAL RESEARCH PARTNERS

International Agricultural Research Centers (IARCs)

One of the assessment team's objectives was to describe the international research centers (IARCs) and other local institutions that are potential collaborators in the pilot program. This suggests that a research center, under the rubric IARC, exists in each or most of the Southern African countries, and that entity could support the research part of the program. In fact, we did not find a network of IARCs throughout the region that functioned as independent centers. We did, however, find agencies or projects that could take on the supervision of students provided the project was consistent with their own work and funding were provided.

A major challenge for the team was to clarify the nature of the relationships among the many African agricultural research organizations and networks (IARCs, NARs, CGIAR) and then to identify which entities might collaborate with returning students. A further challenge was to clarify how much each local institution could reasonably carry out in supervising the work of Masters level students or even in taking an active role in administering parts of the pilot program.

Ultimately, the team concluded that most research centers were not equipped with personnel or facilities to handle an administrative role. The assessment team then focused on the agricultural departments of the universities as the more likely site for an individual student-educator partnership. Where that is possible, the USAID program would have to provide funding.

Consultative Group on International Agricultural Research (CGIAR)

The CGIAR website describes the group as a scientific network of public and private members created in 1971 to 'mobilize cutting-edge science to reduce hunger and poverty, improve human nutrition and health, and protect the environment.' CIGAR supports its research agenda through a number of autonomous research centers. On the national level CGIAR centers work with National Agricultural Research Systems (NARS) as well as NGOs and other partners. One researcher affiliated with CGIAR related that she served as a clearinghouse for recent papers and studies that have been done locally and need to be circulated.

Zambia's Unusual Capabilities

Zambia, in contrast to the other countries visited, offers several possibilities for providing research sites, as well as the necessary monitoring and supervision of student research. The Zambia National Farmers' Union (ZANFU) is a seasoned, self-sufficient organization serving the needs of farmers of all size throughout Zambia. It would be willing to provide a base for

research on farmer organizations, extension methodologies, marketing, and many other areas. Zambia began to privatize its agricultural research several years ago. This has resulted in the creation of several “trusts”, such as Cotton Development Trust or the Golden Valley Agricultural Research Trust (GART), a joint public/private foundation which conducts research on all of the major crops grown in Zambia. Both of these organizations affirmed their ability to guide a student’s research. Fees would be probably be charged. Since GART produces and semi-processes many agricultural commodities, it would be the most logical choice. It is also said to be the best managed and well regarded of the trusts.

The team also visited the Government of Zambia’s Mt. Maculo Central Agricultural Research Station. In this case there was an enthusiastic staff, some of whom were trained in the Soviet Union, but which is almost totally unsupported by any resources to conduct research. While students might be welcome here to conduct agronomic research, they would be primarily on their own.

Examples of CRSP Projects

The CRSP projects which are staffed with scientists and educators (Principal Investigators, PIs) were typically located either at the university or a remote field station. In some cases the CRSP project might be the locus of a student project provided there was no staffing constraint and the research focus was consistent with the CRSP objective. In other words, there is no assurance that the CRSP professor would have the expertise or the breadth to take on the supervision of a student project.

The assessment team interviewed representatives from several CRSP projects and found them to be staffed with enthusiastic and apparently dedicated researchers who largely were working completely independently.

CRSP Examples

The Bean and Cowpea CRSP in Malawi maintains a relationship with Bunda College and has sent a number of students for graduate training. Of the current group of four students one is studying in South Africa, and three are studying at Bunda.

The BASIS CRSP has been working in Madagascar through Cornell University for a number of years, but it is due to end in March of next year. The research being performed under the CRSP is comparing household income expenditures between Kenya and Madagascar. In Zambia the Bean and Cowpea CRSP works with GART. They indicated that they could provide guidance to students.

Although exceptions will certainly be found, the team saw the CRSP projects, each with its own research objective and timetable as operating parallel to the work and objectives of USAID. A common Strategic Objective of USAID is to improve rural livelihood. The activities supporting this SO frequently focus on marketing, post harvest activities, etc whereas the CRSPs have long-range and crop-specific objective.

IV. DESIGN MODELS FOR A PILOT LONG-TERM TRAINING PROJECT IN AGRICULTURE

Based on the assessment team's field research in the five designated Southern African countries of Angola, Botswana, Madagascar, Malawi and Zambia plus previous work in Mozambique, four models for the provision of long-term training emerged for consideration as part of the pilot scholarship activity. These models took form as the team probed a series of variables including cost, the number of scholarships that can be provided with the limited resources currently available, the relevance of an M.S. program to the needs within Southern African institutions, and the relevance of content and other cross cutting issues discussed earlier.

All four models are also based on the premise that an M.S. program would last two years; two semesters plus summer school of course work, or four quarters for those universities utilizing the quarter system, plus one year of research including data collection, analysis, and write-up of the results. However, some flexibility should be built into the overall scholarship activity to allow for exceptions to this premise including the need for language training for students from French and Portuguese-speaking countries. Combinations of the various models might also be desirable. These models, ranged in ascending order from lowest cost to most costly are:

- ▶ **Local Scholarships** — To an in-country M.S. program at a local institution of higher learning, this would include an in-country practicum or research activity.
- ▶ **Regional (Sandwich Programs)** — Scholarships to a regional M.S. program at an institution of higher learning, most likely in South Africa; this model could include a 'twinning' arrangement with the student's home university or with a US university, as well as a supervised practicum or research in the student's home country.
- ▶ **US Based Scholarship Program**
 - **Variant A, Traditional:** a complete two-year or longer scholarship to an existing M.S. program at a US university combined with research or a practicum supervised by the student's US-based advisor in the student's home country.
 - **Variant B, (Sandwich Model):** combined studies in the home institution Masters Program (or a regional institution) and a US university for specifically designated courses thereby offering the student more advanced or a highly specialized core program. The research or practicum would be designed and carried out under the joint supervision of the US and regional institution.
- ▶ **Non-degree Tailor-Made Programs** — Scholarships tailor made to the specific needs of a group of students leading to a Certificate of Accomplishment. This would be appropriate for a critical mass of students needing the same course of study. The argument for tailoring the curriculum is to adapt it completely to the Southern African context. A certificate in lieu of a degree is the team's conclusion that US universities could not award a degree for a course significantly outside the approved curriculum.

Note: The proposition of doing intensive study, albeit in the United States higher education environment, but failing to achieve a degree did not receive wide endorsement.

A. MODEL 1 — LOCAL UNIVERSITY

This is the least cost per scholarship model and could therefore reach the greatest number of scholarship beneficiaries. Both the classroom and the research phases of the M.S. degree would be carried out locally under the supervision and guidance of professors and others affiliated with a local institution of higher learning. The activity design could specify faculty from US universities to be involved in teaching specific, advanced modules. While both the classroom and research phases of the degree would be the most relevant to local conditions, the students would not benefit from cross cultural exchanges available through an overseas experience nor could a uniform standard of education be guaranteed. The administrative burden to the missions of this model would be the lowest.

Another advantage to this model is the strengthening to the local institution and faculty from close association and educational partnering with US agricultural faculty.

The strongest case for this model was made by key informants in Malawi where Bunda College would be the institution of higher education of choice. US professors from Land Grant universities could be involved through new or current [CRSP] linkages. In contrast, in Angola, Madagascar and Zambia this model was not favorably received due to perceived issues of the quality of the local agricultural universities.

B. MODEL 2 — REGIONAL UNIVERSITIES

This model offers cost advantages nearly as great as Model 1, can offer a certain degree of cross cultural learning, increase the probability of a student's returning to his/her country of origin, and would place a very small administrative burden on the various missions. In terms of the relevance of the subject matter studied, respondents gave very positive rating to this model especially when using a Republic of South Africa (RSA) university in the discussion. Since the research component of any given M.S. program would be carried out in a student's home country under the possible supervision of faculty from the regional university, the content relevance was not an issue.

While it is beyond the scope of this assessment to identify partners, several regional universities were mentioned by key informants including several in South Africa: Stellenbosch University, the University of Pretoria, the University of Natal, University of Southern Cape. The assessment team was also informed that many, if not all, of the South African universities have linkages, or "twinning" relationships with US universities opening the possibility of faculty exchanges and/or the supervision and mentorship of students by US professors.

C. MODEL 3 — US BASED PROGRAM

Traditional US Based Program

This is the highest cost model and therefore the model that would offer the fewest number of scholarships overall. While the classroom portion of the scholarships would be the least relevant, the "cross cultural" learning that would take place would be the most valued. The probability of students finding ways to remain in the US and/or not returning to their countries of

origin would be a consideration under this model. Last, the administrative burden to the missions of this model would also be the highest among the models.

This model, though applauded by most respondents as offering the most rigorous educational experience and a highly valuable credential, was not universally endorsed. The cost was recognized as an unacceptable limitation to the numbers of scholarships, the brain-drain was cited as a negative, and the lack of relevance to the home-country agricultural scene was mentioned time and again. Many respondents mentioned time away from work, family and country as a disadvantage to the US based program.

Combined US/Regional (Sandwich)

A variant to the above models could be a Sandwich Program with a US institution. In this case a student would begin his/her classroom work in their country of origin, then complete the classroom work at a US or regional university, followed by the research phase back in their home country.

This model would be made relatively more costly by the fact that a US-based professor should visit the student at certain points during the in-country research phase of the scholarship; e.g., once in the beginning to supervise the establishment of research protocols and towards the end to supervise the analysis and interpretation of data collected. Nevertheless, the use of US-based faculty to perform the above must be tested to determine their willingness to take on this responsibility and the willingness of each professor's department chairperson. The reward structure for this type of academic supervision within each university would likely affect whether or not this model could be replicated broadly especially at the MS level.

Seen in a positive light, however, these visits could also be used to establish stronger linkages between US universities and universities in the host countries leading to the possibility of future collaborative research that would be mutually beneficial to both.

D. MODEL 4 — US OR REGIONAL INSTITUTION OFFERING CUSTOM COURSES LEADING TO A CERTIFICATE

Several of the topics mentioned as being critical disciplines are not part of the normal curriculum of most universities. Small-scale irrigation, "Farming as a Business", credit and micro-finance, and WTO negotiations are but a few examples. While many US universities are willing and capable of custom designing a specific course of study for a critical mass of international students, the degree granted would most likely be a Certificate rather than an M.S. degree. Practically speaking, university departments grant degrees. If a course of study does not have a department to support it, or if a set of core courses is not taken, university departments would be reluctant to grant a M.S. degree.

Among the drawbacks to this model are the very high design costs, high administrative costs, and lack of a degree at the end. Adding to the administrative costs would be costs of recruiting and selecting a homogeneous group of students and then supporting them for two years in the United States. An additional drawback to this model is that major professors could be reluctant to supervise research at the certificate level. This could translate into greater dependence on in-country research and facilities to monitor and supervise a student's research year.

V. PROGRAM DESIGN STEPS

STEP 1 — ESTABLISH SUCCESS INDICATORS FOR THE PILOT

How will you know that the pilot program is a success? What will argue for continuing the program? Attaching reasonable and measurable indicators at this stage will affect many decisions about the pilot design. Indicators will also help to make the goals concrete and focus on what is really important in the design components. The overall goal, *To Develop Future Leaders* (shortened) does not lend itself to establishing a measurable indicator in the near term. Indicators should be tied to the program of study or theme if one is selected. Indicators should also relate to the selection criteria. Some possible concrete indicators would be:

- Numbers of returned Masters level participants working in an agricultural area related to Mission SOs after x years;
- Numbers of USAID Missions adopting the LLT activity as part of their strategy;
- Farming techniques transmitted to smallholder farmers (for an extension program);
- Returned participants working on research projects related to USAID Mission Strategies; and
- Increase in numbers of Ministry scientists able to articulate biotechnology policy.

STEP 2 — CHOOSE DESIGN MODEL & ESTIMATE AVAILABLE SCHOLARSHIPS PER REGION

The total number of scholarships will vary depending on the cost of the Pilot Program Model(s) chosen. If it is useful to compare design strengths, EGAT may wish to utilize two Models to see which is more appropriate for future programs. For example, an interesting comparison could be constructed between two Sandwich Models: 1) the US university partnering with a local institution including sharing course instruction responsibilities, compared with 2) a local university Masters program partnered with a regional university, e.g., The University of Zambia with the University of Pretoria.

STEP 3 — SCHOLARSHIP ALLOCATION

There are several possible approaches to allocating the limited numbers of scholarships among the Southern African countries. Deciding how to cluster the scholarships should follow from a consensus on established criteria to avoid potential complaints among those not chosen. Some considerations are offered below.

Option 1: Pre-determined Allocation

Scholarships could be apportioned equally among countries that participated in the assessments thus spreading the allotment thin; or EGAT could allocate scholarships to a limited number of countries based on a system for prioritizing the recipients. The idea of a critical mass argues for placing a larger number of scholarships in fewer countries. A basic minimum of scholarship recipients would create synergy among students and contribute to the impact on in-country institutions. Conversely, if only three or four grants were made in each country, EGAT might

find little interest on the part of Missions. The administrative and logistics demands are such that to set up systems for a few candidates might well be deemed futile.

Option 2: Competitive Grant

Individual USAID Missions could apply for inclusion in the program after a detailed description of eligibility factors is transmitted. This option has the advantage of openness and transparency and allows each Mission to self-select. Not all applicant Missions will necessarily receive an allotment so the critical mass can be maintained. The assumption is that only Missions that have a willingness to provide basic administrative support will apply. Thus it has the added advantage of ensuring commitment on the part of Missions. The successful Mission application (similar to a buy-in) would, by necessity, demand from Missions a plan for recruitment and selection of participants (discussed below), a Mission staff person able to carry out the visa application responsibilities and the communications with candidates, and a counterpart institution identified where student research can be carried out.

In either option countries will want to know how many scholarships they are to receive. They will weigh the difficulty of providing a modicum of administrative and/or monitoring support against the numbers of scholarships anticipated.

One random suggestion worth discussing as part of the design was to grant the degree in the student's home country thereby ensuring that the student returns after the conclusion of studies. If the degree were to be granted by a US university, this should be part of the criteria.

STEP 4 — ESTABLISH CANDIDATE SELECTION CRITERIA

Recruiting and Screening

The recruiting methods will vary by Mission objectives and their own priorities. Suggestions for identifying the strongest candidates have ranged from publishing announcements in the media with complete criteria listed to receiving nominations from the counterpart organization, i.e., the university or a government agency. All respondents tended toward the more competitive selection modes to ensure quality applications. Following is a list of suggested items for selection criteria:

1. Establish a short list of priority disciplines per country;
2. Candidate wishes to study one of the priority areas established for his/her country;
3. Candidate already possesses a B.S. degree from a recognized institution of higher learning, and the degree can be recognized as a precursor to a M.S. program;
4. Candidate already has a research base, i.e., working for a CGIAR or similar institution or has a research topic and methodology;
5. Candidates are from a target pool of professionals working for local universities, Ministries, NGOs or key private sector companies. Candidates should have a minimum of 4 to 5 years experience in their professional field;

6. Candidate has a recommendation from supervisors;
7. Candidate is willing to sign a bond guaranteeing repayment of the costs of scholarship for failing to return to the home country and remain for 2 years. Note: This is not necessarily to their prior institution;
8. In the case of students from Madagascar and Angola, an acceptable score on the TOEFL test would be required after a period of English language study;
9. Establish which of the four Models is most appropriate. This could wait until a student is selected. The student could then be “placed” in the Model that best suits his/her needs;
10. Determine how to best advertise the availability of scholarships to the pool of potential candidates; and
11. Constitute a representative selection committee, to include the technical officer most closely related to agriculture, and at least one other member from within the Mission and an outside credible representative.

Once applicants respond to the scholarship offer, some screening is desirable to ensure fairness and transparency. Interviews of the short-list candidates should be included.

VI. RECOMMENDATIONS

A. LIMITATION OF THE SCHOLARSHIP ALLOCATION

The assessment team strongly recommends that USAID limit the number of USAID Missions participating in the pilot program in order to attempt to create a cluster of grantees in each country. A minimum number of grants per country will provide USAID with a group whose impact can be measured and whose members can reinforce one another’s work. It is important not to overlook the fact that a certain number of grants must be anticipated by participating Missions in order to justify the effort of establishing program systems and assigning staff responsibilities.

B. IN-COUNTRY MANAGEMENT

The team recommends that the US managers of the pilot program execute an agreement with an in-country agent – an individual consultant or an NGO, for example, to handle the very detailed administrative tasks that are beyond the Mission. USAID and the pilot managers must expect a large response to any publication of a scholarship opportunity no matter how narrowly advertised. All the applications, and later official credentials and transcripts, will have to be reviewed, tracked, filed and applications responded to. For those participants selected for training, logistics including the medicals, travel, orientation, applications, per diem distribution, accounting and reporting will have to be assigned to a responsible and experienced training manager.

C. PRIVATE SECTOR FUNDING

The team recommends that implementers identify and cultivate potentially useful private sector contacts that might be interested in subsidizing scholarships. International companies with branch offices in a targeted country are one possibility. Proposals that outline specific and concrete objectives, articulate a well thought-out design, and incorporate measurable outcomes stand the best chance of success.

D. USE THE SANDWICH MODEL FOR THE PILOT PROGRAM

The Sandwich Model includes introductory coursework at the home university combined with advanced or specialized courses taken in the partner institution. The partner institution could be either a US Land Grant university or it could be an agricultural institution in the Republic of South Africa. The advantages of using this model have been discussed in earlier sections. The overriding issues that argue for this choice include the lower overall costs associated with less time away from home and employment and lower tuition costs in the Southern Africa region, the focus of course content on the African reality, an expectation of more immediate application of learning to the student's workplace, and finally the larger number of students to be financed under the program.

APPENDICES

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APPENDIX A

TERMS OF REFERENCE

Southern Africa Needs Assessment – Agriculture Sector Long Term Training Pilot Project

Development Associates Approach

Task:

A two person assessment team will travel to countries in the Southern Africa region in order to gather information regarding educational needs in the agricultural sector, as well as USAID and partner institution priorities. The team is to develop recommendations relevant to the design of a long-term scholarship project. Recommendations will include the selection mechanism for the scholarship recipient, management of in-country logistics such as distributing and receiving applications, securing visas, arranging travel and communications, re-integrating returning students to working in their home institutions, targeting training to mission Strategic Objectives and host-country priorities, and updating of all parties.

Data-gathering visits and interviews are to include the USAID Mission, research institutions, institutions of higher education especially faculties of agronomy, existing programs in country, including collaborators with US university programs, and other stakeholders.

Anticipated Outcome: the design of a long-term U.S. based pilot scholarship program at the Masters level to be funded initially with resources from USAID/EGAT/AG. Michigan State University will manage the pilot program.

Overall Scholarship Goal:

- To build host country capacity in agriculture-related areas;
- To develop future leaders in agricultural science and education by providing long term scholarship opportunities;
- To strengthen educational and scientific linkages between US universities and host-country agriculture universities and research centers.
- Specifically to provide information for the design of a forthcoming LLT pilot project.

Objectives of Assessment Inquiry:

- To identify the current knowledge and skill deficits within the agricultural community in specific countries of the Southern Africa Region;
- To determine Mission and host country interest and needs for long-term training in agriculture;
- To identify institutions that might serve as partners with U.S. institutions of higher education;
- To describe international agricultural research centers (IARCs) and other local institutions that are potential collaborators in the forthcoming pilot.

Countries

Madagascar, Botswana, Malawi, Zambia, Angola

Team

The assessment team traveling to each country will include

- Ann Skelton, Performance Improvement Specialist (CHP) and START Contract Manager;
- Donald Jackson, PhD, specialist in Agricultural Economics and Development Studies;
- Local support person in each country.

Approach/Methodology

- Meet with Mission representatives to review their priorities and views regarding agricultural needs and the LLT pilot specifically;
- Identify key stakeholders/local institutions to be visited;
- Develop interview protocols to capture most important (relevant) information;
- Provide alternative program models, e.g., traditional U.S. scholarships, Regional programs, Sandwich programs, In-country scholarships,
- Identify program focus: e.g., research, extension programs, agricultural education,
- Identify possibilities for private sector collaboration.

APPENDIX B

LISTS OF PERSONS CONTACTED

Angola

| NAME | TITLE/ORGANIZATION | PHONE/FAX | E-MAIL |
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APPENDIX C

BACKGROUND MATERIALS CONSULTED

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Brief to Stakeholders on the ISNAR Division, International Food Policy Research Institute (IFPRI), Addis Ababa, Ethiopia, and Washington, DC (October 2004).

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Angola

Brief History of the Faculty of Agricultural Science, Universidade Agostinho Neto, Faculdade de Ciências Agrárias, Huambo (2004).

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Madagascar

Centre National de Recherche Appliquee au Developpement Rural (FOFIFA): brochure (2003).

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PRONABIO (Groupement Professionnel des Operateurs en Agri-business des Produits Naturels et Biologiques de Madagascar): brochure.

Universite d' Antananarivo, Ecole Superieure des Sciences Agronomiques (ESSA): various general and departmental (Industrie Agricoles et Alimentaires; Agriculture; Agro-Management; Elevage; Eaux et Florets) brochures.

Malawi

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ACF Annual 2002-2003: Consolidating and Institutionalizing Stakeholder Consultation in Zambian Agriculture, Agricultural Consultative Forum Secretariat, Lusaka.

Country Profile 2004: Zambia, The Economic Intelligence Unit, London.

Edwards, Dan, and Hamusimbi Coillard. *Agricultural Training Needs Assessment: Zambia (Africa Agricultural Capacity Development Training Initiative)*, Academy for Educational Development, Washington, DC, submitted to USAID under START (October 10, 2002).

GART Year Book 2003, Golden Valley Agricultural Research Trust, Lusaka.

University of Zambia School of Agriculture: brochure.

APPENDIX D

INSTITUTIONAL DESCRIPTIONS

SELECTED ORGANIZATIONS

Regional

New Partnership for Africa's Development (NEPAD)

NEPAD is a program of the African Union. It arose out of a vision for Africa's development, adopted by African Heads of State and Government, which states "We agree on the overall vision of Africa's development: a prosperous continent free of conflict in which all our people can fulfill their potential, that participates effectively in the global economy on an equal footing." NEPAD seeks to complement other African initiatives and to use existing frameworks for action. Its activities are organized under two broad themes: *Peace, security, democracy and political governance* and *Economic and corporate governance*.

In the area of agriculture, NEPAD recently launched the Comprehensive Africa Agriculture Development Programme (CAADP). The CAADP aims to help African nations reach the Millennium Development Goal of reducing hunger and poverty by half by the year 2015.

Madagascar

Centre National de Recherche Appliquee au Developpement Rural (FOFIFA) (National Center for Applied Research on Rural Development)

FOFIFA is the principal institution of agricultural research within Madagascar. At the national level, six scientific departments and four central laboratories carry out research programs. At the regional level, eight multidisciplinary teams within the regional research centers implement cross-cutting research programs. FOFIFA's research includes crop production, including cash and export crops; livestock production and animal health; forestry and natural resource management; and post-harvest conservation and food processing. FOFIFA also collaborates with universities in training and project evaluation.

On the international front, FOFIFA partners with various CGIAR (Consultative Group on International Agricultural Research) centers in other countries. It is also a member of ASARECA (Association for Strengthening Agricultural Research in East and Central Africa) and its researchers participate in the activities of nine ASARECA networks.

Zambia

Agricultural Consultative Forum (ACF)

The ACF is registered in Zambia as an Association of Stakeholders, which provides the legal framework for direct funding from donors and foundations. ACF's overall vision is "to see an efficient and prosperous agricultural sector [in Zambia] that contributes to national food security and income." Its goal: "to contribute to sustainable and continuous growth in the agricultural

sector through development of continuous consultation, networking and information sharing among private and public sector players.” ACF’s core activities include: facilitation of stakeholder consultation; provision of policy advisory services; facilitation of stakeholder networking and information sharing; and independent monitoring of the agricultural component of poverty reduction programs.

Golden Valley Agricultural Research Trust (GART)

GART is governed by an independent Board of Trustees. It focuses on demand-driven and adaptive research. GART’s research, development and commercial activities are organized under four strategic themes: development and promotion of conservation farming technologies; contract research and scientific technical partnerships; development and promotion of smallholder livestock systems; and innovative commercial agriculture.