

Mozambique Policy Analysis and Planning Capacity for Improved Food Security and Nutrition Outcomes (MOZCAPAN)

A proposal for a five-year plan of action
submitted to the USAID/Mozambique Mission
by
Michigan State University Food Security Group

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I. Introduction

The Food Security Group (FSG) in the Department of Agricultural, Food and Resource Economics (AFRE) at Michigan State University (MSU) submits this proposed plan of action in response to RFA- 656-12-000005, issued on August 20, 2012 by USAID/Mozambique, for a new, five-year Associate Award under the Food Security III Leader with Associate award (GDG-A-OO-02-0002 1). That RFA provides a Program Description and requests that MSU submit any proposed revisions to the Program Description along with “a Work Plan outlining activities and timeframes.” The proposed Program Description is wholly acceptable to MSU. This proposal presents MSU’s proposed work plan in service of the described program. We first briefly review the broad areas of action that MSU will be involved in over the life of the program. We then discuss the institutional approach that is at the center of much of this program: a policy network built around an applied policy analysis center likely at UEM. We follow this with an overview of the work plan and specify benchmarks for each year. Next, we present the detailed work plan and timeframe, with descriptions of each proposed activity. Research and outreach topics are defined next, under three categories: high priority topics funded under this award, high priority topics requiring funding from the multi-donor program, and potential other projects. We then review end-of-project status and finally present the budget for these proposed activities.

II. Broad Areas of Action

The Program Description describes four “Illustrative Interventions” that we here call broad areas of action. These are (1) Support the development and implementation of the CAADP Agriculture and Food Security Country Investment Plan (AFSCIP), (2) Strengthen the Monitoring and Evaluation (M&E) system for the CAADP AFSCIP and the USG Feed the Future (FTF) initiative, (3) Conduct policy relevant research and outreach, and (4) Build capacity of a Mozambique agriculture/food security/nutrition policy network. MSU is well placed to implement this program in view of its support for CAADP in Mozambique and other African countries, long-term support for statistical and information systems in the Ministry of Agriculture in Mozambique, experience with applied policy research and outreach, and active participation in discussions with UEM, heads of line GoM analytical units related to agriculture, and international partners (e.g., IFPRI, University of Copenhagen) on the establishment of a policy network.

Under the new program, MSU will ensure that primary responsibility for each of the three areas of action – with the exception of FTF M&E – is passed to local organizations over the course of the agreement. Furthermore, each of the three areas of action, though to differing degrees, will be pursued through area of action #4 - the new applied policy network. The network will be especially central to the

development, implementation, and monitoring of the CAADP AFSCIP (#1 and part of #2) and to the conduct of research and outreach activities (#3). MSU's contribution to the FTF M&E program (the other part of area #2) will mostly be provided bilaterally, not through the network. Given the centrality of the network to this new Associate Award, we next outline its anticipated key elements and how MSU proposes to work with it.

III. Institutional Approach: An Applied Policy Network

The central objective of MSU's activities in Mozambique over the next five years will be to build an agricultural, food security, and nutrition policy network capable of driving an inclusive, evidence-based policy and program formulation process in the country in pursuit of economic growth, poverty reduction, and improved food security and nutrition. We anticipate that the network will be built on the model developed during 2011 around the proposed policy center at UEM, now called CEPAD, *Centro de Pesquisa em Políticas e Programas Agro-Alimentares e de Desenvolvimento* (Figure 1).¹ This policy center is scheduled for final review by the University Council in the very near future, and approval is anticipated. In the remainder of this section we briefly describe the anticipated organization of the policy network built around this center. In the unlikely event that the center is not approved, MSU will work with USAID and other agricultural sector donors to build a comparable network with a different institutional core.

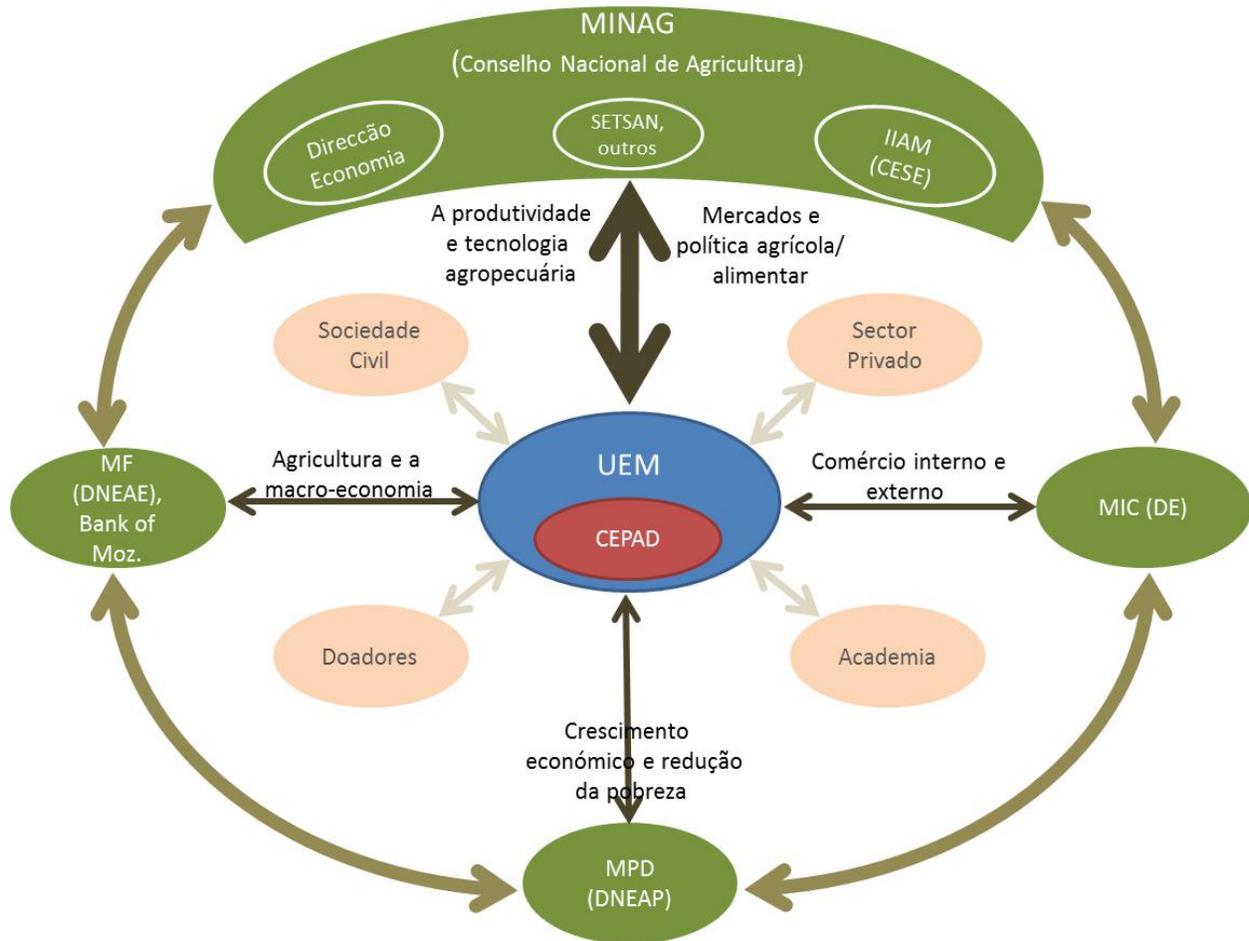
The center and its network – collectively referred to here as *REPAD (Rede de Pesquisa em Políticas e Programas Agro-Alimentares e de Desenvolvimento)* -- will be designed with four key features. First, it will stress a balance between applied research and policy outreach. In the Mozambican context, where the need for objective and reliable information far outstrips the capacity to produce it and analysts therefore are constantly drawn into very short-term advisory activities, achieving this balance requires a commitment to rigorous applied research. Significant blocks of staff time must be protected to conduct this research so that the outreach – which they will always be called upon to do – can be based on solid, relevant, and up-to-date information. Staff at the center will therefore have some substantial block of their time reserved for research activities. At the same time, CEPAD staff will be responsible for carrying-on active dialogue with private sector, government, civil society, other researchers, and donors regarding priorities for applied research and the implications of their research findings for the design of policies and programs that affect the agro-food system (interior portion of Figure 1).

Second, the center will be independent of line ministries but will create institutional links with key units in government who deal directly with agriculture or whose decisions have major effects on the agricultural sector and the rural economy (outer ring of Figure 1). These links, and the substantive focus with each, will be as described in section 4 of the RFA Program Description: the principal partner will be MINAG, especially the Directorate of Economics (DE) and the Center for Socioeconomic Studies (CESE) of the Mozambican Agricultural Research Institute (IIAM); outside partners will be Ministry of Planning

¹ Note that this figure and Figure 2 have both been included in the final proposal by the Director of the Faculty of Agronomy to the UEM University Council. The "Innovation Spotlights" we present here are also expected to form part of the presentation to the University Council.

and Development and its National Directorate of Policy Studies and Analysis (DNEAP), Ministry of Industry and Commerce (MIC) and its Directorate of Economics, Ministry of Finance and its National Directorate of Economic Studies and Analysis (DNEAE), and Bank of Mozambique.

Figure 1. Structure of proposed policy network built around new policy center at UEM



Linkages between CEPAD and the public entities are expected to be created through a variety of forms ranging from general Memorandums of Understanding with well-defined terms of reference for CEPAD researchers to specific agreements to undertake time-bound activities in specific areas. It is expected that researchers in CEPAD will have a share of their time dedicated to training personnel in the public sector units, to providing policy advice and working with unit personnel to prepare policy memos, and eventually, to engaging staff in these units in joint research.

Within the broad areas of research that the center will pursue with each public partner, specific research topics will be defined based on needs at the time, taking care to maintain a long-term vision

Innovation Spotlight #1

CEPAD Research and Policy Grants

MSU will work with CEPAD leadership to design and launch two types of competitive grants that promote excellence in policy research and engagement. CEPAD research grants will be awarded to individuals and organizations that propose outstanding new research on issues of high policy interest to Mozambique's agro-food system. CEPAD and MSU will use these grants both to shape the kind of new policy research that gets done and to mentor local research professionals in best-practice approaches to applied policy research. Recipients of these grants will be expected to produce a research paper and a short, 2-3 page policy brief based on the research, and to present these in a public setting.

CEPAD policy grants will fund professionals to "go the extra step" in policy outreach. Emphasis will be on synthesizing existing research into key policy messages, and on developing and executing innovative communications strategies for public presentation of those messages.

By providing both types of grants and a high visibility public platform for presenting results, MSU and CEPAD hope to contribute to the creation of a vigorous environment of empirical investigation and debate regarding important public policies.

while orienting the work to be highly relevant to current issues. It should also be stressed that the center seeks to stimulate a research network that emphasizes the exchange of information and experiences among all partners. While one partner may take the lead, in collaboration with the center, in one area of research, no one will be the exclusive "owner" of any such area; on the contrary, each partner will be expected to collaborate with others, based on the presumption that such collaboration

will improve the quality, relevance, and validity of the research and maximize its impact on policy and program design. Institutional windows will be created to encourage participation of a broad range of researchers in the center's activities, such as competitive grants and annual conferences. See *Innovation Spotlight #1* for more information on the proposed research and policy grant programs.

A third key feature of the new center is that it will strive to attract financial support from a range of donors and will establish research and outreach links with local and international research organizations. During initial discussions in 2011 regarding the design of the center, MSU's Food Security Group with UEM engaged in extensive consultations with other local research organizations, with in-country and Washington-based leadership of IFPRI, and with the key researcher at University of Copenhagen (KU; with strong links to WIDER). All local organizations agreed that there was much room and need in Mozambique for such a

center, and all international organizations agreed that support for the center was warranted and would be pursued through the established relationships these organizations have with different donors. Following anticipated approval of the center, these discussions will be taken-up and, if needed, the range of international collaborators expanded. See *Innovation Spotlight #2* for more information on MSU's approach to partnering under this proposal.

Finally, capacity building at the center will be built on a foundation of applied research and outreach (Figure 2). CEPAD will involve students from various universities in its research program (top left portion of Figure 2). Thesis topics will be selected in consultation with the students' academic advisors and the public sector partners, so that they are highly relevant to these partners' work programs. In other words, thesis research topics should be oriented

towards the resolution of specific problems of public interest. For the students and universities involved, the benefit will be more human and financial resources for high quality research. CEPAD staff will also deliver courses for other units within UEM, focusing on relevant topics where staff is highly qualified.

To build sustainable research capacity, the public sector institutions that benefit from CEPAD's program need to retain students that do their research under the program and that demonstrate high competence and potential for continued growth. To encourage such retention, CEPAD will support a "CEPAD Fellows" program with each public sector partner, providing those selected as fellows with a one-year personal stipend and research fund. See *Innovation Spotlight #3* for more information on this program.

Since CEPAD will enjoy technical collaboration with foreign universities and other international research groups, it will be in a position to facilitate access to funding for graduate study overseas. In this way,

Innovation Spotlight #2

Partnering for Maximum Impact

During the five years of this proposal, MSU will promote three types of partnering to maximize the impact of policy research and outreach. First, MSU will partner with international research organizations that have expertise in Mozambique and comparative advantages in research that are different from MSU's. We envision CEPAD as the vehicle for this partnering, with IFPRI and University of Copenhagen as key candidates to join MSU in helping build that institution.

Second, as shown in Figure 1, MSU and CEPAD will endeavor to create an environment of open communication and partnering among government units that deal directly or indirectly with the country's agro-food system. This partnering and open communication will be promoted through regular cross-ministerial policy meetings focused on the research conducted by CEPAD in conjunction with those units.

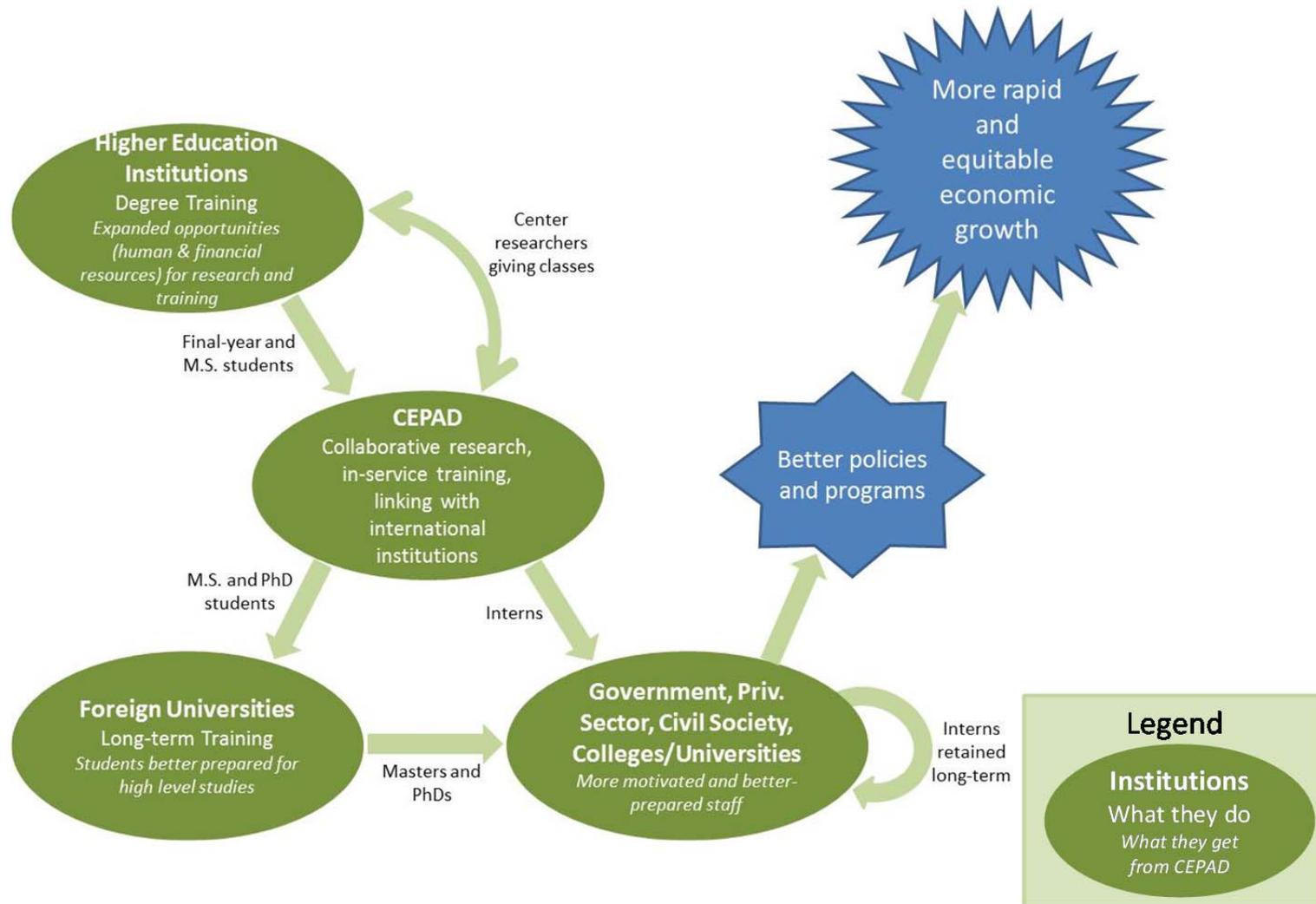
Third, MSU will facilitate CEPAD's partnering with other policy centers in the region within an emerging network of centers being promoted by MSU and University of Pretoria. The first meeting of this emerging regional network was held in July at University of Pretoria, and both Mozambican MSU leadership and UEM participated.

Finally, MSU will seek funding to partner with NGOs and private firms to carry-out "action research" that seeks to measure the impact of rural agricultural investments (especially private, but also public) on a range of welfare indicators of rural households.

MSU believes that partnering is the best way to promote active, informed, and open debate on issues of great importance to the Mozambican people.

Figure 2

Centro de Pesquisa em Políticas e Programas Agro-Alimentares e de Desenvolvimento (CEPAD)
Capacity Building Vision



foreign universities will have students better prepared for graduate level programs, and government, private sector, civil society, and the university sector in Mozambique will have personnel that are better motivated and prepared to carry out needed work. Over time, this dynamic will drive better design of policies and programs, which will help drive more rapid and equitable economic growth.

Innovation Spotlight #3

The CEPAAD Fellows Program

CEPAD will capitalize on the quality of its research – and the quality of students it attracts to do that research – to promote a commitment to applied analytical work in Mozambique’s public sector.

Each year, the center will name three “CEPAD Fellows” -- the top students each year doing their theses through the CEPAD research program. These Fellows could come from any university in Mozambique, as long as they conducted their research through CEPAD. Center leadership will work with key government partners to place these fellows for a period of one year, with CEPAD providing a personal stipend and a research fund for the Fellow. CEPAD would also support public presentation of the Fellows’ work in a way that promotes visibility and interest among a range of people from government, private sector, civil society, academia, and donors.

IV. Work Plan Overview and Benchmarks

MSU will use the first three years of this five-year award to build the institutional capacity and operational track record of CEPAD and to ensure multi-donor funding for the network and its activities. By the end of the first three years, the policy center (CEPAD) and at least one other participant in the network will be able to attract and manage direct funding from multiple donors, and to use that funding to carry out their work and to partner as they choose with local and international organizations. During the last two years of the award, MSU’s involvement will be primarily determined by the level of funding from the multi-donor consortium supporting the network and the choices of network participants – especially CEPAD – to involve MSU in its research, outreach, and capacity building activities.

MSU’s proposed budget (reviewed in more detail in section VII) reflects this approach: total funding of nearly US\$3.9 million is approximately distributed at US\$1.2 million during year 1, US\$980,000 year 2, and US\$940,000 year 3, before falling to about US\$400,000 each of years 4 and 5. Table 1 presents benchmarks for the five-year program.

Table 1. Benchmarks for MSU five-year program

| Year 1 |
|--|
| <ul style="list-style-type: none"> - CAADP investment plan in place informed by empirical analysis and best lessons from neighboring countries - CAADP monitoring & evaluation plan designed and validated - FTF monitoring & evaluation plans adapted to Mozambique incorporating linkages with Mozambican data systems and needs - CEPAD launched and links to network nodes established (including private sector and civil society), broad program of action outlined, and multi-donor support ensured for that program - Capacity built in Mozambique for survey work required for M&E for CAADP and FTF |
| Year 2 |
| <ul style="list-style-type: none"> - CEPAD implements strong applied policy research program <ul style="list-style-type: none"> o Research Grants and Policy Grants programs started o High quality in-house research conducted and outreach realized - CEPAD links to network nodes are strengthened <ul style="list-style-type: none"> o CEPAD Fellows Program initiated o First annual national agricultural sector stakeholder conference held; prioritized research and policy change agenda agreed - CEPAD begins to attract direct donor funding - CAADP and FTF implementation monitored and selected impacts assessed <ul style="list-style-type: none"> o Capacity strengthened in Mozambique for survey work required for M&E o CAADP monitoring & evaluation plan implemented |
| Year 3 |
| <ul style="list-style-type: none"> - CEPAD establishes strong applied policy research record <ul style="list-style-type: none"> o Second annual national ag sector stakeholder conference held with progress report on policy change and research agenda implementation documented - CEPAD continues its high-quality applied research and policy outreach, receives major multi-donor funding for its direct management, and uses that funding to form partnerships with key international and local research organizations - CAADP and FTF implementation monitored and selected impacts assessed <ul style="list-style-type: none"> o Survey work and generation of indicators increasingly carried-out by local organizations |
| Years 4 & 5 |
| <ul style="list-style-type: none"> - CEPAD recognized by government, private sector, civil society and donors as an effective and impartial platform for evidence-based policy debate and action - CEPAD is a self-sustaining organization using multi-donor funding to carry-out its work and partner as needed with international and local research organizations to continue driving the agricultural policy and investment agenda in Mozambique |

V. Detailed Workplan

We first discuss activities 1, 2, and 4 in detail. For each area of action, we present activities by quarter for year 1, and yearly for years 2-5. Separately in this section we discuss our proposed research topics.

A. CAADP

Table 2 presents MSU’s proposed workplan related to CAADP. MSU will play a critical role supporting a progressive move within Mozambique, through the CAADP process, towards policy and program planning, design, and implementation that is based on reliable, updated empirical evidence and solid economic reasoning. MSU will do this by undertaking the activities listed in the workplan. MINAG leadership has included MSU in this process because of its track record developing competencies to bring empirical evidence to bear on practical policy- and programmatic decision-making.

Table 2. Proposed MSU work plan and timeline related to CAADP

| Area of Action/Specific Activity | Year 1 | | | | Yr | Yr | Yr | Yr |
|---|--------|----|----|----|----|----|----|----|
| | Q1 | Q2 | Q3 | Q4 | 2 | 3 | 4 | 5 |
| #1: CAADP Investment Plan | | | | | | | | |
| 1. Contribute to revision of draft PNISA for submission to Peer Review | X | | | | | | | |
| 2. Contribute to second revision of PNISA based on peer review. | X | | | | | | | |
| 3. Contribute to organizing a Multi-Stakeholder Validation Workshop. | X | | | | | | | |
| 4. Submission to Conselho de Ministros for approval (no direct role for MSU) | X | | | | | | | |
| 5. Contribute to define institutional arrangements for coordination of PNISA | X | | | | | | | |
| 6. Contribute to organizing and implementing CAADP “Business Meeting” | | X | | | | | | |
| 7. Work with CEPAD and the Policy Network to generate a regular flow of empirical information in a form accessible to policy makers | | X | X | X | X | X | X | X |
| 8. Help create a coherent M&E system for the PNISA (see also M&E section) | X | X | | | | | | |

MSU anticipates engaging in the following specific activities in this area:

1. Revision of CAADP Investment Plan (known as PNISA in Portuguese) for Peer Review: A multi-sectorial Technical Team (TT) is currently drafting the CAADP/PEDSA investment Plan. MSU is working closely with this team to generate a version that will go out for peer review. MSU will also provide input regarding the range of actors invited to participate in the peer review process.
2. Second Revision based on Peer Review: Following input from the peer review process, MSU will continue to work with the team to ensure that appropriate revisions are made based on peer feedback and that a good quality peer-reviewed Investment Plan is generated.
3. Validation Workshop: A “Validation Workshop” will then be held with participation from academia, private sector, government, development partners, and civil society. The anticipated outcome of the workshop is that partners will take collective responsibility to ensure pursuit of the agricultural agenda outlined in the PNISA. Stakeholders should be clear about their roles and responsibilities and what contributions are required of them to make the agenda work.

MSU will contribute as needed and as requested by MINAG to the design and implementation of this workshop.

4. The Council of Ministers will then review and approve the PNISA.
5. Definition of Institutional Arrangements: MSU is already assisting the CAADP team in defining the institutional arrangements for coordinating PNISA, and will continue to do so.
6. Business Meeting: A “business meeting” with participation from government, private sector, and development partners. The purpose of this meeting will be to define funding commitments from all parties to support the PNISA. As with the validation workshop, MSU will contribute as needed and as requested by MINAG to the design and implementation of the business meeting.
7. Regular Flow of Empirical Information: Funds should begin to flow after the business meeting to finance the PNISA. Yet no investment plan is static. A key objective of CAADP is to institute new ways of doing business in the public sector, in which a continual flow of reliable information is generated to guide implementation and improve annual plans over time. MSU will play a central role, working with CEPAD and the Policy Network, in generating the capacity to ensure such a flow of information so that policy makers progressively make greater use of empirical evidence in their decision making.
8. M&E System: Finally, MSU will work with the CAADP team to ensure design of an effective M&E plan. This work will be highly complementary with work with FEEDBACK and others on the design of the FTF M&E plan.

B. Monitoring and Evaluation for CAADP and FTF

CAADP and FTF are major investment programs that require well-conceived and implemented monitoring and evaluation (M&E) systems to understand what progress is being achieved and to identify changes that may be needed to ensure desired outcomes. As the CAADP Investment Plan takes shape, its M&E system remains weakly defined. The FTF M&E plan has received major attention in Washington and much work has been done to adapt it to Mozambique, but continued adaptation needs to be done.

Table 3. Proposed MSU work plan and timeline related to M&E

| Area of Action/Specific Activity | Year 1 | | | | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
|---|--------|----|----|----|------|------|------|------|
| | Q1 | Q2 | Q3 | Q4 | | | | |
| #2: M&E System for CAADP & FTF | | | | | | | | |
| 1. Support CAADP country team with M&E system development, based on Investment Plan | X | X | | | | | | |
| 2. Work with Feedback contractor to develop baselines & targets | | X | X | | | | | |
| 3. Work with Feedback contractor on impact evaluations (s.t. USAID/W funding) | | | X | X | X | X | X | X |
| 4. Monitor select indicators outside Feedback contract | | | X | X | X | X | X | X |
| 5. Collaborate with MINAG, INE and others to coordinate data efforts | X | X | X | X | X | X | X | X |

MSU anticipates engaging in the following activities to address both these issues:

1. Support CAADP country team with M&E system development: Building on the earlier work by RESAKSS with the CAADP Country Team, MSU researchers will work with Ministry staff from the

Management Information System (SIG) in the Department of Statistics, Directorate of Economics, and a range of other collaborators from Mozambique's National Statistics Institute (INE), SADC, FAO, World Bank, and elsewhere to develop a set of realistic and accurate indicators based on the investments envisioned in the PNISA. The CAADP country team will then work with people at MINAG and INE to develop a system for monitoring those indicators. Any system that emerges from this process will have to build on existing data systems across the various government sectors and must be realistic in the expectations it imposes on these systems. As a key partner, MSU will help move the process forward and provide the technical input to ensure proper design and effectiveness.

As part of this process, key interventions will be identified as candidates for impact assessment, and efforts will be coordinated with CEPAD to generate multi-donor funding for specific studies.

2. Work with Feedback contractor to develop baselines & targets: With their experience in Mozambique across a range of data systems and institutions, MSU staff members are well-placed to help guide the Mission and its Feed the Future (FTF) FEEDBACK contractors to develop data systems for monitoring progress under FTF, including potential impact evaluations. Under FTF, USAID's Mozambique Mission has developed a set of six high-level indicators and various other indicators, as found in the FTF Strategy for Mozambique. With assistance from the FEEDBACK contractor, the Mission will be tracking the final list of chosen indicators in their M&E system, based on guidance from the FTF M&E documents. MSU has a unique set of in-depth knowledge to bring to this process, regarding the nature and quality of potential data sources in Mozambique, including MINAG's agricultural surveys, INE's household expenditure surveys, demographic and health surveys, and others. As a research organization, MSU also has strong credentials in survey design and data analysis. As such, MSU is well-placed to serve as a technical adviser to FEEDBACK to maximize quality and avoid duplication in the FTF M&E system.
3. Work with Feedback contractor on impact evaluations: MSU's direct participation in these studies will be subject to funding from USAID or other sources.
4. Monitoring of select indicators outside FEEDBACK contract: The Mission has identified gross margins as a key indicator that falls outside FEEDBACK's purview. As a result, MSU is currently implementing the first survey to measure that indicator. Assuming additional to a local institution to carry out mid-term and final surveys, MSU will assist USAID/Mozambique and the FEEDBACK contractor in working with the gross margins survey and other needs as they are identified.

MSU will also provide technical expertise to the USAID Mission on impact evaluation (IE) of key interventions, as identified under FTF, in collaboration with the FEEDBACK contractor. MSU is likely to pursue this more analytical work in collaboration with CEPAD, as IE capacity will be an important one for it to have. MSU will work with the Mission to identify other opportunities for impact assessment. To the extent that the USAID Mission requires more operational assistance with surveys or other activities, MSU is open to discussion on needs and funding.

5. Coordinate data efforts: MSU's knowledge of the data landscape in Mozambique gives it great ability to (a) identify the best data sets to be used for specific purposes and (b) identify the least-cost manner to obtain new data, especially the possibility of obtaining key M&E variables through small revisions to questionnaires in on-going surveys in which MSU has been directly involved (TIA in MINAG) or which it knows quite well (IAF). MSU will collaborate with MINAG, INE, CEPAD and other research units, USAID, and other donors to coordinate data efforts to ensure that the best possible data for M&E purposes are obtained for the least possible cost.

In the first year of the project, under M&E

- 1) CAADP Country Team establishes an M&E plan for the CAADP Investment Plan, relating investments to potential impacts
- 2) USAID and FEEDBACK contractor receive and incorporate MSU input on implementation of FTF Monitoring Plan for Mozambique
- 3) FEEDBACK contractor identifies, with MSU assistance, a way to engage a local institution for implementation of impact evaluation studies under USAID funding.
- 4) Results of first gross margin survey analyzed and presented to USAID by MSU
- 5) Subject to additional funding, MSU identifies additional topics for impact assessment and works with USAID and other donors to implement the study

By year 2:

- 1) CAADP Investment Plan undergoes first round of monitoring after one year of investments, and MSU identifies needs for improvement and changes to ensure adequate M&E.
- 2) Second gross margins study implemented with local organization taking on more responsibility.
- 3) FEEDBACK contractor results evaluated for recommendations on FTF M&E system development in Mozambique
- 4) MSU provides limited technical assistance to local institution carrying out impact assessment research.

By Year 3, CAADP Investment Plan monitoring will follow the revised guidelines, with MSU input

By Years 4 and 5:

- 1) Gross margins and agricultural income collected and analyzed by local institution with technical support from CEPAD (or other local technical support group)
- 2) CEPAD works with INE and MINAG to ensure that indicators are covered by the Integrated Agrarian Survey and other national surveys.
- 3) Local institution with CEPAD technical advice completes needed FTF extra monitoring for gross margins indicators

C. Building an Applied Policy Network

As the Program Description for this RFA makes clear, Mozambique's food system faces enormous challenges over the coming years. One implication of these challenges is that the country requires vastly

increased capacity to generate reliable empirical information and use it in the public sphere to assess policy options and drive improved policy- and programmatic decisions. The nearly approved policy center and its network – CEPAD and REPAD – are institutional innovations designed to meet this challenge.

The specific programmatic elements of the center and how it relates to and develops the policy network will have to be worked-out in practice. Yet the proposed elements and procedures outlined in section III of this proposal were discussed at length with a wide range of stakeholders 12 months ago and remain at the core of the proposal being reviewed by the UEM University Council. What follows is a vision for how this process will proceed and how MSU will contribute.

Table 4. Proposed MSU work plan and timeline related to the policy center and policy network

| Area of Action/Specific Activity | Year 1 | | | | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
|--|--------|----|----|----|------|------|------|------|
| | Q1 | Q2 | Q3 | Q4 | | | | |
| #4: Build Mozambican policy analysis network: Work with CEPAD and Policy Nodes to: | | | | | | | | |
| 1. Develop governance mechanisms and strategies for partnering, staffing, and capacity development for CEPAD | X | X | | | | | | |
| 2. Develop proposal and budget for an integrated policy network focusing on research, capacity building, and outreach and work to assure broad donor support | X | X | X | | | | | |
| 3. Contribute to applied policy research and active outreach in the network | | | X | X | X | X | X | X |
| 4. Contribute to the launch and operation of key CEPAD Programs: - Fellows Program (support to Policy Nodes) - Policy Grants Program - Research Grants Program - Thesis Research Program | | | | X | X | X | X | X |
| 5. Conduct trainings for CEPAD Fellows, thesis researchers, and others on impact evaluation techniques, survey design, data analysis including applied econometrics, and other topics | | | X | X | X | X | | |
| 6. Work with entire policy network to organize and present high profile Annual Agricultural Stakeholders' Policy Conference | | | | | X | X | X | X |

1. Definition of CEPAD institutional strategies: During the first two quarters of fiscal 2013, MSU will work closely with CEPAD leadership to develop its governance mechanisms, especially for identifying and updating annual research and outreach plans. Strategies for partnering (with policy nodes, donors, and local- and international research organizations), staffing, and capacity development within the network will also have to be developed. MSU is in fact already discussing these strategies with UEM and will simply continue this process.
2. Proposal for multi-donor funding: During the first three quarters of 2013, MSU will work with CEPAD and the policy nodes to develop a proposal and budget for an integrated policy network focusing on research, capacity building, and outreach, and it will work to assure broad donor support for this program. The proposal will feature direct funding to Mozambican organizations whenever possible but will also explicitly propose funding for partnering with international

research organizations as long as these organizations emphasize building the capacity of the network.

3. Ongoing research, outreach, and capacity building: With funding assured, MSU will work with CEPAD, the nodes, and other partners to carry-out research and outreach and to build capacity for the same.
4. Launching of key programs: MSU will work with CEPAD and the nodes to finalize the design and then launch the hallmark programs of the network. These are currently conceived as:
 - a. The CEPAD Fellows program to place promising professionals in each policy node and provide them with continued training and operational funds; we propose to start this activity during third quarter of year 1;
 - b. The CEPAD Research Grants and Policy Grants programs (both competitive grants programs) to drive high-quality research and outreach; we propose to start the policy grants program during third quarter of year 1 and the research grants program during fourth quarter;
 - c. The CEPAD Thesis Research Program to encourage high-quality student research on applied policy issues and to feed the policy network with strong young professionals; we propose to start this activity during third quarter of year 1.
5. Training: Trainings will be conducted for CEPAD Fellows, thesis researchers, and others on impact evaluation techniques, survey design, data analysis including applied econometrics, and other topics
6. Annual Stakeholders' Conference: This conference will start in year 2 of the program and run through year 5. It will feature top researchers from Mozambique, the region, and internationally. The conference will be used as a platform to dramatically increase the profile of applied policy research in the country and to drive increased demand within all sectors – public, private, and civil society – for strong empirical information wedded to balanced analysis in the conception, design, and implementation of policies and programs affecting the country's food system.

D. Research Topics

Under the policy network being created, yearly research agendas will need to be developed in a transparent fashion and approved by a recognized governance organization such as an Advisory Board. Specific mechanisms will be developed during the first two quarters of Year 1, as outlined in section 5.c. For purposes of this proposal, and recognizing that topics not addressed immediately will have to be revisited once CEPAD is running, we classify research topics into (a) high priority to be funded under this award, (b) high priority for funding from multi-donor program, and (c) other topics of potential interest.

1. High priority topics funded under this award

These topics are mostly on-going using data that has already been collected. They were identified due to their perceived importance for policy and program definition and will be conducted during the first year of this project by MSU faculty in collaboration, whenever possible, with CEPAD and network personnel.

#1: Have prices paid to farmers changed in Mozambique since the worldwide price crisis?: There are two reasons to think that the price surface facing farmers in Mozambique has increased over the past five years. First, a wide range of commodity prices in world markets have surged since late 2007, and one would, *a priori*, expect that at least some of this impact has been felt within Mozambique. Second, demand for agricultural commodities such as maize, soybeans, pigeon peas, sesame, and others have surged due to a combination of domestic economic growth (which has driven, for example, big increases in poultry consumption, requiring maize and soybeans for feed) and strong export markets (for sesame, pigeon peas, and cotton, among others). Yet nearly all analysis of national-level effects of the world market price surge has focused on retail or wholesale prices; very little has been done regarding changed prices to farmers. In Mozambique, no attempt that we are aware of has examined this issue.

Yet this is a crucial question if one wishes to consider whether and how incentives have changed for farmer investment in productivity-enhancing technologies. This research will use all available data to (a) descriptively examine the price surface facing farmers, (b) formally test for shifts since about 2007, and (c) identify the main contributors to any shift, including specific crops and changing cropping patterns of farmers². Results will feed directly into an analysis of smallholder supply response, and will also generate important insights regarding the strength of market linkages from consumer to wholesale to farmers.

#2: Smallholder supply response to the new price environment: If, as expected, we find that the price surface facing Mozambican farmers has risen meaningfully over the past five years, a key question is whether this has resulted in any increase in aggregate agricultural output. This research will use the 2008/2011 partial panel data to (a) estimate the aggregate supply response and (b) identify which types of farmers (e.g., by land area, educational level, gender, ease of access to markets) and which crops have generated any response that we find. The enhanced questionnaire of 2011 will also allow us to examine to what extent any response has been achieved through land expansion vs intensification of production through greater use of improved seeds, fertilizers, and other inputs. Insights will be of fundamental importance to (a) determining whether the rural sector, heretofore showing little if any income growth and poverty reduction, has begun to transform in response to the transformation of the urban economy in the country, and (b) identifying strategies to deepen and broaden the ability of the sector to respond with increased and more efficient use of improved technologies.

#3: Smallholder maize marketing: A study of Mozambican smallholder maize marketing behavior using TIA 2002 and 2005 found limited participation in maize markets as sellers. Maize market participation is low because production is low, as a result of limited access to improved production inputs and extension, and vulnerability of rainfed maize yields to drought. Since 2005 maize prices have increased significantly, as has demand for maize from poultry feed and commercial maize flour meals. Several buyers developed more aggressive maize grain purchasing networks, especially in Manica province. The purpose of this study is to find out whether Mozambican smallholders have been able to increase maize production and marketed supply in response to these demand-side incentives. If so, which producers in

² Data include TIA surveys in 2002, 2003, 2005, 2007, and 2008, the MSU partial panel of 2011, and SIMA data that starts as early as 1991.

which locations have been able to respond and why, and in which locations have they not been able to respond and why? The research will endeavor to treat gender in more detail than is often done, going beyond the influence of head-of-household to include other variables such as education of the females in the household, among others. The findings will help guide government policies and investments in research, extension, and support to private sector led input supply networks. This study is a complement to study #2 and will use similar methods, but by focusing on a single crop – the most important crop in most of the country for both food and income earning – it will generate insights not likely to be obtained with #2.

#4: Conservation agriculture’s role in the sustainable intensification of smallholder agriculture: Conservation agriculture is defined by three principles: minimum soil disturbance, rotation with legumes, and maintaining crop residues as mulch. Used properly, these practices can increase long-term soil fertility, conserve moisture, reduce labor and increase yields. The magnitude of each benefit is context-specific as are the tradeoffs smallholders face in adopting these practices. The national extension directorate (DNEA), the national agricultural research institute (IIAM), international research centers, a variety of NGOs and private sector organizations are all promoting many versions of conservation agriculture in Mozambique. Yet adoption levels are low. By request from IIAM and PARTI we have developed an inventory of conservation agriculture (CA) research and projects in Mozambique and are currently facilitating the prioritization of research and development projects related to CA. The aim of these activities is to overcome constraints to CA adoption. We will use our familiarity with CA research in Mozambique and the experiences of organizations involved in CA, combined with our regional perspective on the issue, to provide IIAM and PARTI with in-depth analysis of the potential and constraints of the various forms of CA in the different agro-ecological zones of Mozambique with the aim of sustainably intensifying smallholder production.

Our year 1 benchmark is that CA research and development activities are prioritized and analysis is provided for CA investment plans (such as from USAID or AGRA). Our year 2 benchmark is a conservation agriculture research report that includes analysis of conservation agriculture data in the IAI questionnaire and analysis of the potential for various forms of CA in different contexts within Mozambique.

2. High priority topics requiring funding from the multi-donor program

MSU considers these topics to be of high priority for helping Mozambique make the investments needed to drive productivity growth in its food system, but does not have the funding in this award to finance them. They will be given high priority in the proposal and budget that MSU will help develop for multi-donor funding of the broader policy program. In practice, these studies are likely to be funded through a competitive grants process, though this will have to be decided in the design of the multi-donor program.

#1: Outreach research on technology transfer and adoption: This work should accommodate the priorities of scientists and directors of the zonal Centers. The technicians of IIAM in zonal centers will start by making an inventory with IIAM scientists, extension agents, and NGO staff of IIAM-related

technologies that are being transferred in their zones and technologies that were targeted for transfer since 2000.

Having an updated inventory would call attention to prospects for study that require further adoption research. An inventory would also lay the basis for evaluating what has been tried in the past which in turn requires evaluation to quantify anecdotal evidence on perceived successes and failure. From an initial inventory, one could develop a list of candidates for adoption and impact-related research that can be listed and prioritized in a future work plan on technology-specific studies.

#2: “Sentinel site” longitudinal surveys focused on understanding technology adoption: Work with the zonal CESE staff to initiate periodic surveys on a small household panel in 2-3 villages near their research station (not more than 1 hour away by motorized transport). These villages would be characterized by easy access for technology testing and diagnostic research by biological scientists at the station. Agriculturally, the inquiry would be richer than the current TIA and would respond to issues such as varietal identification and farmer perception of soil types. The approach would allow more in-depth understanding of the determinants of adoption, including of the role that gender plays. It could also accommodate special purpose surveys if specific interests arose. A report on the case study villages, households, and fields would be written each year and synthesized across the villages. The small panel work would provide a base for the zonal CESE technicians to hone their survey and analytical skills in assessing changes in agricultural development over time. For this initiative to bear fruit, a commitment would have to be made for 3-5 years; depending on the intensity of the effort it would probably consume.

#3: Follow-up studies as identified through #1 and #2: Examples of such studies could include the impact of alternative agricultural technologies on nutritional status, and the influence of gender on which technologies are adopted and in what way they are adopted.

#4: Updated priority setting exercise: The last research resource allocation exercise for IIAM was conducted in 2005 and used TIA2002 data. Apparently, scientific staff strength has increase 2 to 3 times since then, suggesting that a broader array of activities may be possible. In this activity, MSU and others will work with zonal center social scientists to update the priority-setting exercise using newer data bases such as the TIA 2008, the 2008/11 partial TIA panel, and the recent Census in 2010.

#5: Implications of rapid urbanization and income growth for the evolution of consumption patterns and needed market infrastructure and regulatory regimes: African food systems will be changing rapidly in the coming decades as a result of urbanization and per capita income growth. Much of this change will be driven by changing consumer expenditure patterns, towards processed products such as pastas, canned foods, and fruit juices, as well as high value fresh fruits and vegetables, meat, and dairy. Anticipating these changing patterns will be fundamental information needed by both private and public sectors.

The flow of foods into urban areas will expand dramatically as a result of these dynamics. If farm-level productivity can be increased, then local farmers have a chance to capture a meaningful share of this

growth, but only if needed hard marketing infrastructure (roads, market places) are expanded and improved soft infrastructure (market management, food safety regulatory regimes) also keeps pace.

#6: Studies on agriculture-nutrition linkages: These studies should be defined by community nutrition experts in collaboration with agricultural economists and agronomists, and be informed by the Multi-Sectoral Action Plan to Reduce Chronic Malnutrition (PMRDC).

3. Other topics of potential interest

These studies would be undertaken in the event that sufficient financial and human resources were available. Others would also be considered; these studies are all subject to review by the governance structure put in place for the policy network.

#1: Impact evaluation of large-scale investments in agricultural, forestry, and rural tourism sectors: MSU had earlier teamed with Technoserve in developing an approach to scientifically assess the effects of large-scale investments on the smallholder sector. If funding can be obtained to continue, the studies will use impact evaluation techniques to rigorously identify and measure impacts on rural households' crop and livestock incomes, their off-farm incomes, asset levels, behavior with respect to child education, and other elements that contribute to the households' long-run welfare, such as nutrition. Discussions have already begun with Technoserve on such studies.

#2: Input promotion schemes: This research would focus on the design of input subsidy programs that promote, rather than compete with, private sector investment. The work would likely include thorough analysis of costs and benefits of any proposed government interventions and consideration of alternatives, based on experience across the continent and other regions of the world. The work would also have a strong private sector focus, consulting them during the research phase and facilitating private sector input into government proposals for intervention during the public discussion of research results.

#3: Smallholder Commercial Farming models: Smallholder commercial farmers are the backbone of the rural economy. They help supply food to their neighbors, provide employment during the growing season and the off season, and attract input suppliers and traders to their regions. These functions are critically important to rural economic growth and poverty reduction because of limited linkages between rural areas and the non-agricultural resource extraction industries that drive Mozambique's overall headline economic growth rate. As yet this segment of the rural population is relatively small, perhaps only 10%. But increased prices of food staples, growing markets for fresh produce, improved varieties, and mobile technology for information and financial services access all provide the potential for this key group to double in size over the next ten years. The purpose of this research would be to evaluate existing commercial farming models (contract farming, autonomous production of high value crops), and the resource profile of successful commercial smallholders, to inform private and public sector strategies and investments to increase the number of smallholders who can become commercially viable for the long term.

#4: Input Market and Technology Access Strategies: Recent studies indicate that Mozambican smallholder farmers are held back from increasing production and marketed surpluses in response to

higher prices by lack of access to animal traction and modern inputs and farming techniques. Experience from other countries in the region indicates that large-scale input subsidies are costly and often provide only a temporary solution for a small proportion of the population. The purpose of this research would be to work closely with private sector and government to learn from previous efforts in Mozambique and elsewhere on sustainable models for expanding smallholder access to inputs that can raise their production and profitability over the long-term. The research will consider successful models for financing animal traction access, access to improved seed, and financial innovations to promote savings and credit for input acquisition.

VI. End-of-Project Status

By the end of the project the following will have been accomplished:

- 1) Mozambique will have a peer-reviewed CAADP investment plan with buy in from all sectors of society and donors under implementation;
- 2) A credible M&E system for the CAADP investment plan will have been designed and implemented to ensure transparency in the provision of reliable and relevant performance metrics;
- 3) The impact of selected FTF activities on specific FTF indicators (gross margins, agricultural household income) will have been tracked;
- 4) An applied policy analysis and dialog network will have been established under the leadership of a Mozambican organization (i.e., CEPAD);
- 5) GoM is requesting advice from the policy network and using analytical output from CEPAD and the network to design policies and programs to enhance the impact of CAADP investments; and
- 6) At least two international donors and the Mozambican government will recognize the value and integrity of this network by funding analytical work on an ongoing basis.

VII. Budget

Total cost for these activities is \$3,899,648. We present summary budgets in Annex A by line item and year, and by line item and broad area of action; we present the latter only for Year 1, as the time allocations of personnel are likely to change perhaps in unanticipated ways over the course of the agreement. The budget by year reflects MSU's focus during years 1-3 to build capacity and especially the ability of local organizations to be contracted directly: requested funding falls slowly from \$1,182,133 in Year 1 to \$936,204 in Year 3, then drops to \$384,596 and \$416,063 in years 4 and 5, respectively.

Budget allocations to broad areas of action during year 1 are \$243,489 for support to CAADP, \$210,502 for CAADP and FTF M&E, \$466,339 for research and outreach, \$261,802 for the policy center and policy network, for a total of \$1,182,133.