

# Fact Sheet • MOZAMBIQUE PROJECT RESEARCH AND POLICY DIALOGUE

► FOOD SECURITY COOPERATIVE AGREEMENT<sup>1</sup> ◄  
between

► U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT/ MOZAMBIQUE MISSION & MICHIGAN STATE UNIVERSITY ◄

► TIME PERIOD: NOVEMBER 1997 - MARCH 2002<sup>2</sup> ◄

<http://www.aec.msu.edu/agecon/fs2/mozambique>

## 1. Cooperating Institutions

Directorate of Economics, Ministry of Agriculture and Rural Development, Mozambique  
(MARD/DE)

Agency for International Development, Mozambique Mission (USAID/Mozambique)

Agency for International Development, Global Bureau, Economic Growth and Agriculture  
Development Center, Office of Agriculture and Food Security (G/EGAD/AFS)

Department of Agricultural Economics, Michigan State University (MSU)

## 2. Researchers Involved

**Ministry of Agriculture and Rural Development:** Carlos Mucavele, National Director, Directorate of Economics (DE); Arnaldo Ribeiro, National Director, National Sugar Institute (INA) and Head, Office of Commercial Agricultural Sector Promotion; Erasmo Muhate, National Director, Cotton Institute (IAM); Victorino Xavier, MARD Institutional Reform Coordinator; Alberto Simão, Coordinator, Department of Policy Analysis (DAP); Aurelio Mate, Acting Head, Department of Statistics (DEST); Ana Maria Menezes, Environmental Specialist (DE); Jaqueline Anselmo Massingue, Arlindo Rodrigues Miguel, Raúl Óscar Pitoro, Guilhermina Salvador Rafael, Olívia António Govene, Líria Alfredo Sambo, and António Manuel Paulo, trainee Policy Analysts, Department of Policy Analysis (DAP).

**Market Information System Collaborators:** Danilo Carimo Abdula, National Market Information System Coordinator; Simão Capito Nhane, Abel Frechaut, and Francisco Monteiro (Central Team); Anli Falume (Cabo Delgado Provincial MIS); Julião Augusto Nhanquila (Inhambane Provincial MIS); Mário Armando (Manica Provincial MIS); Francisco Guerra (Nampula Provincial MIS); and 50 market enumerators distributed throughout the country's 10 provinces.

**Private Sector Collaborators:** Sergio Chitará, Executive Director, Federation of Mozambican Business Associations (CTA); and Paulo Negrão, Secretary, Cotton Ginners' Association.

**MSU In-Country Researchers:** Ana Paula Manuel dos Santos, Higino Francisco de Marrule, Pedro Arlindo, Jan Low (Policy Training Coordinator), and Duncan Boughton (Country Coordinator).

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<sup>1</sup> The Cooperative Agreement was revised in May 1999, and formally amended in November 1999, to reflect the Ministry of Agriculture and Rural Development's capacity building needs in the context of the PROAGRI agricultural sector investment program.

<sup>2</sup> Version of Fact Sheet: September, 2001

**MSU Campus Backstop:** David L. Tschirley, Michael T. Weber, Cynthia Donovan, and Julie Howard.

### **3. Project Objective**

The principal goal of MSU assistance is to increase the Ministry of Agriculture and Rural Development's (MARD) capacity to formulate and implement facilitative agricultural sector policies, strategies, and institutional reforms. The project seeks to achieve this goal through formal and on-the-job training in the identification of priority policy issues, collection and timely analysis of relevant information, and prompt dissemination of actionable results to managers and policy makers within and beyond MARD.

### **4. Project Approach**

- The project approach to capacity building uses a collaborative model of policy dialogue, applied policy research, and in-service and formal training. This model emphasizes: 1) joint definition of policy issues and research problems with host country analysts and policy makers; 2) participation of local analysts in the entire research and policy analysis process thereby generating local capacity and increasing local ownership of the results; and 3) timely dissemination of policy analysis and research findings through short internal policy memos for senior decision makers, research notes and policy syntheses, meetings and seminars, and in-depth research reports.
- To reflect the expanded capacity-building needs to implement the agricultural sector investment program (PROAGRI), MSU's proven collaborative model has been **broadened** in terms of number of participants and range of content areas, and **strengthened** by the addition of a special program of short-term formal training activities. The project is housed within the Departamento de Análise de Políticas (DAP) of DE, having a direct impact on policy formulation and dialogue. Joint activities are also developed with DE's Departamento de Estatística (DEST) and the Departamento de Planificação (DP), as well as provincial directorates of agriculture and rural development (DPADRs). These linkages help to ensure MARD's ability to quantitatively monitor key agricultural sector variables over time, and improve the responsiveness of MARD planning to the needs of rural producers and the private sector.

### **5. Outputs**

#### **5.1 Overview**

- The foundation of capacity building, institutional development and focused socio-economic research laid by the project during 2000, the first complete calendar year of its new role in the context of the agricultural sector investment program (PROAGRI), provided an effective springboard for solid progress during the first six months of 2001. Accomplishment of project objectives has been characterized by: (i) greater involvement of trainee policy analysts in all phases of policy research, analysis and advising; (ii) active collaboration on policy analysis and formulation between the new policy analysis department (DAP/DE) and other MARD directorates and institutes; and (iii) strengthened linkages with provincial directorates and the private sector focused on an enhanced pilot provincial market information service.

- During the first six months of 2001 the project continued active support for MARD's institutional reform process at three levels: ministry-wide; national directorate of economics; and the policy analysis department. At ministry-wide level DAP and project staff participated in the February institutional reform workshop, assisted the national coordinator in the analysis and compilation of follow-up survey results, and advised on the advantages and disadvantages of alternative options for a revised ministry structure. A proposed set of policy analysis department functions and staffing levels was also completed as part of the broader institutional reform effort. The proposed functions were discussed at the national directorate of economics workshop in March where project staff made several presentations and supported the workshop secretariat.
- The planning department of DE developed a preliminary framework for identifying strategic actions to provide greater focus to the development of the ministry's 2002 annual work plans (PAAOs). The DAP supported the planning department's effort by: (i) conducting a seminar for national directors on the potential for accelerating rural economic growth through market-oriented crop diversification and productivity improvement strategies; and (ii) coordinating the development of strategic actions for the seed sector in collaboration with the directorates of agriculture, rural extension and the National Agronomic Research Institute. The DAP also assisted with a Ministry-wide review of submitted work plans with specific attention to consistency with environmental sustainability and poverty reduction principles.
- The national market information system (SIMA) launched a new pilot provincial market information initiative for northern Mozambique, centered in Nampula province. This initiative is a direct result of the SIMA user needs study carried out last year, and will improve linkages between farmer associations, provincial traders, regional and international markets. The initiative was launched at joint private sector and public sector seminars in Nampula and Maputo where market outlook information for the upcoming crop marketing year was provided for key food and cash crops. SIMA staff also actively participated in the development of a national agricultural marketing strategy coordinated by the Ministry of Industry and Commerce.
- A training workshop for all SIMA enumerators from Nampula, Cabo Delgado, Niassa, and Zambezia provinces was held to discuss the findings of the SIMA user needs survey and improvements in price collection methods. By the end of the year all SIMA enumerators throughout the country will have received this training program.
- Two collaborative studies of the seed sector were completed and presented at the National Seed Seminar in March 2001, co-sponsored by two national directorates (Agriculture and Economics) and the National Agronomic Research Institute (INIA). Recommendations emerging from the national seminar emphasize the need for a policy environment that will encourage greater seed choice through the entry of more seed companies, harmonization of import, registration and release laws with neighboring countries, revising laws to encourage greater commercialization of local seed production, substantially increasing public sector investment in breeder and pre-basic seed production, and implementation of pilot seed projects to test demand for new seed and channel emergency seed distribution through commercial outlets.
- As coordinator of the joint private sector/government Cotton Sector Working Group, the DAP has taken a lead role in facilitating the further development and implementation of a vision and policy framework for improved long-run competitiveness approved at a sector-wide stakeholder meeting held in Nampula in October last year. New rules to allow farmers choice of commercial partner while protecting the integrity of seasonal input credit recovery were also agreed and published. Farmers and concession companies remain polarized on pricing policy issues, while the newly

competitive environment has resulted in farmers receiving cotton prices 10-20% above those otherwise expected to prevail. A preliminary environmental assessment has indicated inadequate investment in training of extension workers on correct pesticide use by both private and public sectors, and safe pesticide use training is being arranged with PROAGRI funds.

- Ana Menezes completed the preparation of an environmental guide for use by provincial agricultural and rural development services covering irrigation, livestock, forestry and extension. A draft was distributed at the May PROAGRI review meetings for critique and comments have now been incorporated. The environmental specialist also coordinated a study of livestock carrying capacity in Manica province and evaluated the current status and future on minimization of the environmental and health impacts of insecticide use. Studies of the potential impact of small scale irrigation projects on the environment are being undertaken in coordination with the national hydraulics directorate.
- In preparation for the next phase of Mozambique's participation in the SADC Trade Protocol, DAP staff, together with key agro-industry representatives, coordinated MARD's review of: 1) the speed with which various products and inputs of importance to the Mozambican agricultural sector can be liberalized within the SADC framework; and 2) the level of import duties and value added taxes to be applied to imports, as MARD's contribution to the revision of the *Pauta Aduaneira* (Customs Duty Manual). Proposals arising from the review were presented to the MARD's decision making body, the Conselho Consultivo, and at a MARD senior management training seminar on trade liberalization and agricultural sector development.
- DAP staff provided policy advice to the Vice Minister in preparation for this year's agricultural minimum wage negotiations. The paper prepared by DAP staff entitled "The Challenge of the Agricultural Minimum Wage in Mozambique: Theoretical and Practical Considerations" was distributed to members of the Comissão Consultiva do Trabalho (CCT), unions and employers, and contributed to a rapid and constructive resolution of the potentially contentious issue of closing the gap between minimum wages for agricultural and non-agricultural workers.
- In addition to the major policy themes of agricultural trade liberalization, seed and cotton sector development, DAP staff prepared policy advice for senior management on a wide range of current issues including the national poverty reduction strategy paper, national agricultural marketing strategy, agricultural sector minimum wage negotiations, European Union agricultural product market access, minimum prices for cotton, proposed draft regulations for cashew marketing, agricultural extension system development and food security research priorities.
- Mozambique participated in the Partnership to Cut Hunger initiative at the invitation of President Konare of Mali, and Michigan State University president M. Peter McPherson. The Partnership's objective is to develop, jointly with African partners, a new long-term strategy for U.S. efforts to cut hunger on the African continent. The Mozambican delegation to the Partnership's June conference held in Washington, D.C. to review a draft action plan was headed by Prime Minister Mocumbi, and included Vice Minister of Agriculture João Carrilho, and Executive Director of the Confederation of Mozambican Business Associations, Sergio Chitará. Prior to the conference, a national working group facilitated by Professor José Negrão of Eduardo Mondlane University studied and critiqued a strategy paper on cutting hunger in Africa prepared by Jerome Wolgin. Further information on the Partnership to Cut Hunger Initiative, including background documents and the draft strategy and action plan, can be found on the web at: <http://www.africanhunger.org>

- The national director of economics submitted a request to USAID/Mozambique to extend project support through September 2004. A concept note outlining progress to date and areas where further technical assistance is needed was circulated to key national directors for comment in July.
- Further details of the above activities can be found in subsequent sections as follows:
  - 5.2 Institutional Development (pages 5-7)
  - 5.3 Training Activities (pages 7-12)
  - 5.4 Policy Analysis and Advising (pages 12-15)
  - 5.5 Socio-Economic Research (pages 15-17)
  - 5.6 Publications (pages 17-27)
  - 5.7 Presentations (pages 23-27)

The final section (page 27) identifies future policy and research themes.

## **5.2 Institutional Development**

### **Support to Institutional Reform**

- The project actively supported MARD's institutional reform process during the first six months of 2001. Under the leadership of national institutional reform coordinator Xavier, the Ministry undertook a functional analysis of all national directorates and institutes. DAP staff Santos, Menezes, and Miguel participated in the week-long February institutional reform workshop. Miguel subsequently co-led the functional analysis for the Directorate of Economics, coordinated the preparation of the DAP's functions, and assisted the national reform coordinator in the analysis and compilation of results. Santos and Boughton finalized proposed staffing levels to accomplish the policy analysis functions, and Low prepared a brief on the advantages and disadvantages of alternative options for a revised ministry structure.
- The planning department of DE developed a preliminary framework for identifying strategic actions to provide greater focus to the development of the ministry's 2002 annual work plans (PACOS). The DAP supported the planning department's effort by: (i) conducting a seminar for national directors on the potential for accelerating rural economic growth through market-oriented crop diversification and productivity improvement strategies; and (ii) coordinating the development of strategic actions for the seed sector in collaboration with the directorates of agriculture, rural extension and the National Agronomic Research Institute. DAP staff Menezes and Low took part in a Ministry-wide review of work plans with specific attention to consistency with environmental sustainability and poverty reduction principles.

### **Establishment of the Department of Policy Analysis**

- During 2000, MARD officially established a new policy analysis department, the Departamento de Análise de Políticas (DAP) within the Directorate of Economics. The DAP was presented to the Vice Minister in March 2000, and to the full MARD decision making council under the leadership of the Minister in June. The new Minister has boosted the department's visibility within the ministry and among its stakeholders by publicly announcing a lead role for the DAP in two important new policy initiatives: a joint government and private sector working group to

review policy and strategy for the cotton sector; and a new partnership with the private sector involving the establishment of a dedicated unit within the Ministry to ensure a more facilitative environment for commercial agricultural development.

- Eight out of 10 recently-graduated trainee policy analysts completed their introductory training and received contracts signed by the Minister. Two graduates are responsible for the national market information system (SIMA), which is being integrated with the statistics department of the Economics Directorate, while a third is expected to work full time with the new commercial sector support unit.
- An environmental specialist, Ana Menezes, was recruited for the DAP. Menezes traveled to Tete, Inhambane, and Nampula to work closely with provincial level personnel in incorporating environmental concerns into their planning process for 2001. This was followed by a two-day national workshop sponsored by PROAGRI to ensure the prioritization of environmental impact studies and harmonization of central and provincial level activities in the PAAO 2001.
- A review of the status of the integration of a gender perspective within MARD was conducted in collaboration with the DE gender consultant to determine possible strategies for overcoming constraints which have prevented full consideration of gender issues in planning and evaluation activities during the past two years.
- The DAP began to draw on its first budgetary allocation under PROAGRI in the second quarter of 2000 and, subject to cash flow constraints, has successfully implemented key activities using PROAGRI funds.

### **Market Information System (SIMA) Development**

- During the first six months of 2001, the national market information system (SIMA) launched a new pilot provincial market information initiative for northern Mozambique, centered in Nampula province. This initiative is a direct result of the SIMA user needs study carried out last year, and will improve linkages between farmer associations, provincial traders, regional and international markets. The initiative was launched at joint private and public sector seminars, held in Nampula and Maputo, where market outlook information for the upcoming crop marketing year was provided for key food and cash crops. In preparation for the initiative, SIMA team members Abdula and Arlindo visited the market information system in Mali and participated in a West African regional market outlook conference bringing together over 200 private sector traders, market information system specialists, and Trade and Commerce ministry representatives.
- A training workshop for all SIMA enumerators from Nampula, Cabo Delgado, Niassa, and Zambezia provinces was held in April to discuss the findings of the SIMA user needs survey and improvements in price collection methods. By the end of the year all SIMA enumerators throughout the country will have received this training program.
- SIMA staff actively participated in the development of a national agricultural marketing strategy coordinated by the Ministry of Industry and Commerce (MIC), which was approved by the cabinet (Conselho de Ministros) in July 2001. SIMA staff involvement resulted in the approved strategy giving greater emphasis to collaboration between MIC and MARD.

- During 2000, the in-country SIMA team, with assistance from Tschirley and Donovan, completed a User Needs Assessment of SIMA. This assessment sought to evaluate the usefulness of the current information produced by SIMA, and explore what types of new information would increase the usefulness of SIMA for the commercial decisions of farmers, traders, and processors. The team conducted interviews with farmer associations, informal and formal traders, and processors in Maputo, Beira, and Nampula. Results from these interviews are currently being reviewed, and will inform the design of new “information packets” that SIMA will begin to produce before the end of 2000.
- During the national flood emergency of 2000, staff from the national market information system (SIMA) provided weekly updates to the national disaster coordination meetings and expanded electronic circulation of the weekly bulletin *Quente Quente*.
- The weekly bulletin *Quente Quente* and the monthly bulletin (*Boletim Mensal de Informação do Mercado*) of the national market information system were significantly revised in terms of programming and hard copy format. SIMA data is extensively used by other government departments (e.g., MARD’s national early warning system, the Ministry of Industry and Commerce), by donors (including the USAID-funded FEWS and EU-funded RESAL projects), as well as by the NGO community.
- As part of a long-term strategy to make SIMA sustainable and responsive to regional needs, site visits and training were carried out to establish two new provincial market information systems in Cabo Delgado and Inhambane.
- In October 1999, Abdula, made a visit to Malawi with Santos and Tschirley to participate in a workshop on food security information systems and to build linkages with the Malawian market information system.

### **5.3 Training Activities**

The project conducts or supports training for two target groups within MARD. Training oriented towards senior and/or planning staff seeks to sensitize participants to the role of public sector investment in agriculture, the nature and importance of facilitative agricultural policies, and simple tools and practical examples that help focus planning on potentially high payoff interventions. It usually involves half or one day seminars, but occasionally longer for specific target groups (e.g., research and extension planning staff). Future training will focus policy issues currently under debate (e.g., input policy, cash crop sector development policies) involving the technical directorates who have responsibility for policy in a particular area as co-presenters.

Training oriented to the Policy Analysis Department’s trainee analyst group, who mostly have a background in agronomy, is focused on providing trainees with a set of tools necessary to carry out policy analysis. The training also includes survey design, data management and analysis skills necessary to provide an empirical basis to policy advice. With basic formal training now complete, the emphasis has shifted to in-service training through direct participation alongside senior staff in policy analysis and advising.

### **Short Term Training Activities for Senior and/or Planning Staff**

- July 2001. In collaboration with the Ministry of Industry and Commerce (MIC), DAP organized a seminar on Trade Liberalization and the Implications of the Implementation of the SADC Trade Protocol for agricultural sector development in Mozambique. Thirty-five participants attended, including national directors and deputy directors of MARD, representatives from Customs, the Ministry of Industry and Commerce, the private sector, and a farmer's cooperative. The seminar was chaired by MARD's Director of Economics, with discussion led by the Vice-Minister of MARD. DAP analyst Massingue presented the Basic Concepts of Trade Liberalization, while Santos gave a talk entitled "Is the Liberalization of Maize Trade Advantageous for Mozambique?", based on her Master's thesis work completed in December 2000. The MIC representative made a presentation on the current status of the SADC protocol implementation.
- April 2001. The Vice-Minister of MARD chaired a half-day seminar and discussion session based on the DAP study "Strategies for Accelerating Rural Economic Growth" for all National Directors and their deputies. The seminar served as a starting point for all branches of the Ministry to discuss ideas on sectors that could be emphasized for key investments in the year 2002 work plans. The study was also presented at the annual national meeting of DE where provincial staff also had an opportunity to participate in the debate.
- April 2001. Two seminars were organized where Weber presented results on land access based on a comparative study of five African countries concerning access. The first seminar was chaired by the Vice Minister for a select group of senior decision makers within MARD, and the second included a broad audience including university and private sector representatives as well as MARD staff.
- March 2001. In collaboration with DINA and INIA, DAP organized a two-and-a-half-day national seed seminar for 60 participants (private and public sector stakeholders, international organizations) to review progress in implementing the 1999 Seed Plan of Action, share results from seed studies completed in 2000, and debate viable strategies for improving seed sector performance.
- November 2000. In collaboration with INCAJU, DAP organized a half-day seminar for private and public sector stakeholders to review options and progress for improved productivity, and discuss policy and applied research priorities.
- October 2000. Low assisted Director Uaiene of INIA and the Southern Africa Roots and Tubers Network to plan and implement a half-day workshop entitled "Integrating Nutritional Concerns into Agricultural Research and Extension." The workshop, attended by 65 participants, focused on the introduction of pro-vitamin A rich sweet potatoes as an example of this type of intervention.
- October 2000. Head of DAP, together with Low and Howard, participated in a regional workshop on the Impact of Policy Reforms on the Input Sector, sponsored by the International Fertilizer Development Corporation (IFDC). Key findings from the workshop will be incorporated into training materials for an input policy course to be conducted in the third quarter of 2001.

- September 2000. Low, Massingue, and Miguel conducted a week-long intensive course on the economic evaluation of agronomic data held at the Centro de Formação Agrária in Maputo. A total of 25 participants comprising researchers from INIA and extension personnel from Maputo, Gaza and Manica successfully completed the course. Participants now have the capacity to design protocols for on-farm adaptive trials that include the collection of data necessary to conduct economic analysis, as well as undertake and interpret economic analysis.
- July 2000. DAP conducted a two-day national workshop for 85 participants on the incorporation of environmental considerations into PROAGRI work plans for 2001. Participants included all national directors, provincial directors, and their planning staff. The results were presented and approved at MARD's coordinating council.
- July 2000. Low, Massingue, Miguel, and Sambo conducted a three-day intensive course for 22 participants on Economic Evaluation of Agronomic Data at the Provincial Directorate of Agriculture and Rural Development in Nampula. INIA and NGO researchers, as well as extension personnel participating in the course, will now be equipped to make recommendations to farmers based on the potential economic return of the proposed change. Fourteen participants successfully completed the course.
- May 2000. DAP conducted a one-day seminar for 32 participants on the environmental evaluation of PROAGRI in Maputo. Participants included national directors and planning staff from each MARD directorate, and the same participants will continue to receive training in environmental evaluation during 2001.
- March 2000. All DAP staff attended two half-day sessions looking at Integrating a Gender Perspective into Agricultural Programs and Policy conducted by gender specialist Rachel Waterhouse.
- February 2000. Low, Marrule, and Miguel in collaboration with Ministry of Plan and Finance organized a 2 day workshop for 75 staff from MARD, NGOs, and farmer associations on the implications of the national poverty action plan for agricultural sector interventions.
- December 1999. The project co-financed with the former Ministry of Agriculture and Fisheries (MAF) a week-long training for 23 staff involved in institutional reform provided by staff from the International Management Development Institute, University of Pittsburgh. Low assisted in organizing the course and along with Marrule lectured on "The Market Economy and the Role of the State."
- August 1999. Marrule participated in the design of a training workshop for the development of provincial food security and nutrition strategies, and made a presentation on the linkage between food security and the PROAGRI public sector investment program. Miguel was a participant in the same course.
- June 1999. The project co-financed (with MAP) a training for 30 staff involved in institutional reform provided by staff from the International Management Development Institute, University of Pittsburgh. Boughton also made a presentation on the role and nature of agricultural policy during the training.

- June 1999. João, Santos, and José Jaime Jeje participated in the third USAID-funded Agricultural Transformation in Africa Workshop in Nairobi, Kenya. Santos presented a paper on the impact of trade liberalization with Malawi on maize prices in northern Mozambique, and Jeje presented a paper on the potential for productivity gains in maize and cotton in northern Mozambique. This was the first time that Mozambique had been represented at a conference in this triennial “think-tank” series.

### **Short Term Training Activities for Trainee Analysts**

- July 2001. National SIMA Coordinator Abdula attended a three-week course on Trade Policy and Macro-Economic Analysis conducted by IFPRI and the University of Cape Town in South Africa.
- June 2001. Trainee Policy Analysts Govene, Miguel, Rafael, and Massingue attended a two-week course on Monitoring and Evaluation sponsored by the Directorate of Rural Extension and the University of Pretoria.
- March 2001. National SIMA Coordinator Abdula took part in a ten-day study tour in Mali to visit the national market information system and take part in the West African regional market outlook conference.
- January 2001. Trainee Policy Analyst Miguel attended a week long course on institutional reform, emphasizing how to conduct a functional analysis.
- July 2000. Eight trainee policy analysts completed a policy analysis course based on the first 5 chapters of the Portuguese translation of “Food Policy Analysis” by Peter Timmer, Walter Falcon, and Scott Pearson. The course was held bi-weekly in three-hour discussion sessions accompanied by practical exercises.
- June 2000. Six trainee policy analysts received Australian aid-funded scholarships for 2 months of intensive study of English in an immersion environment in South Africa, which they completed in November 2000.
- May 2000. Ten trainee policy analysts participated in a three-day training on economic analysis of on-farm trials, based on material developed by CIMMYT. Two days of lectures were given by Howard, followed by a series of sessions to work through and improve upon practical exercises conducted by Low. Trainees practiced solving and presenting their results as practices for becoming trainers in subsequent courses.
- April 2000. Six trainee policy analysts received 12 sessions of basic training in Time Series Analysis and Introduction to Multi-variate Analysis, based on practical sessions using SPSS version 10.0.
- March 2000. Six trainee policy analysts began English language classes held at the Instituto de Linguas (2 hours daily for three months). AusAid provided the scholarships to fund this training based on a proposal submitted by Low and Santos in January 2000. Competence in English language is critical to be able to access relevant literature and effectively conduct policy analysis using English-based computer software.

- March 2000. Pitoro participated in a three-week course in Lilongwe, Malawi on Quantitative Analysis, emphasizing the use of Social Accounting Matrices (SAMs) for macroeconomic analysis. Conducted by the International Food Policy Research Institute, a model developed for Mozambique served as the basis for training sessions undertaken by Pitoro.
- March 2000. Miguel and Govene participated in a three-day short course on Privatization of Services in the Livestock Sector.
- February 2000. Sambo began working two days a week with technical staff at the National Sugar Institute (INA) to learn about the sugar sector and accompanying policies, and to strengthen collaborative links between DAP and INA.
- February 2000. Ten trainee policy analysts received basic training in the use of a bibliographic software package, ENDNOTES, with which they have been subsequently documenting all references used in their sub-sector studies.
- February 2000. Sambo participated in a week-long training course on Tax Policy in Mozambique sponsored by the Gabinete de Estudos, Ministry of Plan and Finance, held in Maputo.
- January 2000. Pitoro and Massingue completed a three-part course on improving communication and dissemination skills. The course was organized by DEST and FAO.
- December 1999. Rose conducted a training on the nutritional adequacy prediction methodology for Miguel, Pitoro, Govene and Rafael, along with one analyst from DEST and one analyst from the Ministry of Health nutrition section.
- December 1999. Low taught SIMA staff how to organize the SIMA distribution list into a database which can be easily transferred in a variety of different formats into major word processing packages.
- November 1999. Miguel participated in a multi-disciplinary two-week training course held in Maseru, Lesotho on data analysis, presentation, and advocacy techniques using recent data from the Health and Demographic Survey in Mozambique. The course was organized by the Commonwealth Regional Health Community Secretariat, financed by USAID.
- November 1999. Low initiated bi-weekly in service training sessions to study the 300-page book *Food Policy Analysis* by Timmer, Falcon, and Pearson with the objective of deepening the staff's understanding of the complex nature of policy analysis and establishing a common foundation within DAP regarding the range of potential policy interventions.
- October 1999. Miguel participated in the Food and Poverty Policy Analysis Course jointly organized by Universidade Eduardo Mondlane and the Ministry of Planning and Finance.
- September-October 1999. Low completed proofing of a translation into Portuguese of the award-winning book *Food Policy Analysis*, by Timmer, Falcon, and Pearson.
- July 1999. LeVallée provided a two-week training for DEST and DAP staff on time series and cross-section analysis using SPSS.

- April 1999. Rose and Marrule trained USAID-funded NGOs on income proxy methodology and spreadsheet application.
- 1999. Marrule served on the academic advisory committee for the theses of three UEM undergraduates, including Miguel.
- December 1998. LeVallée, Santos, and Tschirley provided a two-week training for SIMA staff and three new graduates recruited to the DAP on time series analysis using SPSS, and tested the new monthly bulletin format.

### **Long Term Training Activities**

- Low participated in planning sessions on the design of the curriculum for the proposed policy analysis section within the Master's program to be initiated at Eduardo Mondlane University in 2001.
- Arlindo returned to Mozambique in February 2001 after completing requirements for an MS in Agricultural Economics at MSU (Atlas Program Funding).
- Santos completed requirements for an MS in Agricultural Economics from Wye College (University of London) in October 2000.
- Rui Benfica began PhD course work in Agricultural Economics at MSU in January 2000 and undertook the first phase of his doctoral research in Mozambique from June to August 2001.
- Anabela Christina da Conceição Mabote began MS course work in Agricultural Economics at Ohio State University in January 2000 (Atlas Program Funding).
- Paulo Mole returned to Mozambique in December 1999 after defending his PhD dissertation at MSU (Atlas Program Funding).

### **5.4. Policy Analysis and Advising**

- In July 2001, DAP staff took part in a conference on the Strategy for Cashew Nut Marketing and Processing held in Nampula, and subsequently prepared a memorandum detailing the problems inherent in the new proposal for regulating cashew nut trade, suggesting alternatives that will help strengthen the cashew nut industry without severely discouraging cashew nut producers.
- During June and July 2001, in preparation for the next phase of Mozambique's participation in the SADC Trade Protocol, DAP staff coordinated MARD's review, together with key agro-industry representatives, of: 1) the speed with which various products and inputs of importance to the Mozambican agricultural sector can be liberalized within the SADC framework; and 2) the level of import duties and value added taxes to be applied to imports as MARD's contribution to the revision of the *Pauta Aduaneira* (Customs Duty Manual). Proposals arising from the review were presented to the MARD's decision making body, the Conselho Consultivo, and at a MARD senior management training seminar on trade liberalization and agricultural sector development.

- During June and July 2001, DAP staff prepared memos for the Vice Minister and the National Director of Economics on access to European agricultural produce markets, with an emphasis on interventions needed in the area of grades and standards.
- In May 2001, DAP staff prepared a policy memo for the Minister on the implications of a proposal from the Cotton Institute advisory board to allow cotton companies with statutory exclusive crop purchase rights to unilaterally determine raw cotton prices paid to farmers. DAP staff subsequently prepared a policy memo for the National Director of Economics on minimum prices for raw cotton for the 2000/2001 crop marketing season.
- In April 2001, DAP staff were invited by the Vice-Minister of MARD to prepare a memo reflecting on what stance MARD should take regarding the differential between the agricultural and industrial minimum wage. DAP advisors accompanied the Vice-Minister to the Minimum Wage Negotiations, where it was noted that both the trade unions and the employer associations were utilizing the DAP report on Minimum Wage prepared in 2000 as a key reference point during the negotiations.
- In April 2001, DAP staff prepared a memo for the Minister summarizing progress and problems in the implementation of the new cotton sector rules, and recommending necessary action.
- In March 2001, at the request of the Livestock Directorate, DAP staff reviewed three proposals submitted to conduct a 8-week study examining the potential impact of various components of the livestock sector on poverty reduction in Mozambique to determine how PROAGRI funds should be invested to maximize that impact.
- In February 2001, DAP staff collaborated with other MARD departments in preparing a draft contribution to the Poverty Reduction Strategy for 2001-2005 (PARPA).
- In January 2001, DAP staff prepared a memorandum outlining key areas of research needed in food security and nutrition which served as the basis for the national director of Agriculture (DINA)'s presentation at the 2020 Vision workshop held in Maputo in early February 2001.
- In January 2001, DAP staff represented MARD in the Mozambican delegation to the World trade Organization meetings in Geneva.
- In December 2000, the DAP prepared a draft "think-piece" at the request of the Vice Minister for Agriculture and Rural Development on opportunities for accelerating rural economic growth. The paper identifies characteristics of pro-poor growth strategies and analyzes the reasons underlying the recent slowdown in growth in agricultural output. The paper examines the challenges and potential for enhancing the contribution of traditional cash crops (cotton, cashew, maize), as well as diversification into new crops (sunflower, sweet potato and rice). For both traditional and new crops, a subsector approach is advocated, beginning with a clear definition of the market opportunity (including quality and processing characteristics), and then optimizing technology, input and output marketing systems to be competitive in the long term.
- In October 2000, at the request of the Minister of Agriculture and Rural Development, the DAP, in collaboration with the Cotton Institute (IAM), prepared a working paper on the future of the cotton sector including a vision for competitiveness, policy framework, and next steps toward liberalization of the sector. The paper was presented at a meeting in Nampula of all stakeholders in the sector, and chaired by the Minister. The vision and framework were adopted, new rules the

2000/2001 permitting new entrepreneurs to invest in the sector were agreed, and the DAP instructed to monitor performance of the sector.

- In September 2000, the Vice Minister requested the DAP to prepare a major policy paper on agricultural minimum wages in Mozambique. Given the dearth of published information available, three weeks of research were undertaken to interview key informants, collect data on wage rates, and analyze data on rural employment. The paper, entitled “The Challenge of the Agricultural Minimum Wage in Mozambique: Theoretical and Practical Considerations” was distributed by the Vice Minister to members of the Comissão Consultiva do Trabalho (CCT), charged with the determination of minimum wages for agricultural and non-agricultural workers. The paper was also sent to the office of the Prime Minister.
- During May to July 2000, DAP staff participated in an internal working group formed by the Minister under the leadership of the national director of agriculture and the director of the national sugar institute, the DAP prepared an internal policy memo on establishing action-oriented dialog with the private sector, helped develop the program for the Aug 3 commercial sector seminar, and prepared a vision statement to orient the Minister’s opening speech.
- During the first half of 2000, the DAP provided two policy briefs for the Vice Minister, the first on agricultural subsidies in Mozambique and the second on options for encouraging growth in rural labor markets.
- In February 2000, an analysis of constraints to input market development was presented to a joint MARD and private sector working group. The draft was submitted to the Ministry of Plan and Finance as a key MARD contribution to the policy framework matrix agreed between the Government of Mozambique and the IMF, and contains specific recommendations for consideration by MARD’s KRII reform working group.
- During 2000, the DAP also prepared internal policy memos for the national director of Economics on:
  - the justification for whether raffia and jute sacks should be exempt from value-added and importation taxes;
  - the validity of the request by the Association of Sugar Producers in Mozambique for exemption from value-added tax;
  - the potential use of PROAGRI funds for activities of the Cashew working group;
  - the potential use of PROAGRI funds for a baseline study from which to monitor the impact outsourced extension services;
  - assessment of an environmental impact assessment of the Sasol gas project; and
  - preparation of terms of reference for an environmental study of livestock in Manica province.
- During 1999, an analysis of world market cotton price trends was prepared, together with recommendations on pricing policy, and technological and institutional innovations needed in the short and long run to ensure the competitive position of Mozambique’s cotton sector. The analysis was submitted through the National Director to the Office of the Minister in September 1999, and the recommendations will be considered by the joint government-private sector working group established in February 2000 by the Minister to review cotton sector strategy and legislation.
- An analysis of the impacts of a proposed raw cashew export ban proposal on development of the sector compared to alternative measures was prepared and submitted in April 1999 through the National Director of Economics to the Office of the Minister. The findings were also presented to

the Cashew Working Group, published as a policy *Flash* in English and Portuguese, and published in the daily newspaper *Noticias*. The analysis provided the basis for MAP's opposition to the proposed raw cashew export ban.

- Internal policy memos prepared in 1999 also addressed the following topics:
  - the potential contribution of PROAGRI to poverty alleviation (review of matrix of poverty alleviation initiatives for Ministry of Plan and Finance);
  - review of a food reserve strategy consultancy report (in collaboration with FAO food policy advisor);
  - SADC trade protocol (options for accelerated reduction of tariff protection for agricultural products);
  - cotton pricing for the 1998/99 crop season (the need to take account of futures prices rather than spot market prices in annual price negotiations);
  - private sector (opportunities for improved dialogue and participation in PROAGRI); and
  - the sugar industry protocol (trade-offs between consumer and industry interests with variable tariff protection).

## **5.5. Socio-economic Research**

- In July 2001, DAP team members completed preliminary analysis of a baseline survey of 900 cotton-growing households in Nampula province and presented the results to the Cotton Sector Working Group (GTA). A research paper and *Flash* are under preparation, and final results will be presented at a national cotton sector stakeholder meeting planned for October 2001.
- In June 2001, in collaboration with the recently established Office for Commercial Agricultural Sector Promotion, the DAP initiated a study to assess the implications of different strategies for agribusiness development on rural employment and poverty reduction. Reconnaissance surveys were conducted in Zambezia and Nampula provinces, and secondary data collection on agriculture sector investment projects undertaken in collaboration with the Investment Promotion Center.
- In May 2001, key informant surveys were conducted in Nampula province to monitor the implementation of new rules to allow cotton farmers choice of cotton ginning company for sourcing production inputs on credit and extension services.
- In March 2001, in collaboration with the national seed service (DINA/SNS), INIA and ICRISAT, the DAP completed a study examining priorities for investment in the seed sector. Study teams combined researchers from DAP and ICRISAT with technical staff from Mozambique's Seed Department and National Agronomic Institute. The studies stress the need for a multi-disciplinary and multi-sectoral approach to resolving constraints to smallholder *access* to quality seed. The results of the study were highlighted at a keynote presentation at the National Seed Seminar held 14-16 March.
- In January 2001, DAP completed a study examining the key constraints restricting the development of the national seed sector. The study detailed key activities to be undertaken by each potential partner – public sector, private sector, non-governmental organization, and donor – to overcome these key constraints.

- In November and December 2000, DAP team members in collaboration with the Instituto do Algodão de Moçambique (IAM) and the Provincial Directorate of Agriculture and Rural Development, designed and implemented a survey of 900 cotton-growing households in Nampula province to determine the quality of service provision by cotton companies, and to assess trends in cotton area and production during the last two seasons when world market and farm-gate prices have been very low. The results will provide a baseline to monitor the impact of the new cotton sector policy of gradual liberalization on service provision, productivity, and environment.
- In September and October 2000, DAP team members conducted field research in Nampula and Sofala provinces in collaboration with DINA/SNS and INIA on the seed multiplication efforts of NGOs, the public sector and the private sector. Extensive secondary data were collected to complement key informant and farmer group interviews.
- A preliminary assessment of the potential role that farmer associations could play in various aspects of agricultural development of different sub-sectors (especially the cotton, oilseed, bean, and maize sectors) was made by Dr. James Bingen and Howard of MSU along with Massingue and Low during 2 weeks in May 2000. Special attention was paid to the constraints regarding the successful integration of women into associations assisted by CLUSA.
- A method for predicting dietary adequacy in Mozambique on the basis of easily recorded food consumption variables (proxy indicators) was developed, tested and documented. The methodology is complementary to the income proxy work, providing additional insights into the extent to which income changes are translated into dietary improvement. The methodology is designed for use by government (e.g., future annual surveys conducted by MARD's statistical department) and NGOs.
- Research work was initiated on subsector studies of major food and non-food crops of Mozambique in December 1999. Initial work involved identifying relevant secondary sources of information and establishing contacts and a database of relevant individuals and institutions working on the different crops. Once these "desk" studies are complete, an evaluation will be made as to whether field site visits to specific provinces are needed.
- In November 1999, final round interviews with farmer associations were carried out as part of a study of the profitability of intensive maize production in two districts of Nampula province. The associations (assisted by CLUSA, a USAID-funded NGO) have been able to access seed and fertilizer in a more timely way, and maize yield response to purchased inputs has improved over previous years. An analysis of financial and economic profitability is underway.
- An analysis of the impact of maize trade liberalization with Malawi on maize prices at farmer level in central and northern Mozambique was undertaken. The results were presented at the Agricultural Transformation in Africa conference in Nairobi, Kenya, in June 1999, and were published in both research report and policy brief (*Flash*) formats. The analysis shows that liberalization has had significant positive impacts on producer prices.
- Field work for a comprehensive study of rural incomes in central and northern Mozambique was completed in November 1998, and the results were presented at the USAID SO1 partners conference in February 1999. The results formed the basis for the SO1 team's contribution to USAID/Mozambique's R4 report, and were subsequently used to develop an income proxy methodology to simplify future reporting by USAID-funded NGOs. Spreadsheet software and related materials were distributed at a training of NO staff in April 1999. A revised

comprehensive manual was distributed to NGOs in July. Experience from the rural income study helped inform the design of the 1999/2000 agricultural census (CAP), and the data set will also be used for training DAP policy analysts.

- An analysis of nutritional adequacy in central and northern Mozambique, with careful attention to seasonal variation, was prepared using the household level data set collected in Nampula and Cabo Delgado during 1995-1996. The results were published in research report and policy brief (*Flash*) formats, and presented at two national seminars.
- A study of cashew management practices and yields in a farming systems context was completed in Nampula province. A typology of cashew farming and the implications for the adoption of improved management practices was presented to the Cashew Working Group in April 1999 and a draft research report has been prepared. A detailed analysis of the data set was undertaken by Mole at MSU for his Ph.D. dissertation.

## **5.6. Publications**

### **Training Materials**

In April 2000, a new publications series entitled “Material de Formação” was added to the existing policy brief and research report series of the Economics Directorate . The purpose of the new series is to make applied policy research and analytical tools more broadly accessible to MARD staff.

- CIMMYT - Programa de Economia. (Traduzido para português por Angela Remane). June 2000. *A Formulação de Recomendações a Partir de Dados Agronómicos: Respostas aos Exercícios*. Material de Formação No 3.
- CIMMYT - Programa de Economia. (Traduzido para português por Angela Remane). June 2000. *A Formulação de Recomendações a Partir de Dados Agronómicos: Livro de Exercícios*. Material de Formação No 2.
- CIMMYT - Programa de Economia. (Traduzido para português por Angela Remane). June 2000. *A Formulação de Recomendações a Partir de Dados Agronómicos: Um Manual Metodológico de Avaliação Económica*. Material de Formação No 1.

### **Research Notes (*Flash*)**

*Flash* is a series of policy briefs and short papers, closely focused on issues of relevance for understanding the Mozambican food system. The papers are designed to be read in less than a half hour and to make a limited number of clear points about the issue at hand. Publications in this series can be downloaded from MSU’s FSII Website: <http://www.aec.msu.edu/agecon/fs2/mozambique/index.htm>

- Arlindo, Pedro, Ana Paula Santos, Danilo C. Abdula, and David Tschirley. August 2001. *A Economia Agrícola do Norte de Moçambique: Desenvolvimentos Recentes e Perspectivas*. Volume 27P.

- Santos, Ana Paula, António Paulo, Arlindo Miguel, Danilo C. Abdula, Pedro Arlindo, and Simão C. Nhane. August 2001. *Confirmada Baixa de Produção de Cereais e Feijões no Norte de Moçambique e no Malawi: Implicações sobre as Exportações para o Malawi e os Preços ao Produtor*. Volume 26P.
- Low, Jan, Higino de Marrule, Duncan Boughton, and Raúl Pitoro. August 2001. A *Regulamentação de Comercialização da Castanha de Caju: Como Torná-la um Instrumento Revitalizador do Sub-Sector Cajueiro em Moçambique?* Volume 25P.
- Santos, Ana Paula, António Paulo, Danilo C. Abdula, Pedro Arlindo, and Simão C. Nhane. April 2001. *Perspectivas Preliminares dos Comerciantes Rurais Sobre a Presente Campanha de Comercialização na Zona Norte*. Volume 24P.
- Tschirley, David, and Rui Benfica. November 2000. *O Papel do Mercado de Trabalho, Microempresas, e Agricultura na Redução da Pobreza Rural em Moçambique*. Volume 23P.
- Howard, Julie, Jaqueline Massingue, José Jaime Jeje, David Tschirley, Duncan Boughton, and Alexandre Serrano. November 2000. *Observações e Lições Emergentes do Programa de Milho com Insumos na Época 1998/99 na Província de Nampula, Moçambique*. Volume 22P.
- Howard, Julie, Jaqueline Massingue, José Jaime Jeje, David Tschirley, Duncan Boughton, and Alexandre Serrano. November 2000. *Observations and Emerging Lessons from the 1998/99 High-Input Maize Program in Nampula Province, Mozambique*. Volume 22E.
- Howard, Julie, José Jaime Jeje, Valerie Kelly, and Duncan Boughton. November 2000. *Comparing Yields and Profitability in MARD's High- and Low-Input Maize Program*. Volume 21E.
- Low, Jan, Rafael Uaiene, Maria Isabel Andrade, and Julie Howard. November 2000. *Orange-Flesh Sweet Potato: Promising Partnerships for Assuring the Integration of Nutritional Concerns into Agricultural Research and Extension*. Volume 20E.
- Low, Jan, Rafael Uaiene, Maria Isabel Andrade, and Julie Howard. November 2000. *Batata Doce de Polpa Cor Alaranjada - Parcerias Prometedoras para Assegurar a Integração dos Aspectos Nutricionais na Investigação e Extensão Agrícola*. Volume 20P.
- Benfica, Rui, Pedro Arlindo, David Tschirley, and Michael Weber. March 2000. *Representative Characteristics of Rural Households in Areas of Central and Southern Mozambique Affected by The Floods*. Volume 19E.
- Tschirley, David, and Ana Paula Santos. December 1999. *The Effects of Maize Trade with Malawi on Price Levels in Mozambique: Implications for Trade and Development Policy*. Volume 18E.
- Rose, Donald, Paul Strasberg, José Jaime Jeje, and David Tschirley. 1999. *Aumento de Ingestão de Calorias Relacionada ao Aumento de Renda no Norte de Moçambique*. Volume 17P.
- Rose, Donald, Paul Strasberg, José Jaime Jeje, and David Tschirley. 1999. *Higher Calorie Intakes Related to Higher Incomes in Northern Mozambique*. Volume 17E.

- Mole, Paulo, and Michael Weber. 1999. *O Debate sobre o Cajú em Moçambique: Que vias Alternativas?* Volume 16P.
- Mole, Paulo, and Michael Weber. 1999. *The Cashew Debate in Mozambique: Are there alternative strategies?* Volume 16E.
- Howard, Julie, José Jaime Jeje, David Tschirley, Paul Strasberg, Eric Crawford, and Michael Weber. 1998. *Is Agricultural Intensification Profitable for Mozambican Smallholders? An Appraisal of the Inputs Subsector and the 1996/97 DNER/SG2000 Program.* Volume 15E.
- de Marrule, Higino, Rui Benfica, Paul Strasberg, David Tschirley, and Michael Weber. 1998. *Algumas Reflexões sobre a Pobreza e as Perspectivas para o Crescimento do Sector Rural de Moçambique.* Volume 14P.
- Tschirley, David. 1998. *Regional Trade and the Economic Development of Northern Mozambique.* Volume 13E.
- PSA MA/MSU Equipa de Pesquisa. 1998. *Preços mais estáveis, mas ligeiramente mais baixos foi a tônica da última campanha de comercialização de castanha de cajú 1997-97 em alguns distritos de Nampula.* Volume 12P.

## Research Reports

Research reports present detailed study findings and document carefully the methods used and data collected. Since 1990, 45 research reports have been published on issues such as food and cash crop productivity, input market development, food market development and food aid policy, food security effects of cash cropping, rural micro enterprises and rural employment, and proxy indicators for rural incomes and nutrition. Publications in this series can be downloaded from the FSII Website: <http://www.aec.msu.edu/agecon/fs2/mozambique/index.htm>

Publications during the current phase of the project include:

- Market Information System. 2001. *Avaliação das Necessidades dos Utentes do SIMA.* Research Report 45P.
- Rohrbach, David D., Jan Low, Raúl Pitoro, Alfredo Cucu, Jaqueline Massingue, Duncan Boughton, Guilhermina Rafael, Antonio Paulo, and Domingos Jocene. 2001. *Constrangimentos e Estratégias para o Desenvolvimento do Sistema de Sementes em Moçambique.* Research Report 44P.
- Rohrbach, David D., Jan Low, Raúl Pitoro, Alfredo Cucu, Jaqueline Massingue, Duncan Boughton, Guilhermina Rafael, Antonio Paulo, and Domingos Jocene. 2001. *Investment Priorities for the Development of the Seed System in Mozambique.* Research Report 44.

- Howard, Julie, Jan Low, José Jaime Jeje, Duncan Boughton, Jaqueline Massingue, and Mywish Maredia. 2001. *Constrangimentos e Estratégias para o Desenvolvimento do Sistema de Sementes em Moçambique*. Research Report 43P.
- Howard, Julie, Jan Low, José Jaime Jeje, Duncan Boughton, Jaqueline Massingue, and Mywish Maredia. 2001. *Constraints and Strategies for the Development of the Seed System in Mozambique*. Research Report 43.
- Mole, Paulo. 2000. *Oportunidades de Desenvolvimento do Sector Familiar de Cajú e sua Relação com a Segurança Alimentar na Província de Nampula, Moçambique*. Research Report No. 42P.
- Mole, Paulo. 2000. *Smallholder Cashew Development Opportunities and Linkages to Food Security in Nampula Province, Mozambique*. Research Report No. 42.
- Tschirley, David, and Rui Benfica. 2000. *Pequenos Agricultores, Mão de Obra Assalariada e Alívio da Pobreza Rural nas Vastas Terras de África: Evidência de Moçambique*. Research Report No. 41P.
- Tschirley, David, and Rui Benfica. 2000. *Smallholder Agriculture, Wage Labour, and Rural Poverty Alleviation in Mozambique: What Does the Evidence Tell Us?* Research Report No. 41.
- Benfica, Rui, Pedro Arlindo, Michael Weber, and David Tschirley. 2000. *Características dos Agregados Familiares Rurais nas Zonas Afetadas pelas Cheias do Ano 2000 no Centro e Sul de Moçambique*. Research Report No. 40P.
- Benfica, Rui, Pedro Arlindo, Michael Weber, and David Tschirley. 2000. *Representative Characteristics of Rural Households in Areas of Central and Southern Mozambique Affected by The 2000 Floods*. Research Report No. 40.
- Howard, Julie, José Jaime Jeje, Valerie Kelly, and Duncan Boughton. 2000. *Comparing Yields and Profitability in MARD's High- and Low-Input Maize Program: 1997/98 Survey Results and Analysis*. Research Report No. 39.
- Tschirley, David, Donald Rose, and Higino de Marrule. 2000. *A Methodology for Estimating Household Income in Rural Mozambique Using Easy-to-Collect Proxy Variables*. Research Report No. 38.
- Rose, Donald. 2000. *Implementing a Simplified Method for Predicting Dietary Adequacy in Mozambique: A User's Manual*. Research Report No. 37.
- Rose, Donald, and David Tschirley. 2000. *Um Método Simplificado para Avaliar a Suficiência Nutricional em Moçambique*. Research Report No. 36P.
- Rose, Donald, and David Tschirley. 2000. *A Simplified Method for assessing Dietary Adequacy in Mozambique*. Research Report No. 36.

- Santos, Ana Paula, Anabela Mabote, Danilo C. Abdula, Jean-Charles LeVallée, Pedro Arlindo, and Rafael A. Achicala. 1999. *Séries Históricas dos Preços de Grão de Milho Branco e Suas Tendências Reais em Alguns Mercados do País no Período Compreendido Entre Abril 1993 e Setembro 1999*. Research Report No. 35P.
- Tschirley, David, and Ana Paula Santos. 1999. *The Effects of Maize Trade with Malawi on Price Levels in Mozambique: Implications for Trade and Development Policy*. Research Report No. 34.
- Rose, Donald, Paul Strasberg, José Jaime Jeje, and David Tschirley. 1999. *Household Food Consumption in Mozambique: A Case Study in Three Northern Districts*. Research Report No. 33.
- Jeje, José Jaime, Clementina Machungu, Julie Howard, David Tschirley, Paul Strasberg, Eric Crawford, and Michael Weber. 1998. *What Makes Agricultural Intensification Profitable for Mozambican Smallholders? An Appraisal of the Inputs Subsector and the 1996/97 DNER/SG2000 Program. Volume II: Main Report*. Research Report No. 32.
- Howard, Julie, José Jaime Jeje, David Tschirley, Paul Strasberg, Eric Crawford, and Michael Weber. 1998. *What Makes Agricultural Intensification Profitable for Mozambican Smallholders? An Appraisal of the Inputs Subsector and the 1996/97 DNER/SG2000 Program. Volume I: Summary*. Research Report No. 31.
- Santos, Ana Paula, Anabela Mabote, Pedro Arlindo, Rafael Achicala, e Jean-Charles Le Vallée. 1998. *Séries Históricas dos Preços de Grão de Milho Branco e suas Tendências Reais em Alguns Mercados do País*. Relatório de Pesquisa No. 30P.
- Tschirley, David L. 1998. *Preparando para a Seca em Moçambique: Balanceando o Papel da Ajuda Alimentar e Mercados Alimentares*. Relatório de Pesquisa No. 29P (traduzido do Inglês).
- Tschirley, David L. 1998. *Planning for Drought in Mozambique: Balancing the Roles of Food Aid and Food Markets*. Research Report No. 29, April.
- Tschirley, David L. and Ana Paula Santos. 1998. *Desafios para Garantir a Concorrência e Reduzir os Custos no Sistema Alimentar de Moçambique*. Research Report No. 28P.

Examples of research reports published during earlier phases of the project include:

- MOA/MSU Research Team. 1997. *Micro and Small Enterprises in Central and Northern Mozambique: Results of a 1996 Survey*. Research Report No. 27.
- MAP/MSU Research Team. 1997. *Smallholder Cash-Cropping, Food-Cropping and Food Security in Northern Mozambique: Summary, Conclusions, and Policy Recommendations*. Working Paper No. 25.

- Departamento de Estatística e Projecto de Segurança Alimentar da Direcção de Economia Agrária Equipa de Pesquisa. 1995. *Diagnóstico da Estrutura, Comportamento e Desempenho dos Mercados Alimentares Rurais de Moçambique*. Working Paper No. 19P.
- MOA/MSU Equipa de Pesquisa. 1994. *Quem Come Milho Amarelo? Alguns Resultados Preliminares de um Inquérito sobre as Preferências do Consumidor de Farinha de Milho na Cidade de Maputo*. Working Paper No. 18P
- MOA/MSU Research Team. 1994. *Who Eats Yellow Maize? Some Preliminary Results of a Survey of Consumer Maize Preferences in Maputo*. Working Paper No. 18.
- MOA/MSU Equipa de Pesquisa . 1993. *Política de Preços d distribuição da ajuda alimentar de milho amarelo em Mocambique: Uma Análise de alternativas*. Working Paper No. 12P.
- MOA/MSU Research Team. 1993. *The Pricing and Distribution of Yellow Maize Food Aid in Mozambique: An Analysis of Alternatives*. Working Paper No. 12.
- MOA/MSU Equipa de Pesquisa. 1993. *Determinantes do Rendimento e Consumo Familiar nas Zonas Rurais da Província de Nampula: Implicações para a Segurança Alimentar e as Reformas de Política Agrária*.(Translated from English.) Working Paper No. 6P.
- MOA/MSU/UA Research Team. 1993. *The Determinants of Household Income and Consumption in Rural Nampula Province: Implications for Food Security and Agricultural Policy Reform*. Working Paper No. 6.

### **Theses**

- Arlindo, Pedro. 2001. *Forecasting Agricultural Prices in an Underdeveloped Open Economy: the Case of Maize in Mozambique*. M.S. thesis, Michigan State University.
- Santos, Ana Paula. 2000. *The Impact of Trade Liberalization on Maize Prices in Mozambique and Malawi*. M.S. thesis, Wye College.
- Mole, Paulo Nicua. 2000. *An Economic Analysis of Smallholder Cashew Development Opportunities and Linkages to Food Security in Mozambique's Northern Province of Nampula*. Ph.D. dissertation, Michigan State University.
- Benfica, Rui. 1998. *An Analysis of the Contribution of Micro- and Small Enterprises to Rural Household Income in Central and Northern Mozambique*. M.S. thesis, Michigan State University.
- Marrule, Higino. 1998. *Land-Poor in a 'Land-Abundant' Setting: Unraveling a Paradox in Mozambique*. M.S. thesis, Michigan State University.

Theses published during earlier phases of the project include:

- Strasberg, Paul. 1996. Smallholder Cash Cropping, Food Cropping and Food Security in Northern Mozambique. Ph.D. dissertation, Michigan State University.
- Donovan, Cynthia. 1996. The Effects of Monetized Yellow Maize Food Aid on Local Maize Prices in Mozambique. Ph.D. dissertation, Michigan State University.
- Dengo, Maria Nita. 1992. Household Expenditure Behavior and Consumption Growth Linkages in Rural Nampula Province, Mozambique. M.S. thesis, Michigan State University. PN-ABS-943

## **5.7 Presentations**

- July 2001. Massingue made a presentation on the Basic Concepts of Trade Liberalization, and Santos gave a talk entitled “Is the Liberalization of Maize Trade Advantageous for Mozambique?” at a seminar sponsored by DAP on Trade Liberalization and Implications of the Implementation of the SADC trade protocol.
- June 2001. Santos made a presentation on recent developments and opportunities for the agricultural economy of northern Mozambique at a joint public/private sector seminar held in Maputo on the new Pilot Provincial Market Information System in Nampula.
- June 2001. Arlindo made a presentation on new market information products at a joint public/private sector seminar held in Maputo on the new Pilot Provincial Market Information System in Nampula.
- June 2001. António made a presentation on the results of pre-harvest windshield surveys at a joint public/private sector seminar held in Maputo on the new Pilot Provincial Market Information System in Nampula.
- June 2001. Abdula made a presentation on world maize production and price trends at a joint public/private sector seminar held in Maputo on the new Pilot Provincial Market Information System in Nampula.
- June 2001. Arlindo made a presentation on market prospects for key crops grown in northern Mozambique at an INIA/UEM workshop in Morrumbala to develop a framework for joint private/public sector collaboration on research into crop diversification.
- May 2001. Low made a presentation, at the invitation of the International Potato Center, on Mozambique’s experience distributing orange-flesh sweet potatoes to combat vitamin A deficiency at a workshop in Nairobi held to launch a major initiative along the same lines throughout Eastern Africa.
- April 2001. Arlindo made a presentation on recent developments and opportunities for the agricultural economy of northern Mozambique at a workshop to launch the Pilot Market Information System in Nampula.

- April 2001. António made a presentation on the results of pre-harvest windshield surveys at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. Abdula made a presentation on world maize production and price trends at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. António made presentations on the international market outlook for cotton and sunflower at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. Donovan made a presentation on the historical behavior of maize prices in Mozambique at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. Arlindo made a presentation on new information products for the agricultural private sector at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. Abdula presented key results from the SIMA users survey at a workshop to launch the Pilot Market Information System in Nampula.
- April 2001. Weber made two presentations on the relationship between household income and land access in five African countries.
- April 2001. Marrule, Low, and Boughton made a presentation on the potential for increasing rural incomes through crop diversification and productivity improvement at the National Directorate of Economics meeting in Bilene, April 10-12.
- April 2001. Marrule made a presentation on the content of and approach to agricultural policy analysis at the National Directorate of Economics meeting in Bilene, April 10-12.
- April 2001. Arlindo made a presentation on the proposed Nampula pilot provincial market information service at the National Directorate of Economics meeting in Bilene, April 10-12.
- April 2001. Abdula made a presentation on the accomplishments of the Mozambican national market information system 1998 - 2000 at the National Directorate of Economics meeting in Bilene, April 10-12.
- March 2001. Abdula made a presentation on the organization of the Mozambican national market information system at the West African regional Market Outlook Conference held in Bamako, Mali.
- March 2001. Arlindo presented key results from the SIMA users survey and proposed activities for the Pilot Market Information System in Nampula province at the CLUSA association workshop held in Nampula, 26-31 March.

- March 2001. Low presented some observations from field visits to farmer's associations made in 2000 concerning increasing women's participation in association and development activities at a CLUSA workshop in Nampula.
- March 2001. Pitoro and Massingue presented a paper on Constraints to Seed Sector Development and Priorities for Investment at the National Seed Seminar in Bilene, Mozambique.
- February 2001. Marrule facilitated an IFPRI/UEM Vision 2020 one-day workshop held in Maputo to discuss priorities for food security research in Mozambique.
- January 2001. Boughton made a presentation on collaboration with MARD to build capacity for policy analysis at the USAID annual results review meeting.
- November 2000. Mole presented a paper on smallholder cashew development opportunities and linkages to food security at a seminar sponsored by the Economics Directorate and INCAJU for cashew sector participants.
- November 2000. Boughton made a presentation on overcoming constraints to seed sector development at a joint ICRISAT/MSU workshop on constraints to seed and fertilizer market development in Sub-Saharan Africa, held in Bulawayo, Zimbabwe, 27-29 November.
- October 2000. Low presented a case study of the introduction of pro-vitamin A rich sweet potatoes in Kenya at a half-day MARD workshop on integrating nutritional concerns into Agricultural Research and Extension Training. The presentation emphasized the importance of income generating activities and nutrition education as key factors for assuring sustained adoption of new varieties.
- October 2000. Howard presented cross-country experiences on the impact of input sector policy reforms on fertilizer use at a regional workshop sponsored by IFDC, and attended by senior staff from MARD, in Cape Town, South Africa.
- July 2000. Miguel presented the methodology for analyzing diet quality developed by Rose and Tschirley at the Food Security Seminar sponsored by the União Nacional de Camponeses (UNAC), held in Maputo, 21-22 July.
- July 2000. Massingue presented results from the 1998/99 analysis of maize profitability in Northern Mozambique at the Provincial MARD headquarters in Nampula.
- June 2000. Menezes presented the incorporation of environmental concerns within the year 2001 PROAGRI workplans to MARD's expanded council of directors.
- May 2000. Bingen, Howard, and Low made a presentation to the Vice Minister on the findings of their exploratory survey of farmer associations in Nampula and Zambezia provinces.

- February 2000. DAP and the Ministry of Plan and Finance sponsored a two half-day seminar held at CFA looking at the implications for the agricultural sector of the poverty study completed in 1998 and priority areas of action with agriculture to maximize poverty reduction. Over 50 participants from MARD, farmers organizations, and selected NGOs attended.
- February 2000. Boughton, Howard, and Mole presented a draft report on constraints to input sector development to the a government/private sector working group.
- February 2000. Boughton presented the role of MARD's policy analysis department and approach to capacity building at the USAID/Maputo annual results review meeting.
- December 1999. Marrule and Low made a presentation on the role of the state in the institutional reform process at a training workshop for MARD focal points in Maputo.
- October 1999. Mole made a presentation on "Strategies for Cash Crop Development, and Policy Implications: Experiences from Mozambique" to the International Sustainable Tree Crop Development Forum, Washington, D.C., jointly organized by the American Chocolate Industry and USAID.
- October 1999. Marrule took part in an evaluation of the World Bank rural development strategy for Mozambique in Maputo.
- October 1999. Marrule facilitated a working group on the revision of the logical framework for the forestry component of PROAGRI in Bilene.
- September 1999. Marrule facilitated a working group on indicators for monitoring and evaluation of PROAGRI in Pemba.
- August 1999. Marrule made a presentation on the linkage between PROAGRI components and food security at a national workshop on the development of provincial food security strategies in Maputo.
- July 1999. Monitorar a Qualidade da Dieta Moçambicana: Estudo de Caso Sobre Consumo Familiar de Alimentos. Rose presentation at a Food Security Seminar of the Secretariado Técnico de Segurança Alimentar e Nutrição, Maputo.
- July 1999. Chitará and Boughton made a joint presentation on the agricultural sector investment program and the role of agricultural policy at the first national seminar on the private sector in agriculture held in Chimoió.
- July 1999. Marrule made a presentation on growth opportunities for the rural sector for a post-graduate course jointly organized by Universidade Eduardo Mondlane and SADC.
- June 1999. Santos made a presentation on the impact of trade liberalization on producer prices for maize in northern Mozambique at the Agricultural Transformation in Africa conference, Nairobi, Kenya.

- June 1999. Jeje made a presentation on the potential for productivity increases in maize and cotton in northern Mozambique at the Agricultural Transformation in Africa conference, Nairobi, Kenya.
- June 1999. Boughton made a presentation on the nature and purpose of agricultural policy at a training of trainers workshop for MAP reform focal points, Maputo.
- April 1999. Rose and Marrule presented the Income Proxy methodology to USAID-funded NGOs, Maputo.
- March 1999. Jeje and Howard made a presentation to INIA and DNER staff on the profitability of fertilizer use on maize in northern Mozambique, and implications for research and extension strategies, Maputo.
- March 1999. Jeje and Howard made a presentation to Nampula Provincial Directorate of Agriculture and NGO staff on the profitability of fertilizer use on maize in northern Mozambique, and implications for research and extension strategies, Nampula.
- February 1999. Results from the Income Survey in the USAID Focus Area. Tschirley, Marrule, and Rose presentation at the USAID SO1 Partners Meeting, Maputo.
- October 1998. Rose and Jeje presented a paper on rural household food consumption in northern Mozambique, co-authored with Strasberg and Tschirley, at the Conferência de Segurança Alimentar e Nutrição, Maputo.
- October 1998. Marrule and Benfica presented an assessment of growth opportunities for the rural sector at the Conferência de Segurança Alimentar e Nutrição, Maputo.

## **6. Future Research and Policy Themes**

During the next six months the applied research and dialog will continue to focus on appropriate policy response to market failures in Mozambique's agricultural sector. The need to facilitate greater farmer access to improved seed for a wide range of crops has been identified as a strategic action in the 2002 PROAGRI workplans. For cash crops, DAP staff will continue to work with private and public sector stakeholders to identify policy and institutional mechanisms to: a) improve productivity and international competitiveness; and b) facilitate private sector provision of agricultural inputs to growers under contract.