

# Fact Sheet • STRATEGIC PLANNING STUDIES

▸ FOOD SECURITY II COOPERATIVE AGREEMENT—DEPARTMENT OF AGRICULTURAL ECONOMICS, MSU ◀

▸ ACTIVITY TIME PERIOD: OCTOBER 1, 1993 - SEPTEMBER 30, 1996 <sup>1</sup> ◀

## 1. Cooperating Institutions

Agency for International Development, Africa Bureau, Office of Sustainable Development, Productive Sectors, Growth and Environment Division, Technology Development and Transfer Unit (AFR/SD/PSGE/TDT)

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

Department of Agricultural Economics, Michigan State University (MSU)

### International/Regional Collaborating Institutions

Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)  
Institut du Sahel (INSAH)

Southern African Center for Cooperation in Agricultural Research and Training (SACCAR)

Special Program for Strengthening African Agricultural Research (SPAAR/World Bank)

CIMMYT Eastern Africa Regional Program

International Service for National Agricultural Research (ISNAR)

West Africa Rice Development Association (WARDA)

### USAID Missions and Host Country Collaborating Institutions

#### **Mali**

- Institut d'Economie Rurale, Programme Economie des Filières (IER/ECOFIL)
- Strengthening Research Planning and Research on Commodities Project (SPARC)
- USAID/Mali

#### **Ethiopia**

- Institute of Agricultural Research (IAR)

#### **Kenya**

- Kenya Agricultural Research Institute (KARI)

#### **Uganda**

- National Agricultural Research Organization (NARO)
- Uganda's Investment in Development Export Agriculture Project (IDEA)
- USAID/Uganda

#### **Tanzania**

- Ministry of Agriculture Department of Research and Training (DRT)
- USAID/Tanzania

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<sup>1</sup> Version of Fact Sheet: October 1996

**Zambia**

- Ministry of Agriculture, Food and Fisheries Department of Agriculture (Research Branch)
- University of Zambia
- USAID/Zambia

**Zimbabwe**

- University of Zimbabwe, Department of Agricultural Economics

**2. Researchers Involved**

**AFR/SD/PSGE/TDT:** Jeff Hill

**G/EG/AFS:** Ralph Cummings

**Host Country and MSU In-Country Researchers:**

- Mali:** Dr. Bino Témé (Director of Research); Ousmane Sanogo (Head ECOFIL); Bakary S. Coulibaly; and professional staff of the Commodity Subsector Economics Program of IER, and commodity specialists of IER
- Ethiopia:** Dr. Tadesse Gebre Medhin, General Manager, IAR; Mr. Tesfaye Zegaye, Head, Economics Unit, IAR
- Kenya:** Dr. A.N. Mbabu (Head Socio-Economics/KARI); Mr. Daniel Karanja, Mrs. Loise Wambugh, Mrs. Mercy Kamau, Mr. Daniel Kilambya, all of Socio-Economics/KARI
- Uganda:** Prof. J. Mukiibi, Director General, NARO; Dr. Dan Kisauzi, Head, Monitoring, Evaluation, and Planning Unit, NARO; Dr. Peter Ngategize, Head, Socio-Economics Unit, and professional staff of the Socio-Economics Unit, NARO; Dr. Denis Kyetere, Maize Program Coordinator, and professional staff of the Maize Program, NARO
- Tanzania:** Dr. Francis Shao, Commissioner, Research and Training, Ministry of Agriculture (DRT); Dr. George Sempeho, Head, Research Planning, Monitoring and Evaluation, and professional staff of the Research Planning, Monitoring and Evaluation Unit, DRT; Mr. T. N. Kirway, Assistant Commissioner, Farming Systems Research, and professional staff of the Farming Systems Research Unit, DRT; Dr. Z. Kanyeke, Rice Program Coordinator, and professional staff of the rice program, DRT
- Zambia:** Dr. K. Muniyinda, Assistant Director, Department of Agriculture (Research Branch), Ministry of Agriculture, Food and Fisheries (MAFF); Dr. C. Mungoma, Chief Agricultural Research Officer, MAFF; Sylvester Kalonge, Adaptive Research Planning Team Officer, MAFF; Prof. J. Milimo, Director, Rural Development Studies Bureau, University of Zambia (UNZA); George Chitalu, Research Associate, UNZA
- Zimbabwe:** Dr. Joseph Rusike and Prof. Mandi Rukuni, Dept. of Agricultural Economics, University of Zimbabwe
- SACCAR:** Dr. P. Anandajayasekeram (Impact Evaluation and Policy Analysis Advisor); Prof. Mandi Rukuni, Dept. of Agricultural Economics, University of Zimbabwe
- ASARECA:** Prof. G. Mrema (Executive Secretary); Prof. J. Mukiibi (Chairperson)

- INSAH:** Dr. Josué Dioné (PRISAS-INSAH) and researchers of the Sahel region participating in PRISAS programs; Dr. Touba Bedingar, Research Management Coordinator (PADRES)
- SPAAR:** Dr. Moctar Touré; Dr. Marie-Hélène Collion
- ISNAR:** Dr. Bradford Mills
- MSU:** (Campus Backstop) Richard Bernsten, Duncan Boughton, Eric Crawford, Julie Howard, Mywish Maredia, James Oehmke, Mandi Rukuni, James Shaffer, John Staatz, Michael Weber

### 3. Objectives

The Development Fund for Africa (DFA) has a target of stimulating greater agricultural technology development and utilization in Africa. As part of its focus on enhancing food access and income growth, the FS II Cooperative Agreement has a priority applied research theme of studying ways to design more cost-effective food systems, and related technologies and institutions. To help inform DFA and FS II objectives, the strategic planning research project focuses on: (1) contributing to the methodology and processes for identifying subsector constraints to improved performance, assess their importance, assess their tractability, and develop strategies to apply knowledge acquired in subsector analysis to reducing the constraints to improved food systems performance; (2) identifying technological and institutional innovations with the potential for a broad-based and sustainable impact on food system productivity; (3) strengthening the capacity of African researchers to organize and conduct research which results in technological and institutional innovations to improve the economic performance of food systems in Africa; and (4) increasing understanding of and capacity to promote agricultural transformation.

### 4. Approach

Three fully integrated **components** are used to accomplish the objectives of the strategic planning add-on: (1) development of improved methods and procedures for agricultural research planning to increase the effectiveness of agricultural research and integrate research into the broader process of agricultural sector development and economic growth; (2) design and implementation of joint research planning/analysis activities with national and regional research organizations in Africa to ensure that methods and procedures are internalized; and (3) design and implementation of complementary research on issues of strategic importance to our collaborators.

Activities within these components are guided by three interdependent **principles**: (1) focusing on strategic (high leverage) constraints and opportunities in the food system; (2) building human and organizational capacity for strategic agricultural research planning; and (3) emphasizing client involvement (at national, regional, and international levels) in order to build coalitions of support for agricultural research at national and international levels.

The specific approach to achieving the objectives includes the following: (1) developing materials to assist African researchers and administrators to understand and implement commodity systems strategic planning processes designed to improve food systems performance; (2) participating in the conduct of at least two African country studies of commodity subsectors and in the development of strategies to reduce the constraints to improved food system performance through technological and institutional innovation; and (3) participating in country-level and regional workshops and other outreach activities to: (a) provide information about methods and procedures for conducting and using subsector analysis and strategic planning to improve food system performance; and (b) bring researchers, administrators, and policy officials together to share knowledge and to develop cooperative relationships to deal with common problems.

## **5. Outputs**

### **5.1. Written Outputs on Strategic Planning/Subsector Analysis Topics**

Boughton, Duncan, Eric Crawford, Julie Howard, James Oehmke, James Shaffer, and John Staatz. 1996. *A Strategic Approach to Agricultural Research Program Planning in Sub-Saharan Africa*. MSU International Development Working Paper No. 49. East Lansing: Michigan State University.

Boughton, Duncan, Eric Crawford, Julie Howard, James Oehmke, James Shaffer, et John Staatz. 1996. *Une approche stratégique pour la planification de la recherche agricole en Afrique sub-saharienne*. MSU International Development Working Paper No. 49F. East Lansing: Michigan State University.

Boughton, Duncan, and Thomas Reardon. 1996. *Will Promotion of Coarse Grain Processing Turn the Tide for Traditional Cereals in the Sahel? Recent Empirical Evidence from Mali*. MSU Staff Paper No. 96-19. East Lansing: Michigan State University.

Boughton, Duncan, and Bino Témé. 1996. *Farming Systems and Markets-Combining Analytical Frameworks to Accelerate Technology Adoption: The Case of Maize in Southern Mali*. MSU Staff Paper No. 96-74. East Lansing: Michigan State University.

Dimithe, Georges, Bakary Sékou Coulibaly, Ousmane Sanogo, et Alpha Omar Kergna. 1996. *Etude sur la caractérisation et la compétitivité des systèmes rizicoles des bas-fonds du Mali-sud*. Bamako, Mali: Institut d'Economie Rurale. Paper presented at the Bas-Fond Rice Production Conference, March, Bouaké, Côte d'Ivoire.

Farrelly, Laura L. 1996. *Transforming Poultry Production and Marketing in Developing Countries: Lessons Learned with Implications for Sub-Saharan Africa*. MSU International Development Working Paper No. 63. East Lansing: Michigan State University.

Howard, Julie, and Catherine Mungoma. 1996. *Zambia's Stop-and-Go Revolution: the Impact of Policies and Organizations on the Development and Spread of Maize Technology*. MSU International Development Working Paper No. 61. East Lansing: Michigan State University.

Oehmke, James F., and Eric W. Crawford. 1996. The Impact of Agricultural Technology in sub-Saharan Africa. *Journal of African Economies* 5.2: 271-92.

Rukuni, Mandivamba. 1996. *A Framework for Crafting Demand-Driven National Agricultural Research Institutions in Southern Africa*. MSU Staff Paper No. 96-76. East Lansing: Michigan State University.

Sanogo, Ousmane. 1996. *Recherche filières et utilisation de la matrice de planification*. Document présenté à la Séminaire de PRISAS sur l'impact de la dévaluation du franc CFA sur les revenus et la sécurité alimentaire en Afrique de l'Ouest. Bamako, Mali: Institut d'Economie Rurale.

Gebre, Hagos, Daniel Molla, Thomas Jayne, and James Shaffer. 1995. *Designing Strategies to Support a Transformation of Agriculture in Ethiopia*. Paper presented at the Workshop on Agricultural Transformation in Africa, 26-29 September, Abidjan, Cote d'Ivoire.

Howard, Julie, Ali Said, Daniel Molla, Patrick Diskin, and Seifu Bogale. 1995. *Toward Increased Domestic Cereals Production in Ethiopia: Using a Commodity Systems Approach to Evaluate Strategic Constraints and Opportunities*. Food Security Research Project Working Paper No. 3. Addis Ababa: Ministry of Economic Development and Cooperation and Michigan State University.

Shaffer, James, and Simei Wei. 1995. The Transformation from Low Income Agricultural Economies. In *Agricultural Competitiveness: Market Forces and Policy Choice: Proceedings of the Twenty-Second International Conference of Agricultural Economists Held In Harare, Zimbabwe, 22-29 August 1994*, ed. G.H. Peters and Douglas D. Hedley. Hants, England and Brookfield, Vermont: Dartmouth Publishing Company.

Boughton, Duncan, and Ousmane Sanogo. 1994. *Analysis of Household Cereal Procurement in Bamako: Implications of the Devaluation of the FCFA for Urban Food Security*. Maize Subsector Study Information Note 5 (original version in French). Bamako, Mali: Institut d'Economie Rurale, Ministère du Développement Rural.

Boughton, Duncan, and James Shaffer. 1994. Summary Activity Report: Support to the IER Commodity Subsector Economics Program Design Workshop. Progress report on FS II activities in Mali in support of the ARTS/FARA/TDT-funded "Strategic Planning/Subsector Analysis" add-on. Department of Agricultural Economics, Michigan State University.

Boughton, Duncan, and John Staatz. 1994. Using the Commodity Subsector Approach to Design Agricultural Research: The Case of Maize in Mali. Poster Paper, 1994 meetings of the International Association of Agricultural Economists, August 22-29, Harare, Zimbabwe.

Boughton, Duncan, John M. Staatz, and James D. Shaffer. 1994. *Analyzing the Impact of Structural Adjustment on Commodity Subsectors: Currency Devaluation and the Maize Subsector in Mali*. MSU Staff Paper No. 94-71. East Lansing: Michigan State University.

Boughton, Duncan, John Staatz, and James Shaffer. 1994. *From Pilot Study to Commodity Subsector Economics Program: Institutionalizing a Market-Oriented Approach to Agricultural Research in Mali*. Paper presented at USAID (Africa Bureau ARTS/FARA/TDT) Seminar on Strengthening Linkages Between Demand and Supply of Agricultural Technology in Africa, 21 June, Michigan State University.

Coulibaly, Bakary S., and Bino Témé. 1994. *Evolution du programme économie des filières de l'IER: une contribution à la planification stratégique de la recherche agricole*. Paper presented at the Regionalization of Agricultural Research in West Africa workshop, 14-18 March, Banjul.

Dibley, David, Duncan Boughton, and Thomas Reardon. 1994. *Processing and Preparation Costs for Rice and Coarse Grains in Urban Mali: Subjecting an Ipse Dixit to Empirical Scrutiny*. MSU Staff Paper 94-34. East Lansing: Michigan State University.

Howard, Julie. 1994. *Zambia Case Study*. Paper prepared for the Mini-Symposium "Assessment of Agricultural Research Impacts and Research Priority Setting in Africa," 1994 Meetings of the International Association of Agricultural Economists, Harare, Zimbabwe.

Howard, Julie. 1994. *Improved Maize in Zambia: A Qualified Success Story*. Paper accepted for the Organized Symposium "Recent Technological Successes in Sub-Saharan Africa," 1994 Annual Meeting of the American Agricultural Economics Association, San Diego, California.

Kupfuma, Bernard, Duncan Boughton, Thomas Jayne, and James Shaffer. 1994. *Agricultural Technology Development and Policy Change in Zimbabwe: A Proposal for Ex-Ante Impact Assessment*. East Lansing: Michigan State University. Mimeo.

Staatz, John M. 1994. *The Strategic Role of Food and Agricultural Systems in Fighting Hunger Through Fostering Sustainable Economic Growth*. Paper presented at the workshop on "The Silent Challenge of Hunger," sponsored by USAID, Global Bureau, Office of Agriculture and Food Security, 28-29 June, Washington, D.C.

### **Forthcoming Publications**

Boughton, Duncan, Marie-Hélène Collion, Oumar Niangado, and Touba Bedingar. Forthcoming. *Status and Impacts of Strategic Agricultural Research Planning in West Africa*. MSU International Development Working Paper. East Lansing: Michigan State University.

Boughton, Duncan, and Bino Témé. Forthcoming. *Farming Systems and Markets: Combining Analytical Frameworks for Development of Commodity Subsectors: The Case of Maize in Southern Mali*. *Journal of Farming Systems Research and Extension*.

Boughton, Duncan, J. Tefft, J. Dioné, and A. Chohin. Forthcoming. *Guide méthodologique pour l'analyse de l'impact des politiques sur les filières agricoles et alimentaires*. Bamako, Mali: PRISAS/INSAH.

Boughton, Duncan, Bino Témé, Ousmane Sanogo, John Staatz, Thomas Reardon, and Eric Crawford. Forthcoming. *Development Strategies for Maize in Mali: Using a Commodity Subsector Perspective to Increase the Impact of Agricultural Research and Development*. MSU International Development Working Paper. East Lansing: Michigan State University.

Dimithe, Georges, Richard Bernsten, Bakary Sékou Coulibaly, and Alpha O. Kergna. Forthcoming. *Yield Determinants and Factor Productivity in Mali-Sud Bas-Fond Rice Production*. MSU/IER/WARDA Joint Research Project.

Dimithe, Georges, Richard Bernsten, Bakary Sékou Coulibaly, and Dramane Mariko. Forthcoming. *A Comparative Economic Analysis of Mali-Sud Bas-Fond Rice Production and Selected Intensive Irrigated Systems in the Office du Niger*. MSU/IER/WARDA Joint Research Project.

Dimithe, Georges, Richard Bernsten, Bakary Sékou Coulibaly, and Ousmane Sanogo. Forthcoming. *The Importance of Bas-Fond Rice Production in Mali: A Rapid Appraisal Subsector Analysis*. MSU/IER/WARDA Joint Research Project.

Dimithe, Georges, Richard Bernsten, Bakary Sékou Coulibaly, and Ousmane Sanogo. Forthcoming. *Socioeconomic Characteristics of Mali-Sud Bas-Fond Rice Production*. MSU/IER/WARDA Joint Research Project.

Gebre, Hagos, Daniel Molla, Thomas Jayne, and James Shaffer. Forthcoming. *Designing Strategies to Support a Transformation of Agriculture in Ethiopia*. Food Security Research Project Working Paper. Addis Ababa: Ministry of Economic Development and Cooperation and Michigan State University.

Howard, Julie, and Daniel Karanja. Forthcoming. *Status and Impacts of Strategic Agricultural Research Planning in East Africa*. MSU International Development Working Paper. East Lansing: Michigan State University.

Howard, Julie and Catherine Mungoma. Forthcoming. *Zambia's Stop-and-Go Maize Revolution: The Impact of Policies and Organizations on the Development and Spread of Maize Technology*. In *Africa's Emerging Maize Revolution*, ed. Derek Byerlee and Carl K. Eicher.

Howard, Julie A., Lawrence Rubey and Eric W. Crawford. Forthcoming. *Technology plus Technology Environment: Lessons from Fading Success with Maize in Southern Africa*. MSU International Development Working Paper. East Lansing: Michigan State University.

Kajisa, Kei, Mywish Maredia and Duncan Boughton. Forthcoming. *Transformation vs. Stagnation in the Oil Palm Industry: A Comparison Between Malaysia and Nigeria*. MSU Staff Paper. East Lansing: Michigan State University.

Maredia, Mywish, Duncan Boughton, Julie Howard, Daniel Karanja, Marie-Hélène Collion, Oumar Niangado, and Touba Bedingar. Forthcoming. *No Shortcuts to Progress: Case Studies of the Status and Impact of Strategic Agricultural Research Planning in Africa*. MSU International Development Working Paper. East Lansing: Michigan State University.

Maredia, Mywish, Julie Howard, Duncan Boughton with Anwar Naseem, Maria Wanzala, and Kei Kajisa. Forthcoming. *Constraints, Opportunities and Strategies for Increasing Seed Sector Efficiency in Africa: A Literature Review*. MSU International Development Working Paper. East Lansing: Michigan State University.

Maredia, Mywish, Julie Howard, Laura Farrelly, Kei Kajisa, Larry Rubey, Duncan Boughton, James Oehmke, and James Shaffer. Forthcoming. *Technology Frontiers and Agricultural Transformation in Sub-Saharan Africa: Concepts and Empirical Evidence*. Draft MSU International Development Working Paper. East Lansing: Michigan State University.

Rukuni, Mandivamba. 1996. *A Critical Review of Regional Agricultural Research Approaches in Southern Africa*. Draft MSU Staff Paper. East Lansing: Michigan State University.

Rusike, Joseph, Mywish Maredia, and Julie Howard. Forthcoming. *A Comparative Analysis of the Impact of Seed Organizational Structure on Smallholder Access to Improved Seed: Case Studies from Zimbabwe and Zambia*. MSU International Development Working Paper. East Lansing: Michigan State University.

## **5.2. Oral Presentations—Strategic Planning/Subsector Analysis Topics**

Maredia contributed paper presentation. 1996. Efficiency of Wheat Improvement Research: A Comparative Analysis of National and International Research Systems in Developing Countries, at the conference on Global Agricultural Science Policy for the Twenty-First Century, August 26-28, Melbourne.

Oehmke contributed paper presentation. 1996. A Dynamic Analysis of Wheat Research and Rate of Return, at the conference on Global Agricultural Science Policy for the Twenty-First Century, August 26-28, Melbourne.

Oehmke presentation of contributed paper by R. Myers and T. Jayne. 1996. Regime Shifts and Technology Diffusion in Crop Yield Growth Paths: An Application to Maize Yields in Zimbabwe, at the conference on Global Agricultural Science Policy for the Twenty-First Century, August 26-28, Melbourne.

Rukuni seminar for World Bank/USAID on a framework for crafting demand-driven national and regional agricultural research systems in Southern Africa, July 2, 1996, Washington, D.C.

Rukuni seminar for MSU Dept. of Agricultural Economics on demand-driven national and regional agricultural research systems in Southern Africa, June 27, 1996, East Lansing, Michigan.

Boughton presentation of methodological guide for commodity subsector analysis at PRISAS workshop, June 1996, Bamako, Mali.

Howard invited presentation. 1996. Successful Maize Technology Development and Dissemination: Lessons from Southern Africa, for ASARECA Maize and Wheat Prioritization Workshop, June 10, Nairobi, Kenya.

Howard presentation. 1996. Status and Impacts of Strategic Research Planning in Eastern Africa, for USAID/Tanzania, June 7, Dar es Salaam, Tanzania.

Howard presentation. 1996. Status and Impacts of Strategic Research Planning in Eastern Africa, for USAID/Uganda and the Investment in Developing Export Agriculture Project, May 31, Kampala, Uganda.

Boughton seminar. 1996. Practical Aspects of Undertaking Agricultural Research Impact Assessment Studies, for ECOFIL program (IER) May 5, Bamako, Mali.

Boughton presentation. 1996. Impact de la dévaluation du franc CFA sur les revenus et la sécurité alimentaire en Afrique de l'Ouest, to PRISAS/INSAH workshop A Conceptual Framework for Analyzing the Impact of Devaluation on Investment, Productivity and Competitiveness, April 22-25, Bamako, Mali.

Dimithe presentation. 1996. Etude sur la caractérisation et la compétitivité des systèmes rizicoles des bas-fonds du Mali-sud, at the conference, Bas-Fond Rice Production, March, Bouaké, Côte d'Ivoire.

Howard participation as resource person in Seeds of Hope II Workshop, March 6-8, 1996, Entebbe, Uganda.

Howard presentation. 1996. Objectives, Workplan and Status of the MSU/ISNAR/KARI Program-Level Priority-Setting Activity, to USAID/Uganda, February 28, Kampala, Uganda.

Howard participation in SPAAR Plenary, February 7-10, 1996, Kampala, Uganda.

Rukuni presentation on regional agricultural research approaches in southern Africa at SPAAR Plenary, February 7-10, 1996, Kampala, Uganda.

Rukuni seminar on institutional reforms in Zimbabwean agriculture at Virginia Polytechnic Institute and State University, January 22, 1996.

Oehmke participation as resource person for Workshop on Impact Assessment in Agricultural Research, September 1995, Egerton College, Kenya.

Boughton presentation to USAID-funded Natural Resource Management inter-CRSP workshop, Strategic Agricultural Research Planning-An Overview, August 10-11, 1995, Washington, D.C.

Kelly presentation to USAID-funded Natural Resource Management inter-CRSP workshop, Proposal for Economic Analysis of Fertilizer and NRM Technologies, August 10-11, 1995, Washington, D.C.

Howard invited paper. 1995. Factors Affecting Development and Adoption of New Maize Varieties in Zambia, at the International Workshop on Maize in Africa, July, East Lansing, Michigan.

Boughton presentation on the linkages between technology, investment, productivity and competitiveness at the INSAH/PRISAS devaluation workshop, June 26-30, 1995, Bamako.

Howard presentation. 1995. Toward Increased Domestic Cereals Production in Ethiopia: Using a Commodity Systems Approach to Evaluate Strategic Constraints and Opportunities, at the MSU/MEDAC Food Security Research Project Workshop, June.

Maredia invited paper presentation. 1995. Assessment of the Potential and Actual International Transfer of Wheat Varietal Technology, at the World Bank Workshop on Easing Barriers to Movement of Plant Varieties for Agricultural Development, June 12-13, Washington, D.C.

Boughton presentation on the implications of urban household cereal consumption patterns for policies to promote coarse grain processing and utilization to the Programme de Restructuration du Marché Céréalière, February 1995, Bamako (Mali).

Boughton presentation on planning agricultural research in a food systems framework at the IER Commodity Subsector Economics research program design workshop, February 1995, Segou (Mali).

Staatz presentation on livestock research in Africa at the IER Commodity Subsector Economics research program design workshop, February 1995, Segou (Mali).

Howard presentation. 1995. A Strategic Approach to Agricultural Research Program Planning in sub-Saharan Africa, at the TDT Collaborators' Workshop, January, Harare, Zimbabwe.

Kelly presentations on agricultural growth linkages and raising farm productivity in Africa, at the TDT Collaborators' Workshop, January 1995, Harare, Zimbabwe.

Oehmke presentation on increasing the contribution of technology to economic growth and sustainable use of natural resources, at the TDT Collaborators' Workshop, January 1995, Harare, Zimbabwe.

Boughton presentation on the use of a commodity subsector framework to analyze the impact of devaluation on the demand for technology, at the African Studies Association meetings, November 1994, Toronto.

Staatz presentation on the impact of technology development in West Africa, at the African Studies Association meetings, November 1994, Toronto.

Howard seminar on lessons from the Zambia Maize Impact Study for strategic planning of agricultural research, to the Ministry of Agriculture, Food and Fisheries, September 15, 1994, Lusaka, Zambia.

Boughton presentation on a commodity subsector approach to ex-post and ex-ante assessment of agricultural research impact using the case of maize in Mali, at the 23rd International Association of Agricultural Economists meetings, August 1994, Harare.

Howard invited presentation on Zambia's experience with improved maize development for the organized symposium Recent Technological Successes in Sub-Saharan Agriculture, at the 1994 Annual Meetings of the American Agricultural Economics Association, August 1994, San Diego.

Howard presentation of the impact of maize research in Zambia, at the 23rd International Association of Agricultural Economist meetings, August 1994, Harare.

Shaffer presentation on agricultural transformation in China and implications for Africa, at the 23rd International Association of Agricultural Economists meetings, August 1994, Harare.

Boughton, Oehmke, and Shaffer presentations at Africa Bureau seminar on strengthening linkages between demand and supply of agricultural technology in Africa, June 1994, Washington, D.C.

Staatz presentation on the strategic role of food and agricultural systems in fighting hunger through sustainable economic growth, to USAID (G/ED/AFS), Washington, D.C., June 1994.

Shaffer and Weber presentations on subsector approach to strategic planning to Kenya Agricultural Research Institute researchers and to USAID office of Agricultural officials, April 4-14, 1994, Nairobi, Kenya.

Howard invited seminar on the impact of policies on returns to agricultural research in Zambia, for the Department of Agricultural Economics, March 1994, University of Helsinki.

Oehmke presentations on methodological issues in impact assessment, returns to MSU training of West African Scientists, and the Zambia and Malawi research impact studies, at the SACCAR Training Workshop, March 1994, Harare, Zimbabwe.

Oehmke presentations on the Malawi and Zambia research impact studies, at the SACCAR Impact Assessment Awareness Seminar, February 1994, Lilongwe, Malawi.

Boughton presentation to USAID/Bamako on the potential impact of devaluation on urban consumption patterns and potential donor responses, January 1994, Bamako, Mali.

Boughton and Sanogo presentation to the Technical Committee of the Mali Cereals Market Restructuring Program (PRMC) on the potential impact of devaluation on urban consumption patterns, January 1994, Bamako, Mali.

Shaffer and Boughton presentations to IER researchers during Subsector Economics Workshop, December 1993, Mali.

Boughton and Staatz presentations on subsector approach, at PRISAS workshop, November 1993, Bamako, Mali.

Shaffer presentation to DSA officials/researchers on the ARTS/FARA/TDT strategic planning/subsector research project, October 1993.

Oehmke presentation on the achievements of African agricultural technology development and transfer, at the SPAAR/World Bank Seminar, July 1993, Washington, D.C.

### **5.3. Short-Term Training**

In August 1996, senior researchers from the Socio-Economics Unit of the Kenyan Agricultural Research Institute (KARI), MSU (Howard and Crawford), and ISNAR planned and implemented an ASARECA-sponsored regional workshop on experiences and options for priority-setting in NARS.

In May 1996, Dramane Mariko, a researcher from IER's commodity subsector economics program, participated in a Geographic Information Systems (GIS) training program organized by REDSO/West Africa.

In February 1995, senior researchers from IER's commodity subsector economics program and MSU researchers (Staatz and Boughton) planned and implemented an interdisciplinary workshop that brought together staff from planning units, commodity and farming systems researchers, to design a commodity subsector economics research program.

In December 1993, researchers from the Malian national research organization (IER), working in the Commodity Subsector Economics Program, and MSU researchers (Shaffer and Boughton) planned and implemented a workshop for research program heads and extension counterparts on strategic planning in a subsector framework.

#### **5.4. Long Term Training**

Duncan Boughton completed a Ph.D. degree in Agricultural Economics at MSU, with a dissertation on a commodity subsector approach to the design of agricultural research, focusing on maize in Mali.

Georges Dimithe, a Cameroonian Ph.D. candidate in the Department of Agricultural Economics at MSU, is carrying out dissertation research in collaboration with IER in Mali. The study focuses on the potential for productivity increases in Mali's inland valley rice subsector.

Laura Farrelly completed a Master's degree in Agricultural Economics at MSU with a paper on lessons for agricultural transformation in Africa's poultry subsector from other developing regions (Latin America, India, South-east Asia).

Julie Howard completed a Ph.D. degree in Agricultural Economics at MSU with a dissertation on the economic impact of improved maize varieties in Zambia, including the role and consequences of policy on research impact.

#### **5.5. MSU Backstop Trips**

**ASARECA:** August 1996 (Howard and Crawford), May/June 1996 (Howard), February 1996 (Howard), October 1995 (Oehmke and Howard), September 1995 (Oehmke)

**Côte d'Ivoire:** November 1993 (Oehmke)

**Ethiopia:** October 1995 (Howard), June 1995 (Howard), April-May 1995 (Howard)

<b>Ghana:</b>	July 1995 (Boughton), November 1993 (Oehmke)
<b>INSAH:</b>	April/May 1996 (Boughton), February 1996 (Boughton), July 1995 (Boughton to Chad with Touba Bedingar), June 1995 (Boughton to Mali for PRISAS devaluation workshop), April 1995 (Boughton to Cape Verde and Guinea Bissau with Touba Bedingar)
<b>Kenya:</b>	August 1996 (Howard and Crawford), May/June 1996 (Howard), November 1995 (Boughton), October 1995 (Howard), April 1994 (Shaffer and Weber), November 1993 (Oehmke)
<b>Mali:</b>	September 1995 (Bernsten), June 1995 (Boughton), February 1995 (Boughton and Staatz), January 1994 (Boughton), December 1993 (Boughton and Shaffer)
<b>Rwanda:</b>	April 1994 (Shaffer and Weber), October 1993 (Shaffer)
<b>Tanzania:</b>	May/June 1996 (Howard), April 1995 (Howard)
<b>Uganda:</b>	May 1996 (Howard), October 1995 (Howard), April 1995 (Howard), November 1993 (Oehmke)
<b>Zambia:</b>	September 1994 (Howard), November 1993 (Oehmke)

## 5.6. Key Findings and Examples of Impact

**A Strategic Approach to Agricultural Research Program Planning in Sub-Saharan Africa.** This paper provides the conceptual framework for all strategic planning field activities, and has been presented at several conferences and workshops. It outlines a process for designing agricultural research as a strategic input with three distinctive characteristics: (1) a *vision* that recognizes the link between research and agricultural transformation; (2) a *strategy* that ensures consistency and complementarity between technological change and improvements in institutions and policies necessary to foster greater integration and exchange within the economy; and (3) *tactics*, the development of feasible action plans that brings together research clients and stakeholders. The paper also introduces the food system matrix and subsector analysis as tools for analyzing the food system. These tools recognize the central role of markets and effective demand in motivating innovation in the food system, and the importance of interactions between different components or stages in the food system.

**West Africa.** In West Africa, Boughton, in collaboration with Staatz, Shaffer, IER, INSAH and PRISAS researchers, led activities at both national and regional levels that improved awareness of the importance of a commodity system approach to research planning and strengthened capacity to carry out planning. At the *national* level, activities in Mali built on a

decade of collaboration between FS and IER, and field work began immediately. IER scientists who participated in the Commodity Subsector Economics workshop held in December 1993 made significant progress in working out, among researchers of different disciplines, more cooperative relationships and methods for approaching practical problems facing various commodity subsectors in Mali. More effective cooperation among scientists to diagnose and research priority problems in commodity subsectors is expected to yield a high payoff. In February 1995, IER's first national commodity subsector economics research program was designed to conduct research on input and output marketing problems to complement technical and farming systems research.

Through earlier FS I project work, and continuing through the Strategic Planning and PRISAS add-on studies to the FS II Cooperative Agreement, there is a building momentum and consensus in the Sahel *region* for agricultural research to be more demand-driven and market/client-oriented, and more accountable for its impact. Examples of this come from PRISAS input into the INSAH/SPAAR framework for action in revitalizing agricultural research in the Sahel, and from FS II promotion among Sahelian researchers participating in the PRISAS network of the subsector approach in commodity research. In a 1995 workshop, PRISAS researchers adopted a commodity subsector framework for examining issues of investment and productivity as part of the devaluation activity. The Strategic Planning and PRISAS add-ons collaborated in developing a methods guide that was presented at the June 1996 workshop.

Collaboration with INSAH's new research management activity has focused on the problems of smaller national agricultural research systems among the CILSS member countries. Although the main impact of this work will be through its contribution to the larger synthesis of the status and impacts of strategic agricultural research planning in Africa (described below), there have already been concrete impacts at the national level. For example:

- in *Cape Verde*, the president of the national research organization (INIDA) agreed to give careful attention to international considerations during the upcoming strategic planning activity funded by USAID under the WARD project. Hitherto, strategic planning had been conceived solely in domestic terms even though Cape Verde has only 60,000 hectares of arable land, totally insufficient to justify research activities beyond phytosanitary inspection. If regional research interests in which Cape Verde has a potential comparative advantage are taken into account (e.g., soil conservation research, vegetable seed breeding and multiplication), regional funding sources could be increasingly tapped. The INSAH/MSU mission convinced the local FAO representative to seek funding to help INPA identify and address regional research concerns.
- in *Guinea Bissau*, the importance of long-term human capital development and infrastructure rationalization were addressed. Research managers from the national research organization (INPA) recognized that existing programs are unrealistic given present personnel resources and the collapse of other public sector agricultural services. There was agreement on the need, at least in the near term, for a less ambitious program

focused on understanding farmer needs and the identification of potential technologies that could be easily transferred within the farming community. The need to reduce the number and identify more logistically cost-effective research sites was also agreed. As a practical follow-up to the mission, upgraded statistical analysis software in English and Spanish has been provided to INPA.

- in *Chad*, very significant progress was made toward building a coalition to finalize and implement the 1993 long-term national research plan. Although adopted by the government, implementation was stalled after the World Bank, which funded the plan, changed its mind about building a national research system and opted instead for an extension project with a small participatory research component. This is in sharp contrast to World Bank project activities in all the other large CILSS member countries, and the INSAH/SPAAR Sahel framework for action. Following high-level meetings that gained strong backing from the Minister of Plan, it was agreed that INSAH would help organize a national forum in November to bring together NARS stakeholders and donors. This forum will make concrete recommendations for action to the CNRST (national council for scientific and technical research).

**East Africa.** Since 1995, Howard, Oehmke, Crawford and Boughton have worked closely with the new Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) to deepen understanding of the critical relationship between technology and policy innovation in the region, and to develop and implement activities to strengthen strategic research planning and policy analysis capacity in member NARS.

- Oehmke acted as a resource person at the ASARECA working group meetings on policy research planning held in August 1995 at the Kenya Agricultural Research Institute (KARI) headquarters, and helped draft the preliminary proposal from the working group to ASARECA for an *Eastern and Central Africa Program for Agricultural Policy Analysis (ECAPAPA)*. This proposal was discussed at a consultative workshop held in October 1995 at KARI headquarters. Oehmke helped plan this workshop, and Oehmke and Howard acted as resource persons. The workshop endorsed strategic planning as a key component of the policy analysis program, and sectoral constraint analysis as the primary tool for informing strategic planning and determining policy research priorities. ECAPAPA was subsequently discussed at meetings of the ASARECA Committee of Directors in February and September 1996, and an integrated ASARECA policy analysis and strategic planning project is under preparation for implementation October 1996 - September 1998.
- Howard and Boughton developed a *collaborative regional research planning and priority setting activity with KARI and ISNAR* in November/December 1995. The proposal was accepted for sponsorship by ASARECA in January 1996, and invitations were accepted by Ethiopia, Tanzania and Uganda. The activity was conceived as a pilot program with three phases: (1) *Planning and Assessment*, during which each participating country's experience, and existing and desired capacity for research planning would be assessed, and

facilitators would assist country researchers to begin building an institutional structure and information base for research planning in one pilot program area; (2) *Program-Level Field Studies*, in which one program-level field study would be carried out in each participating country; and (3) *Dissemination, Validation of Results and Forward Planning*, during which the results of the program-level field studies would be presented to stakeholder groups for validation, and action plans would be formulated for carrying out planning and assessment in other program areas.

- A *KARI/ISNAR/MSU workshop on experiences and options for priority setting in NARS*, held in Nairobi in August 1996, marked the end of Phase 1 activities. (Implementation of Phases 2 and 3 depends on the development of proposals by the individual countries in their chosen program areas, approval of the proposals by ASARECA, and the availability of funds from donor agencies.) The objectives of the workshop were (a) to provide a forum for ASARECA member NARS to synthesize their experiences with institute and program-level priority-setting and technology assessment; (b) to examine the process and methods developed by KARI/ISNAR and other NARS in commodity program planning; and (c) to develop country-specific frameworks and action plans for a priority-setting/technology assessment study in a focus program area.

Key findings and issues raised in the workshop included (a) frustration among NARS researchers over the lack of consensus on a “correct” method of priority-setting (facilitators stressed that methods depended on the resources available in the individual NARS, and perceived strengths and weaknesses of the existing priority-setting process); (b) concerns about the human and financial costs of priority-setting; (c) questions about how best to incorporate smallholder farmer views in the priority-setting process; (d) what to do about the poor quality of agricultural data that serve as a base for priority-setting; (e) the need for more guidance on how to translate general criteria for agricultural sector performance into meaningful indicators for agricultural research performance; and (f) the continuing confusion over the role of socioeconomic research in NARS. Although there is increasing recognition by biophysical researchers of important constraints that impede technology transfer, problems such as input delivery and product marketing systems are still not commonly viewed as potentially researchable issues by biophysical researchers, even when socioeconomists are available to help address them.

**Complementary research.** Maredia, Boughton, Howard, Oehmke and other FS faculty collaborators carried out research on three major themes identified by clients of the strategic planning add-on, including AID/AFR/SD/TDT, World Bank/SPAAR, and NARS. A combination of literature review and case studies were used in each research theme to balance conceptual development with empirical verification.

- *Strategic Planning Status and Impacts.* Working papers on the current status and impacts of strategic planning for NARS were prepared in response to a request from Drs. Jeff Hill and Moctar Touré (Executive Secretary of SPAAR/World Bank). Coordinated by Maredia, the papers critically evaluate the experience with strategic research planning for

a limited number of NARS in sub-Saharan Africa. They assess the current status of strategic planning and impacts to date, identify constraints to institutionalization, and draw implications for the design of activities to improve strategic research program planning. The papers complement and extend the work initiated by Dunstan Spencer et al. for the SPAAR plenary meeting in 1995, which focused mainly on Mali and Tanzania. The work also drew on the experience of Professor Mandi Rukuni from the Department of Agricultural Economics, University of Zimbabwe, who distilled the experience of Southern Africa in institutional strengthening at national and regional level for technology development and transfer while on sabbatical leave at MSU.

The overview and country case studies indicate that while significant progress has been made by African countries in agricultural research planning and priority setting, implementation and institutionalization of these research planning exercises remain very weak. The over-dependence of NARS on donor support, underdeveloped internal constituencies, and lack of commitment to agriculture by donors and government despite the emphasis on research plan documents all raise questions about the sustainability and relevance of these exercises.

Several issues need to be stressed in research planning. First, the fundamental objective for research planning exercises should be to increase agricultural research productivity, which requires high-quality, motivated human capital, and timely access to resources. Despite the completion of research masterplans, many NARS still face problems of low salaries and dismal conditions of service for their researchers, continued shortages of operational funds, and lack of donor commitment to consolidated funding mechanisms. Second, the realization of potential benefits from effective planning will depend on the relevance of research to client-identified agricultural problems, career incentives for researchers, regular evaluation and peer review, and problem-focused program plans. Third, research planning must bring about changes in resource allocation to enable a tight focus on problems and opportunities of economic importance.

- *Technology Frontiers.* These papers demonstrate, conceptually and empirically, the potential contribution of agricultural technology to agricultural transformation (the technology frontier); examine the current status of African countries in relation to the technology frontier, in selected stages of the food system; and use commodity case studies to understand the prospects for productivity gains through technological change in the transformation process. Case studies examine poultry production and marketing in developing countries, the oil palm industry in Malaysia and Nigeria, and hybrid maize adoption and spread in southern Africa. Maredia will present the conceptual framework and key findings from this research theme at the USAID/AFR/SD/PSGE “Conference on Commercialization and Transfer of Agricultural Technology for Africa,” November 4-7, 1996, in Accra, Ghana.

Main conclusions/findings include: (a) closing the technology gap and shifting the technology frontier further is a continuous process of generating new technologies,

providing an enabling technology environment and coordinating the system-wide production-distribution-consumption sequence; (b) technical innovations at all stages of the food system have been an important source of productivity gains; (c) productivity gains from technical innovations were made possible by simultaneous improvements in the technology environment and coordination between different stages of the food system; and (d) minimizing risks and uncertainties arising from natural and market forces is an important key to successful transformation of a sector.

- *Constraints and Opportunities in Increasing Smallholder Access to Improved Seed and Fertilizer.* As an extension of the technology frontiers theme, Strategic Planning add-on team members are collaborating with the AFR/SD/PSGE/FSP funded Productivity Studies to address constraints to improved effectiveness in agricultural input subsectors. These studies recognize that sustained increases in agricultural productivity can only be realized if there is effective demand for productivity enhancing innovations. Effective demand will depend on access to improved technology, and efficient input and output marketing systems. The objectives of these ongoing studies are (1) to identify major issues surrounding improved soil fertility, fertilizer use and seed in Africa, and issues that need further research; (2) to examine the constraints to increased smallholder use of seed and fertilizer in case study countries (Zimbabwe and Zambia); and (3) to identify the potential for cost reduction and improved smallholder access to fertilizer and improved seed in the case study countries. In December 1996, Rusike will conduct a mini-seminar in Harare on the results of his seed and fertilizer case study for donors, government officials, seed and fertilizer company representatives and farmer organizations.