

Fact Sheet • FOOD ACCESS SYNTHESIS STUDIES

• FOOD SECURITY II COOPERATIVE AGREEMENT •
between
▶ U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT and MICHIGAN STATE UNIVERSITY ◀
▶ TIME PERIOD: OCTOBER 1992 - AUGUST 30, 1997¹ ◀

1. Cooperating Institutions

Agency for International Development, Africa Bureau, Office of Sustainable Development, Productive Sectors, Growth and Environment Division, Food Security and Productivity Unit (AFR/SD/PSGE/FSP)

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

Department of Agricultural Economics, Michigan State University (MSU)

2. Researchers Involved

AFR/SD/PSGE/FSP: George Gardner

G/EG/FSA: Dr. Ralph Cummings

African Collaborators: Munhamo Chisvo (University of Zimbabwe, Zimbabwe); Mulinge Mukumbu, Gem Argwings-Kodhek, and Wilson Nguyo (Egerton University, Kenya); Julia Tagwireyi (Ministry of Health, Government of Zimbabwe); Tobias Takavarasha (Ministry of Agriculture, Government of Zimbabwe); Augustine Zvinvashe (University of Zimbabwe); Bereket Kebede, Makonen Tadesse, and Mulet Demeke (Addis Ababa University); and other African collaborators to be identified

MSU Researchers: Julie Howard, Thomas Jayne, Valerie Kelly, Thomas Reardon, James Shaffer, John Staatz, David Tschirley, Michael Weber, Kim Aldridge, Josué Dioné, Paul Strasberg, Julie Stepanek, Maria Wanzala and other MSU researchers to be identified

3. Objective of the Research

Development Fund For Africa (DFA) Target 3.4 calls for evaluating strategies to enhance food security among vulnerable groups in Africa. The FS II Cooperative Agreement has a related priority applied research theme of studying ways to improve food access, especially through actions which stimulate income growth. To help inform DFA and FS II objectives, the cross-country synthesis conducts research on (1) enhancing food access by the poor through market-oriented strategies; (2) promoting

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access to food in rural areas through market reform strategies that facilitate beneficial changes in crop mix and technology use; (3) identifying appropriate short-run and long-run strategies for dealing with environmental shocks and supply variability, to enhance disaster relief while promoting longer-run agricultural development objectives; (4) enhancing the ability of disaster relief efforts to promote long-run development objectives; and (5) strengthening African capacity to study food security issues.

4. Research Approach

Synthesize policy-relevant research findings and implications from work sponsored by the MSU-based Food Security Cooperative Agreements, and from others, on the causes of inadequate access to food and strategies to overcome them. Conduct statistical analyses of market-level data to assess trends in real food prices for vulnerable groups and their determinants. Conduct statistical analyses of household-level data to assess the effectiveness of selected market-based and administered targeting programs in various countries. Conduct selected household surveys designed to assess market-based approaches to target vulnerable groups and promote their access to food.

5. Outputs to Date

5.1. Oral Presentations to African Researchers and Policy Makers

Argwings-Kodhek, Gem. "Relief Through Development," Research Results of 1996 Food Access Paper presented at the Egerton University Policy Analysis Matrix Project Conference, Nairobi, Kenya, September 1996.

Kebede, Bereket, and T.S. Jayne. "Food Consumption Patterns in Urban Ethiopia: Implications for Targeting Vulnerable Groups." Presentation and discussion of Food Access research results to Ethiopian government officials, NGO and donor representatives at USAID/Ethiopia, 7 May 1996.

Jayne, T.S., and Gem Argwings-Kodhek. "Food Pricing and Marketing Policy in Eastern and Southern Africa." Presentation and discussion of Food Access Research Report to Kenyan Government Officials, and donor and NGO representatives at USAID/Kenya, 2 February 1996.

Jayne, T.S., and Share Jiriyengwa. "Maize Marketing and Pricing Issues in Eastern and Southern Africa." Paper presented at the Workshop on "Africa's Emerging Maize Revolution," Kellogg Center, Michigan State University, 9-12 July, 1995.

Rubey, Lawrence, Richard Ward and David Tschirley. 1995. "Incorporating Consumer Preferences into the Design of Maize Technology Development Strategies." Paper presented at

a workshop on "The Emerging Maize Revolution in Africa," Kellogg Center, Michigan State University, 9-12 July 1995.

Molla, Daniel and T.S. Jayne. "Strategies to Enhance Access to Food by Vulnerable Groups: Implications for Food Policy in Ethiopia." Presentation at the First Workshop of the Ministry of Planning and Economic Development/MSU Food Security Research Project, Addis Ababa, Ethiopia, June 28, 1995.

Mukumbu, Mulinge. 1995. "Consumer and Milling Industry Response to Maize Market Reform in Kenya," paper presented at the Conference on Market Reforms, Agricultural Production, and Food Security, Nairobi, Kenya, KMDP/Policy Analysis Matrix Project, June 23, 1995.

Jayne, T.S. and Tobias Takavarasha. "Policy Harmonization and Regional Agricultural Trade Issues in Southern Africa." Invited paper presentation at the Annual Meetings of the Agricultural Economics Association of South Africa, September 1994. Reporting on policy findings partially funded by research under ARTS/FARA/PSGE.

International mini-symposium: Biennial meetings of the International Association of Agricultural Economists (IAAE) August 1994 in Harare. Organizers were Peter Hazell (IFPRI), Carl Liedholm (MSU Economics) and Thomas Reardon; "Potential for Increasing Rural Non-Farm Income and Employment in Africa." Eight papers presented. Dissemination of Food Security II access work on non-farm employment, income diversification, and linkages, in Sahel (Burkina Faso and Senegal, perhaps in Mali) and in Rwanda.

Mukumbu, Mulinge and T.S. Jayne. 1994. "Urban Maize Meal Consumption Patterns: Strategies for Improving Food Access for Vulnerable Households in Kenya," selected paper presented at the Symposium on Agricultural Policies and Food Security in East Africa, East African Association of Agricultural Economists, May 1994.

Rubey, Lawrence. 1994. Results of paper entitled "Consumer Preferences and Self-Targeting Opportunities to Promote Access to Food Among Vulnerable Groups in Zimbabwe" presented at a seminar held at the University of Zimbabwe and attended by USAID staff, Grain Marketing Board officials and university researchers, May 1994.

Jayne, T.S. Invited presentation to African National Congress conference on maize market reform and food access, Johannesburg, South Africa, April 1994.

Jayne, T.S. "Food Marketing Reform and Structural Adjustment in Africa." Plenary address, Conference on Structural Adjustment and Poverty, Cornell Food and Nutrition Policy Program/USAID, Accra, Ghana, March 1994.

Rubey, Lawrence. 1994. Results of paper entitled "Consumer Preferences and Self-Targeting Opportunities to Promote Access to Food Among Vulnerable Groups in Zimbabwe" presented and discussed at a seminar at the Ministry of Lands, Agriculture and Water Development attended by several senior Ministry staff, March 1994.

Takavarasha, Tobias and T.S. Jayne. "Uses of Micro-Level Survey Data to Inform Food Security Policy in Africa." Invited paper, Conference on Structural Adjustment and Poverty, Cornell Food and Nutrition Policy Program/USAID, Accra, Ghana, March 1994. Presentation of food access findings and policy implications funded by ARTS/FARA/FSP.

Presentation of market reform and food access issues, based on funding by ART/FARA/FSP, at the Cornell-sponsored Conference on Food and Nutrition Policy in Sub-Saharan Africa, Accra, Ghana, March 1994.

Reardon, T. "Income Diversification in the WASAT, and Implications for Food Security and Natural Resource Management." (Presented by Josué Dioné on behalf of Reardon as he was unable to attend) at CIRAD/FAO conference on sustainable agriculture in the Sudano-Sahelian region, Dakar, 1994, January 11-14.

Policy recommendations from research in Zimbabwe (partially funded by ARTS/FARA/FSP) were discussed during 3-day policy retreat attended by T. Jayne and senior officials of Government of Zimbabwe, May 1993. Several important policy recommendations were adopted by the GOZ in June 1993.

Institut du Sahel/CILSS, Mali (Seminar presentation by Thomas Reardon, November 1992: "Role and Determinants of Income Diversification in the Sahel: Illustration from Burkina") (Food Access and PRISAS activity).

Reardon, T., A. Fall, V. Kelly, C. Delgado, P. Matlon, and O. Badiane. "Is Income Diversification 'Agriculture-Led' in the WASAT? Survey Evidence and Development Strategy Implications." Presentation at the International Conference on African Economic Issues. Sponsored by the West African Economic Association and the Economic Association of East and Southern Africa, and the World Bank, in Abidjan, Côte d'Ivoire, 11-16 October 1992. Collaboration with ISRA (Senegal), IFPRI, and WARDA.

5.2. Oral Presentations to AID/Washington and USAIDs

September 1996: "The Strategic Role of Food and Agricultural Systems in Fighting Hunger Through Fostering Sustainable Economic Growth." Presentation by J. Staatz at USAID Seminar on "Africa's Future: Hunger or Prosperity?" organized jointly by AFR/SD, Global Bureau, and BHR, Washington, D.C.

June 1996: "Improving Food Access to Poor and Vulnerable Groups." Presentation by J. Staatz to U.S. - Canadian Forum for the World Food Summit, organized jointly by the U.S. and Canadian governments and held at MSU, East Lansing, Michigan.

February 1996: "Food Pricing and Marketing Policy in Eastern and Southern Africa." Presentation and discussion of Food Access Research Report to Kenyan Government Officials, and donor and NGO representatives by T.S. Jayne, and Gem Argwings-Kodhek. at USAID/Kenya.

February 1996: "Food Marketing and Pricing Policy in Eastern and Southern Africa." Presentation of Food Access research results by T. Jayne and M. Weber at USAID/AFR/PSGE Collaborators Workshop, Rosslyn, VA.

March 1995: Planning and program meeting between G. Gardner, B. D'Silva of ARTS/FARA/PSGE and MSU faculty at Michigan State University.

February 1994: Presentation on "Consumer Preferences and Food Market Reform: Implications for Food Security in East and Southern Africa," presented by T.S. Jayne, Mulinge Mukumbu, and Munhamo Chisvo at USAID/Washington Food Access seminar.

December 1993: Collaborators workshop at USAID/Washington. Presentations made by Weber, Jayne, and Tschirley on ongoing food access research and findings.

October 1993: Planning and progress meeting between G. Gardner, B. D'Silva, and T. Olson of ARTS/FARA/FSP and MSU faculty at Michigan State University.

June 1993: Collaborators workshop at USAID/Washington. Presentations made by Weber, Jayne and Tschirley on ongoing food access research and findings.

April 1993: Collaborators workshop at USAID/Washington. Presentations made by Weber, Jayne, and Tschirley on ongoing food access research and findings.

October 1992: Planning and progress meeting between G. Gardner, M. Lowdermilk and B. D'Silva of ARTS/FARA/FSP and MSU faculty at Michigan State University.

5.3. Oral Presentations to Other Food Security Research and Policy Groups

“Africa’s Emerging Maize Revolution,” World Food Day Week Special. Round table discussion with MSU Faculty. T.S. Jayne presented results of Food Access research results, African Studies Center, MSU, October 17, 1996.

T.S. Jayne presented Food Access paper “Estimating Consumer Response to Market Reform Using Stated Preference Data,” Allied Social Sciences Association/American Association of Agricultural Economists Annual Conference, San Francisco, CA, January 5, 1996.

Jayne, T.S. 1995. "Researcher-Decisionmaker Interactions in the Research Process: Food Market Reform in Zimbabwe," presentation at the Organized Symposium on "Policy Entrepreneurship: Generating and Delivering Agricultural Economics Research in the Policy Process," American Agricultural Economics Association Annual Meeting, August 7, 1995, Indianapolis, IN.

Mukumbu, Mulinge, and T.S. Jayne. “The Invention of Tradition Revisited: Maize Meal Consumption Patterns in Eastern and Southern Africa.” Presentation of Food Access research results at African Studies Center Seminar, Michigan State University, March 18, 1994.

Principal Paper Session at the August 1994 American Agricultural Economists Association Annual Meetings in San Diego; organizers are Peter Hazell (IFPRI) and Thomas Reardon (Michigan State University) on behalf of the International Committee of the AAEA; Title of session: Promoting Farm – Nonfarm Growth Synergies in Rural Africa; Paper Titles: (1) Promoting intersectoral growth linkages through agricultural technology and policy reform in Africa (Hazell and Delgado); (2) On-farm linkages between agriculture and non-agriculture in Africa: growth and risk management considerations (Reardon, Savadogo, Kelly, Crawford); (3) Rural microenterprise employment growth in Africa: is there a missing agricultural link?

Reardon, T. "Income Diversification and Food Security in the Sahel." Invited presentation at FEWS/Tulane in New Orleans, March 4, 1994.

Reardon, T., and J. E. Taylor. "Agro-Climatic Heterogeneity, Income Diversification, and Inequality in Rural Burkina Faso." Select Paper written as FS II Food Access activity, presented at AAEA 1993 Meetings. Abstract. *American Journal of Agricultural Economics*, December 1993. Collaboration with University of California at Davis.

Staatz, J., T. Jayne, D. Tschirley, J. Shaffer, J. Dioné, J. Oehmke, and M. Weber. "Restructuring Food Systems to Support a Transformation of Agriculture in Sub-Saharan Africa." Paper presented at the 1993 AAEA Pre-Conference Workshop at Orlando, Florida, July 30-31, 1993, "Post-Green Revolution Agricultural Development Strategies in the Third World: What Next?"

Reardon, T. at Michigan State University, Dept. of Agricultural Economics, Departmental Seminar Series, March 25, 1993, "Agro-Climatic Heterogeneity, Income Diversification and Inequality in Rural Burkina Faso."

OECD/Development Center, France (Invited presentation by Thomas Reardon, income diversification in West Africa), February 1993 (Food Access Activity).

University of Hohenheim, Germany (Invited presentation by Thomas Reardon, Policy and development strategy implications of income diversification in West Africa), January 1993 (Food Access Activity).

Center for Advanced Studies in International Development (CASID), Michigan State University, 1st Special Seminar, presentation by Thomas Reardon, October 29, 1992, "Income Diversification in the West African Semi-Arid Tropics (WASAT): Policy and Development Strategy Implications."

5.4. Collaborative Research Activities with African Researchers

Gem Argwings-Kodhek, Research Fellow, Egerton University/Kenya Market Development Programme/Policy Analysis Matrix Project. PSGE funding was used to support analysis of food prices and household food security resulting from grain market reform in Kenya. October 1995 - October 1996. Mini-sabbatic at MSU, May 1996.

Kebede, Bereket, Lecturer, Addis Ababa University. PSGE support to Bereket's mini-sabbatical to MSU to work on Food Access report on "Urban Consumption Patterns in Urban Ethiopia: Implications for Ensuring Access to Food for Vulnerable Groups," January-February 1996.

Mulinge Mukumbu, Research Fellow, Egerton University/Kenya Market Development Programme/Policy Analysis Matrix Project. FSP funding was used to support Mukumbu's mini-sabbatical research on food access issues at MSU, January-February 1995.

Munhamo Chisvo, Research Fellow, University of Zimbabwe. FSP funding was used to support Chisvo's mini-sabbatical research on food access issues at MSU, February-March 1994.

Mulinge Mukumbu, Research Fellow, Egerton University/Kenya Market Development Programme/Policy Analysis Matrix Project. FSP funding was used to support Mukumbu's mini-sabbatical research on food access issues at MSU, February 1994.

Kapola Sipula, Acting Director, Rural Development Studies Bureau, University of Zambia. FSP funding was used to support collaborative research between Sipula and MSU on food access issues in Zambia, January-February 1994.

Collaborative policy analysis research between FS II researchers and Government of Zimbabwe analysts at Ministry of Lands, Agriculture and Water Development/Government of Zimbabwe, November 1992-May 1993.

5.5. MSU Backstop Trips to African Research Sites

November, 1996, T.S. Jayne: one week in Nairobi, Kenya, collaborating with Africa associates in outreach activities connected with Food Access add-on.

August, 1996, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on.

May, 1996, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on.

February, 1996, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on.

October 1995, M.T. Weber and L. Farrelly: one week in Mali collaborating with INSAH/PRISAS staff in organizing and conducting a Mali Study Tour. Ten Mozambicans from the Ministry of Agriculture and Fishing, and from the Cotton Subsector, along with 5 Ethiopians (3 from the Ministry of Economic Development and Cooperation, 1 from the Ethiopian Grain Trading Enterprise and 1 from the Emergency Food Security Reserve Administration) participated during October 1995 in this Mali Study Tour. This activity arranged an organized study visit to Mali to learn about Malian experiences of market information/reform and commodity subsector (and research) reorganization, especially in a key cash crop (cotton) subsector and related food crop subsectors. These are areas of significant positive development in Mali and insights about how they were accomplished are of timely importance to current challenges and opportunities for change in the food system in Ethiopia and Mozambique. Fifty percent of the participants from Mozambique were funded by the MAP/MSU Food Security Project and fifty percent were funded by the World Bank country office in Maputo. The Ethiopian participants were funded by the MEDAC/MSU Grain Marketing Research Project.

September 1995, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on.

June 1995, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on.

March-April 1994, T.S. Jayne: one week in Nairobi, Kenya, collaborating with African associates in outreach activities connected with Food Access add-on; one week in South Africa, presentation on food access issues at African National Congress Agricultural Policy Meeting.

January 1994, Patrick Diskin: two weeks in Lusaka, Zambia, working with researchers from the University of Zambia Research Bureau on a household survey of urban consumers to assess the potential to promote food access by vulnerable groups through improved market operations in Zambia. Also worked on a report for ARTS/FARA assessing the strengths and limitations of strategies taken in Zambia to mitigate food insecurity in response to the 1992/93 drought.

November 1993, T.S. Jayne: one week in Nairobi, Kenya, working with researchers from Egerton University on a report for ARTS/FARA/FSP on the potential for market-based reforms to promote food access by vulnerable groups in Kenya.

August 1993, T.S. Jayne: one week in Nairobi, Kenya, working with researchers from Egerton University on a household survey of urban consumers to assess the potential for market-based reforms to promote food access by vulnerable groups in Kenya.

May 1993, T.S. Jayne: one week in Lusaka, Zambia, working on report on the strengths and limitations of strategies taken in Zambia to mitigate food insecurity in response to the 1992/93 drought.

May 1993, T.S. Jayne: one week in Nairobi, Kenya, working with researchers from Egerton University on food access issues in Kenya.

April 1993, T.S. Jayne: one week in Harare, Zimbabwe, on retreat with officials of the Government of Zimbabwe to discuss agricultural policy reforms implemented in July 1993.

5.6. Supplemental Field Surveys Undertaken in Africa

Kenya: Household survey of 539 consumers in Nairobi to assess the potential for market-based reforms to promote access to food for vulnerable groups in Kenya, conducted October-December 1995.

Zimbabwe: Household survey of 460 urban consumers in Harare to assess the potential for market-based reforms to promote access to food for vulnerable groups in Zimbabwe, January-February 1994.

Zambia: Household survey of 150 Lusaka consumers to assess the potential for market-based reforms to promote food access by vulnerable groups in Zambia, conducted January 1994.

Kenya: Household survey of 350 consumers in Nairobi to assess the potential for market-based reforms to promote access to food for vulnerable groups in Kenya, conducted September-October 1993.

Zimbabwe: Rapid appraisal household and miller surveys in Harare, Zimbabwe, 1992.

The above surveys were designed to be consistent with parallel surveys undertaken in Zimbabwe and Mozambique, funded under FS II.

5.7. Written Output on Food Access Topics

- **Reports for Host Country Agencies, USAIDs and AID/Washington**

Argwings-Kodhek, Gem, and T.S. Jayne, 1996. "Relief Through Development: Maize Market Liberalization in Urban Kenya." Report to USAID and FS II Cooperative Agreement, Dept. of Agricultural Economics, Michigan State University, East Lansing, Michigan.

Jayne, T.S., Lawrence Rubey, Frank Lupi, David Tschirley, and Michael Weber, 1996. "Estimating Consumer Response to Food Market Reform Using Stated Preference Data: Evidence from Eastern and Southern Africa." In *American Journal of Agricultural Economics*, August.

Jayne, T.S., Lawrence Rubey, Munhamo Chisvo and Michael T. Weber, 1996. "Zimbabwe Food Security Success Story: Maize Market Reforms Improve Access to Food Even While Government Eliminates Food Subsidies." Policy Synthesis Report No. 18 for USAID and FS II Cooperative Agreement, Dept. of Agricultural Economics, Michigan State University, East Lansing, Michigan.

Jayne, T.S., and Stephen Jones, 1996. "Food Marketing and Pricing in Eastern and Southern Africa: Lessons for Increasing Agricultural Productivity and Access to Food." Policy Synthesis Report No. 12 for USAID and FS II Cooperative Agreement, Dept. of Agricultural Economics, Michigan State University, East Lansing, Michigan.

Jayne, T.S., and Stephen Jones, 1996. "Food Marketing and Pricing Policy in Eastern and Southern Africa: Lessons for Increasing Agricultural Productivity and Access to Food." MSU International Development Working Paper No. 56.

Molla, Daniel, Hagos Gebre, T.S. Jayne and James Shaffer, 1996. "Designing Strategies to Support a Transformation of Agriculture in Ethiopia." Paper presented as part of the Structural Transformation in Africa Workshop, Abidjan, Côte d'Ivoire.

Jayne, T.S., Lawrence Rubey, David Tschirley, Mulinge Mukumbu, Munhamo Chisvo, Ana Paula Santos, Michael T. Weber, and Patrick Diskin, 1995. "Effects of Market Reform on Access to Food by Low-Income Households: Evidence from Four Countries in Eastern and Southern Africa." Policy Synthesis Report No. 5 for USAID and FS II Cooperative Agreement, Dept. of Agricultural Economics, MSU, East Lansing, Michigan.

Jayne, T.S., Milan Hajek, and Johan Van Zyl, 1995. "An Analysis of Alternative Maize Marketing Policies in South Africa." MSU International Development Paper No. 50.

Jayne, T.S., Frank Lupi, and Mulinge Mukumbu, 1995. "Effects of Food Subsidy Elimination in Kenya: An Analysis Using Revealed and Stated Preference Data." MSU Staff Paper No. 95-23 (March).

Jayne, T.S., Mulinge Mukumbu, John Duncan, Mattias Lundberg, Kim Aldridge, Francis Keita, Abdel Kader Sanankoua, John Staatz, and Daniel Molla, 1995. "Trends and Determinants of Real Food Price Changes in Africa," Report to USAID/AFR/SD/PSGE under the 1995 Access add-on. Also MSU Working Paper No. 55.

Jayne, T.S. and Daniel Molla, 1995. "Toward a Research Agenda to Promote Access to Food by Vulnerable Groups Through Food Transfer Arrangements and Food Markets." MSU Food Security Research Project Working Paper, June 1995.

Jayne, T.S., L. Rubey, D. Tschirley, M. Mukumbu, M. Chisvo, A.P. Santos, M.T. Weber, and P. Diskin, 1995. "Effects of Market Reform on Access to Food by Low-Income Households: Evidence from Four Countries in Eastern and Southern Africa." MSU International Development Working Paper No. 19.

Jayne, T.S., D. Tschirley, L. Rubey, T. Reardon, J. M. Staatz, and M. Weber, 1995. "Confronting the Silent Challenge of Hunger: A Conference Synthesis." MSU International Development Working Paper No. 51.

Rubey, Lawrence, T.S. Jayne and Munhamo Chisvo, 1995. "Market-Oriented Strategies for Promoting Household Access to Food: The Case of Zimbabwe." International Development Working Paper (draft), Department of Agricultural Economics, MSU, East Lansing, Michigan.

Rubey, Lawrence, T.S. Jayne, and Munhamo Chisvo, 1995. "Strategies to Promote Access to Food Among Vulnerable Groups in Zimbabwe." Report for AID/AFR/SD/PSGE under Food Access add-on.

Diskin, Patrick, 1994. "Understanding Linkages among Food Availability, Access, Consumption, and Nutrition in Africa: Empirical Findings and Issues from the Literature." MSU International Development Working Paper No. 46 (July).

Jayne, T.S., T. Takavarasha, and Johan van Zyl, 1994. "Interactions Between Food Market Reform and Regional Trade in Zimbabwe and South Africa: Implications for Food Security." MSU International Development Paper No. 48.

Jayne, T.S., David L. Tschirley, John M. Staatz, James D. Shaffer, Michael T. Weber, Munhamo Chisvo, and Mulinge Mukumbu, 1994. "Market-Oriented Strategies to Improve Household Access to Food: Experience from Sub-Saharan Africa." MSU International Development Paper No. 15.

Lundberg, Mattias and Patrick Diskin, 1994. "Targeting Assistance to the Poor and Food Insecure: A Review of the Literature." MSU International Working Paper No. 47 (July).

Mukumbu, Mulinge and T.S. Jayne, 1994. "Urban Maize Meal Consumption Patterns: Strategies for Improving Food Access for Vulnerable Households in Kenya," in *Proceedings of the Symposium on Agricultural Policies and Food Security in East Africa*, East African Association of Agricultural Economists, May 1994.

Mukumbu, Mulinge and T.S. Jayne, 1994. "Urban Maize Meal Consumption Patterns: Strategies for Improving Food Access to Vulnerable Groups in Kenya." Egerton University-Tegemeo Institute of Agricultural Policy and Development, Working Paper No. 1.

Tagwireyi, Julia, T.S. Jayne and Mungai Lenneiye, "Nutrition-Relevant Actions in Zimbabwe: 1980-92," United Nations Report, Administrative Committee on Coordination--Subcommittee on Nutrition, Geneva, prepared in collaboration with the International Food Policy Research Institute, 1994.

Takavarasha, Tobias, and T.S. Jayne. 1994. "Uses of Micro-Level Data and Analysis in Support of Food Market Reform: The Case of Maize in Zimbabwe." Paper presented at the Conference on "Adjustment and Poverty in Sub-Saharan Africa." March 18-20, 1994, Accra, Ghana.

Jayne, T.S. and M. Rukuni. 1993. "The Costs of Food Self-Sufficiency: Maize Pricing and Trade Policy in Zimbabwe." *Agricultural Economics Analysis and Rural Development* 3.2, 1993.

Rubey, Lawrence, 1993. "Consumer Maize Meal Preferences in Zimbabwe: Survey Results and Policy Implications." A Final Report prepared for Ministry of Lands, Agriculture and Water Development, and USAID/Harare (December).

Tschirley, David, Cynthia Donovan, Rui Benfica, Michael Weber, and Paul Strasberg, 1993. "The Pricing and Distribution of Yellow Maize Food Aid in Mozambique: An Analysis of Alternatives." MSU Staff Paper No. 93-69 (September).

- **Outreach Documents for Food Security Research and Policy Community**

Staatz, J., T. Jayne, D. Tschirley, J. Shaffer, J. Dioné, J. Oehmke, and M. Weber, "Restructuring Food Systems to Support a Transformation of Agriculture in Sub-Saharan Africa." In Delgado, Colyer, and Rosegrant (eds.) *Post-Green Revolution Agricultural Development Strategies in the Third World: What Next?* Forthcoming 1996, Johns Hopkins University Press.

Lundberg, Mattias and Patrick Diskin, 1995. "Targeting Assistance to the Poor and Food Insecure: A Literature Review." USAID/SD Publication Series, Office of Sustainable Development Bureau for Africa, Technical Paper No. 9, May.

Mukumbu, Mulinge and T.S. Jayne, 1995. "Urban Maize Meal Consumption Patterns: Strategies for Improving Food Access for Vulnerable Urban Households in Kenya." USAID/SD Publication Series, Office of Sustainable Development Bureau for Africa, Technical Paper No. 8, May.

Takavarasha, T., T.S. Jayne, and Johan van Zyl, "Interactions Between Food Market Reform and Regional Trade in Zimbabwe and South Africa: Implications for Food Security," *Agrekon*, December 1994.

Reardon, Thomas and J. Edward Taylor, 1994. "Agroclimatic Shock, Income Inequality, and Poverty: Evidence from Burkina Faso." MSU Staff Paper No. 94-27 (May).

Kennedy, E. and T. Reardon. "Shift to Non-traditional Grains in the Diets of East and West Africa: Role of Women's Opportunity Cost of Time in Prepared-Food Consumption." *Food Policy* (February 1994). Collaboration with IFPRI.

Tschirley, David, and Michael Weber. "Food Security Strategies under Extremely Adverse Conditions: The Determinants of Household Income and Consumption in Rural Mozambique." *World Development*, Vol.77, No. 2, February 1994.

Jayne, T.S. "Do High Food Marketing Costs Constrain Cash Crop Production?" *Economic Development and Cultural Change*, Vol. 42, No. 2 (January 1994): 387-402.

Jayne, T.S., M. Chisvo and M. Rukuni. "Zimbabwe's Food Insecurity Paradox." In Carl Eicher and Mandivamba Rukuni (eds.), *Zimbabwe's Agricultural Revolution*, University of Zimbabwe Press, 1994.

Jayne, T.S. and M. Rukuni. "Managing Zimbabwe's Food Economy in the 1990s." In Carl Eicher and Mandivamba Rukuni (eds.), *Zimbabwe's Agricultural Revolution*, University of Zimbabwe Press, 1994.

Tschirley, D., C. Donovan, and M. Weber. "Food Aid, Food Markets, and Food Security: Lessons from Mozambique." Submitted to *Food Policy*, 1994.

Reardon, T., A. Fall, V. Kelly, C. Delgado, P. Matlon, and O. Badiane. "Agriculture-Led Income Diversification in the West African Semi-Arid Tropics: Nature, Distribution, and Importance of Production-Linkage Activities." In A. Atsain, S. Wangwe, and A.G. Drabek (eds.) *African Economic Issues*, manuscript October 1993.

Jayne, T.S. and E. Nuppenau. "Maize Market Reform in Zimbabwe." *Food Policy*, Vol. 18, No. 4 (August 1993): 308-315.

Jayne, T.S. and M. Rukuni. "Distributional Effects of Maize Self Sufficiency in Zimbabwe: Implications for Pricing and Trade Policy." *Food Policy*, Vol. 18, No. 4 (August 1993): 334-341.

Jayne, T.S. and Lawrence Rubey. "Maize Milling, Market Reform and Urban Food Security: The Case of Zimbabwe." *World Development*, Vol. 21, No. 6 (June 1993): 975-988.

Jayne, T.S. and Munhamo Chisvo. "Unraveling Zimbabwe's food insecurity paradox: Implications for grain market reform in Southern Africa." *Food Policy*, August 1991, pp. 319-330.

6. Overview of Ongoing Research

Food access research activities to date have included a) developing a conceptual framework for analyzing the relationship between the performance of exchange systems for inputs, factors and commodities and household access to food in Africa, b) an assessment of the cost-effectiveness of alternative forms of targeting food to vulnerable groups in Africa, c) synthesizing cross-country evidence on the performance of administered mechanisms to promote access to food, d) synthesizing cross-country evidence on the performance of market-based strategies to promote access to food, and e) assessing the linkages between food production, availability, consumption and nutrition, and the factors reducing their correlation.

Key findings highlight a) the extensive failure of food, input and factor markets, and the need to alleviate these market failures to promote productivity growth and access to food in the long run, b) policy barriers that impede household access to food, c) the potential to improve household access to food by restructuring the market to better articulate the preferences of low-income consumers, d) the advantages and cost-effectiveness of self-targeting mechanisms to promote access to food relative to

administered forms of targeting (under specified conditions), and e) the variety of factors (e.g., sanitary conditions, water supply, health delivery system, sectoral and macro policies, and methodological research problems) that affect the correspondence between food production, availability, consumption and nutrition.

7. Examples of Impact of Project Findings/Information

a) A.I.D.-Supported Research on Food Security Helps Raise Household Incomes and Reduce Government Deficits in Zimbabwe

Over the past 8 years, USAID-funded research under the MSU/University of Zimbabwe Food Security Project has led to (a) 10% to 25% higher cash incomes for at least 200,000 low-income rural consumers; (b) cost savings on staple maize meal equal to 7%-13% of household income for 100,000 low-income urban consumers; and (c) a reduction in government treasury losses equal to 2% of the country's GDP. A more detailed chronology of Food Security Project research, interaction with Zimbabwean policy makers, government policy changes, and their effects are as follows:

In 1989/90, research under the MSU/UZ Food Security Project estimated the adverse impacts of maize movement controls on rural household incomes and food insecurity in Zimbabwe. This project was funded by R&D and Africa Bureau in conjunction with the USAID Southern Africa Regional Office in Harare. It was implemented by staff in the Department of Agricultural Economics and Extension at the University of Zimbabwe (UZ) and at Michigan State University (MSU). Project findings were incorporated into the Agricultural Ministry's recommendations to Cabinet in early 1992. In June 1992, the Government of Zimbabwe (GOZ) adopted these recommendations, specifically the abolition of movement controls between smallholder areas in the country. This policy change reduced intra-rural grain marketing costs, *ceteris paribus*, therefore raising average prices received by producers and lowering prices paid by consumers. Jayne and Chisvo (1991) estimated that this policy change, under normal weather, increases the real disposable incomes of rural consumers by up to 25%.

The Agricultural Ministry commissioned a report by the UZ/MSU Project in 1991 to study possible changes to the grain marketing system for inclusion in its recommendations to Cabinet. Among the changes recommended by the report were (a) allow grain to be sold at collection points (i.e., temporary marketing board depots in rural areas), which were previously used only to buy grain and transport it on to urban depots; and (b) allow licensed private traders to sell grain to consumers (licensed traders were previously required to forward all grain bought from farmers to urban depots). Both of these recommendations were adopted by the Government of Zimbabwe in 1992. Government reports confirm that several of these collection points were instrumental in ensuring access to food for rural consumers during the 1992 drought.

PARTS-funded research, extending previous analysis in Zimbabwe under Food Security I, established that maize stocks at Grain Marketing Board depots were not being made available for

purchase by small-scale buyers (i.e., households and informal traders). Large-scale millers' preferential access to government-held maize artificially inflated consumer food prices and exacerbated food insecurity, by impeding the development of small-scale indigenous millers that produce a less expensive and more nutritious form of maize meal, the staple food of Zimbabweans. In response to this research and dissemination by Zimbabwean collaborators, the Government of Zimbabwe, in 1993, has opened its maize stocks to all buyers, and has made deliberate efforts to promote the development of small-scale millers. President Mugabe's call, in June 1993, for analysis of policy options to expand the role of small-scale mills was motivated largely by results of PARTS-funded research by MSU (Jayne, Rukuni, Hajek, Sithole, and Mudimu, 1991).

MSU research commissioned by the Agricultural Ministry in 1992 (partially funded by ARTS/FARA) estimated that the budget losses arising from subsidies on maize meal and marketing board activities were over 2% of the country's GDP. UZ/MSU research also indicated that these subsidies were untargeted and unnecessary if less-costly straight run meal were made more accessible to low income urban households through the development of the small-scale milling sector. FS II recommendations to eliminate the subsidy on refined maize meal was adopted by the Government in June 1993. This move provided an annual saving to the treasury of over 2% of the GOZ's GDP.

PARTS-funded research, also extending previous findings under FS I, indicated that elimination of controls on maize movement into urban areas would substantially increase access to, and affordability of, maize by small millers and low-income urban households. This recommendation was incorporated into the Ministry of Land's Agricultural Policy Strategy for 1993. In August 1993, this recommendation was adopted, specifically the abolition of controls on maize movement into urban areas. The reforms, based largely on analysis drawn from FS I and II, have clearly expanded private investment in Zimbabwe's food system, and have substantially reduced the cost of staple maize meal compared with the meal supplied through the official marketing channel. MSU research findings reveal that (a) within a span of two years, the proportion of staple maize meal procured through informal distribution channels has soared from 8% to about 50%; (b) the market reforms have allowed urban households to acquire maize meal at 60%-70% of the cost of maize meal manufactured by large-scale millers; and (c) the cost saving to consumers equals 7%-13% of average household income among the lowest income quintile in the capital city, Harare (Rubey 1995). Government policy makers and the general public widely regard these maize market reforms as among the most successful aspects of structural adjustment in Zimbabwe.

b) Food Market Reform and Household Access to Food: Implications for Reaching the Poor

USAID-funded research by MSU in Zimbabwe and Kenya has demonstrated that food market reform can improve household food security and real incomes, without the need for costly food subsidies.

For decades, trade restrictions and regulations impeded households' access to low-cost, unrefined maize flour produced and distributed through private trading channels in Eastern and Southern Africa. These restrictive policies endured because of perceptions by policy makers that consumers,

particularly those in urban areas, strongly preferred highly refined, expensive maize flours produced by large-scale mills. As a result, governments chose to subsidize the highly-refined flours, an option that became fiscally unsustainable by the late 1980s and threatened agricultural growth by creating pressures to reduce producer prices.

Findings: USAID-funded research by MSU demonstrated that

- * urban consumers would benefit from policy reforms that increased the availability of low-cost whole-grain maize flour;
- * linking subsidy removal with policy reform would promote the development of private sector marketing channels for lower-cost maize flour products, offsetting the adverse effects of subsidy removal on the poor; and
- * there were system-wide efficiency gains from liberalizing a single-channel marketing system dominated by government marketing boards and inefficient large-scale processing firms.

Effect on Policy: In Zimbabwe, this research influenced policy decisions by

- * convincing policy makers that the political ramifications of subsidy removal would be sharply reduced if alternative marketing channels composed of private-sector traders and food processors were permitted to develop; and
- * providing the analytical foundation for the design of USAID's Grain Marketing Reform Support Program that committed the Government of Zimbabwe to a series of phased reforms undertaken from 1991 to 1994.

People-Level Impacts: Over the past 8 years, USAID-funded research under the MSU/University of Zimbabwe Food Security Project has led to

- * 10% to 25% higher cash incomes for at least 200,000 low-income rural consumers;
- * cost savings on staple maize meal equal to 7%-13% of household income for low-income urban consumers; and
- * a reduction in government treasury losses equal to 2% of the country's GDP.

c) *USAID-Funded Research Challenges the Perceived Wisdom on the Need for Food Subsidies in Eastern and Southern Africa*

The case for structural adjustment and food market reform, while widely accepted by donors and international analysts, has not been fully convincing to many African policy makers. Concerns have typically arisen regarding the elimination of food subsidies and decontrol of food prices on low-income urban consumers, a politically volatile group. A critical problem facing African governments has been how to keep food prices at tolerable levels for poor consumers at a time when production incentives must be increased and subsidies must be eliminated.

In much of eastern and southern Africa, there has been a longstanding perception that urban consumers strongly prefer the relatively expensive refined maize flour produced by large-scale industrial mills over less-refined whole flour produced by small-scale mills and are not responsive to price changes between them. This conventional wisdom had been the major impetus for subsidies and controls on refined maize flour distributed through the official marketing system. However, country-level research carried out by the USAID-funded Food Security II Project in Kenya, Zimbabwe, Zambia, and Mozambique in 1992-1994 have shown that the perceived popularity of refined flour has been exaggerated by decades of controls on maize marketing, which had restricted consumers' access to the less expensive, whole maize flour. When the marketing controls and subsidies on refined flour were removed, whole meal through informal trading networks became available in urban areas at prices about 55% to 75% of the cost of refined meal. Small-scale maize milling expanded rapidly in all four countries. Also low-income households were consistently found to purchase a greater proportion of whole maize flour than high-income consumers. These findings indicate that (a) the conventional wisdom of fixed urban preferences for refined flour was greatly exaggerated; (b) subsidies on refined meal were regressive, in that they transferred income disproportionately to high-income consumers; (c) market reforms that introduced greater competition into food marketing and milling have improved access to food by low-income urban households through the introduction of cheaper food products; and (d) consumer subsidies on products in the official marketing system did not necessarily promote food security, because they had entrenched a relatively high-cost marketing system and impeded the development of lower-cost channels from developing (Jayne, Tschirley, Rubey, Mukumbu, Chisvo, Santos, Weber, and Diskin 1995).

d) AID-Funded Analysis Reveals Minimal Effects on Household Food Security From Elimination of Maize Meal Subsidies: Findings from Kenya²

The recent wave of structural adjustment programs in many developing countries has put pressure on governments to eliminate costly subsidies on key food staples. However, concerns have arisen regarding the social costs of subsidy removal, particularly the impact on low-income consumers. While accurate information on consumer behavior is necessary to evaluate these effects, the database on consumer behavior is particularly sparse in many developing regions.

This article determines how elimination of the subsidy on refined maize flour in Kenya has affected access to food among various urban income groups, and to assess the implications of these findings for food security policy. A selectivity model is developed to assess how consumption of refined and unrefined maize flour differs by income and other household attributes. The model is applied to survey data of 344 randomly-chosen households in Nairobi, Kenya, incorporating both revealed and stated preference information. Revealed preference data refers to survey respondents' actual behavior; stated preference data refers to respondents' statements about how they would respond

²Report entitled "*Food Subsidies and Food Security in Urban Kenya*," by T.S. Jayne, Frank Lupi, and Mulinge Mukumbu, funded by AID/AFR/SD/PSGE and AID/G/EGC/OEID.

under a range of carefully structured conditions. This approach is relevant to situations, commonly found in developing countries, where time series data on observed household consumption behavior is limited, but where information on expected behavioral responses is necessary to evaluate alternative policy options.

Maize flour is the dominant food staple throughout Eastern and Southern Africa. There are two main types: a highly-refined sifted flour processed by large-scale urban roller milling firms (usually linked to the state food marketing channel), and an unrefined whole maize flour, processed by small-scale private mills. There has been a longstanding perception that urban consumers throughout Eastern and Southern Africa strongly prefer the relatively expensive refined maize flour and are not responsive to relative price changes between the different flour. Government subsidies have been typically applied to refined flour marketed through the official marketing channel.

Findings: Model results indicate that, in the case of Nairobi, Kenya, the subsidy on refined maize flour was untargetted, and that the benefits of the subsidy were actually inversely related to household incomes. Results indicate that refined flour is a normal good, but with a very low income elasticity. Whole meal, on the other hand, is more heavily consumed by low income households, with an average income elasticity of -0.59. While the intent of the subsidy on sifted flour was not necessarily to minimize the leakage of public funds to non-needy households, it is clear that the subsidy was captured disproportionately by higher-income urban consumers.³

In January 1994, the Kenyan government eliminated the subsidy on sifted flour, causing its price to increase by 53%. The price of sifted flour in Nairobi was almost twice as expensive as whole flour procured through informal marketing channels. Strong concerns were voiced as to whether low-income consumers could maintain their access to food under such a sudden and large surge in the price of the hitherto major staple. No information had been collected to assess the effects of subsidy elimination on commodity substitution by low-income consumers, either before or after the reform.

Based on the survey data, the authors estimated the net change in expected consumer expenditures on maize products by income group resulting from the elimination of the subsidy on refined flour. Results indicate that a 53% increase in the price of refined flour, *ceteris paribus*, was estimated to increase maize flour expenditures by 8% for the lowest household income-quartile in Nairobi, as compared with 25% for the highest income-quartile. This is because low-income consumers have a greater likelihood of consuming less expensive whole maize flour, and (for those that do purchase refined flour) appear more likely to shift to whole flour when the price of refined flour rises. Removal of the subsidy raised expected household maize flour expenditures by an amount less than

³These findings are consistent with recent findings elsewhere in Africa (see T.S. Jayne, Lawrence Rubey, David Tschirley, Mulinge Mukumbu, Munhamo Chisvo, Ana Paula Santos, Michael T. Weber, and Patrick Diskin, "Consumer Response to Food Market Reform in Kenya, Zambia, and Zimbabwe: Implications for Food Security," forthcoming USAID Technical Bulletin).

one percent of household income for all income groups. Perhaps as a result, the elimination of the sifted flour subsidy has produced virtually no resistance or noticeable effect on urban food security after 18 months. Recent anecdotal evidence since the removal of the subsidy suggests that about half of Nairobi's population is consuming whole meal as their primary maize staple.

A contribution of this study is to show how revealed and stated preference information can be combined to uncover anticipated price and substitution effects in situations where cross-sectional variation on prices is lacking. These techniques may be particularly important in the case of anticipating the effects of food subsidy elimination in developing countries. Removal of food subsidies, commonly implemented under donor pressure, has sometimes led to urban riots and the downfall of governments. Policy makers' demand for useful and timely information on expected consumer response to alternative policies is no less strong in situations where detailed food balance tables and revealed preference panel data are limited or non-existent.

Through longstanding subsidies, government policy in much of Eastern and Southern Africa has encouraged the consumption of highly-refined, expensive, and less nutritious maize flour compared to informally-produced whole meal. Public policies and investments designed to improve the functioning of alternative marketing channels may be a more cost-effective way of improving food access to low-income consumers than a return to untargeted subsidies on refined products through a high-cost controlled marketing system.

e) *Food Aid and Food Markets: Lessons from Mozambique*

Lessons from Research

1. The effects of monetized food aid on food security, food markets, and local food production is critically mediated by the food system into which the food aid is being injected. Monetization is often seen as one way to reconcile the potential conflict between the short-run objectives of food aid and the long-run development objectives of the country. However, whether monetization in fact relieves this conflict in any given country depends on many details of the food aid program. Experience in Mozambique shows that food aid can destabilize the market and can also generate very large rents (or losses) to first-buyers. A more positive result of this approach is that it fueled the growth of an active informal marketing system and a small-scale milling industry which now provides low-cost meal to the majority of urban residents.
2. Subsidies placed on commercial food aid often do not reach intended beneficiaries. Thus, selling commercial food aid at prices below import parity to traders may sacrifice development resources without reducing prices to poor consumers.
3. The effects of emergency food aid on markets are most obvious during periods of crisis, but can linger long after the crisis is over. Excess supplies from food aid in Mozambique depressed market prices of yellow maize to approximately half previous lows (in real terms) for over a year after the 1992 Southern Africa drought.

4. Administrative procedures for local purchases in Mozambique made it difficult for traders to participate effectively. The large scale of purchases made it especially difficult for competitive smaller scale traders to participate.
5. Lack of feedback from market prices to commercial food aid quantities increases the market disruptions caused by monetization programs. The result is often large rents for private traders involved in the commercial program.
6. Coordination is often poor between emergency and commercial food aid programs. Sharing of information across emergency and commercial food aid programs regarding quantity and timing of food aid arrivals is essential.
7. White and yellow maize are likely to be (or become) substitutes in consumption in Southern and Eastern Africa. This implies that donors, government and analysts must not ignore the potential disincentive effects of yellow maize food aid on white maize production and marketing.
8. Basing food aid programs on a pot of money rather than a bushel of corn would be one of the most effective means to design market friendly food aid programs. Relaxing the requirement that emergency assistance monies be used to purchase surplus commodities in donor countries could bring significant benefits to recipient countries. First, such food aid would reduce international transport costs and procurement delays. Second, flexible food aid could increase donor and national government abilities to facilitate effective market response to emergency situations. For example, with more flexibility in using cash resources set aside for acquiring food aid, donors and the local government could mount cash for work or infrastructure development projects in areas of the country affected by drought, increasing effective demand in the area. Finally, flexible food aid can reduce disruptions in recipient country markets caused by poor coordination across commercial and emergency food aid programs by reducing or eliminating administrative divisions between monetized and free distribution food aid activities.

Guidelines for the Design of Market-Friendly Food Aid Programs

1. Invest in local analytical capacity to understand the behavior of the food system into which food aid is injected.
2. Create a food aid distribution system that ensures active exchange of information across commercial and emergency programs.
3. Work with government agencies, trade associations, NGOs and other donors to invest in public goods (roads, market information systems, legal foundations of markets, etc.).

4. Maximize flexibility in food aid programs by allocating a larger share of food aid resources to local missions as cash rather than commodities.
5. Integrate the commercial food aid program into the country's overall food policy. To generate the fewest short-run problems and be most effective in the long-run, commercial food aid should be made, as far as possible, indistinguishable from commercial imports in the eyes of traders.
6. The use of local purchases to meet emergency distribution needs can contribute to market development, but should be designed to encourage participation of small scale traders. For this to happen, NGOs need to develop a more sophisticated understanding of markets.