

Fact Sheet • ETHIOPIA GRAIN MARKET RESEARCH PROJECT

•FOOD SECURITY COOPERATIVE AGREEMENTS•
between
•U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT and MICHIGAN STATE UNIVERSITY•
• IN-COUNTRY TIME PERIOD: MARCH 1995 - SEPTEMBER 1998¹•

1. Cooperating Institutions

Ministry of Economic Development and Cooperation (MEDAC)
Ethiopian Grain Trade Enterprise (EGTE)
Ministry of Agriculture (MOA)
Agency for International Development, Ethiopia Mission (USAID/Ethiopia)
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)

2. Researchers Involved

MEDAC/MSU Grain Market Research Project (GMRP) In-country Researchers: Asres Workneh (Chair, GMRP Technical Committee), Aklu Girgre (In-Country Field Coordinator), Ali Said, Daniel Molla, Alemu Asfaw, Asfaw Negassa, Gebremeskel Dessalgne, Samson Dejene, Mulat Demeke, Wolday Amha, Sirak Hailu, Debebe Habtewold, and Abdella Jamal
MSU Campus Backstop: Thomas Jayne (MSU Coordinator of Grain Market Research Project), Michael Weber (Director, Food Security Cooperative Agreement), James Shaffer, Daniel Clay, Jean-Charles Le Vallée, Paul Strasberg, Julie Stepanek, Julie Howard, and Valerie Kelly

3. Objectives of the Research and Policy Outreach Activities

The GMRP is designed to implement collaborative research and outreach by MSU and the MEDAC/MSU GMRP's Technical Committee. These activities aim to strengthen the empirical foundation for grain marketing and food policy decisions in Ethiopia by:

Strengthening Ethiopian analytical capacity to carry out food marketing policy analysis and extension activities through on-the-job training;

¹ Version of Fact Sheet: September 1998

Undertaking new studies on national grain marketing issues in Ethiopia, under two main research and capacity-building activities: (1) developing a sustainable public grain market information system in Ethiopia; and (2) improving food systems performance; and

Diffusing more widely to Ethiopian researchers and policy makers the results of grain marketing research and their implications for guiding grain marketing policy in Ethiopia.

4. Research Approach

To carry out its research mandate effectively, the GMRP in Ethiopia aims at: (a) strengthening the capacity of MEDAC, Ethiopian Grain Trading Enterprise (EGTE), and other government agencies responsible for food security in Ethiopia to carry out applied research on food security; and (b) strengthening the capacity of MEDAC to help coordinate research on national food security issues. The Project Technical Committee, representing the Ethiopian government, has identified with MSU a research agenda and approved a Terms of Reference to guide research and implementation activities over the life of the Project.

5. Outputs

5.1. Written Materials

- **Statistical Reports**

The project produces monthly grain price and market information bulletins that are distributed throughout the country. Government, private sector, donor organizations, and NGOs all receive this information. Arrangements are being made for direct dissemination of market information to farmers and consumers through national radio.

	1996	1997	1998
Jan		X	X
Feb		X	X
Mar		X	X
Apr		X	X
May		X	X
Jun	X	X	
Jul	X	X	
Aug	X	X	
Sep	X	X	
Oct	X	X	
Nov	X	X	
Dec	X	X	

5.1.1. Working Papers

Tschirley, David, P. Diskin, D. Molla, and D. Clay. 1995. *Improving Information and Performance in Grain Marketing: An Assessment of Current Market Information Systems, and Recommendations for Developing a Public Grain MIS*. Working Paper No. 1. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Jayne, Thomas S., and D. Molla. 1995. *Toward a Research Agenda to Promote Household Access to Food in Ethiopia*. Working Paper No. 2. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Howard, Julie, A. Said, D. Molla, P. Diskin, and S. Bogale. 1995. *Toward Increased Domestic Cereals Production in Ethiopia*. Working Paper No. 3. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Molla, Daniel, Hagos Gebre, T.S. Jayne, and J. Shaffer. 1997. *Designing Strategies to Support a Transformation of Agriculture in Ethiopia*. Working Paper No. 4. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Demeke, Mulat, A. Said, and T.S. Jayne. 1997. *Promoting Fertilizer Use in Ethiopia: The Implications of Improving Grain Market Performance, Input Marketing Efficiency, and Farm Management*. Working Paper No. 5. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Negassa, Asfaw, and T.S. Jayne. 1997. *The Response of Ethiopian Grain Markets to Liberalization*. Working Paper No. 6. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Amha, Wolday, J. Stepanek, T.S. Jayne, and Asfaw Negassa. 1997. *Meeting Food Aid and Price Stabilization Objectives through Local Grain Purchase: A Review of the 1996 Experience*. Working Paper No. 7. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Dessalegn, Gebremeskel, T.S. Jayne, and J. Shaffer. 1998. *Marketing Structure, Conduct, and Performance: Constraints on Performance of Ethiopian Grain Markets*. Working Paper No. 8. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Negassa, Asfaw. 1998. *Vertical and Spatial Integration of Grain Markets in Ethiopia: Implications for Grain Market and Food Security Policies*. Working Paper No. 9. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Demeke, Mulat, V. Kelly, T.S. Jayne, A. Said, J.C. LeVallee, and H. Chen. 1998. *Agricultural Market Performance and Determinants of Fertilizer Use in Ethiopia*. Working Paper No. 10. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Clay, Daniel C., Daniel Molla, and Debebe Haptewold. 1998. *Food Aid Targeting in Ethiopia: A Study of Food Insecurity and Food Aid Distributions*. Working Paper No. 12. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

5.1.2. Other Conference/Seminar Papers by GMRP-Affiliated Staff

T.S. Jayne. 1997. Institutional Details of Market Reform. Invited paper presented at the Ethiopian Agricultural Economics Society Meetings, Institute for Agricultural Research Station, October 2, Addis Ababa, Ethiopia.

Ethiopia Agricultural Price Compendium. October 1996. Grain Marketing Research Project, Ministry of Economic Development and Cooperation, Addis Ababa, Ethiopia.

Kebede, Bereket, M. Tadessee, and T.S. Jayne. March 1996. Urban Grain Consumption Patterns in Ethiopia: Implications for Food Pricing Policy and Food Aid Programs: Summary of Preliminary Findings Urban Household Survey, 1995. Draft.

Gebre, Hagos, D. Molla, T. Jayne, and J. Shaffer. 1995. Designing Strategies to Support a Transformation of Agriculture in Ethiopia. Invited paper presented at USAID-sponsored Conference on Structural Transformation in Africa; organized by MSU/USAID, June 15-18, 1992, Abidjan, Côte d'Ivoire.

5.1.3. Market Analysis Notes

Market Analysis Note #1: Emerging Market and Policy Responses to Ethiopia's Grain Harvest of 1995-96. July 1996. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Market Analysis Note #2: Improving Grain Market Performance in Ethiopia: Strategies, Issues and Options. October 1996. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Market Analysis Note #3: The Deregulation of Fertilizer Prices: Impacts and Policy Implication. January 1997. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Market Analysis Note #4: Meeting Food Aid and Price Support Objectives Through Local Grain Purchase: A Review of the 1996 Experience in Ethiopia. March 1997. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Market Analysis Note #5: Revisiting Grain Movement Control and Taxation in Ethiopia: A Policy Brief. January 1998. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

Market Analysis Note #6: Food Aid Targeting in Ethiopia: A Study of Household Food Insecurity and Food Aid Distributions. March 1998. Addis Ababa, Ethiopia: Grain Market Research Project, Ministry of Economic Development and Cooperation.

5.2. MEDAC/MSU-Sponsored Grain Marketing Seminars and Workshops

End of Project Workshop: This was held on December 8-10, 1997 at Nazareth. Senior government officers from Federal as well as from regional agencies, private companies, donors, international organizations and NGOs participated in the workshop. Over 100 persons were in attendance. The main objective of the workshop was to exchange information between researchers and policy makers on factors affecting grain market performance. Government participants and analysts were tasked to critically review the findings, conclusions and recommendations which evolved from several studies the Grain Market Research Project has carried out.

Discussion Forum: Preliminary results of most of the research activities were discussed in a Discussion Forum held on November 9-11, 1996 at Sodere. Some 70 people from relevant government agencies including the regions, donors, international organizations and NGOs participated in the Forum.

Grain Marketing Research Priority Setting Workshop: Presentation of rapid appraisal studies, discussion of priorities for future policy research and dialogue, July 4-5, 1995, Addis Ababa.

5.3. Presentations by GMRP Staff and Affiliated Researchers

T.S. Jayne presented Improving the Impact of Market Reform on Agricultural Productivity in Africa: How Institutions Make a Difference, opening paper at the Ethiopian Agricultural Economics Society Meetings, October 2, 1997.

T.S. Jayne presented findings of GMRP research at the World Bank Seminar on Agricultural Market Reforms in Africa: Next Steps, June 30, 1997, Washington, D.C. This meeting was attended by several prominent African policy makers, and was geared to help the World Bank develop an appropriate policy stance toward African governments undertaking food market reforms.

Thomas Jayne, Asfaw Negassa, Valerie Kelly, and Aklu Girgre presentations on GMRP research programs relating to Ethiopian grain market performance and profitability of fertilizer use in the Ethiopian smallholder agricultural production to a workshop organized by the World Bank and Sasakawa Global-2000, held in Washington, D.C., May 27-28, 1997. This meeting was attended by several Ethiopian policy makers (Vice Ministers for MEDAC and Agriculture, and policy advisors in the Office of the Prime Minister). The meeting was

designed to orient Ethiopian policy makers to the governmental challenges and actions needed to sustainably raise Ethiopian agricultural productivity.

Alemu Asfaw and Aklu Girgre presentation of GMRP activities and results to Sixth Annual Meeting of IGAD's Early Warning and Food Information System, April 9-12, 1997, Djibouti.

T.S. Jayne presented results of GMRP research on food aid and grain market development at an invited paper session, Allied Social Science Association Meetings, January 5, 1997, New Orleans, Louisiana.

T.S. Jayne, Daniel Molla, Alemu Asfaw, Asfaw Negassa, and Bereket Kebede presentation to government agencies, NGOs and donor representatives on emerging research results on grain market performance in Ethiopia. Sponsored by USAID/Ethiopia, May 7, 1996.

Daniel Molla presented paper on Strategies to Promote Structural Transformation in Ethiopia: Toward a Research Agenda. USAID-sponsored Conference on Structural Transformation in Africa; organized by MSU/USAID, September 1995, Abidjan, Côte d'Ivoire.

Pat Diskin presented paper on grain market performance at the Ethiopia Economics Society Conference on Agricultural and Food Security Policy in Ethiopia, May 1995.

Hagos Gebre and Thomas Jayne informal presentation of food security policy issues and options, June 21, 1995, at World Bank, Addis Ababa.

5.4. Short-Term Training

September 1998. Database transfer session, involving representatives of MEDAC, MOA, IAR, Addis Ababa University, USAID, and European Union.

June 1997. SPSS training to one MEDAC staff seconded to GMRP at MSU.

September 1996. SPSS and policy analysis training at MSU: Ali Said, Daniel Molla, and Asres Workneh attended.

August 1996. Data processing and analysis training to 28 EGTE management staff.

July/August 1996. Training in data collection and transmission techniques to 70 EGTE enumerators and supervisors.

October 1995. MSU Training Workshop on Food Systems Performance and Market Information, October 8-15, 1995, Bamako, Mali. Organized by USAID/AFR, INSAH, and Department of Agricultural Economics, Michigan State University. Attended by GMRP-

affiliated staff members: Ali Said (MEDAC), Feleka Wakjira (EGTE), Daniel Molla (MEDAC), Alemu Asfaw (GMRP), and Sirak Hailu (EFSRA).

September 1995. Workshop on Structural Transformation in Africa, September 26-29, 1995, Abidjan, Côte d'Ivoire. Organized by the African Development Bank, USAID (AFR/SD/PSGE/FSP), the Institut du Sahel (PRISAS Program), and the Department of Agricultural Economics, Michigan State University. Attended by Daniel Molla.

5.5. MSU Backstop Trips to In-Country Team

August 1998: trips by Stepanek, Kelly, and Jayne to finalize the SG-2000 data collection activities.

June 1998: trip by Weber to assist in data analysis and planning of Phase II activities.

May 1998: trip by Jayne to assist in finalization of working papers and preparation of new market information system at Ministry of Agriculture.

February 1998: trips by Clay and Jayne to finalize the food aid and stabilization papers as per comments received during the workshop and from some NGOs and donor agencies.

December 1997: trips by LeVallee, Jayne, and Weber to: (a) finalize and assist in the finalization of GMRP papers to be presented at the December 1997 final workshop; (b) assist in the organization of the workshop; (c) present some of the papers at the workshop; and (d) act as resource persons at the workshop.

November 1997: Clay trip to train GMRP staff in the use of the updated rural household survey data bases.

October-November 1997: Howard trip to: (a) finalize the survey questionnaire for the GMRP/SG-2000 study on the return to farmers who are adopting the new extension package; (b) develop training materials for survey supervisors and enumerators; (c) participate in training of the survey supervisors and trainers; (d) supervise the initial phase of data collection; and (e) set up a system for data entry and cleaning.

August 1997: LeVallee trip to assist in managing data and organizing the rural household survey data base and the CSA agricultural survey data.

July 1997: Kelly trip to assist in producing the working paper on the GMRP fertilizer study.

May 1997: trips by Clay, LeVallee, and Jayne to work on grain stabilization and food aid papers and to create wereda-level agroecological variables using GIS data on elevation and rainfall.

April 1997: Kelly trip to assist in the processing, documentation and analysis of the agricultural survey.

January 1997: trips by Clay, Jayne, and Shaffer to assist in the transformation and documentation of the rural household survey data base and to analyze food aid determinants and impacts.

November 1996: trips by Jayne and Weber to present GMRP's preliminary results on cereal price stabilization and market information system at the sodere discussion forum.

June 1996: Clay trip to assist in the CSA training of trainers and final work on setting up the pilot market information system.

April 1996: Jayne trip to support the design of a survey instrument for the project's rural household survey.

January 1996: Jayne trip to support analysis on food aid and food production incentives, and preliminary work on setting up a pilot market information system at Ethiopian Grain Trading Enterprise (EGTE).

October 1995: trips by Howard, Clay, Weber, and Rubey to work on output and input marketing policy issues in Ethiopia, and on the implementation of a pilot grain market information system at EGTE.

September 1995: Jayne trip to initiate analyses on food aid and food production incentives, and preliminary work on setting up a pilot market information system at EGTE.

June-July 1995: participation of Jayne, Howard, and Diskin in MEDAC/MSU Grain Marketing Workshop on Research Priority Setting. Also trip by Weber, Clay, and Tschirley to assist in the design of a pilot grain market information system in Ethiopia.

April 1995: Howard trip to do rapid-appraisal analysis of constraints to adoption of agricultural technology and productivity growth in Ethiopia.

March 1995: Jayne and Shaffer trips to interact with MEDAC/MSU GMRP Technical Committee to develop a long-term research agenda for the GMRP.

November 1994: trips by Jayne, Weber, and Shaffer to make initial contact with MEDAC officials about possible collaborative national food security project.

6. Main Research Activities

Activity 1.1: Design, Implementation, and Evaluation of a Pilot Grain Market Information System

The functioning of food markets can be impeded by high price uncertainty. Lack of timely and accurate information for market participants contributes to poorly functioning food markets and leads many farm households to rely on relatively low-productivity subsistence production for most of their food needs. Access to timely and accurate market information is thus one important element for transforming Ethiopia from a subsistence-oriented, low-productivity, agriculturally-based economy into a modern, exchange-oriented, high-productivity economy.

Reducing uncertainty in grain marketing through the dissemination of timely and accurate information to market participants, may, by lowering marketing risks and margins, serve to improve production incentives for grain producers, and to drive down prices for grain consumers. Improving farmer and trader awareness of prices in various markets throughout the country promotes grain system efficiency by: (1) encouraging grain flows from relatively surplus to relatively deficit areas, thus helping stabilize prices spatially; (2) improving farmers' decisions and confidence regarding what to plant, how much to invest, and where and when to market their produce; and (3) promoting a more competitive marketing system, which will benefit both producers and consumers. In particular, small farmers will benefit from improved access to market information by improving their bargaining position, and increasing their marketing options. Access to timely and accurate grain market information is also crucial for policy makers and food relief agencies, to allow them to understand and effectively address food insecurity problems in Ethiopia.

Analysis of market information can also assist policy makers to understand the evolving structure and performance of the country's agricultural marketing system. This is especially important in a country such as Ethiopia, which is emerging from more than a decade of increasing state control over marketing activities and attempting to reestablish a viable private marketing system.

The objectives of this research are:

1. to test and improve procedures for grain market data collection, analysis, and dissemination;
2. to provide training and support to EGTE, MEDAC, and other Ethiopian personnel to design, operate, and maintain a public MIS; and
3. to monitor and evaluate the effects of the pilot MIS on access to grain market information and performance and its impact on the different market participants.

Prices and other market information are collected using EGTE's current reporting system, making some improvements where necessary (e.g., standardizing local units of measure across markets, recording price information from observed random market transactions rather than asking about prices). Data reported by EGTE's branch office to its headquarters in Addis Ababa is processed and analyzed by the Grain Market Research Project where it will be used for two purposes: (1) information on a subset of markets will be immediately broadcast by radio and newspaper to the general public; and (2) information on all markets are analyzed and disseminated for policy makers and relief agencies regularly through monthly "Market Information Bulletins" and weekly "Market Flashes."

The impact of the pilot MIS has been monitored in two ways: (1) through interviews with market participants (farmers, traders, consumers), policy makers, and relief organizations, asking them whether they perceive the MIS as useful; and (2) through analysis of price information to assess changes in producer and consumer prices, marketing margins, and market integration. The costs and benefits of implementing a MIS through EGTE are being assessed, relative to possible alternative agencies, particularly Ministry of Trade and Industry, and Ministry of Agriculture.

Activity 1.2a: Analysis of Ethiopia's Grain Marketing System and Strategies to Improve Grain Market Performance

The development of an efficient and equitable food marketing system is a critical component for improving food security in Ethiopia, improving both food availability and food access. Well functioning grain markets benefit both producers and consumers by reducing marketing margins and the transaction costs involved, thereby potentially lowering food prices to consumers while simultaneously raising price incentives to producers. Many factors constrain the performance of the Ethiopian grain marketing system. These include: barriers to entry into the market (e.g., rules on trader "residency," licensing requirements, importing restrictions); lack of competitiveness and fair trade practices in local markets; lack of access to capital by traders; poorly developed physical infrastructure and information systems; and grain market checkpoints and taxes.

Information which would be useful to guide policies and interventions to alleviate such constraints and to improve grain market performance in Ethiopia is currently lacking. This study will assist in developing a better understanding of the constraints facing grain market participants, and opportunities for alleviating these constraints.

The objectives of this research are:

1. to improve policy makers' and analysts' understanding of constraints to improving the efficiency and equity of grain marketing in Ethiopia;
2. to identify policy, regulatory, and other constraints in the grain market system; and

3. to identify unexploited economic opportunities and cost-effective strategies to exploit them which have the potential to reduce real food prices to consumers, improve incentives to producers, and expand gainful employment.

Activity 1.2b: Agricultural Input Marketing, Profitability and Constraints to Availability

Intensification of agriculture through use of modern inputs is an important option for increasing agricultural productivity in Ethiopia. Evidence suggests that grain yields can be substantially increased by appropriate use of technological inputs. In this regard the government has recently liberalized the marketing of agricultural inputs. However, there are major problems regarding input trading, delivery, acquisition and use by farmers; input use is low and many inputs are not widely available. Identifying and alleviating these problems merit high priority. The problems in input trading by various groups—distributors, wholesalers, and retailers—need to be detailed. Barriers to entry in input supply and farm-level constraints to the use of productivity-enhancing technology need to be identified and strategies developed to respond to the constraints.

The objectives of this research are:

1. to examine the performance of markets for selected technological inputs (fertilizer and seed) at various stages (from port or point of production to final user) and identify bottlenecks and ways of improving the system to meet the needs of farmers and improve agricultural productivity. Important subtopics include:
 - (a) assessment of the impact of pan-territorial fertilizer pricing on the efficiency of input trading and availability;
 - (b) identification and assessment of strategies to promote cost-effective distribution of fertilizer and other critical inputs to enhance food system productivity;
 - (c) development of a "cost build-up" for fertilizer and seeds from port (or point of production) to final user to determine how costs and prices increase as one moves up the chain, where inefficiencies exist, and how they can be removed;
 - (d) evaluation of options for providing credit to traders and small-scale farmers;
 - (e) determination of which crops in regions that do not currently use fertilizer could benefit most from its introduction, and how the private sector could be attracted to supply fertilizer there; and
 - (f) assess the experience of selected NGOs in input distribution activities, and whether there are sustainable systems of input distribution, especially at the village level, that could be replicated and extended to larger areas.

2. to assess the profitability of fertilizer use/application from farmers' perspective and society's perspective. Important subtopics include:
 - (a) analysis of profitability under different output price and fertilizer price scenarios, and in particular, what the impact would be on fertilizer profitability and use if the current subsidies were reduced or eliminated. This issue is particularly important with regard to the agricultural technology and extension package being promoted by the SG-2000 Project and taken up on a large scale by the Government of Ethiopia;
 - (b) determination of farmers' assessments of main constraints limiting fertilizer and seed use;
 - (c) assessment of the complementarity of fertilizer and selected improved seed varieties;
 - (d) advantages and disadvantages of different ways of implementing fertilizer subsidies; and
 - (e) comparisons of cost of importing food versus increasing food production by an equal amount through subsidies on fertilizer.

Activity 2.1: Assessment of Alternative Food Transfer Arrangements: Their Effects on Food Production, Market Development, and Household Food Security

There has been longstanding concern over the possible disincentive effects of food aid, specifically the effects of food aid on market prices and production incentives. Since 1984, Ethiopia has become chronically dependent on food aid. The volume of food aid in Ethiopia in a normal year has often accounted for 25% or more of the total estimated marketed cereal supply. Depending on the manner in which food aid is distributed and utilized, additional cereal supplies of this magnitude could be expected to exert some influence on food market prices. Concerns have been raised as to whether food aid, while meeting critical short-run needs, is jeopardizing Ethiopia's ability to produce its own food needs over the long run. There is an urgent need to assess the long-run impacts of alternative food aid arrangements on market development and production incentives. The information generated through this study will help Ethiopian policy makers (e.g., MEDAC, DPPC, EFSRA) in the design of appropriate food transfer programs that complement, rather than substitute for, domestic food production growth.

A second important purpose of this research activity is to identify and assess alternative strategies to raise household access to food. This would include analysis of options relying on the market (e.g., those involving potential self-targeted foodstuffs to raise access to food among low-income consumers) as well as administered transfer programs such as employment-based food and cash transfer programs, food or cash voucher programs, etc. The main outcome of the studies under this focus area will be the identification of options for

improving access to food by vulnerable groups in the short-run in a manner that also promotes long-run agricultural productivity and income growth in Ethiopia.

The objectives of this research are:

1. to evaluate the effect of alternative food aid arrangements on food prices and production incentives over the short and long run;
2. to evaluate effects of alternative food aid arrangements on trader behavior and performance of Ethiopian grain markets;
3. to identify the costs and benefits of targeting vulnerable groups through various food transfer arrangements, and to assess the implications for food aid policy in Ethiopia; and
4. to consider and evaluate alternative food transfer arrangements in the context of overall food security and development strategies in Ethiopia.

6.1. Main Research Findings of the Grain Market Research Project

6.1.1. Constraints on Performance of Ethiopian Grain Markets

Wholesale traders handled about 45% of the estimated 26.4 million quintals of grain sold in the 1995/96 crop year by farmers and state farms.

The degree of inequality in market share at the local market level varies from market to market and from crop to crop; the computed Four-firm Concentration Ratio (CR4), however, does not indicate a high degree of market domination by large traders. For most markets and crops the CR4 is less than 33%.

Farmers normally bring their marketable grain to markets that are 5 to 20 km away from their villages and about 79% of their annual grain sales occur immediately after the harvest when they need cash to purchase food, cover wedding expenses, repay outstanding loans, and pay taxes.

Generally, farmers and merchants do not have access to high-quality market information upon which to base their marketing decisions. The information that farmers get, in particular, does not assist them in deciding what crops to plant and how much. There is practically no market extension service in the present system that guides farmers in their production, storage and marketing decisions. Information on export market is also lacking.

The main constraints identified by traders are 'kella' (grain checkpoint) taxes, lack of financial credit, absence of control on unlicensed traders, unavailability of transport services and high

transport tariff, lack of adequate storage facilities at appropriate locations, and lack of market information.

Lack of access to working capital and facilities at convenient locations in the marketplace seem to be the most important barriers to entry.

The existence of barriers to entry and the constraints facing traders have a negative impact on the performance of the grain marketing system. Comparison of the expected and actual price spreads between Addis Ababa and 19 selected markets shows that in 11 cases out of 19, the price spread can be considered adequate only after attributing non-monetary transaction costs of about 30% over and above the monetary costs. This may be attributed to several factors including risks associated with lack of good market information and sporadic and uncertain costs such as 'kella' charges, variable transportation rates, and other forms of transaction costs.

Seasonal price variations are also significant. For example, in Addis Ababa, the Gross Real Returns to Storage is 3.66% per month for mixed teff, 3.24% for wheat, and 5.18% for white maize. When these figures are compared to the opportunity cost of capital tied up in inventories, about 0.83% to 1.17% per month, there seems to be substantial seasonal variation which reflect storage costs only after including a fairly high implicit risk premium for temporal arbitrage.

6.1.2. Market Performance and Determinants of Fertilizer Use

The full benefit of the fertilizer sector reforms has not been realized because of various constraints in the marketing system and institutional issues. Fertilizer retailing is carried out primarily by large distributors/wholesalers with a limited number of sales outlets. As a result, the distribution system at the local level is not as responsive to farmers' needs as it could be. Often the market in each wereda, zone or region is controlled by a single firm, thus giving rise to a monopolistic market structure.

At the root of the marketing problem is the inefficient credit system. Because credit was linked (in 1996/97) to particular fertilizer distributors, giving rise to an uneven playing field, firms not favored by the credit system have experienced difficulties selling their fertilizer stock during a given season. Failure to sell supplies may create serious uncertainty, other than the considerable financial costs created. Since 80% of fertilizer sales are on credit, weaknesses in the credit market not only constrain the growth of fertilizer use and agricultural productivity but also discourage private investment in the agricultural input sector.

Another important factor militating against expanded use of fertilizer is the sharp decline in its profitability. The return to fertilizer declined sharply between 1992 and 1997. The VCR for teff, for instance, declined by 55% during this period. The decline was 67% for maize and 48% for wheat. The ratio fell below the critical threshold of 2 for 71% of the sites/crops in

1997, compared to none in 1992. The main reason for the declining profitability is the rising fertilizer price relative to output price and inadequate efforts to reduce costs by increasing input and output marketing efficiency.

The statistically significant factors explaining whether a wereda used or did not use fertilizer were: access to fertilizer, credit, extension services, area under teff cultivation, number of fertilizer distribution centers and distance from markets. The number of distribution centers and area under teff are highly significant explanatory variables.

The most important factors explaining the quantity of fertilizer used per hectare are average farm size and the amount of livestock owned. As farm size increases and the number of animals owned rises, so does the intensity of fertilizer use. Households with adequate productive resources may generate more cash to purchase fertilizer (to buy the input on cash or pay for down payment) or they may be less risk-averse compared to resource-poor farmers.

6.1.3. Grain Price Stabilization

In Ethiopia, instability in yield is found to be the major source of production instability, accounting for 60% to 80% of the variance of trend cereal production. Yield variability is mainly caused by fluctuations in weather conditions (irregular rainfall). This study indicates that about 20% to 40% of variability in cereal production has also been caused by fluctuations in area cultivated. Fluctuations in area cultivated are typically due to changes in production incentives caused by changes in input and output prices, the structure of credit programs, food aid programs, and other variables influenced by government policy.

According to the survey results, teff accounted for the largest percentage of production that is marketed by farmers (33%), followed by wheat (31%), maize (26%), millet (25%), barley (22%), and sorghum (18%) in 1995/96. In absolute terms, however, the most widely traded cereal is maize, accounting for about 0.6 million tons sold by farmers out of the total of 2.2 million tons of grain marketed. The total production and marketed supply has been concentrated into three regions of the country in the 1995/96 production year. Amhara, Oromiya, and SNNPR produced about 93% of the total grain production and marketed 85% of the total grain supplied in the country. Ethiopian rural households spend most of their income for consumption goods. About 32% of households replied that they sell grain in a specific month for the purpose of buying food. And about 12.3 and 11.8% of households in Ethiopia sell their grain for paying loans and to pay taxes, respectively. Paying taxes and loans are results of the government and credit institutions that usually require farmers to pay their loans and taxes immediately after harvest.

Based on the 1995/96 season, farmers' sale of cereals were moderately concentrated between January and May. Some 70% of total grain sales were made during these five months. The remaining 30% was sold during May to December.

A major determinant of the cost and benefit of price stabilization is the net market position of farmers. The findings revealed that on average about 56% of rural households in Ethiopia are net grain buyers and only about 37% are net cereal sellers. The correlation results indicated that net market position is positively and significantly correlated with grain production, household fertilizer use, and household income. Household size is only weakly related to net market position. Importantly, net market position is not at all related to whether a household receives food aid.

The concentration of marketed grains showed that the distribution of marketed grains by households is highly concentrated among a relatively small proportion of farmers. Forty percent of the families generally make no grain sales of any type, whereas 20% of the families receive more than 80% of the value of national grain sales. Rural households who are categorized as the top grain sellers also have the highest crop production level (in value terms), and have greater income levels. These top grain sellers also have higher values of livestock income, more land, and use more fertilizer than the other 80% of group of the rural population. These results imply that attempts to raise grain prices through price support/stabilization policies would have highly concentrated benefits among a relatively small and more prosperous strata of the rural sector, and would adversely affect the bottom 50% of the rural population that are net buyers of grain.

Stabilization of prices in Ethiopia is complicated and could potentially be a costly endeavor for the following reasons: (a) important commodities, such as teff, are not traded on world markets; (b) a number of grains feature predominantly in the consumption pattern; (c) there is substantial regional variation in cereal production and consumption; and (d) the economy is a subsistence economy where the proportion of net buyers of food grain is high.

6.1.4. Food Aid Targeting

In the relatively good harvest year of 1995/96, 43.2% of Ethiopia's farm households were food insecure, or had available for consumption less than the minimum nutritional requirement of 1,680 kilocalories in grain. Food aid programs, either in the form of free food or food-for-work, have been vital to the health and well-being of these deficit households. Deficit households manage to increase food availability by 59% through the receipt of food aid, from an average of 735 kcal per person-day to 1,217 kcal. However, due to unsuccessful food aid targeting, only 22.3% of these deficit households are selected as beneficiaries. The remaining 77.7% of food insecure households have no safety net.

There was no significant association between food availability (vulnerability) and food aid in the sample year, a result of high errors of exclusion and inclusion at both the wereda and household levels. Other things being equal, improved wereda-level targeting would have greater potential for reducing these errors than improved household-level targeting.

There are four factors that explain the high level of targeting error and the resulting low correlation between food insecurity and participation in food aid programs.

The primary beneficiaries of food aid programs are households at the extremes in terms of food availability: those with the least food available and those with the most food available. While targeting efficiencies are enhanced by the provision of food aid to the most vulnerable group, they are seriously reduced by the flow of food aid to the highly food secure beneficiaries. This pattern seems to hold across numerous regions of the country. Multivariate analysis has failed to account for food aid distributions to those in the most food secure households.

The Food Security Strategy and the beneficiary selection criteria used by several key NGOs involved in the distribution of food aid underscore the special vulnerability of women and the elderly under conditions of food shortages. Our data show that a disproportionate number of female and aged heads of household received food aid, irrespective of their food needs. We found that households headed by women and those aged 60 years and above are not less food secure than those headed by men or younger farmers. Thus, the practice of targeting women and the aged, to the extent that it is used exclusively in place of truly need-based criteria, has contributed to increased targeting error.

The strongest determinant of food aid receipt is the number of years over the past five years that households have received food aid. This is because years of food aid reflects the progressive build-up of “institutional capacity” in the food aid delivery system over time. By this we mean the investments made by government agencies and NGOs in such things as personnel, contacts and knowledge of the area, offices, trucks, and institutional reputation. All of these investments create a compelling reason to continue the flow of food aid to the same areas it has always gone—areas known for chronic drought and food shortfall. Because of the tremendous flow and momentum built up in the food aid delivery system, altering its course to meet the needs of deficit households in other areas that may not benefit from the same extent of infrastructure and institutionalization, is a formidable challenge, one that was not met in 1995/96. Improving the flexibility of the system to extend or shift the safety net when conditions require is a concept that clearly needs greater attention. It is a major cause of food aid mistargeting in Ethiopia.

Households in the region of Tigray were far more likely to have received food aid, regardless of need, than households in any other region, thereby decreasing targeting efficiency. Part of the reason for this disproportionate flow of food aid to the region is that Tigray is one of the country’s historically deficit areas in which a significant investment in food aid institutional capacity has been made. The region also has substantial community-based development projects and large public works programs (micro-irrigation, dam construction, soil conservation, etc.) that are implemented as food-for-work activities. Because of the labor-intensive nature of these projects, it is conceivable that a large number of food secure households may have benefitted from participating in them.

6.1.5. Vertical and Spatial Integration of Grain Markets in Ethiopia and their Implications for Grain Market Performance and Food Security Policies

In general, spatial wholesale price spreads between Addis Ababa and other selected markets were found to be very high. The price spreads as a percentage of wholesale prices in Addis Ababa (or other markets with higher wholesale price than Addis Ababa's wholesale price) were found to be greater than 20% in 13 of 30 cases, and greater than 30% in 10 of 30 cases.

There were very strong linkages among the prices of different marketing levels for a particular market. The correlation coefficient for price levels were found to be greater than 0.90 in all cases, except in Jimma, between wholesale and retail prices of white teff. The correlation coefficient for the first difference in prices (changes) also indicate that there were strong relationships among the cereal price changes at different marketing levels, except for white teff between wholesale and retail price changes in Jimma and between producer and wholesale price changes for Alamata.

The computed correlation coefficients between the spatial wholesale price levels were significant at a probability of less than 10% in all cases, except for Mekele in white teff and white maize. The spatial correlation coefficient was greater than 0.60 in 23 of 30 cases, greater than 0.70 in 18 of 30 cases, and greater than 0.80 in 12 of 30 cases.

For the three cereals considered, the null hypothesis of symmetric price transmission for a given market between possible pairs of price levels having a causal relationship was not rejected in any cases. The results indicate that there was a high degree of transmission of price change in one level to another, cereal markets in Ethiopia are reasonably vertically integrated. The null hypothesis of symmetric spatial relationship between Addis Ababa and other selected markets wholesale prices was also not rejected in all cases. This indicates that there was spatial integration of markets for the cereals considered. For 27 of 28 markets, where causal relationship exists, the change in Addis wholesale was also reflected in wholesale price changes at different other markets and vice versa.