

MARKET ANALYSIS NOTE #4

*Grain Market Research Project
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Meeting Food Aid and Price Support Objectives Through Local Grain Purchase: A Review of the 1996 Experience in Ethiopia¹

Problem Statement

Ethiopia has been a food deficit country for many years. Since 1994, however, grain production has increased steadily, with the largest crop on record reported in 1995/96. The apparent transition to food self-sufficiency is welcomed, yet it brings with it new development challenges.

Concerns have arisen that depressed cereal prices may reverse the recent gains made in promoting use of fertilizer and improved seeds by smallholder farmers. In fact, teff and maize prices throughout 1996 and so far in 1997 have been 20 to 40 percent lower than their 12-year inflation-adjusted averages. Also, national food self-sufficiency has not overcome the chronic food insecurity problem faced by many households. Despite increased production and lower grain prices, a large segment of the rural population continues to be unable to secure an adequate food supply. The current situation is therefore one of food abundance co-existing with widespread food insecurity.

Therefore, while there remains a clear need for continued food assistance for vulnerable groups, the typical method of importing food aid from donor countries was viewed as likely to exacerbate the country's existing supply glut and

further depress cereal prices to the detriment of agricultural production growth. To address this problem, the Government arranged with donors to procure food aid in 1996 from domestic markets through purchases from local traders. The objective of the program has been to buy grain locally to fulfill domestic food aid requirements. However, local purchase programs can also be designed to support other policy objectives, including stabilizing market prices during supply gluts and encouraging the development of an efficient grain marketing system. Supporting cereal prices was an explicit policy objective of the Government of Ethiopia in 1996. In 1996 the Ethiopian Grain Trade Enterprise (EGTE) offered farmers a minimum support price for maize and wheat.

The purpose of this paper is to identify factors that can improve the ability of future local purchase activities to achieve a range of national food policy objectives including price stabilization for farmers, promoting the development of a competitive and low-cost food marketing system, and procuring food aid resources in a cost-effective manner. The analysis of the 1996 Ethiopia experience provides potentially valuable lessons for the design of future local purchase programs throughout Africa.

Table 1: Specifics of tenders issued by the EU for grain purchase in Ethiopia in 1996

Delivery site and month of issue	Wheat	Maize	Sorghum	Total
----- metric tons -----				
Kombolcha				
March	(6,000)	(6,000)		
May	24,000	15,000	6,000	45,000
Dire Dawa	-			
March			3,000	
May		6,000		9,000
Shashemene	-		-	
May		9,000		9,000
Mekele	-			
February			(33,000)	
March		12,000	(33,000)	
May			33,000 ¹	45,000

Source: European Union, Addis Ababa, Ethiopia, 1996.

Note: Number in parentheses are tenders that were canceled. ¹Contracted to EuronAid

Background to the Local Purchase Program

In 1996 the European Union (EU) implemented the first phase of a local purchase program in Ethiopia. Tenders for 108,000 tons of grain (24,000 tons of wheat, 42,000 tons of maize, and 42,000 tons of sorghum) were issued in February and March 1996 for delivery in June and July to specified locations (Table 1). Nearly 100,000 tons of grain were actually delivered at an average cost of \$251 per ton. The second phase of the local purchase program was implemented in December 1996 for a total of 15,103 tons of grain in 500 ton lots.

The EU announced tenders in national newspapers and in regional newsletters of the Southern, Amhara, Oromiya, and Tigray Regions. Once tenders were received in the regions, the lowest price bidder in each region and for each lot of 3,000 tons was awarded a contract.

To review the local purchase program, the Grain Market Research Project conducted a survey of

over half of the participating traders, both winners and losers during August and September, 1996. Forty-three traders submitted bids to the EU of which 14 traders won bids. Of these, 27 were surveyed, 10 winners and 17 losers.

Options for Consideration to Improve the Effectiveness of Local Purchase Activities

The main findings of the report and options for further consideration to improve the cost-effectiveness of local purchase programs in the future are summarized as follows:

1. *Implement Local Purchase Activities Earlier in the Season:* Farmers may benefit by changing the timing of tender issuing, contract awards, and delivery dates to occur earlier in the marketing season.

In 1996, most contracts were generally awarded in March and April. Delivery dates were specified for May and June in most cases, but actual delivery typically occurred later. From this, it appears likely that much of the grain purchased

by participating traders occurred in the April-June period after most farmers already sold their grain. According to the 10 bid winners interviewed, more than 50% of the grain they purchased to meet the terms of the local purchase contracts were from other traders. Many traders attributed their failure to deliver grain by the specified delivery date to difficulties in sourcing grain at this time.

Data from nationally representative household surveys in 1996 indicate that between November and May, about 90% of farmer grain sales from the larger *meher* harvest have already occurred (GMRP 1996). In fact, it is likely that most rural households participating in the market during the May-September period are purchasing grain. Since grain is typically most plentiful on local markets during the several months directly after the harvest, it would appear that grain could be purchased at lowest cost by setting delivery dates not long after the period of greatest farm grain sales.

It is likely that moving the auction process forward in the marketing season will also result in reduced bid prices, other factors held constant. It is noted that tenders for the second phase of the EU local purchase activities were already launched in December 1996, several months ahead of when they were launched for the first phase.

Observing the seasonality in grain prices can assist in determining the most appropriate timing of local purchase activities. In Ethiopia, there is a strong seasonal trend in grain prices. In general, prices are at their lowest right after the larger, *meher* harvest, and then rise steadily until the smaller, *belg* harvest where prices fall, but rise again to a high before the next *meher*. Historical grain price trends also reveal that prices are lowest from October through December for maize; lowest in December for white wheat; and lowest in November for sorghum.

2. *Reduce the Contract Lot Size:* The cost-effectiveness of local purchase can be improved in the future by designing the program so that a greater number of traders are able to bid on local purchase contracts. Perhaps the most important means to increase the number of bidders is to offer contract lots of lower volume to enable smaller traders to enter bids.

Experienced smaller traders may not be able to mobilize enough working capital to procure 3,000 tons. A random survey of 219 wholesale grain traders interviewed in September 1996 (Gebremeskel and Shaffer, 1997) indicated that less than 10% of the traders purchased more than 3,000 tons of maize during the entire 1995/96 marketing year. The 10% of the traders purchasing the most maize during 1996 averaged only 521 tons purchased per trader. The trader deciles purchasing the most wheat and sorghum during 1996 averaged only 978 tons and 567 tons purchased per trader, respectively. These results suggest that in order to participate in the program, almost all Ethiopian grain traders would require access to much more credit and/or working capital than they currently utilize.

Indeed, it was found that traders submitting bids under the local purchase program in 1996 appeared to differ in some important respects from the broader cross-section of Ethiopian grain traders. This provides an insight to potential entry barriers to participation in the 1996 Program.

For example, over 70% of the bid winners and 50% of the bid losers owned trucks, compared with only 15% of the wider sample of grain traders (Table 2). Also, those firms submitting bids tended to be larger and more diversified in their activities than those not participating in the local purchase bid process. Almost 85% of the bid winners and 90% of the bid losers were involved in other business activities. By contrast, only 46% of the 219 randomly sampled grain traders

Table 2: Distribution of assets between EU participants and traders that did not participate in the local purchase program (percent)

Assets	Traders that submitted bids (n=27) ¹		Randomly sampled grain wholesalers (n=219) ²
	winners (n=10)	losers (n=17)	
Own other businesses	85	90	46
Own trucks	71	50	15
Own storage warehouse	50	55	58
Access to back credit	67	59	61

Source: GMRP survey data, 1996. ¹ Surveyed in August 1996; ² Surveyed in September 1996.

were engaged in other businesses. This difference may have been primarily due to the 3,000-ton lot size in the 1996 Program, which probably constituted a barrier to participation for most grain traders.

There are particular attributes that influence the likelihood that a trader is able to submit a bid to the Program. However, there are very few differences in the attributes examined between the bid winners and bid losers. For those traders that submitted bids, there seemed to be no distinguishing characteristics that increased or lowered his or her probability of winning a contract.

In response to this concern, the second phase of the EU local purchase program is specified in terms of 500 ton lots. According to our trader survey results, this is expected to increase the total number of bids received, other factors constant, and possibly reduce the number of very large traders submitting bids.

3. *Redesign the bid process to encourage greater competition:* The average contracted prices of wheat and sorghum under the 1996 Program were far above the prevailing market prices at the specified local delivery markets. This suggests, but does not prove, a lack of competition in the bidding process in 1996.

Detailed information (presented in the Working Paper) shows that the 1996 Program could have reduced its costs of grain procurement by 20

million birr (US\$3.16 million) by simply buying the contracted 108,000 tons of grain in the local market of the delivery location at the specified time of delivery. This would have reduced Program expenditures on local grain purchase by 11.6% (or alternatively would have allowed roughly 11% more food to be procured for relief efforts with the given amount of funds provided for the Program by EU). In addition to reducing contract lot sizes, options to promote greater competition in the bid process are presented below.

While not an explicitly stated objective of the 1996 local purchase program in Ethiopia, procuring grain from traders at least-cost market prices is important for maximizing the benefits of local purchase for a given bundle of resources devoted to the program. Procurement costs above market prices are likely to (a) pass windfall profits to grain traders without passing any benefits along to farmers; and (b) expend scarce resources that otherwise could have been used to create other benefits.

4. *Holding one national-level auction rather than a set of localized auctions can increase competition:* The evidence indicates that the regionalization of the auction process constrained competition in the bid process and increases the average bid price received under the Program. As a result, some traders did not win bids despite submitting lower-priced bids than other traders that did win bids (for comparable grain types,

Table 3: Relative value of purchases by separate and combined lots (000' birr)

Grain Type	Destination point	Value of bids actually won (000 birr)	Value of bids if one auction was held (000 birr) ¹	Potential Savings (000 birr)
A.	B.	D.	E.	F.
wheat	Kombolcha	40,109.4	38,787.3	1,322.1
maize	Kombolcha	16,522.5	16,360.5	162.0
maize	Shashemene	8,786.9	8,484.3	302.6
maize	Dire Dawa	7,302.0	same	0
maize	Mekele	14,062.0	14,058.3	3.7
sorghum	Kombolcha	10,645.2	same	0
sorghum	Dire Dawa	3,882.0	same	0
sorghum	Mekele	70,828.6	55,733.0	15,095.0
Total		172,137.6	155,252.3	16,885.0

Source: European Union, Addis Ababa, Ethiopia, 1996.

Notes: ¹ Computed by taking the lowest priced bids offered across all bidders for specific grain and destination points.

delivery points, and delivery months) simply because they were bidding in different regions. Segmenting the auction process into regions serves to reduce the number of competing bids in an auction, and does not appear to be compatible with the goals of promoting a competitive and integrated grain market environment.

Survey results also indicate that the regional segmentation of the auction created additional transaction costs for the traders of registering in numerous auctions and limited the number of traders submitting bids. As a result, the segmentation process did not always result in the lowest-priced contract (to a specified location for a specified cereal and delivery date) being accepted.

5. *Do not segment bids by contract:* Combining bids across all lots of 3,000 tons specifying the same grain and delivery point (rather than segmenting the tenders by lot) is expected to increase competition in the bid process and thus reduce the average bid price. In 1996 this would have saved the program 16.8

million birr for other developmental purposes, amounting to 9.8% of the total grain procurement costs under the program (Table 3).

In 1996, traders could bid for multiple lots within one region and for the same destination. For some contracts (lots), as many as 17 traders submitted bids. For other lots, as few as two bids were received from the same region and for the same grain and delivery point. As a result, some traders were awarded contracts whose bid price was higher than other traders who lost bids for the same grain and delivery point in the same regional auction.

Traders had an advantage if they knew to submit as many bids as possible. Traders who submit multiple bids and win a contract in which they were competing with only a few other traders had an advantage over traders that competed against many other traders. In addition, the likelihood that they win a bid improves if they bid in one lot that has few competitors.

Conclusion

The EU local purchase program has been clearly successful in meeting its primary objective: building up emergency food reserves. Almost 100,000 tons of grain were procured under the program in 1996, at an average cost of \$251 per ton. This cost was slightly below the landed import cost of comparable quality grain at most of the specified delivery sites.

It is difficult to estimate the effect of the program on cereal prices in 1996 and subsequent farm production incentives in 1996/97. Grain prices generally remained atypically flat through most of the 1995/1996 marketing year. However, it is likely that producer prices would have been even lower than they were without EU's intervention. The local purchase of 108,000 tons of grain in 1996 amounted to about 5.4% of the marketed grain output from the 1995/96 *meher* season. Program purchases of maize, wheat, and sorghum are estimated at about 8.3%, 10.3%,

and 18.4% of the total volumes marketed of these three commodities.

Local purchase programs are likely to become more prevalent as countries such as Ethiopia experience a transition from food deficit to food self-sufficiency. As government, donors, and analysts learn more from experience with local purchase programs, and are able to modify the design of the programs accordingly, it is anticipated that local purchase programs can achieve important benefits, both in terms of procuring food aid for targeting purposes and for increasing investment and competition in Ethiopia's grain production and marketing system.

References

- Gebremeskel Dessalegn and James D. Shaffer, 1997. "Constraints on Grain Market Performance in Ethiopia," Working Paper #8, Grain Market Research Project, Ministry of Economic Development and Cooperation, Addis Ababa.
- GMRP (Grain Marketing Research Project), 1996. Food Security Household Data Set, Ministry of Economic Development and Cooperation, Addis Ababa, Ethiopia.

Notes

1. This Note is an abridged version of a Working Paper by the Grain Market Research Project: Julie Stepanek, Wolday Amha, Asfaw Negassa, and T.S. Jayne (1997), "Meeting Food Aid and Price Support Objectives Through Local Grain Purchase: A Review of the 1996 Experience in Ethiopia," Working Paper #7, Grain Market Research Project, Ministry of Economic Development and Cooperation, Addis Ababa. Readers interested in details as to method and results of the analysis are referred to this paper.

The Grain Market Research Project is a joint collaboration between the Ministry of Economic Development and Cooperation, Michigan State University, and USAID/Ethiopia. Please direct all inquiries to the In-Country Coordinator, Grain Market Research Project, Ministry of Economic Development and Cooperation, P.O. Box 1037, Addis Ababa, Ethiopia; Tel. 12-89-73; Fax 55-01-18; Internet: GMRP@TELECOM.NET.ET