NATHAN ASSOCIATES INC.
ECONOMIC AND MANAGEMENT CONSULTANTS

Experience with Auctions of Food Aid Commodities in Africa

Volume I: Summary of Field Experience and Guidelines for Auction Design

Final Report

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EXECUTIVE SUMMARY

The Agency for International Development (A.I.D.) increasingly is using U.S. food aid to support liberalization of grain markets. This interest has led the Agency to look for ways to channel the food aid itself through private sector outlets. One such mechanism is to sell the food aid to private traders through an oral auction or through sealed bids. Both these mechanisms are generally referred to as auctions. A consultant team fielded by Nathan Associates Inc. was asked by the Africa Bureau to investigate the example of auction mechanisms used by field Missions, and to prepare guidelines, based on the findings, that could be used by field Missions in designing and implementing future programs.

Auctions have been used by A.I.D. in five African countries, with varying degrees of success: The Gambia, Guinea, Madagascar, Mali, and Somalia. The consultant team's discussions with A.I.D. personnel did not uncover instances of full-scale auctions in other regions, although direct U.S. Government sales to the private sector take place in both Zaire and Guatemala, and a sealed bid procedure is used in Morocco to determine which local grain agents will provide importing and transferral services for P.L. 480 shipments.

Auctions have been used to sell grain and other commodities at least since Babylonian times. Sealed bid and oral auctions are widely used in developed countries for the sale of goods, including U.S. Treasury Bills, oil and gas leases, fish, furs, and antiques. In Africa, the use of auctions is generally limited to government purchases and sales and to sales in conjunction with judicial proceedings, although private traders might be familiar with auction procedures used in international markets.

The widespread use of auctions has given rise to a great deal of literature, which discusses both practical and theoretical aspects of auctions. The theoretical literature is devoted primarily to comparing the expected revenues from each of the three main auction types — English, Dutch, or sealed bid — under alternative operating rules. These include particularly the use of first-price or second-price systems for determining the final sales price. The applied literature focuses instead on individuals' bidding strategies.

These include particularly the ongoing struggle between bidders and sellers to limit collusion.

The experience in Africa with auctions for food aid offers several lessons that should be considered in deciding whether to use the auction mechanism in a given case, in designing the procedures to be used, and in implementing the auction. The most important lessons are as follows:

- *Auctions can be used with success to sell food aid*, and they offer a promising mechanism for transferring food aid into private marketing channels.

- Nonetheless, *substantial care and attention must be devoted to auction design and follow-up if serious problems are to be avoided*, up to and including the collapse of the auction process.

- *Auctions cannot be conducted successfully in all cases*, and they might or might not be preferable to negotiated sales in a given instance as a means of moving food aid commodities into private channels.

- It is safe to assume that *both governments and traders are likely to have little experience with auctions, including sale by sealed bid*, and established procedures covering all important aspects of the auction are unlikely to be in place.

It is difficult to summarize the various factors that should be taken into consideration in designing and implementing a food aid auction procedure that will have a high probability of working. The following 10 considerations should be at the top of any auction designer's checklist, however:

- *Commodity choice.* Commodities to be sold by auction should have a strong and competitive market. At one extreme, commodities requiring processing (e.g., wheat) are a poor candidate for an auction because few developing countries have enough processing plants to ensure a competitive auction. At the other extreme, a low-quality commodity will face a weak market, and it might not be sold at all, making it more difficult to conduct an orderly auction and, naturally, reducing revenues

- *Local market structure.* Although it is not necessary to conduct a detailed analysis of local agricultural marketing channels, it is imperative that a basic understanding of the local market for the commodity in question underlie the auction design. This analysis, which might take the form of an informal series of discussions with traders, should enable the designers to determine whether traders will participate in an auction and what conditions (lot size, payment terms, etc.) will maximize their participation.

- *Government support.* The government must be willing to sell the commodity to the highest bidders in the quantities for which they bid (up to the total available) at the price determined by the auction. Any deviation from these principles must be identified and dealt with in advance. If it cannot be dealt with (if, for example, the government insists on setting the sales price administratively), then a sales mechanism other than an auction should be used.

- *Well-defined procedures.* The auction procedures — including particularly the financial arrangements for bidding and payment, the method of determining the price, and the procedure for reviewing and ranking bids — should be agreed upon in advance and, to the extent practical, written down. Development of the procedures should take into consideration any existing regulations on auctions and government tenders, but, because the Transfer Authorization or Title I agreement is a government-to-government agreement, A.I.D. may press for changes in these procedures necessitated by the food aid auction process. As the experiences in both Somalia and Guinea demonstrate, written procedures are no guarantee that the government will adhere to them, but they at least provide a basis for protest.

- *Consultation with traders.* In addition to discussing the proposed auction procedures with a spectrum of government authorities sufficiently broad to ensure their support and participation, it is highly advisable to consult the local trading community on an active basis. The traders are in the best position to comment on proposed procedures and their workability. Suggestions by the leading traders that the process would be more orderly if bidding were limited to a preselected group should be politely refused.

- *Attention to the financial procedures.* Where difficulties have arisen, they have related primarily to the inability of auction winners to complete their purchases in an orderly fashion, whether because the bids were not serious in the first place, because the procedures were impractical given the local banking system, or because traders were allowed to take delivery before making full payment. Bid bonds or other self-selecting procedures should be used in preference to criteria requiring the government to judge bidders' eligibility, however logical these criteria might seem.

- *Pricing procedures.* Two, and only two, procedures should be considered as alternatives in designing the pricing system: either each bidder will be asked to pay the price that he bid (this is called "pay-as-bid" in this report) or a single price will be calculated by moving down a list of eligible bids ranked by price until a price is reached where the total of the bids at or above that price equals or just exceeds the total quantity available for sale (this is the stop-out price; the system is called "uniform pricing" in this report).

- *Fallback procedures.* No matter how well the auction is planned, there is the possibility that it will go wrong in ways that cannot readily be fixed. The procedure must therefore include the option of cancelling the auction, repeating it at a later date, or shifting to a negotiated sale. This procedure must provide for the physical storage of the commodity for sale at a later date. Without such a procedure, both A.I.D. and the government are forced to go through with the auction sales, regardless of any improprieties or deficiencies in the buyers' or seller's performance.

- *Timing.* Auction timing is likely to have a large impact on the outcome, given the thinness and volatility of many African food markets. Every effort should be made to avoid holding the auction when the market is already well provisioned, not only because demand will be weak, reducing local currency generation, but also because the sale of a large quantity of food aid at this time might disrupt private marketing channels for domestic and imported food. These negative effects can be reduced by holding repeated but smaller auctions and by announcing the timing of the auction at least three months in advance (so that traders can adjust any import plans). The former approach might imply substantial storage costs, if logistic considerations prevent multiple shipments, but whether these costs exceed the costs to the government and private traders of an immediate sale is a question for analysis.

- *Follow-up.* Experience indicates that the process of monitoring and supporting the auctions does not end with the naming of the winners. On the contrary, the most serious problems have arisen in moving from award to sale. Although these problems can be traced in part to insufficient attention to designing the auction procedures and verifying government support for the process, they underscore the need to follow up until all sales are completed, all funds are deposited, and the commodity is delivered to the traders.

If these concerns are dealt with satisfactorily in design and implementation, food aid auctions provide a workable means to move food commodities into private wholesale channels. Although the team found no major inconsistencies between current P.L. 480 procedures and the demands of the auction system, three changes to current P.L. 480 procedures would help in implementing food aid auctions:

- *Better guidance to USDA on Title II commodity selection.* Current guidelines to USDA are to maximize the quantity shipped within the funding available. This procedure is appropriate for commodities that will be distributed free, but they are not necessarily consistent with maximizing the local currency value of the commodity or with offering a commodity for sale that will find ready acceptance on the local market. This issue should be reviewed with USDA to explore whether changes are needed.

- *Better coordination of shipping time.* In order to organize a smooth-running auction, the government must have accurate and timely information on exactly what commodity has been shipped and when it will arrive in country. Current Title II procedures are geared to moving commodities through government channels, rather than to providing sufficient lead time to organize a private sector sale. Equally important, better coordination between the Missions and USDA would be necessary to realize any potential that might exist for splitting shipments to avoid flooding the market and realizing a poor return on the sale. Here again, a savings on shipping costs might prove artificial, if it results in reduced auction revenue.

- *Increased time to ship after agreement.* Given the observed tendency for agreements to be signed toward the end of the fiscal year, the 90-day limit on shipment frequently results in commodities arriving at an inappropriate time. Attempts to avoid late signings can be made, but a more workable approach is to extend this deadline to 180 days or, if possible, a full year.

Finally, the study suggests that it generally would not be advisable to attempt direct sales between U.S. suppliers (or the CCC, for Title II) and local private traders. Although such a procedure is in use for Title I (in Zaire and Guatemala, for example), it effectively limits involvement to large traders making large purchases. Moreover, possibilities for collusion, corruption, and the like abound, both between the government and the traders and between the U.S. suppliers and the traders (particularly if the latter are branches of the former, as is the case in several countries).

In principle, it would be possible to conduct an auction in the recipient country with the understanding that the winners would be grouped together and represented by a limited number of purchasing agents, who would then complete the U.S. purchase and shipment (presumably in cooperation with U.S. agents under the watchful eye of USDA) and carry out the distribution of the commodity in country. Given the negative experience with such a direct sale in Africa (the Whitten program) and the many ways in which auctions with much simpler designs have fallen apart, this approach would require a very committed and courageous (not to say foolhardy) Mission.

The guidelines presented in this paper meant to provide assistant and direction to field Missions when designing and implementing food aid auction sales. If the issues summarized here are dealt with in a direct manner before auction sales commence, food aid auctions might well prove to be an innovative and useful way of moving food through private marketing channels.

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TERMS AND ABBREVIATIONS USED IN THE TEXT AND GLOSSARY OF AUCTION TERMS

ADC	Agricultural Development Corporation, the Somali parastatal that is currently responsible for national food security and cereals price stablization and that formerly held a monopoly over the domestic grain trade
A.I.D.	the U.S. Agency for International Development; generally responsible for managing food aid programs within the recipient country; offices in country are usually referred to as USAIDs
ALIMAG	the Guinean parastatal responsible for rice imports; closed December 1985
appel d'offres	invitation for bids (IFB)
auction	vente aux enchéres
auctioneer	commissaire priseur; individual conducting an auction (often a licensed professional)
banker's acceptance	note drawn on and guaranteed by a bank for payment at some future date (generally 30-180 days after sight) (French: traite avalisée)
BB	broken rice
bid bond	an amount paid at the time bids are submitted, or prior to that time, which might be set at a fixed amount or as a percentage of the amount bid; bid bonds are generally refunded to unsuccessful bidders and to successful bidders upon signature of a contract to purchase, being retained only from successful bidders who refuse to complete the purchase (French: caution de soumission)

bid documents	the documents provided to potential bidders specifying the terms of the offer and the procedures for the auction (French: cahier des charges)
bid opening	public opening and reading of the bids in a sealed envelope IFB process (French: depouillement)
bid-tender	a process whereby the seller issues an invitation to bid (IFB) and the prospective buyers submit written bids
buyer's commission	payment made to the auctioneer by the buyer over and above the price bid (often a percentage of the sale value)
C&F	cost and freight (import price including the exporter's purchase price and international freight)
cahier des charges	bid documents
caution de bonne exécution	performance bond
caution de soumission	bid bond
CCC	Commodity Credit Corporation, the branch of USDA responsible for the purchase and sale of U.S. agricultural commodities by the U.S. Government
CIF	cost, insurance, and freight (C&F plus insurance)
CFAF	West African franc (CFAF 315 = US$ 1 in October 1989)
commissaire priseur	auctioneer
CRS	Catholic Relief Services, a U.S. PVO
dalasi	Gambian currency (7.5 dalasis = US$ 1 in October 1989)
Dutch auction	auction in which the auctioneer indicates successively lower prices (sometimes regulated by a clock-like instrument showing declining price levels) until one of the bidders accepts the price (by signalling or calling out); also called descending bid auction; a sealed bid tender in which multiple lots are awarded is in effect a Dutch auction
EEC	European Economic Community

ENC	National Trade Agency, the parastatal handling imported foodstuffs (primarily food aid) in Somalia
English auction	open outcry auction (French: vente aux encheres)
f.a.s.	free along side (export price at the dock); the basis for determining the dollar-equivalent of the minimum amount required to be deposited as counterpart for food aid sales
first-price auction	an auction in which the goods are awarded to the highest bidder at the price bid
f.o.b.	free on board (export price including loading and port charges)
GCU	Gambia Cooperative Union
GDRM	Government of the Democratic Republic of Madagascar
GF	Guinean franc
GOG	Government of Guinea
GOTG	Government of The Gambia
GPMB	Gambia Produce Marketing Board; parastatal responsible for grain marketing
GRM	Government of the Republic of Mali
GSDR	Government of the Somali Democratic Republic
HIID	Harvard Institute for International Development
IFB	Invitation for Bids, tender announcement (French: appel d'offres)
lot	an item or group of items sold together as a single unit; e.g., 50 metric tons of rice
MEF	Ministry of Economics and Finance in Guinea
MICA	Ministry of Industry, Commerce, and Artisans in Guinea
MOFT	Ministry of Finance and Trade in The Gambia and Somalia; agency responsible for managing food aid sales

MOH	Ministry of Health in The Gambia; agency responsible for certifying grain quality
MPCI	Ministry of Planning and International Cooperation in Guinea
MT	metric tons
MYOP	multi-year operational plan
negotiated sale	a sale in which a small number of potential buyers are contacted directly and offered the good, with the price and quantity of the sale or sales determined through informal negotiation
noncompetitive bidding	system permitting bidders for small quantities to submit bids without specifying a price; they pay a price determined by the competitive bidders (e.g., in the case of pay-as-bid, the average of all winning prices)
ODR	Opèration de Dèveloppement Rural, a type of regional development parastatal in Mali
OGL	Open general license
ON	Office du Niger; a regional development parastatal
OPAM	Office des Produits Agricoles du Mali; parastatal responsible for managing food aid cereals in Mali
open outcry auction	auction in which potential buyers gather in a public place and compete by offering successively higher prices at the bidding of the auctioneer, with the goods going to the highest bidder at the final price offered (or being retained by the house if the reserve price is not reached); also called English auction, public auction
oral auction	auction in which potential buyers gather in a public place and compete by offering successively higher prices at the bidding of the auctioneer, with the good going to the highest bidder at the final price offered (or being retained by the house if the reserve price is not reached); also called English auction, public auction, open auction, open cry or outcry auction, and ascending bid auction (French: vente aux enchères)
ORS	Operation Riz Segou; a regional development parastatal
PAAD	Program Assistance Approval Document

pay-as-bid	auction system in which each winning bidder pays the amount that he or she bid; also called discriminatory pricing (contrast uniform pricing)
pay at the margin	auction system in which multiple lots are offered in a single auction, with lots awarded successively beginning with the highest bidder and proceeding downward until the quantity available is exhausted, but where all bidders pay the price at which the final lot (or partial lot) was sold, rather than the higher prices that each had bid
performance bond	bond paid by winning bidders upon signature of a contract; bonds are returned to the purchaser following satisfactory completion of the transaction covered by the contract (French: caution de bonne exécution)
P.L. 480	Public Law 480 of 1954, the basic legislation governing U.S. food aid
prequalification	a process whereby eligibility to bid is determined by a formal process, which might impose standards on bidders (e.g., possession of a warehouse) or require a show of good faith (e.g., payment of a bid bond), or might simply require registration prior to bidding
PRMC	Projet de Restructuration du Marché Céréalier; multi-donor program in Mali using food aid to support policy reform in the areas of grain marketing and pricing
PVO	private voluntary organization
reserve price	a minimum acceptable price determined in advance by the seller; the reserve price might or might not be announced prior to accepting bids (French: prix minimum or, in cases where both a minimum and a maximum are set, fourchette)
RM 40	a grade of rice used in Mali with 40 percent broken grains
SAP	Structural Adjustment Program
sealed bid tender	an auction mechanism whereby bidders submit prices for the commodity on offer (in single or multiple lots) in sealed envelopes that are opened on a predetermined date, often in public

second-price auction	an auction in which the goods are awarded to the highest bidder, but at the price bid by the next highest bidder; also called a Vickrey auction; rarely used in practice
seller's commission	amount paid to the auctioneer by the seller out of the auction proceeds
SNS	Stock Nationale de Sécurite; program in Mali managed by OPAM and responsible for maintaining an emergency reserve of local cereals
stop-out price	in an auction where multiple lots of an essentially similar goods are offered (as in the U.S. Treasury Bill auction), the price at which the winning bids exhaust the supply
TA	Transfer Authorization
Tender Boards	in The Gambia, standing or special committees formed under the jurisdiction of the MOFT, including the permanent Major and Minor Tender Boards, which supervise regular government procurement, and ministerial tender boards established to supervise procurement under specific projects (generally donor-financed), such as P.L. 480
uniform pricing	auction system in which multiple lots are offered in a single auction, with lots awarded successively, beginning with the highest bidder and proceeding downward until the quantity available is exhausted, but where all bidders pay the price at which the final lot (or partial lot) is sold (the stop-out price), rather than the higher prices that each had bid; also called marginal pricing (contrast pay-as-bid)
USDA	the U.S. Department of Agriculture, responsible for commodity management under U.S. food aid programs
vente aux enchères	auction (generally an open outcry auction)
WFP	World Food Program
Whitten program	A one-time sale of CCC commodities by auction, limited to certain drought-affected countries in Africa

INTRODUCTION

The sale of U.S. food aid commodities provided under P.L. 480 Titles I, II, and III and Section 416[1] may take place in several different programming contexts:

- *Program food aid.* Food aid provided under Title I, Title II Section 206 programs, and Food for Progress programs can be, and is nearly always, sold, with the revenues deposited in a special account to support identified development efforts.

- *Project food aid.* Under the expanded monetization authority granted to PVOs, Title II project food aid may be sold by PVOs and/or the World Food Program (WPF) to generate counterpart funds for the implementation of regular food aid programs. Sales of PVO-owned or government-to-government Section 416 commodities take place on the same basis.

- *Emergency food aid.* A portion of emergency food aid (Title II) may be sold to generate funds for program logistics, particularly transport.

Given the commitment of the U.S. Agency for International Development (A.I.D.) to expand the role of the private sector in the agricultural sector, increased attention has been devoted to involving the private sector in the distribution of food aid commodities. In some cases, private involvement has taken the form of increased contracting by the host government or the PVO

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1. P.L. 480, the legislation governing food aid, is formally titled the Agricultural Trade and Development Assistance Act of 1954 (as amended). Section 416 programs are governed by section 416(b) of the Agricultural Act of 1949.

for private sector supply of such services as warehouses and transport. In other cases, food aid has been sold to private sector wholesalers for distribution through private channels to retailers and consumers. A variety of mechanisms has been used for such sales, including allocation at an administratively determined price (the most common mechanism) and auctions. Privatization could in theory be carried further, by financing direct sales to private traders in a developing country by U.S. suppliers or the USDA Commodity Credit Corporation (CCC) under P.L. 480 or Section 416. Although permitted in principle by the present law, only one instance of such a direct sale was identified by the study team, the so-called Whitten program in 1984-86.

The research for this paper combined a review of the formal literature on auctions with case studies of experience with auctions for food aid. The consultant team held discussions with knowledgeable individuals in A.I.D., USDA, and the private sector, and it conducted field work in Mali, The Gambia, and Guinea. The information on the experience in Zaire, Madagascar, and Somalia is based on a review of written sources and interviews conducted in Washington or by phone. The team wishes to thank the many individuals in A.I.D./Washington, the field Missions, USDA, and elsewhere who provided guidance and information over the course of the study. Any errors of fact or interpretation remain the responsibility of the consultant team.

This paper serves a dual purpose: it reviews recent experience in Africa with the auction mechanism, including public auctions and the more common bid-tender procedure, and it provides guidelines for designing and conducting an auction. Given the length of the document, readers might wish to focus on the parts of direct relevance to their individual concerns. Table 1 is intended to serve as a reader's guide, recognizing the different purposes that different readers might have.

Throughout this paper, we will follow accepted practice in the auction literature by referring to both public auctions (open outcry auctions) and bid-tender procedures as auctions.

Table 1. A Reader's Guide to the Report

Overview: The paper is organized into four chapters, following this Introduction. Chapter I introduces basic concepts related to auctions, and it contains a brief review of the rationale for using auctions rather than other sales mechanisms. Chapter II presents a summary of the experience with food aid auctions in five African countries, as well as a review of other auction experience. This chapter also presents lessons drawn from this experience for the conduct of food aid auctions in Africa. Chapter III presents guidelines for the design and implementation of such auctions. Chapter IV provides a guide to the extensive formal literature on auctions, and it contains sources for further information. The appendices include: (1) detailed discussions of the country cases (Appendices A-E); (2) an annotated bibliography on auctions (Appendix F); and (3) additional guidance on the documentary and design requirements of auctions (Appendices G and H).
Readers planning to conduct an auction: Read the summary of country experience in Chapter II and the guidelines in Chapter III.
Readers interested primarily in learning about the experience to date: Read the summary of country case studies and Appendices A-E.
Readers interested in auctions in general: Read Chapter I on the use of auctions and Chapter IV summarizing the literature.

I. FOOD AID AUCTIONS: FUNDAMENTAL CONCEPTS AND ISSUES

Programming Issues in Food Aid Sales

The sale of food aid is, by its very nature, an operation that combines developmental and financial objectives. The objectives, often conflicting, might include the following:

- *Getting the food to consumers.* A central objective of food aid is to supply food to consumers in an orderly and timely manner. Sale through established distribution channels is one of the most straightforward means of accomplishing this objective.

- *Maximizing government revenue.* The sale of food aid has become an important source of financial support for government programs, including those implemented in cooperation with donors.

- *Stabilizing prices to consumers.* Food aid sales can be used to stabilize prices, by increasing the supply during periods of seasonal or temporary shortage.

- *Transferring income to consumers or others.* Where food aid is sold below market prices or where it is used to reduce market prices (by increasing the quantity available), it transfers income from the donor to the consumers, and, in most cases, from farmers to local traders and consumers.

- *Market liberalization.* Food aid provides a resource that can be used to support the transition from a market structure dominated by the public sector to one that relies on the private sector and on market forces.

- *Promoting private sector market development.* Food aid sales can be used to promote competition in private channels, reduce concentration, and encourage new entrants, as well as to provide an opportunity for profit and growth by existing market firms.

Several other considerations enter into the selection of a specific approach to sales of food aid in country:

- *Minimizing administrative difficulties.* One objective in selecting a food aid sales channel is to achieve technical efficiency by minimizing the implementation cost to the host government, the donor, and other participants, including direct administrative costs and indirect costs in the form of corruption, losses, and so on.

- *Achieving economic efficiency.* Sales of food aid should be done in a way that minimizes disruption of domestic and international markets and that ensures that those who handle and ultimately receive food aid do not extract income in excess of their costs (except to the degree that income transfers are intended).

- *Achieving transparency.* As a donor-supported program, food aid sales are expected to avoid any appearance of favoritism, illegal dealings, and so on.

- *Compliance with regulations.* Food aid distribution must be in accord with U.S. and host country laws and regulations.

Sale of food aid through private sector channels, including auctions and administered sales, can be consistent with each of these objectives. The specific design of the sales program, however, will affect the degree to which the program is effective in achieving some or all of these objectives. Wherever possible, the connection between objectives and program design should be made as explicit as possible, so that conflicts among objectives can be resolved without disrupting program implementation. The case studies provide several examples where failure to consider trade-offs among objectives, coupled with unfamiliarity with auction procedures among both public and private sector participants, caused problems in carrying out food auctions or led to the breakdown of the auction process.

An Introduction to Auctions

The activities covered by the term "auction" are not confined to oral or public auctions conducted by an auctioneer. In general, auctions fall into two categories:

- ***Oral auctions***, in which an auctioneer solicits bids from a group of bidders gathered in a public place (also called an open outcry, open cry, public, or English auction)

- ***Sealed bid tenders***, in which written bids are solicited by formal invitation with a fixed deadline for receipt, followed by a formal review process and award

Although advocates of the auction process have from time to time referred to internationally recognized procedures for auctions (of either type), in fact there is no single set of norms that has the sanction of international usage or law. Instead, there is a range of acceptable procedures, which vary in their applicability to an individual case depending on the specific circumstances and local laws, regulations, and customs governing commercial activity. Some procedures are standard across a wide variety of circumstances, such as a formal announcement of the sale and an issuance of bid documents with specifications and instructions to bidders, but these norms do not provide sufficient guidance for such a specialized activity as sale of food aid in a developing country.

Experience in Africa demonstrates that neither the host government nor the local private sector (nor A.I.D., for that matter) is likely to have extensive experience with auctions or an established set of procedures for conducting them. Consequently, it is incumbent on those establishing an auction procedure for food aid to support the process by suggesting alternatives, helping to clarify the procedures, and assisting all participants to understand them.

In designing an auction, initial considerations include determining which agency will conduct the auction, selecting the commodity to be auctioned, and establishing the timing of the auctions. The main parameters shaping the auction itself fall into three categories:

- *Eligibility to bid.* Limiting bidders to an approved list, setting requirements such as bid bonds and storage facilities, informing bidders of the auction

- *Acceptable bid terms.* Maximum and minimum quantities in a given bid, lot size, the use of a reserve price, acceptable terms of payment, the form and timing for receipt of offers, delivery requirements, and the use of bid bonds

- *Procedures for award.* Pay-as-bid or uniform price regime, public or private bid opening, procedures for allocating lots among bidders, notification procedures, contract form and performance bonds, means of solving disputes, and procedures to replace non-performing winners

The specific procedure chosen must conform to local laws and established commercial practices, but, particularly in Africa, these norms generally leave considerable scope for designing an auction procedure. The most important consideration is, therefore, how to structure the auction so that it best supports the objectives of the food aid program. In general, these objectives will best be served by a procedure that encourages maximum competition in the context of strict adherence to an orderly and established procedure. The purpose of these guidelines is to help Mission and host government personnel select procedures that will accomplish these aims, given the specific circumstances of each case.

An Overview of Experience With Auctions

The history of auctions is almost as long as that of markets themselves. Herodotus described auctions to allocate women to Babylonian would-be husbands in the fifth century B.C. (Milgrom and Weber, 1982). Auctions are currently used around the world to sell goods ranging from fine art and farmland to prize bulls and U.S. Treasury Bills. The U.S. Government uses auctions to allocate exploration and drilling rights on public lands and logging rights in the national forest. Sealed bid procurement procedures, a form of auction in reverse, are used extensively for government purchases at all levels.

Use of the auction mechanism has not been free of problems, even in highly sophisticated markets such as those for oil tract leases and logging rights in the United States. Students of both these markets have found strong evidence of collusion and other market-constraining practices intended to transfer revenue from the government to participating bidders (Hansen 1986; Hendricks and Porter, 1988; Mead, 1967; and Miller, 1972). Indeed, Milton Friedman has alleged that there is collusion in the weekly Treasury Bill auction (a contention that gave rise to a lively exchange in the literature, as might be expected; see Friedman, 1963, and Rieber, 1964, for example).

Most major auctions are managed on a sealed bid basis, with each bidder paying what he or she[2] bid (the first price or pay-as-bid system). This results in multiple prices where there are multiple lots, as in the Treasury auctions.[3] Both oral and sealed bid methods are used for some types of auction sales, including the sale of logging rights on federal land and private auctions of real estate. In most oral auctions, bidders are also permitted to submit sealed (or at least secret) bids in advance, which are then bid by the house.

It should be emphasized that, whatever their theoretical advantages, auctions are the exception rather than the rule in private transactions. In developed economies, virtually all sales from private sellers to private buyers take place "at the going price," that is, at the price set by the sellers based on market conditions and their own costs. A smaller but still substantial share of private transactions take place through direct negotiation among two or more parties, as in the sale of a house. The use of auctions in the private sector is generally restricted to goods with certain characteristics, as further discussed below.

In developing countries, use of the auction mechanism is largely limited to government procurement (by sealed bid) and to public sector sales of excess properties, such as goods seized through judicial proceedings. Recently, several countries, including Jamaica, Malawi, and Somalia, have experimented with the use of auctions (again, generally sealed bid) for the sale of foreign exchange.

Auctions are somewhat more common in the private agricultural sector than in other sectors. In private agricultural markets in developed countries, the use of auctions is limited primarily to the sale of horticultural products, fish catches, and livestock. The market for futures and forward contracts may also be viewed as an auction, but the highly specialized trading of the commodities markets offers few lessons of relevance to food aid auctions.

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2. Hereafter, the male pronoun will be used and should be understood to include individuals of both genders.
3. For the weekly Treasury Bill auction, bidders must choose between two systems: (1) small bids may be entered on a "non-competitive" basis, with the bidder agreeing to buy a certain volume of bills at the price set by the auction or (2) large bids are generally entered on a "competitive" basis, with the bidder specifying both a volume and a price (expressed as a discount below 100 percent, with the margin representing the buyer's return). To make the award, the total value of the non-competitive bids is deducted from the total volume for auction and the remaining bids are ranked by price. Bids are accepted beginning with the lowest discount until the total volume remaining is allocated. The price at which the last bill is awarded is termed the "stop-out price." Non-competitive bidders pay a price equal to the average of the successful competitive bids.

No effort will be made in this chapter to summarize the vast academic and applied literature on auctions. A brief review is provided in Chapter IV, with an emphasis on general findings of potential applicability to food aid auctions, and a bibliography with detailed annotations is provided in Annex F for those interested in pursuing this literature further. Before turning to the question of food aid auctions and their possible advantages and disadvantages, however, it is worth pausing to enumerate the market characteristics that appear to be associated with use of the auction mechanism in preference to sale at the going price or by negotiation. Table 2 indicates some of the situations that are likely to give rise to an auction.

The successful use of the auction mechanism in the private sector often relies on the existence of a specialized intermediary to conduct an oral auction, be it an auction house (for art and antiques), an auction hall (for livestock and other agricultural products), or a trained auctioneer (for property and odd lots). Use of an open invitation for bids is the norm in the public sector, but it is rare in the private sector.

Auction Versus Administered Sale: Advantages and Disadvantages

Why hold an auction at all? Why not simply sell the food aid commodity at a price reflecting the market price? There are several reasons for considering an auction in the case of food aid:

- *Price formation.* An auction largely eliminates the problem of setting the price for an administered sale. Even where market prices are readily available at the retail level, the translation of such prices into a price appropriate for a large quantity of food aid sold at wholesale is not straightforward, particularly if there are quality differentials or timing uncertanties or if the market is very thin.

- *Transparency.* A well-conducted auction eliminates the appearance of favoritism or illicit dealings in distribution of food aid; such appearances, whether justified or not, have the capacity to undermine the food aid program.

- *Increased revenue.* A well-conducted auction might be the best way to ensure that the government receives the highest price consistent with market conditions. For large quantities, even a small price difference can result in substantial increases in revenues for local currency programming. However, the underlying market is weak or dominated by a few traders, an auction by itself is no guarantee that the government will receive a fair price.

Table 2. When Is the Auction Used in the Private Sector?

- *The goods must be sold quickly.* The sellers of seafood, fresh flowers, fruits, vegetables, and other highly perishable products cannot afford to wait for a more attractive price or to haggle over each sale.

- *The price is highly volatile.* Like goods that must be sold quickly, those where the supply is highly variable and unpredictable appear to have more volatile prices and to be more likely to be sold at auction. Furs are one example.

- *The seller wishes to minimize the cost of sale.* For similar reasons, auctions are frequently used to dispose of odd lots of goods for which it would otherwise be difficult to find a buyer. Estate sales are an example.

- *The goods are unique.* No two parcels of land, thoroughbred horses, antiques, or works of art are identical in the eyes of the buyers. An auction provides a ready means of assigning values to differences that are hard to define, much less quantify. Similar but less dramatic differences lead to the use of auctions to sell lots of tobacco, livestock on the hoof, and certain other products. The price set by the auction might become the basis for setting the going price for such items, however, as happens with fine wines and some art works.

- *Potential buyers differ widely in the value they assign to the goods.* Such differences might be due to differences in buyer characteristics (e.g., capital position in the case of oilmen, location of the mill in the case of loggers, or taste in the case of art collectors) or to different assessments of the value of the goods (e.g., different estimates of oil deposits in a given lease tract).

- *Buyers are difficult to identify or to contact.* By what means, other than by auction, could an individual find buyers willing to pay the highest price for a valuable painting or a case of fine wine?

- *Increased Competitiveness in Private Markets.* In comparison to an administered sale, an auction makes the commodity available to a wider number of traders, encouraging efficient private sector activity.

- *Administrative simplicity.* While the requirements for conducting an auction should not be minimized, auctions are generally simpler than selling the commodity to buyers in the private sector. This is especially true when the number of buyers at an auction is expected to be large. Where only a few large buyers are involved, however, a negotiated sale is much simpler.

- *Certainty.* A well-conducted auction virtually ensures that the food aid will be sold and the revenue collected within a predictable time. On the other hand, errors in designing or conducting the auction can lead to unnecessary expense, delays, and ultimately a loss of revenue to the host government.

It should be emphasized that an auction is not the only means of channeling food aid into the private sector. Administered sales of food aid to one or more private wholesalers are the norm in several programs, particularly the large Title I programs in Latin America. Allocation among private firms operating in the market and determination of the local currency sales price may be accomplished by negotiation, with the private firms participating in the tendering process in the United States (under USDA oversight, as is required for all Title I sales) to ensure that quality standards and shipment arrangements meet their needs. This procedure has been used with reasonable success in the Guatemala program.

Auction mechanisms are the prevailing method governing purchase and sale agreements between the public sector and private firms. The rationale for use of auctions (generally sealed bid tenders) in this situation combines the first three rationales above. In some cases, the value is unknown or calculation would be difficult (as with a contract for a complex mixture of technical services or the sale of oil exploration rights). In other cases, the main aims are to achieve transparency and to arrive at the terms most favorable to the government. The weekly Treasury auction, which simultaneously sets the price and accomplishes the sale of literally billions of dollars worth of Treasury Bills, is perhaps the largest sealed bid auction in existence.

There are several factors that might weigh against using an auction mechanism:

- *Private sector oligopoly.* Where the private market is dominated by a handful of traders (or even a single firm), the possibilities for collusion are extremely difficult to eliminate. In such situations, measures can be taken to broaden competition and reduce this problem, which is often exaggerated by host government officials in any case. Nonetheless, instances clearly exist where there is insufficient competition to conduct an auction. This situation arises most frequently where the item in question requires processing (e.g., wheat into flour) and there are only a few firms with the requisite capacity.

- *Lack of experience with tenders.* Either the government agency involved or the private commercial community, or both, might be unfamiliar with oral auctions and sealed bid tenders. Such unfamiliarity, while it can be addressed through training and technical support, naturally leads to problems in attempting to sell large quantities of food aid in a limited period of time.

- *Legal factors.* While sealed bid tenders are acceptable as a mechanism for government sales in most countries and are generally well defined in existing regulations, the regulatory basis for oral auctions might not be clear or they might include features making it undesirable for food aid sales (e.g., high commissions to the auctioneer or excessive taxes).

- *Excessive market regulation.* Clearly, an auction is unlikely to be successful in an environment of rigid price controls, restrictions on interregional movement of grains, or exclusionary licensing of traders. Although market mechanisms are robust and can survive in the face of extensive regulation, policy barriers that preclude the competitive operation of the grain market must be eliminated before an auction can be held.

- *Food aid targeting.* By its very nature, an auction channels food aid to those with the greatest willingness to pay. As such, it is generally not consistent with distribution systems for food aid intended to make food aid available to low-income consumers at a lower price, such as fair price shops.[4]

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4. In principle, however, an auction mechanism could be used to channel food aid into a preferential market by limiting participation to suppliers operating in that market or by holding separate auctions for this market.

Some of these difficulties can be overcome through careful design and implementation of the auction. The feasibility of doing so depends on the resources available for managing and supporting the auction and, most significantly, on the specific market structure in which the auction will operate.

Perhaps the most important step in developing an auction procedure, therefore, is to examine how the private market operates. This examination need not entail a massive research study or a formal survey. Informal interviews with a reasonable cross-section of experienced traders can be extremely useful in selecting appropriate lot sizes, payment terms, timing, and other auction parameters. Many of the problems experienced in food aid auctions conducted to date might have been avoided had this common-sense step been taken.

Such an approach might be preferable to an administratively determined wholesale price as a means of setting marketing margins competitively. The team is not aware of any instance where this approach has been tried.

II. OVERVIEW OF EXPERIENCE WITH AUCTIONS OF FOOD AID COMMODITIES

A.I.D.'s emphasis on development of private marketing channels has resulted in increased use of such channels to market food aid commodities in country. In nearly every case, the U.S. Government has continued to transfer title first to the recipient government, which has then been responsible for selling the food to private merchants.[5] Sale to the private sector might be completed either by negotiation or by auction.

Auctions (usually by sealed bid) have been used in five African countries — The Gambia, Guinea, Madagascar, Mali, and Somalia — and they are being considered in several other countries. The first part of this chapter describes these experiences as the basis for drawing lessons learned, which are presented later in this chapter.

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5. Several exceptions are worth noting. In the case of the **Guatemala Title I program**, the government, the U.S. Mission, and the millers first negotiate an allocation of the funds available among the millers (self-organized into two groups), and then each group of millers proceeds to contract for delivery directly with U.S. suppliers, using a private U.S. procurement agent. USDA continues to provide oversight as it would for a foreign government purchase. The **Title I program in Zaire** uses a similar mechanism. In the case of the **Morocco Title I program**, the Moroccan embassy completes the U.S. tendering process up to the point where a list of U.S. suppliers, ships, shipping dates, quantities, and prices is developed. This list is then used as the basis for soliciting sealed bids from Moroccan firms to complete the actual importation, covering all stages of the process from issuance of the letters of credit to delivery to the processing mill. Although this procedure formally involves an auction mechanism (with the firms submitting bids covering their cost and fee for the transfer operation), the process is too constrained to be considered a true auction, with both the purchase price in the United States and the maximum sale price to the Moroccan mill being determined in advance. The Title I program in Yemen is reported to use a mechanism similar to that in Morocco, but further information was not available to the study team.

The Gambia

The Gambia has traditionally been a very active trading and transshipment point, with tariff levels and barriers much lower than its neighbors in the subregion. Until 1985, the Government of The Gambia (GOTG) controlled the country's primary agricultural exports through the operations of the parastatal Gambia Produce Marketing Board (GPMB). The GPMB had the legal monopoly on rice imports until World Bank-financed structural adjustment measures mandated the restructuring of GPMB operations and the further liberalization of cereal markets, including rice.

Under the auspices of its Economic Policy Reform Project, the A.I.D. Mission provided assistance to reinforce the structural changes, based on complementary policy reform measures leveraged by cash transfers from 1985 to 1989. Within this larger context of overall market liberalization, the P.L. 480 Title II Section 206 rice program was designed in 1985 and implemented in 1986 to support the government's liberalization of markets and restructuring of the GPMB. The specific objective of the Section 206 Program was to "work with the GOTG to . . . promote an economic balance between food crop production and imported food . . . involv[ing] efforts to . . . (iv) make full use of the most economically efficient market mechanisms and channels . . . liberalizing trade so that merchants can participate in all aspects of the marketing system."

Experience With Auctions

A total of 24,000 metric tons of rice was offered for sale through 11 auctions over a three-year period, beginning in November 1986 and ending with the shipment that arrived in Banjul in October 1989 (see Table 3). The quantities offered at each auction ranged from 80 to 4,000 metric tons of rice, with participation levels ranging from 2 to 408 bidders. The number of bidders showed a strong increasing tendency as experience was gained over the three-year period. Among the 11 auctions were 2 English style open outcry auctions led by Gambian auctioneers. There were used specifically to dispose of aged or degraded rice and broken bags/sweepings. These auctions appear to be the only case where the open outcry procedure has been used for food aid. The remaining auctions in The Gambia were conducted through formal invitations for bids.

The auctions were organized and managed by a Tender Board committee of the Minstry of Finance and Trade (MOFT), which included government representatives as well as a representative from USAID. Announcements about upcoming auctions were disseminated through Radio Gambia, and bidders were required to submit bids at the MOFT by the deadline specified. Bids were opened by the Tender Board in closed session, and the winners' list was determined by the Board and posted the

TABLE 3: Summary of P.L. 480 Rice Auctions in The Gambia

Date	Type of Sale	# of Bidders	Quantity for Sale	# of Winners	Comments
Nov/Dec 1986	tender	5	2470 MT	3	Tender was launched while rice was en route from Gulf port. Original tender was annulled because top bidder defaulted and rice arrival was delayed. Top 3 bidders won in 2nd round.
Jan 1987	admin sale	2	80 MT	2	Sale at announced price of 800 d/MT for loose bags and sweepings (two purchasers each received 40 MT).
April 1987	tender	59	1000 MT	10	2000 MT were originally allocated for sales, and bids were received for far more than 2000 MT; the ultimate decision to sell only 1000 MT was not explained in the Board minutes.
August 1987	tender	40	100 MT	1	MOFT had imposed two prequalification requirements (tax docs etc.); eventually allocated rice to top bidder of those who had submitted the necessary docs, but then eliminated req.
Sept 1987	tender	78	2800 MT	13	Entire 2800 MT awarded to top thirteen bidders; top bidders rec'd the quantity they requested up to a ceiling of 500 MT.
March 1988	tender	259	3870 MT	13	Very active participation -- top 13 bidders requested over 10,000 MT; imposed ceiling of 1000 MT for top 3 bidders; other winners allocated 100 MT each to widen distribution.
Sept 1988	tender	408	3000 MT	160	MOFT interfered with the auction after the bids were opened and allocations made; they decreed that the top 160 bidders would each get 20 MT at 130 d/bag, for a total of 3200 MT.
March 1989	tender	309	3000 MT	25	Much stock had degraded during poor storage by GPMB, and even after four rounds of alternate winners only 1000 MT was actually sold and finally taken.
May 1989	outcry	?	3369 MT	2	Most of this grain was left over from the unsuccessful March 1988 tender; it had degraded even further and was finally sold at the outcry auction for animal feed.
June 1989	tender	281	4000 MT	25	Winning bidders at the low end of bid price range rec'd only 100 MT each; top bidders received amount requested.
July 1989	outcry	?	550 MT	1	Two outcry auctions were actually held, because the top three bidders in the first round tried to manipulate the process and ended up not buying the grain at the prices they offered. In the second round, the Board required a bid deposit before awards were made, and the rice was finally paid for and collected.

NOTE: The "Comments" section illustrates the case-by-case decisionmaking process used to allocate quantities and balance objectives.

next day. Information on auction/tender results was posted at the MOFT and then disseminated through registered letters and/or over Radio Gambia. Pre-qualification requirements or screening procedures were used only once, in the early stage of the auctions. In general, the auctions were very accessible to bidders of all sizes and intentions.

Results

The auctions succeeded in selling all but 80 metric tons of the commodities available, although on two occasions rice stocks were poorly stored and suffered substantial degradation, causing a sharply reduced price. Although some auctions were better organized and administered than others, the only serious anomaly occurred in September 1988, when the government's fears of high retail prices motivated the Minister of Finance to annul the results of a regular auction and sell the rice at a low administered price. A.I.D.'s protest of this action forced the government to reimburse the local currency account for the reduction in proceeds resulting from this move.

Taken overall, the Gambian P.L. 480 auctions and tenders have proven to be an effective and innovative way to generate local currency revenues for GOTG/USAID uses while increasing the participation of and competition among private sector merchants. When judged against USAID program goals of liberalizing the market and increasing private traders' participation, the auctions have been quite successful. Participants at different levels of the system suggested changes that they felt could improve the auction and tender process, but generally all participants interviewed by the team expressed satisfaction with the administrative mechanisms used.

A primary obstacle to smoother operations has been the continuing tension arising from the need to balance competing objectives. At different times, either USAID or the GOTG has cited the following as among the aims of the program: (1) maximizing government revenues from sales, (2) maximizing competition and participation by private traders, (3) reinforcing private sector mechanisms, and (4) moderating retail price swings.

The government's desire to balance these competing objectives has frequently caused the Tender Board to make decisions (sometimes explicitly, but usually informally) that depart from appropriate auction procedure. A.I.D., with only one vote on the decision-making Tender Board, has participated actively in these debates, and it has tried to use economic criteria and persuasion to direct the actions of the Tender Board, with mixed success.

Two main deviations from standard practice have occurred, in addition to the pricing edict cited above. First, the board has fallen into a pattern of allocating rice among traders through a loose consensus that the rice should be allocated to those submitting the highest bids, with the ones bidding higher prices being given more. Rather than establishing and announcing a maximum award, the board has examined the bids and then made this decision on the basis of internal discussions. As a result, the rice has not gone to the highest bidders at the price bid by each (nor at a uniform price, a system apparently not considered in this case).

This practice has given rise to the second deviation: bidders have begun to submit multiple bids at various prices, either openly or through agents. By defaulting on some of the bids and following through on others, the traders hope to gain a larger total quantity at a lower unit price. The GOTG has considered using bid bonds to discourage this practice, but it has never explicitly forbidden it.

All parties apparently view these departures from normal tender procedures as acceptable, recognizing the government's political and economic needs. The potential for collusion and corruption in this system is clearly large, however.

Like the auctions elsewhere in Africa, the auctions in The Gambia have continually been plagued with problems related to payment (some related to multiple bidding and others not). These problems have been relatively minor, and the government has used the alternate list procedure to complete the sales within a reasonable time. The government has moved progressively toward requiring payment in cash or by cashier's check, to eliminate the problem of bounced personal checks, and it has considered instituting bid bonds or another procedure to limit defaults. To date, clear procedures on terms of payment have not been formalized, however, particularly with regard to the time limit for completion of the sale.

Market Implications

The rice market in The Gambia is generally perceived as being very segmented, with separate markets for imported and local rice. While the actual degree of segmentation is a question for empirical analysis and has been the topic of considerable debate, there appears to be a very distinct market niche for the premium long- and medium-grain rice imported from the United States both commercially and as food aid. In 1987, 22,800 metric tons of premium-quality rice was imported, of which almost 10,000 metric tons was under the P.L. 480 II-206 program. Total domestic demand for milled rice was estimated in 1987 as 75,000 metric tons, nearly 50 percent of total demand for cereals.

The program's designers postulated that one way for the program to benefit the neediest members of Gambian society would be by exerting a downward pressure on rice prices through the increased supply of the commodity. In fact, however, the program has been implemented during a period when world rice prices have declined sharply. This global trend has overwhelmed any localized effects on consumers that the liberalization of the rice trade might have had in the Gambian economy. Preliminary analysis by USAID economists indicates that some sales might have had an ameliorating effect on prices, but the price impact of the program remains unclear.

Guinea

Since 1985, the Government of Guinea (GOG) has been implementing an Economic Reform Program designed to address longstanding economic deterioration and financial imbalances and to promote private sector growth. Areas of program focus are trade liberalization, parastatal divestiture, currency devaluation, market-driven pricing, and a new banking system. In keeping with the first two elements of the program, the GOG closed the state trading company responsible for rice imports in December 1985, thus allowing private traders to engage openly in the importation and distribution of rice.

To reinforce the changes implemented by the GOG, USAID tailored its Food for Progress program (initially under P.L. 480 Title I and later under Title II, Section 206) to promote the greatest participation possible from the private sector. Administered sales to private distributors were used in 1986 and 1987, and auctions in 1988 and 1989. Auctions allowed the rice to be marketed directly by the private sector rather than to be sold on consignment by the private sector for the government.

Experience With Auctions

A total of 42,502 metric tons of rice was offered for sale in two auctions, one in October/November 1988 and the other in September/October 1989, following the sealed or written bid format (see Table 4). Both auctions were implemented by an oversight committee composed of representatives from USAID, MICA, and MPCI, under the direction of MICA, and both followed the usual practice for public sector tenders, including a public opening of the bids (with public announcements of bid prices and quantities) and ranking of the bids in descending order by price.

Both auctions were generally well designed with clear and concise parameters. To be eligible, bidders had to have minimum experience (once in five years) in importing a narrow range of food items (rice, vegetable oil, wheat, flour, and sugar). They had to demonstrate a transport and storage capacity adequate for their expected share of the rice shipment, and they had to have a strong credit record, with no defaults. Successful bidders had to deposit 25 percent of the total purchase price at the time of award notification by the oversight committee; the remaining 75 percent had to be covered by a bank letter of credit. Final payment had to be made three months after the departure of the ship from Conakry. Minimum and maximum quantities for award decreased from one auction to the next, from 2,000 and 5,000 metric tons in 1988 to 500 and 1,000 metric tons in 1989.

Table 4. Outcomes of Rice Auctions in Guinea

Number of bids	Original Tenders: Price ($/MT) High	Price ($/MT) Low	Price ($/MT) Mean	Quantity (MT) High	Quantity (MT) Low	Awards: Number	Price ($/MT)	Quantity (MT)	Comments
1988 Auction									
25	315	302	307	15,000	2,000	15	345	2,000	Size of Title II shipment: 31,502 MT
						1	345	1,502	FAS price of Title II shipment: $302/MT
									CIF price of privately imported rice: $345/MT
									Sequence of events
									Bids ranked in descending order by price. Bids excluded for not meeting eligibility requirements. Application of an initial uniform transfer price of $307/MT (the mean of all bids submitted). Maximum lot size reduced from 5000 MT to 2000 MT to allow broader awards. Payment terms set at 25% down payment, 75% bank letter at request of successful bidders. GOG request to form a security stock is overturned by AID referring to the language of the TA. Final transfer price set by GOG at the prevailing market price for privately imported rice to reduce potential for windfall profits among successful bidders.
1989 Auction									
117) plus 21+)	465	200	332	21,000	300	39	350.88	400	Size of Title II shipment: 16,000 MT FAS price of Title II shipment: $350.88/MT CIF price of privately imported rice: $360/MT
									Sequence of events
									Bidders excluded for not meeting eligibility requirements. Bidders ranked in descending order by price. Bidders excluded for submitting excessively high and low bids. Application of a uniform transfer price, initially set at $332/MT (the mean of all bids submitted), then at USAID's insistance at $350.88 /MT (the FAS price). Maximum lot size reduced from 1,000 MT to 500 MT to allow for broader awards and ostensibly to minimize risk of nonpayment and to accelerate unloading from ship. Initial awards made to the top 32 bidders within a price bid band of $360 to $350/MT. Inability of bidders to obtain required bank guarantee results in the development of a reserve list based on perceived ability to pay and not on bid ranking, and in the reopening of the auction to anyone capable of meeting the credit requirements (25% down, 75% supported by an irrevocable letter of credit). GOG requisitions 100 MT from each allotment for the development of a security stock, resulting in awards of 400 MT.

Despite the clear parameters established initially, both auctions departed from the practices agreed upon. The tight schedules for completion of the auctions and the absence of GOG storage space seriously prejudiced the auction process (as the GOG could not store the rice between its arrival in country and delivery to the bidder and it was therefore forced to go ahead with the sale whatever happened). These constraints led to the adoption of inappropriate pricing mechanisms and interventions by the GOG after bids were received with respect to lot size and number of winners.

Of all the problems, intervention with respect to the maximum amount to be awarded was the most serious. On both occasions, the GOG reduced the maximum from the level set forth in the bid documents after the bids were publicly opened. In 1988 the GOG lowered the maximum to increase the number of successful bidders and ensure that certain large rice importers were among the winners. In 1989 the GOG again reduced the maximum to allow for broader awards and to permit the government to keep a portion of the rice in order to create a national security stock.

The second most serious problem was the derivation of the sale price (the transfer price). In both years, the procedure established was to award rice to the highest bidders at a price equal to the mean of all bids submitted. The rationale for this unusual procedure is unclear, but its selection demonstrates the lack of familiarity with bidding on the part of African governments. Not surprisingly, this calculation resulted in an artificially low price that bore no relationship to prevailing market conditions or to the bid prices of the successful bidders. When it became clear that winners would thus receive windfall profits, the GOG increased the price arbitrarily. In 1988, the price was set at a level reflecting the prevailing price of privately imported rice, while in 1989 the price was set at a level just exceeding the reserve price (the f.a.s. price as required by USAID). In other words, the prices bid determined who won, but not how much they paid. Over time, this procedure would naturally lead to inappropriate behavior by the bidders.

Timing has also been an important factor in auction implementation. The 1989 auction disintegrated into an administered sale when the ship arrived in port earlier than anticipated and the GOG sought quickly to find credit-worthy buyers for the rice. Awards were eventually made based on the perceived ability to pay and not on bid ranking. Despite these interventions, the number of bidders increased by 368 percent from the first auction to the second.

Results

The two auctions conducted to date have generated uneven revenue levels for the GOG's counterpart funds. In 1988, the auction price was set (by means of intervention by the GOG) at the highest value that the rice market could sustain, the CIF price of private imported rice. In 1989, the auction price was established (once again through intervention) at the prevailing f.a.s. price of Title II rice, which was lower than the prevailing CIF price of imported rice.

For political reasons related to the role of rice as a staple food in Guinea, it appears that the GOG has no desire to sell the rice at the highest price it can get, or, indeed, in raising more revenue than required by the Transfer Authorization (i.e., the f.a.s. price of the rice). This attitude has important financial implications for those programs sponsored by counterpart funds. GOG intervention to establish an administratively determined price whenever the auction price is "too high" (i.e., above the f.a.s. price) will clearly undermine any auction process. If this situation cannot be changed, it would be preferable to use a sales procedure other than an auction.

Given the situation, it is not surprising that many auction participants both within the GOG and in the private sector felt that the auction process could be improved. Additional problems cited included lack of transparency as the auctions moved from bid ranking to lot awards, lack of sufficient dialogue between the GOG and USAID to establish explicit auction objectives that conform to food aid programming goals and general policy objectives, confusion about the proper role of the auction oversight committee, poor timing, and uneven quality of the rice.

Market Implications

The impact of the Title II rice auctions on operations of the rice market in Guinea is difficult to gauge owing to the far-reaching structural changes going on in the economy. The traditional segmentation of the domestic and imported rice markets in Guinea is starting to be blurred as commercial rice imports increase in volume annually and therefore move outside of the urban areas to compete directly with local rice in the rural areas and for export northward.

Contrary to plans on both sides, Title II shipments have always arrived in September or October, coinciding with the beginning of the harvest season for domestic rice. To the extent that the markets for domestic and imported rice remain distinct, observers of the Guinean market believe that the influx of U.S. rice in Conakry has little impact on prices and markets for the more expensive domestic rice. To the extent that imported rice is being re-exported or sold inland, U.S. rice (along with all of the other less expensive imported rice) has the potential to displace local rice in both markets, at least temporarily.

It is difficult to attribute any downward movement of rice prices in Conakry to U.S. rice imports, owing to a seasonal (autumn) glut of rice in the urban center at the time the U.S. rice arrived during both of the past two years. U.S. rice does appear, however, to hold a very strong niche in the Conakry market. Traders, locked into long-term contracts with Asian rice suppliers, note a decline in demand for their Asian rice stocks in anticipation of the arrival of the U.S rice.

As a percentage of all rice imports, U.S. Title II rice shipments are relatively small, accounting for approximately 17 and 8 percent of all commercial and concessional rice imports in 1988 and 1989, respectively. As one-time injections into the rice market, though, such shipments have the potential to disrupt rice market operations if they arrive at a time other than scheduled. Traders, unable to wait for the delayed shipment, arrange for rice supplies from other sources, leading to a glut of rice in Conakry when the U.S. rice actually arrives.

On the positive side, auctions appear to be increasing the participation of wholesalers in the rice import market, by providing an additional channel of supply for domestic traders. However, they are not necessarily fostering the development of a larger class of importers per se. None of the major rice importers currently deals in U.S. rice. Each has his established marketing chain and maintains his dealings with his wholesaler clientele regardless of the latter's participation in the auctions. Indeed, it was alleged that some of the large importers have used the auctions to expand their business by repurchasing rice nominally purchased by wholesalers in their marketing chain, thereby directing more than their "quota" of the U.S. rice to their warehouses.

Madagascar

The experience in Madagascar differs greatly from that in the other countries studied, because the commodity auctioned — crude vegetable oil — can only be purchased by a refinery. This section summarizes and evaluates USAID/Madagascar's experience under the FY 1988 P.L. 480 II-206 program. Under this program, sufficient vegetable oil was imported to meet refining and consumption requirements through half of 1989 (5,000 metric tons of crude vegetable oil) and sold by auction to Malagasy refineries. The focus of this case study is the first FY 1988 auction held in January 1989, on which documentation was available. Other auctions have been held, but the team was not able to assemble sufficient information on these auctions to report on them here.

Experience With Auctions

While this evaluation focusses on the auction of 5,000 metric tons of Section 206 crude vegetable oil from FY 1988, both the Government of the Democratic Republic of Madagascar (GDRM) and USAID/Madagascar had previous experience with food aid auctions (see Table 5). According to a

1989 A.I.D. Evaluation Report, the FY 1987 auctions: (1) increased interministerial cooperation, (2) increased private sector involvement in the vegetable oil market, (3) improved geographic market extension, and (4) lowered consumer prices. It appeared, however, that the parastatals had a greater advantage in acquiring allotments than did the private sector refineries due to the parastatals' more generous payment terms (private mills were required to pay in cash). Therefore, the agreed-upon auction procedures for the subsequent 1989 auctions specified that both private and public sector bidding refineries would be subject to equal payment terms and conditions and that the FY 1988 allotment would be auctioned competitively.

Table 5. Results of January 1988 Auction in Madagascar

Refinery	Price Bid (Fmg/metric ton)	Quantity Bid (metric tons)
SEIM	877,000.00	280.00
HCT	876,500.00	610.00
SCIM	876,000.00	150.00
SOMAPALM	875,500.00	800.00
SIB	875,000.00	100.00
SICA	872,796.00	50.00
Total		1,900.00

Source: A.I.D. Evaluation Report, March 1989

The FY 1988 auctions were intended (1) to provide continuing balance of payments support, (2) to encourage continued market liberalization, (3) to support government efforts for reform of the vegetable oil subsector, and (4) to supply a nutritionally significant commodity at non-scarcity market prices for Malagasy consumers. Based on the auction procedures agreed to in the Memorandum of Understanding, the GDRM sent the six refineries an invitation for bids (IFB) on December 8, 1988, announcing the auction of the first lot (1,840 metric tons) of vegetable oil. The bids were due on January 5, 1989. Although the selection of the consignee refinery was to be done through competitive bidding, only one refinery, SOMAPALM, offered to receive and store the shipment. By February 1988, all 5,000 metric tons of crude soya oil was imported and stored at SOMAPALM.

The IFB detailed the requirements for submitting the sealed bids, and it established the minimum bidding price for the first lot. Bidders could not bid for a quantity of oil in excess of their annual refining capacity, which was estimated by the GDRM and presented in the IFB. Tenders were to include bids expressed in local currency (Fmg) and metric tons, as well as documentation of the bidder's actual annual production capacity, proof of registration with the Ministry of Commerce, and an official business card. The IFB also outlined the procedures for evaluating the bids. The bids were ranked according to price per metric ton, and in the event of equal bids or the quantities bid not corresponding with the total allotment available, bidders would be asked to submit new bids the following day at prices no lower than those bid in the first auction.

The tenders were opened and ranked at a public meeting at the Ministry of Commerce to which bidders and/or representatives were invited. Winning bidders were obligated to submit a check made out to the Central Bank of Madagascar to the Treasury for the full cost for the quantity allotted and to submit authorization for pick-up of the allotment from the consignee, paying the fixed fee for storage and delivery of the crude oil. Allotments were to be picked up within six weeks from the date of notification of the award.

The IFB outlined general requirements asking bidders to follow a government decree issued in 1964, which mandates the norms and quality of refined oils that can be sold for consumption and administers the conditions for refining oils (1969 decree). Bidders were asked to label their products clearly to help in identification by consumers and to submit a monthly declaration of stocks, production, and sales to the GDRM, USAID, and the local trade office. The IFB contained a model form to be used for the report. Bidders not following the guidelines specified in the IFB and failing to pay (in full) either the Treasurer for the allotment or the consignee for the fixed fee for storage would lose their allotments, which would then be auctioned among the other refineries. Refineries that defaulted would then be forbidden from participating in other auctions for a period of one year.

Results

In general, the auction of the P.L. 480 food aid had mixed results, which were attributed to financial and technical constraints faced by refineries, the oligopolistic nature of the oil subsector, and obvious collusion among the bidders. Each bid varied by exactly 500 Fmg/metric ton (0.06 percent of the total price) from the next highest bid, and the lowest bid was the announced minimum bid (the reserve price). Moreover, the A.I.D. Mission was told that the lowest bidder, who had bid the reserve price, was not a serious bidder. The total quantity bid by all refineries was only 150 metric tons (1 percent) more than the total allotment available (1,840 metric tons), and consequently all bidders were successful. Coincidentally, the quantities bid by the four winning refineries equaled the amount available in the first auction lot. The parastatal refineries received 77 percent of the allotment with 68 percent of total domestic refining capacity. Therefore, the public sector refineries maintained their greater access to crude inputs. However, the procedure did allow the private sector greater access to the imported oil than they had had.

While the P.L. 480 imports auction assisted the government with its balance of payments and increased the supply of edible vegetable oil to consumers at non-scarcity prices, the auction had little effect on the country's efforts to liberalize markets and to reform the vegetable oil subsector. The market pricing mechanism for crude oil inputs was not fully liberalized, and the auctions as conducted resulted in an administrative allocation of the input commodities, not a market one.

While the auction was conducted with sufficient advance warning, misinterpretation of key clauses in the IFB and technical and financial constraints faced by refineries reduced their ability to follow the auction rules precisely. Breached auction procedures also undermined the auction's effectiveness. Bidders were delayed in making full payments to the Treasury and SOMAPALM and in taking delivery for their winning allotments.

Based on interviews with representatives from three refineries, an A.I.D. evaluation team concluded that the bidding refineries had held a prebidding conference to establish bidding prices and quantities and to eliminate any effective competition among themselves. For example, one bidder agreed to bid for only 280 metric tons (one month's supply for this refinery), not 900 metric tons as originally planned. This was based on the understanding that there would be another auction in one month. Another refinery also agreed to reduce its bid quantity to allow all refineries equal access to the auctioned lot.

Irregularities also occurred in the payment and delivery process. One bidder paid the Treasury for another's allotment since the latter was unable to pay the cost of the allotment and the consignment fee. The former refinery also considered taking delivery on the allotment awarded to the consignee because the latter's refinery was broken. In addition, the consignee did not submit the necessary payment to the Treasurer in the required time period and it had already refined almost half of its allotment of vegetable oil. Therefore, this refinery violated one requirement as specified in the IFB, that full payment was to be made to the Treasurer for the awarded allotment prior to taking delivery. The refinery was sanctioned and was ineligible to participate in subsequent auctions that year.

Clearly, there were a number of procedural and legal issues that arose with the first auction of FY 1988. The A.I.D. evaluation team recommended that, before the next auction, an audit be conducted of the first auction to identify, address, and rectify problems for subsequent auctions. The audit team recommended that the IFB should be amended to clarify the terms for payment and delivery. Amendments would include: (1) allowing winning refineries to make partial payments for shares of their allotments before taking delivery within a given time period (such as six weeks); (2) designating the exact time period during which payments should be made for allotments, (3) amending the delivery requirements to allow for partial deliveries, and (4) more careful monitoring of the shipment and monthly operations reports by the GDRM to detect early and illegal delivery of allotments.

This experience demonstrates the need to understand the local market structure before designing an auction (or deciding to hold an auction at all). Importing and auctioning refined oil might reduce dominance by parastatals in the subsector by allowing increased scope for private mills to obtain inputs, but this move falls well short of complete market liberalization. It remains unclear whether the GDRM is willing to allocate oil to the highest bidder at the price bid, which is the essential precondition for an auction. In an environment of fixed refining capacity, it might be preferable to consider auctioning refined edible oil (as was done in Somalia), for which bidders would presumably face fewer barriers to entry than in the case of crude oil. A decision to import and auction refined oil (or to auction some or all of the oil produced by the mills from U.S. crude oil) would require more information regarding marketing and distribution of edible oil in Madagascar than is available to the team.

Market Implications

While no comprehensive analysis of the vegetable oil subsector has been completed, informal projections indicate that a negligible deficit existed during 1989, with the USAID "Section 206 . . . program providing 40 percent of the refined oil from non-artisanal sources consumed in Madagascar in 1989."[6] The rest of the supply came from remaining stocks from the FY 1987 Title I program (12 percent); domestic production (30 percent); supplies donated by the Italian government (9 percent); and other donations. The total annual vegetable oil requirement is estimated to be 11,230 metric tons. The FY 1988 Section 206 program was believed to be critical to maintaining a sufficient supply of vegetable oil for consumers, given constant domestic production levels and given that significant domestic production increases are assumed to be unlikely for the near future. While complete information does not exist with respect to mechanisms for the pricing and distribution of refined edible oil, consumer hoarding has ceased because of more market-oriented pricing in the edible oil subsector.

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6. Evaluation Report: FY 1988 P.L. 480 Title II Section 206 program, March 6, 1989.

Mali

The multi-donor Projet de Restructuration du Marché Céréalier (PRMC) has played a major role in the process of liberalizing the cereals market in Mali. Under the leadership of the World Food Program (WFP), the major food aid donors (including the United States) made a multi-year commitment to provide food aid to Mali, in return for which the Government of the Republic of Mali (GRM) agreed to liberalize the grain market and take other actions intended to increase farmer incomes and improve the efficiency of public sector organizations in the sector, particularly the Office des Produits Agricoles du Mali (OPAM), the parastatal responsible for managing food aid and domestic grain marketing. Revenues from the sale of food aid provided under the PRMC were used to support the reform. A.I.D. participated in the program through the provision of rice under Title II, Section 206.

Experience With Auctions

Under the auspices of the PRMC, several attempts have been made to use the auction mechanism to sell grain stocks held by OPAM (of which something less than half was initially provided by A.I.D.). Experience with sale of food aid by auction includes three sales of food aid rice by OPAM (January 1989, April 1989, and June 1989, totaling 11,300 metric tons), and two sales of various coarse grains (one in 1987 and one in September 1989, totaling 20,130 metric tons) by the Stock Nationale de Sécurité (SNS, a separate entity within OPAM established and administered with assistance from the German aid agency). In all cases, the basic method used has been invitation for bids, rather than public outcry auction.

These auctions have generally taken the form of simultaneous sales of separate lots of grain held in different locations. Table 6 summarizes the OPAM experience. Where multiple locations have been used, bidders were permitted to bid on lots in more than one location (and several did so), but restrictions were sometimes placed on the shipment of the commodity outside of the region where the auction was held, with uncertain results.

In addition to the OPAM and SNS auctions, several half-hearted attempts at auctions have been made by regional development parastatals (ODRs), including the Office du Niger (ON) and Operation Riz Segou (ORS). Between November 1986 and September 1989, 10 IFBs were issued by one or another of the ODRs, acting under pressure from the PRMC to reduce rice stocks held over from the previous season and to generate cash. In all cases, the commodity to be sold was rice produced and milled on the ODR. Very few of these sales were successful, generally because the ODR set a reserve price above the market price and made only limited efforts to publicize the sale. Basic problems common to many of these auctions were the weak market for the commodity in question at the time of the sale and the absence of agreement among the seller, the PRMC, and potential buyers

Table 6. Experience in Mali with Auctions of U.S. Food Aid

Auction Date	Location	Commodity Offered(a) Type		Commodity Offered(a) Quantity	Bids Received (b) Number	Bids Received (b) Tonnage	Bids Retained Number	Bids Retained Tonnage	Number of Contracts Initial	Number of Contracts Follow-up	Amount Contracted Initial	Amount Contracted Follow-up
Jan-89	TOTAL			6800	15	5670	12	4242	9	6	4170	2042
	Bamako	US (+ other?)		2630		2630	NA	NA	1? (c)		1000?	
	Bandiagara	W		108		0	NA	NA	1		108	
	Djenne	W		25		25	NA	NA	1		25	
	Gao	W	}	1000		1000	NA	NA	2	1	500	500
		US	}						1 (d)		500	
	Kayes	B	}	1150		1150	NA	NA	2	1	180	92
		US	}						1 (e)	4	970	950
	Kenieba	W	}	135		135	NA	NA	1		55	
		B	}						1		80	
	Kita	B		90		90	NA	NA	1		90	
	Kolokani	W	}	40		40	NA	NA	1		12	
		US	}						1		28	
	Macina	L		60		60	NA	NA	1		60	
	Mopti	US		500		500	NA	NA	1 (e)	1	500	500
	Niono	US		22		0	NA	NA	1		22	
	Tombouctou	US		1000		0	NA	NA	0			
	Tominian	L		40		40	NA	NA	1		40	
Apr-89	Gao	US		500	10		5	500	NA		NA	
Jun-89	TOTAL			4000	52	22900	9	4200	10		4300	
	Bamako	J		1000	18	10350	2	900	1 (f)		1000	
		US		1000	6	3750	2	1500	3 (f)		1550	
	Kayes	J		500	16	5250	1	500	3 (f)		750	
	Mopti	US		500	6	1400	2	800	1 (f)		500	
	Tombouctou	US		500	0							
		W		500	6	2150	2	500	2 (f)		500	

Notes:

a. US = USAID RM 40; W = WFP RM 40; L = local rice; B = USSR brokens (of Vietnamese origin); J = Japanese brokens (of Thai origin)

b. Reported as "Quantity bought" in USAID internal report; OPAM report of 9-May-89 does not include Bamako sales, but shows total retained bids as 4242 MT.

c. Contract for 1000 MT with major dealer reported in text, but not on official list; contract later suspended due to disagreement on quality and price.

d. Contract annulled.

e. Contracts suspended, due to dispute noted in note (c).

f. Purchaser(s) differ from retainees and may or may not have been among original bidders; Mopti purchaser also bought 500 tons of WFP rice.

regarding the value of the commodity. In several cases, the parastatal agreed to conduct an auction as a last-ditch effort to sell grain after other attempts had failed, but it did not accept the principle of sale to the highest bidder at the price bid. Several of the major traders contacted by the team appeared to be unaware that these auctions had taken place. Given the nature of this experience, the present discussion will focus on the OPAM and SNS auctions.

The OPAM and SNS auctions have followed similar procedures, although no written record of these procedures exists other than the brief formal announcements appearing in the newspaper. In many cases, the bid announcements are sketchy on such vital issues as the nature of the commodity being auctioned, the availability of samples for examination, the payment terms that will be acceptable or the way that alternative payment schemes will be compared, the period during which delivery and payment must occur, and requirements for bidders.

Under the procedure used by OPAM, the issuance of invitations for bids and the review of bids received was conducted by a technical committee composed of OPAM personnel, with advice from the German technical assistance team in the case of the SNS. The invitations for bid were issued by placing advertisements in the newspaper, contacting selected traders, and making radio announcements. Interested traders were required to obtain the bid documents from OPAM (sometimes for a minimal fee). Minimum lots were set at 50-100 metric tons, with no maximum on the amount available to a single bidder. Time for response was set at 5 to 15 days, with bids opened at a public meeting. Following this meeting, the committee developed a recommended awards list by ranking eligible bidders by price. Awards were then made on the basis of price, using a pay-as-bid system. Once this list was approved by the Director of OPAM, the winners were notified and contracts were signed, including a minimal performance bond. Payment was to be made in cash or by banker's acceptance, as specified by the bidder.

Results

Although OPAM appears to have made a good-faith effort to conduct the process openly and systematically, the overall results have been mixed. The procedure specified was generally followed up to development of the awards list. At this point, serious problems were experienced because many of the winners proved unwilling or unable to complete their purchases. In the most recent auction, for example, nine awards were announced to six traders, not one of whom completed the sale. OPAM was thus forced to proceed down the list of winners in hopes of finding a serious bidder. In some cases, none of the bidders proved serious, and OPAM entered into a process of negotiation with one or more traders, including some who had not bid on the lot in question. At this point, the process clearly became one of negotiation rather than auction, with transparency lost. In some cases, traders were asked to increase their bids.

Problems were most severe in cases where demand was weak, due to the remote location of the auction and the poor quality of the commodity. No bid was received for a 500-metric ton lot of older U.S. rice offered at Tombouctou in the latest auction, for example. In an earlier auction where a similar problem occurred, bidders on a lot of higher-quality rice at the same location were cajoled into taking a mixture of the two grades of rice at an intermediate price.

The absence of effective screening for bidders greatly contributed to these problems, encouraging traders to treat bidding as a form of speculation and resulting in a high proportion of non-serious bidders. Leading traders alleged that many of the bidders were speculators who bid high prices in hope of reselling their grain immediately to major traders. Failure to eliminate this practice through a bid bond or other neutral screening mechanism discouraged serious bidders and thus actually reduced competition. The problems, therefore, appear to derive from the inexperience with the auction process of both OPAM and the traders themselves, from the speculative nature of the grain market in Mali, and from the absence of active donor support.

Of these, the last would be the easiest to correct. There is little evidence of donor technical input into the issuance of IFBs by the ODRs or by OPAM. It would appear that the PRMC's intervention was limited to insistence that IFBs be issued and that the PRMC did not recognize the need to assist in developing procedures, review the procedures once developed, or follow up to determine whether the process worked. Although it is clear that there was not always good faith on the part of either the sellers or the purchasers, the lack of experience with open bidding on both sides suggests that additional support from the donors would be warranted and that it would help to reduce problems in the future.

Participants at all levels of the system generally expressed their support for the auction process, and they found the administrative requirements to be reasonable, but they complained about the divergence between the initial list of awards and the actual sales made. Auction sales have not been as effective as originally hoped in generating revenues for OPAM, although some of the problems experienced have been due to market conditions rather than the auctions themselves.

Market Implications

The information available to the study team does not permit any conclusions regarding the short-term impact of the Malian food aid auctions on the cereal market or the long-term effects on the structure of this market. In particular, the impact on prices is difficult to determine because of the lag between the auction and the time the grain actually hit the market. In general, it would appear that the timing and other design parameters for

OPAM and ODR auctions have been set with the convenience of the donors and the parastatals in mind, rather than with a view to limiting disruptive influences on the market or exerting a stabilizing influence. There are some indications that the auctions are helping to broaden participation in the rice market and to reduce the dominance of the larger traders by providing access to imported rice for large domestic traders, but further study of this issue would be required to verify this impact.

Somalia

In 1981, the Somali government initiated a structural adjustment program (SAP) with two underlying themes, economic liberalization and stabilization, and support from various donor agencies and the IMF. The SAP's impact on the agricultural and commercial sectors was particularly strong as farmers and traders responded favorably to the introduction of realistic exchange rates, the curbing of parastatal activities in cereal marketing and imports, and the easing of controls on foreign exchange, prices, and imports. Grain production more than doubled between the late 1970s and 1985, and private grain imports filled the gap between production and concessional public sector imports. In 1984, USAID began to channel a greater percentage of the Title I commodities program directly to the private sector "to encourage private sector participation in food distribution." Between 1984 and 1986, therefore, auctions were held for up to 40 percent of annual total Title I food imports. In 1987, the program shifted to Title II Section 206, and private auctions were held for up to three-quarters of the commodities imported between 1987 and 1989.

Experience With Auctions

Six auctions were held in Somalia for the sale of commodities including flour, rice, vegetable oil, wheat, and corn. The auctions took place between September and January each year from 1984 through 1989, following the arrival of commodities in country. The government was responsible for offloading and storing the commodities between the time of arrival and the sale. The Ministry of Finance and Trade (MOFT) was responsible for implementing the auctions.

In most cases, two auction sites wer used, Mogadishu, the capital, and Berbera, the main port for the northern region.[7] Berbera was chose as a response to the isolation of the northern region from the national market and because of pressure from traders and from within the government for wide distribution of food commodities at the wholesale level. When more than one site was involved, the auctions were administered by separate oversight

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7. Several regional sites were used in 1984, and only one site was used in 1988.

committees, one per site, and they were staggered, with refinements in auction procedures generally being developed during the initial auction and integrated into later ones. (An exception was the first auction, when auctions were held simultaneously for traders in multiple locations, with separate ceilings on the quantity available in each location and eligibility limited to local traders. This procedure was judged to have unsatisfactory results, due to the limited competition in some of the more remote areas and the inconsistency of the resulting prices.)

The information available to the team was limited to the general parameters and results of three auctions (1985, 1987, and 1988), as well as to partial information on the other auctions. Nevertheless, it is evident that, in comparison to the other cases studied, the Mission played an extremely active role in designing the parameters of the auctions and in reviewing the outcomes. As a result, techniques were refined rapidly, and they became quite sophisticated over time. The procedures established in 1985 for bidding, award, and payment, applying lessons learned from the disappointing experience of the 1984 auction, have been the basis of all subsequent auctions. Problems have been due to logistical factors or pressure on the Ministry of Finance to change the auction outcome. The key features of the system used are as follows:

- Lot sizes were designed to spread awards, with relatively small lot sizes and ceilings on the maximum number of lots per trader
- Deposits or bid bonds based on a percentage of the expected total value of the bid were requested to eliminate spurious bids
- A reserve price, reflecting prevailing market prices as well as custom duties, transportation, port clearing, and storage costs, was calculated by both the GSDR and USAID and announced prior to the auction
- All traders with valid licenses were considered eligible bidders, and all interested traders were required to register for a specific auction to prevent their participation in more than one
- All bids were ranked in descending order by bid price, with the lowest successful bid determining the uniform transfer price
- Successful bidders had to complete payment before picking up the commodity.

The Somali auctions are thus the only ones to use a well-established bid bond system, to apply uniform pricing, to set a reserve price based on economic considerations, and to use a standardized lot size with a ceiling on the number of lots. The introduction of these procedures did not by any means eliminate problems immediately. Although the parameters shown above were explicitly stated in government documents, they were not always clearly explained to potential and actual bidders, nor were they fully adhered to in practice. The GSDR was for many years less interested in maximizing revenue generation than in attempting to ensure low consumer food prices. It therefore preferred to try to keep auction prices lower than the prevailing market prices, in the mistaken belief that the consumer would receive the advantage. Apparently acting on the view that an imperfect understanding of auction procedures would lower bid prices, the GSDR deliberately avoided making the auction process fully clear to prospective bidders.

In addition to poor announcement procedures, the early auctions suffered from a number of problems: administrative complexity owing to multiple auction sites and commodities (in 1984 and to a lesser extent in 1985); collusion as bids were submitted over several days (1984); an inappropriately derived transfer price, calculated as the average of the highest and lowest winning bids (1984); GSDR intervention to lower lot size after bids had been received (1985); attempted military confiscation of certain auction commodities (1985 and again in 1987); and weak markets for certain commodities (1984 and 1985). The last problem was caused in one case by problems in landing the commodity, which damaged the goods and reduced the quantity available, and in another case by an attempt to auction a commodity (wheat) for which demand was limited because of oligopoly in the milling industry (1984 and 1985). The experience in the later auctions was much better, but problems occurred nonetheless. These include the elimination of the highest bids, apparently without justification (1987),[8] and an attempt to impose a municipal sales tax (1987).

The 1988 auction, invloving one commodity and one site, proceeded smoothly. Its success was attributed by USAID to program simplification, GSDR acceptance of auctions as a pricing and distribution mechanism, increasing familiarity among all auction participants with the auction process, and the selection of a high-value auction commodity with a well-defined market niche (processed vegetable oil).

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8. The decision whether to eliminate bids that are clearly out of line with market conditions is a difficult one. Experience indicates that such bids are frequently not serious, in the sense that the bidder will be unwilling or unable to complete the purchase. Even in the auction of U.S. Treasury Bills, extremely high bids are eliminated. One advantage of the uniform pricing system is that it reduces the need to make this determination, which can be difficult when the market value of the goods is hard to determine.

Results

Private sector auctions have generally generated higher revenues than the public sector sales, as indeed was the intention. Interventions to stabilize prices at artificially low levels, to increase participation, and to confiscate food items for the military have resulted, however, in lower revenue levels than would have been the case had the auctions been allowed their original outcome. Interventions have also prolonged the auction process, thereby increasing the direct administrative costs and, in some cases, imposing costs on traders. Generally, though, the government's ability and willingness to conduct auctions improved over time.

Market Implications

The evidence available to the team suggests that auctions in Somalia have had a desirable impact on market operations, especially in the areas of price formation and broadened access. The auctions have filled a price formation function, which is important in a market subject to receipt of large quantities of food commodities at concessional prices, with considerable fluctuations in supply and corresponding fluctuations in price. Auctions as an alternative supply source are important to traders, especially the smaller ones who have demonstrated a willingness to submit slightly higher bid prices in order to increase their chance of bid awards.

Other Auction Experience

As far as could be determined, food aid auctions have not been conducted by A.I.D. outside of the African region, nor have other donors sponsored auctions. The team was able to identify only two uses of auction-like processes to sell food aid, other than the five cases discussed above. These are the so-called Whitten program and the use of bid tender procedures by PVOs for monetization. The team was not able to obtain sufficient information on the PVO experience, which is believed to be quite limited. The highly anecdotal evidence available suggests that the PVOs have encountered many of the problems described above and, in particular, have found themselves ill-equipped to deal with the highly sophisticated and not always honest trading community. Before reviewing the Whitten experience, it might be helpful to consider other non-food aid uses of auctions in Africa.

Bid Tenders and Auctions in Africa

The use of auction mechanisms for the sale of agricultural products within the private sector appears to be extremely uncommon in Africa, perhaps because there are too few buyers or sellers at any one place and time to make an auction necessary or effective. It is common, however, for sellers to informally canvass several potential buyers to obtain price quotes.

Auctions are occasionally used in Africa for the sale of government property, such as used vehicles or property seized in an administrative or judicial procedure. The rules governing auctions have generally been developed with such irregular sales in mind, rather than with a view to establishing a regular procedure for major transactions. As a consequence, existing regulations might not be wholly suitable for food aid auctions.

The use of sealed bid tenders for government sales and, in particular, for the purchase of goods and services is widespread in Africa as elsewhere. The procedures for such tenders are generally well known and established although, here as well, they might be designed primarily for government purchase rather than government sale. In The Gambia, for example, the procedures call for an approved list of suppliers to be developed and maintained, which is clearly more appropriate when the government is purchasing construction services, for example, than when it is selling a commodity such as rice.

The Whitten Program

The Whitten program is an interesting case, although it is poorly documented. The most that can be said is that it was not a complete success.

The Whitten program began as an effort to transfer excess CCC stocks to 32 drought-stricken countries in Africa. House Joint Resolution 493, signed by the President in March 1984, directed USDA to sell $90 million worth of CCC grains (wheat, maize, and rice) through private channels on a competitive bid basis. To accomplish this, USDA developed a procedure whereby U.S. exporters would arrange sales to private African importers on mutually agreeable terms and then submit bids for grain to complete the sale. The contracts were to be contingent on the exporter bidding successfully for the grain and certain restrictions applied (for example, a host government statement was required to the effect that the grain would neither displace commercial imports nor replace programmed food aid; re-export or diversion to another country was prohibited).

Details of this plan were announced in early June 1984 and a formal IFB was issued one week later, with responses due four weeks after that. Bidders were to submit prices for grain on an in-store basis (i.e., for delivery at CCC warehouses), based on stated locations and qualities of grain in CCC stocks. Shipment and processing were to be the responsibility of the exporter (although standard requirements for food aid, such as 50-percent use of U.S. ships and processing in the United States, were imposed).

Bids for export of commodities to 13 countries were received, and awards were initially made for sales to 6 countries. Initial awards totaled 142,509 metric tons with a combined contract value of $59.6 million. (The

CCC acquisition value totaled $90 million, the ceiling for the program.) The prices received were substantially below CCC's acquisition cost basis: 85 percent of CCC's cost for wheat, 81 percent for maize, and 41 percent for rice. One of the larger sales, for 46,000 metric tons of rice to one of Mali's two major private importers, was cancelled almost immediately when the buyer proved unable to arrange financing within the 30-day deadline. Ultimately, a total of $67.3 million in sales contracts from the first IFB fell through, including the Mali sales and several much larger sales to Nigeria (which became the subject of a lengthy lawsuit).

As a consequence, USDA issued a second IFB in late 1984, with slightly different terms. U.S. offerors were to have 45 days after the IFB to arrange conditional sales contracts. Following award, successful offerors were given 30 days to pay CCC, to provide evidence that an irrevocable letter of credit had been opened in the exporter's favor by the African importer, and to provide a performance bond. The exporter would then have 120 days to complete export. Nigeria was excluded from the second IFB.

Awards were made in the second round for the sale of 326,000 metric tons of wheat, maize, and rice with a total CCC acquisition cost of $67.5 million. Awards were made to six U.S. companies for shipment to nine African countries. Malian traders, including the trader referred to above, purchased 39,000 metric tons of rice from three U.S. exporters.

In this auction, however, bid prices were only a fraction of CCC's acquisition cost. Successful bidders offered as little as $0.44 per metric ton, less than 1 percent of CCC's acquisition cost. Total sales proceeds to CCC on the second round of bidding totaled only $7.1 million, 10.5 percent of CCC's acquisition cost. The prices at which the commodities were ultimately exported were much closer to fair market value, however. Export prices ranged from 17 percent to 68 percent of the U.S. commercial export value (f.o.b. or f.a.s. basis). The final cost to the purchaser, including freight on U.S. bottoms, was essentially at world levels, at least for rice, which range from 92 percent to 109 percent of the estimated C&F price for Thai rice. Although the evidence is far from complete, it would appear that the U.S. exporters made a large profit from this transaction at the expense of USDA and that little of this profit was passed on to the African importers.

Additional problems were experienced with the Mali sale. As of July 1986, the rice had made it only as far as Dakar. Policy changes in the intervening period imposed a high tariff on rice imports into Mali (close to 30 percent), shifting a profitable enterprise into the red. The trader sought permission to sell the rice in Senegal, a proposal supported by USAID (which wished to avoid further downward pressure on a rice market already saturated with donor and local rice, as well as commercial imports). USDA's initial reaction was negative, as Senegal was not one of the eligible countries, but the final outcome could not be determined.

Two lessons can be derived from this experience. First, it is clear that measures that reduce competition can result in a suboptimal auction outcome from the point of view of the seller, in this case the U.S. Government. By imposing a complex procedure that limited buyer participation, the program generated insufficient competition to ensure an adequate price to the seller.

Second, the experience with the Whitten program casts serious doubt on the advisability of conducting sales in the United States directly with African private sector purchasers. The difficulty of arranging contracts with U.S. exporters and complying with U.S. food aid and banking requirements proved a substantial barrier to the participation of African importers. Even established international traders, such as the Malian importer referred to above, experienced major difficulties in completing the sales. Although it appears that much more could have been done in principle to publicize the program in Africa and the United States and to assist African traders in negotiating contingent contracts, such measures would be costly and, even so, they might not be sufficient to overcome the practical problems inherent in this approach.

Lessons Learned

The experience with food aid auctions to date offers several valuable lessons for those considering use of auction procedures. Broadly stated, these lessons are as follows:

- ***The auction process can be used successfully to move food aid commodities into the private sector***, but, as shown by the many difficulties experienced across the cases studied, only if there is careful design and follow-through.

- ***Whether an auction offers the best means of completing a sale to the private sector depends on several factors***, including government, A.I.D., and private sector experience with auctions and tenders; the nature of the commodity (commodities requiring processing such as wheat generally generate too few competitors for a successful auction); and the availability of storage (auction sales with multiple buyers are messier than negotiated sales with a handful of buyers, and, if the auction goes wrong, the goverment must have the option of canceling the sale)

- ***Auctions require careful planning***, including a brief survey of the market structure for the commodity involved, a review of the regulations governing government sales, and discussions with the host government and the trading community, which should be completed well in advance and incorporated into a written document.

- *The method used to set the sales price is the single most important consideration in assigning an auction;* both uniform pricing and pay-as-bid can work well, but other methods must be scrupulously avoided.

- *Procedures to ensure that bidders are willing and able to follow through with their bids are the second most important design issue,* including, first, use of bid bonds to screen out non-serious bidders and to discourage highly speculative bids and, second, careful design of payment procedures to ensure that they are feasible for traders and therefore enforceable.

- *When auctions have fallen apart, the underlying problems have most often been government unwillingness to accept an open market outcome and unworkable procedures for payment and delivery.* There have been instances of collusion among bidders and petty corruption in accepting bids, but the main problem has been government unwillingness to sell to the highest bidders, whoever they might be, at the price determined by the auction, whatever that might be.

In addition, the case studies present a number of useful lessons for those interested in initiating food commodity auctions. The lessons may be divided into two groups: factors promoting or reducing the success of the auction process, and practical issues facing auction implementors.

Factors Affecting Auction Outcomes

Many different factors can postively affect auction outcomes, but they tend to fall into three broad categories.

- *Clear procedures for all stages of the auction process.* Standardized and well-publicized procedures increase public confidence in and appreciation for the auction system, and they generally lead to higher auction participation rates, higher bid prices, and less instances of default for final payments.

- *Appropriate commodity selection.* The best commodity for auctions is one subject to steady demand and less volatile supply conditions, and preferably, one with a well-defined market niche. Such commodity selection ensures quicker turnover for the buyer, and it alleviates problems with creditors. It also minimizes the disruptive influences the sales might have on domestic commodity markets.

- *Increasing familiarity with auctions.* All participants benefit from repeated exposure to auctions. Over a period of several years, auction parameters tend to be refined and made more responsive to local market conditions and structure, governments become more comfortable with the auction process and tend to intervene less, and public confidence in auction outcomes increases.

Factors having a negative impact on actions include the following:

- *Lack of commitment to auctions as a sales mechanism.* The temptation to renege on the agreement implicit in the auction can be equally strong for the seller and the would-be buyer when either party feels that the other is not serious. Actions on the part of the seller indicating a lack of commitment include modifications to lot size midway through the auction process, appropriations of auction commodities for national security stocks, and reliance on administered instead of auction-driven prices. Spurious bids suggest a lack of commitment in the would-be buyer.

- *Inexperience.* Unfamiliarity with auction procedures among all auction participants can severely hamper auction operations and limit their effectiveness. Auction parameters (defining eligibility to bid, acceptable bid terms, and procedures for awards) that are too restrictive or vague often lead to undesirable outcomes, such as delays in auction implementation, speculative bidding, low auction participation rates, and low final payment rates.

- *Inappropriate market conditions.* Weak market conditions for the commodity for sale can limit the inherent usefulness of auctions over administered sales. On one end of the spectrum, insufficient demand and low competition can lead to low auction prices and an insufficient number of buyers for the commodities available for sale. On the other end, they can result in the disintegration of the whole auction process, with prices being negotiated prior to final payment and awards being made to buyers who did not participate in the initial bidding.

Practical Considerations

Auctions clearly are appropriate in a variety of situations, but before their inception it is generally helpful to raise a certain number of questions concerning their use:

- *How competitive is the market?* Is access restricted to a small number of participants? Do all participants have access to the market in question on the same terms?
- *What goals does the government have with respect to programming food aid sales* (i.e., getting food to the consumers, maximizing government revenue, stabilizing prices to consumers, transferring income to consumers or others, market liberalization, promoting private sector development)? Are these goals compatible with auctions? Can they be achieved simultaneously through auctions?
- *Is the government willing to relinquish control over grain marketing?* Will the government allow auctions to capture prevailing supply and demand conditions, and thus determine prices, quantities, and buyers?

In answering these and similar questions, it becomes clear whether auctions are suitable for the situation at hand, and, more importantly, how auctions might be structured so that their outcomes meet general expectations. Specific design elements and general guidelines are presented in Chapter III.

III. GUIDELINES FOR FOOD AID AUCTIONS: DESIGN ISSUES AND OPTIONS

There is no one correct way to organize a food aid auction. The auction parameters selected for a given situation must reflect the underlying market conditions, the aims of the host government, and the administrative experience of the implementing agency. As the experience summarized above makes clear, the use of the auction mechanism to sell food aid is certainly feasible, and it might well be preferable to other mechanisms, but it requires substantial planning and support, and it is by no means problem-free.

The theoretical literature on auction organization focuses primarily on the ways that different auction rules influence bidders' strategic behavior and, as a consequence, affect the seller's expected revenue. The applied literature, by contrast, is devoted primarily to identifying collusion and discussing ways to avert it. Based on the cases studied, the team seconds the judgment of the applied analysts: eliminating collusion and ensuring an orderly and transparent process are far more serious concerns for food aid auction managers than attempting to extract the last penny from the bidders.

The following guidelines are organized according to the order in which decisions must be taken in designing and implementing a food aid auction.

General Considerations

Government Commitment to Market Outcomes

Perhaps the most important question to be answered in designing an auction is, "Is the government willing to accept the auction outcome?" A positive answer requires that the government be willing: (1) to sell to whomever wins the auction, (2) not to sell to whomever does not win the auction, (3) to sell at the price determined by the auction, and (4) to sell the quantities demanded by the bidders (up to the total available). If a government commitment to abide by the auction outcome cannot be obtained, then the auction rules must be adjusted to the point where the government will accept them or another sales method (such as negotiated sale with leading merchants) must be selected. It is far preferable to identify and deal with government unwillingness to accept auction outcomes before the auction is conducted, rather than attempting to alter the outcome after the bids have been received. Possible alterations to meet government objections include a maximum ceiling on the amount awarded to a single bidder (to ensure that sales are dispersed to the degree that the government finds politically necessary), reservation of a given quantity for sale in small lots, and imposition of a minimum price (announced or otherwise).

Maximizing Competition and Transparency

An insight provided by the case studies is that transparency and competeiveness in the auction process are related. Clear, open, business-like procedures encourage participation by "real" traders, whereas procedures with the opposite characteristics encourage entry of opportunists with limited capacity to complete a deal (much less to market the grain efficiently should they purchase it). The participation of the latter group further discourages the "real" traders, and it undermines the process.

Maximizing competition requires a balance between transparency and gamesmanship and between broad participation and orderliness. Each of these deserves additional comment.

Transparency Versus Gamesmanship

Under an ideal set of auction procedures, all of the government's decisions would be completely clear, predictable, and governed by strict rules, while all of the bidders' decisions would remain completely private.[9] Obviously, it is impossible for both these conditions to be met, because the transparency of the government's action cannot be verified without comparing bids to awards. In a situation where there is strong reason to suspect efforts at collusion (and, in particular, when the market is dominated by a handful of traders), various procedures can be used to conceal the bidders' identity from each other and to reduce appearances of favoritism. These techniques include, for example, numbering bids before opening them and revealing prices identified only by the bidder's number. Such systems are designed to make it more difficult for collusive bidders to detect cheating within their group and therefore to enforce the agreement on each other.

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9. As Walter Mead notes in his study of timber auctions (Mead, 1967), an auction in which all bids and bidders are publicly identified is ideally suited to enforcing collusive agreements, which are likely to exist in an oligopolistic market situation (one dominated by a handful of operators).

These strategies might be particularly effective if a uniform price system is used, so that even the prices bid by winning bidders need not be announced.

Broadening Participation Versus
Ensuring Orderliness

Unfortunately, it is not true that the more bidders enter, the better the auction outcome. The African experience to date provides several examples where the orderliness of the bidding process came completely undone as a result of the entry of a large number of "non-serious" bidders (that is, bidders who did not have the financial or organizational capacity or even the intention of following through on their bid if successful). The presence of such bidders undermines the auction process, virtually ensuring that the award process will be messy if it does not collapse altogether, and discouraging serious bidders. If serious bidders decide to sit out the auction, the result is likely to be lower prices, the exact opposite of the effect sought from broad participation. The rules must therefore balance three seemingly inconsistent requirements: sufficient limits to discourage non-serious bidders, sufficient openness to permit the participation of serious but smaller bidders, and sufficient scope to encourage the larger and financially more capable bidders of participating as well.

Developing a reasonable and enforceable set of guidelines requires at least minimal knowledge of the local commodity market, in order to determine what is reasonable for the small bidders, appealing to the large bidders, and unacceptable to the opportunists. (These issues are further discussed in the section below on eligibility.)

If the number of possible bidders is so severely limited that collusion can be confidently expected (as is likely in the case of oilseeds or other products requiring processing), no set of auction procedures can ensure an acceptable outcome. In such situations, a negotiated sale might yield a better outcome than going through the motions of an auction.

Desirability of Written Procedures

The desirability of complete written guidelines, agreed upon by all parties and available in advance to bidders, would appear self-evident. Nonetheless, each of the experiences examined suffered from the lack of clear guidelines to a greater or lesser degree. The recommendation in this area is clear: develop procedures covering all aspects of the auction in advance, write them down, obtain agreement to the written form by all relevant parties, and make the written version available to the bidders. The guidelines issued to traders need not be lengthy (on the contrary, a text of two to three pages is preferable, given the limited literacy of many traders), but the full guidelines should be available for inspection by all parties.

Need to Consider Legal Requirements

Most countries have a written code of some sort governing purchase and sale by the government using bid tenders. Some countries also have somewhat different regulations governing oral auctions. These regulations should be identified and reviewed to ensure that the auction procedures conform to the regulations and to the procedures with which traders are familiar. For example, the government in Somalia attempted to impose a tax on the auction proceeds, citing existing regulations. In addition, an effort must be made to conform to local business practices in the grain market. In Mali, for example, one auction ran into problems when the announcement mistakenly identified the low-quality grain being auctioned as "in conformance with national standards," when it in fact was not. Although the national standards were in effect a dead letter, the inclusion of this phrase allowed the purchaser to insist on a reduction in the price after award in accordance with standard business practice in the country.

Need to Consider Local Market Structure

The particular characteristics associated with each country and each commodity give rise to important differences in the way the market operates. Differences include the number of merchants operating at each level, the degree of specialization within or between commodities, the period for which grain is normally held before sale, the use of credit, and familiarity with tenders or auctions. Market structures are only rarely documented, but an effort must be made to achieve a basic understanding of the market in question during auction design, because these differences can have a major impact on the auction outcome (particularly on the number of bidders). Fortunately, merchants, unlike most beneficiary groups with which A.I.D. deals, are relatively few in number, tend to be well represented in the capital city, and can be identified readily. Even if private trade has been illegal until recently, a little digging will often reveal traders who have been in the business for generations. Perhaps the simplest way to obtain input from the traders on the acceptability of alternative auction designs is to interview an informal sample of traders or invite them to a meeting to discuss the design before it is finalized. This suggestion seems obvious once stated, but, as far as could be determined by the study team, none of the cases studied included any such attempt to contact traders directly, either before or after the auction.

Auction Costs: Explicit Versus Implicit Costs

The connection between the auction design and its cost to the participants is not always straightforward. Consider, for example, the decision whether the commodity should be auctioned as soon as received or stored and auctioned later. By auctioning immediately, the government saves storage costs, including physical losses. If, however, an immediate sale means selling at a time when the market is glutted (for whatever reason), the government might incur an implicit cost in the form of a lower price. This cost might exceed the cost of storage, particularly if the market glut has tied up traders' capital, further reducing effective demand at the wholesale level. Equally important, the sale of a large quantity into a weak market might drive down prices generally, imposing a heavy cost on traders already holding grain and farmers hoping to sell at the same time. When a commodity arrives during a market glut, despite everyone's good intentions, the value of the commodity is lower than it would be otherwise. It then becomes a policy decision for A.I.D. and the host government whether to accept a lower price (and possibly impose costs on traders) or to incur storage costs, and, in the latter case, whether these costs are a legitimate deduction from local currency proceeds.

Implementing Agency and Structure

Implementing Agency

Most auctions have been conducted by the agency responsible for food aid, which might be a central ministry, such as the Ministry of Finance, or an independent organization, such as a grain marketing parastatal. This procedure has generally proven adequate, although additional support from the donors would have improved the outcome in most of the cases studied. In several cases, the use of an auction committee with representation from the donors proved a useful mechanism for providing assistance and monitoring the process.

The institution of the auction house (e.g., Sotheby's or the state livestock auction houses in the United States) is essentially unknown in Africa. Some countries do have shipping or procurement agents who could in principle be contracted to handle the auction or to handle specific parts of the process. Unless there is a particular problem, such as the lack of short-term storage, the use of such an agent would appear to be an unnecessary complication.

Auction Organization

In most cases, a committee structure has proven the best means of organizing and implementing an auction, with formal or informal representation from A.I.D. Several issues are raised by the organization of the oversight committee.

Membership of the Committee

The committee should be kept small, to preserve flexibility, but it must include representatives of all interested groups whose approval is necessary before the sales can be finalized. Otherwise, the committee's decisions are relegated to the status of opening moves in a complex negotiation game. Local regulations on government sales might specify the makeup of such bodies (as with the tender boards in The Gambia), but the status of the food aid agreement as an international agreement enables A.I.D. to suggest changes in this structure, presuming the agreement refers to the establishment of a mutually agreed-upon sales procedure. Direct A.I.D. membership on the committee might be undesirable, as it makes it more difficult to reject the committee's decisions or cancel the auction, should either action prove necessary. Membership also carries the risk that A.I.D.'s appearance of impartiality will be damaged should improprieties, or the appearance of improprieties, arise. A.I.D.'s role should therefore be limited to observer status and technical support to the committee, although A.I.D. might wish to reserve the right to approve key decisions made by the committee (including the procedures and the awards list).

Authority of the Committee

The committee might be structured so that its decisions are final or, more realistically, it might make recommendations for the approval of the minister or parastatal director in whom authority for P.L. 480 sales is vested. A.I.D. might find the latter approach to be preferable, as it provides an additional opportunity to stop incorrect decisions before they become final.

Scope of the Committee

The committee should be formed and begin its work well in advance of the auction announcement. The committee should set the auction parameters (minimum lot size and maximum quantity awarded to a single bidder, pricing system, etc.), approve the bid documents, and prepare the list of winners. It might be preferable to have a separate committee review and rank the bids for the review of the oversight committee, both to maintain a degree of objectivity with regard to the procedures to be followed and to pass the heavy workload of bid review to a lower-level group.

Commodity Choice and Volume

Depth of Market for Alternative Commodities

Some commodities are more suitable for sale by auction than others. In general, auctions work best where there are large numbers of independent dealers and the auction can be structured to maximize their involvement. Based on the cases studied, two hypotheses can be presented. First, the degree of competition for goods that require substantial processing (wheat, oilseeds, milk powder) is too narrow in most African countries for an auction to work well. As in Madagascar, collusion is easily accomplished where there are only a handful of mills capable of handling the commodity. A negotiated sale is probably preferable in this case. Second, the market structure for goods that are produced widely in the recipient country is likely to be more competitive and more fragmented (that is, characterized by many small, independent traders) than are markets based primarily on importation (which tend to be hierarchical, with a limited number of importers selling through well-defined distribution channels). The latter are better able to handle large quantities, but they might not be sufficiently competitive for a smooth-running auction.

Quality and Salability

Commodity quality has been a problem with several of the Title II cases studied. It would appear that the different requirements for commodities that are to be sold commercially have not yet been reflected in the procedures used for Title II commodity selection by CCC. Greater attention is therefore needed in specifying the commodity for USDA to ensure that the commodities received are of commercial quality, even at the cost of a somewhat lower tonnage. Particularly in a soft market, low-quality goods move slowly, increasing problems of deterioration and imposing costs on traders. Both A.I.D./Washington and the Mission should pay particular attention to the need for closer coordination with USDA on this issue.

Timing, Location, and Commodity Shipment

Single or Multiple Auctions

Selling a full year's shipment in one auction can work well if demand is strong. However, there are several arguments in favor of holding a number of smaller auctions rather than one large auction. This is particularly true if shipments can be coordinated among several countries to avoid in-country storage costs or if the commodity is already in country and capable of being stored for some time.

Multiple auctions reduce the chance of disrupting local markets through the sudden and sometimes unpredictable entry of large quantities; they provide an opportunity for learning and improving procedures for both traders and the government; they reduce the cost of canceling an auction, should things go wrong; they encourage the participation of smaller traders with limited capital capacity, while allowing larger traders to participate; if regularly scheduled, they require less publicity. On the other hand, regular auctions allow major bidders to develop and perfect a variety of schemes for limiting competition (by taking turns bidding, for example). Where competition is limited, this might result in a drop in revenue to the government.

Single or Multiple Locations

From a technical perspective, there is little to be gained by holding auctions in multiple locations. On the contrary, experience in Somalia indicates that partitioning the commodity among too many locations discourages competition and facilitates collusion. Even if the commodity is already distributed in several locations, or if it is to be delivered to different locations (Somalia uses two different ports, for example), there is no technical reason why the auctions cannot be combined, unless the shipments will occur at widely separated dates. The IFB should specify the different locations and invite price quotes (bids) for each location separately, however. If the government insists for political reasons on holding separate auctions for deficit areas, the Mission might suggest, as a second-best alternative, holding a single auction open to all traders, but binding traders purchasing lots in deficit areas not to transport them outside of the region purchased.

Timing Relative to the Harvest

It is axiomatic that food aid shipments should be timed to arrive well before the harvest, to minimize interference with local markets. This consideration is doubly important when the commodity will move through private channels, where capital and storage space are limited and the chances of interfering with local marketing are greater.[10] Nonetheless, the current food aid calendar ensures that some food aid shipments will arrive during the harvest period, when prices are low. It is then a question of who will absorb the losses. If the commodities are sold into a soft market, the government will face limited demand, weak competition, and low prices; farmers and traders might also be adversely affected by the downward pressure on prices. If the commodity is held, the government will incur storage costs and, if facilities are inadequate, it might suffer storage losses. Since the latter costs are more concrete than the former, governments tend to prefer the first option. The second option should at least be considered, however, despite the problems it creates for A.I.D. in the form of loss reports, delays beyond the regulation sales period, and so on, as it might be

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10. Agricultural markets in many African countries being highly imperfect, a real danger exists that traders' ability to mediate between producers and consumers might be reduced if their capital and storage facilities are tied up with food aid that they cannot sell. Even if consumer demand is strong, effective demand at the producer level might be sharply reduced in the short term under these circumstances.

preferable for the government to suffer the losses than to force them onto the farmers and traders.

Auctioning Before or After Shipment Arrival

By holding the auction before the shipment arrives, the selling government saves storage costs and it avoids the risk and bother of unloading (at the cost of a reduced price), but it exposes itself to several potential problems arising from the possibility that the actual shipment will differ from expectations in terms of the time of arrival, the quality of the commodity, or the quantity landed in marketable form. To avoid these problems, it is advisable (1) to delay the auction until the arrival date and the nature of the commodity shipped is firm, (2) to use a single shipping agent who will act on the government's behalf to distribute the goods to the successful bidders,[11] (3) to obtain samples (by air freight, for example) to distribute to offerors, (4) to develop and announce prior to the auction a procedure to be used in the event of losses or short weight, and (5) to develop a list of alternative awardees who may be called upon in the event that problems cause initial awardees to default or renege.

Transparency of Timing

Food markets in developing countries are characterized by high risk aversion on all sides, and, as a consequence, they handle uncertainty poorly. This uncertainty is magnified when the government holds a large auction with little advance notice and compresses the response period into a few days, as occurred in several of the cases studied. However the auction is to be handled, the government should announce its plans as far in advance as possible and then refrain from changing them. This has two advantages: it encourages participation in the auction, and it gives the market time to adjust to the auction, minimizing interference in local marketing.

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11. Title II commodities must generally be consigned to the host government, and, under current regulations, they cannot be consigned directly to the purchasers, even if they are known in advance. The government might designate an agent to act on its behalf, accept and inspect the shipment, and distribute it to the purchasers. Title I commodities can be consigned directly to private purchasers, and this procedure is used (in Guatemala, Morocco, and Zaire, for example). In no case, however, should title pass to private purchasers or delivery be made before full payment is received. If it is not possible to extract full payment before the goods arrive in country and the purchasers have a chance to examine them and accept delivery, then there is no alternative but for the government (or its agent) to accept the shipment and make delivery to the purchasers after they have paid in full.

Notice and Instructions to USDA

It is the A.I.D. Mission's responsibility to ensure that the Purchase Authorization and U.S. bid documents (for Title I) or the Call Forward (for Title II) contain the correct instructions to USDA regarding commodity specifications and shipment. These instructions should include: (1) a specification of commodity quality, particularly for Title II; (2) instructions to inform the Mission immediately when the commodity to be shipped and the date of sailing is finalized; (3) a request to send a sample by air freight, if desired; and (4) instructions regarding labeling and bagging consistent with local market practice.

Eligibility

The diversity of market structures across countries and the variety of commodities make it impossible to define a single set of criteria for bidders' eligibility applicable to all countries. Eligibility criteria must therefore be based on local conditions, balancing the need to open the auction to as many traders as possible to expand competition with the need to eliminate bidders who are not likely to perform. The failure to screen out non-performing bidders has been a major source of problems in the cases studied.

Screening Bidders

A screening process should be based on three principles. First, the criteria should be clearly defined and directly related to the auction itself. Second, eligibility should be determined on the basis of submissions made by the merchants, not on the basis of a list constructed by the government or a third party. Third, the criteria should be designed to eliminate as few potential bidders as possible consistent with an orderly process.

Minimal Requirements

Possible minimal requirements include the following: (1) the bidder must have a fixed place of business, (2) the bidder must have at least five years of experience in the grain trade, (3) the bidder must submit a bank reference. In some cases, it might be appropriate to require that the trader submit his license number (patente). Opinions differ as to whether it is appropriate to exclude traders who have not paid their taxes and therefore cannot present a valid license or tax certificate. On the one hand, the auctions should not be used as a tax enforcement procedure. On the other hand, the government should not be required to deal with individuals who are not in compliance with the law.

In general, it is not appropriate to require traders to meet certain physical requirements (e.g., ownership of a warehouse or a truck) unless it has been confirmed through interviews with traders that all legitimate traders could easily comply with such criteria. Where bidders have failed to abide by their agreements, the cause has generally been the lack of financial capacity, not the lack of physical infrastructure.

Partitioning

To encourage bids by small businesses while maintaining an orderly process, the auction authorities might wish to consider establishing alternative thresholds for bidders. For example, bids might be accepted from anyone for lots up to a certain size (e.g., 10 metric tons), with bidders on higher quantities having to meet stiffer requirements.

Bidding should not be restricted to traders operating in a particular geographic location.

Financial Screening Systems

Probably the best way to screen traders for seriousness and capacity is to require payment of a substantial bid bond. In Somalia, this procedure was conducted well in advance of the auction itself, which greatly facilitated the administrative process and gave smaller traders time to meet the requirements. Bid bonds should be set in the range of 5 to 20 percent of the expected value of the commodities, depending on local practice. Unsuccessful bidders, as well as traders choosing not to bid, should be able to get their bid bonds back as soon as the award list is announced.

Experience with selling the bid documents has generally not been satisfactory (see the Mali case study, Appendix D), because the prices used have been too low to screen out non-serious bidders. If the price is high enough to screen effectively, it is likely to discourage potential bidders.

Barring Some From Bidding

Two groups should be barred: (1) individuals who have been convicted of illicit trading practices where such practices are still illegal[12] and (2) traders who have failed to abide by their agreements in previous auctions.

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12. This criterion must be used carefully to screen out actual criminals, and not traders who were convicted of "economic crimes" during periods when private trading was repressed.

Announcement Procedure

Adequate Notice

The lack of adequate notice has been a major barrier to effective auction operation in a number of cases, and it has created problems for market participants. Ideally, the government should develop a food aid schedule covering both sales and other distributions once food aid shipments are known (generally around the end of the year), and it should make it publicly available. Changes to this schedule should be announced as they become known. To the authors' knowledge, few if any countries currently make any effort to inform traders of planned food aid shipments. Perhaps this is because there is very little awareness of the negative impact of uncertainty on the grain markets, and also because donors themselves are uncertain about shipment plans.

The notice period necessary for a given auction depends on the requirements that participants are asked to meet. Potential bidders must be given sufficient time to assemble whatever documentation is needed or, as happened in The Gambia, a large number of bidders might be found not to have complied with the requirements. Here again, those designing the auction should consult with potential bidders to decide on an adequate notice period.

The two-stage procedure developed in Somalia worked quite well and offers a model. In this procedure, bidders were asked to register in advance and to deposit their bid bonds. This prequalification step was completed well in advance of the auction itself and over several months, encouraging as many traders as possible to participate and making it possible to resolve any disputes about eligibility. Once the commodity arrival data were known, approved bidders were asked to submit their bids within a very brief period, usually one to two weeks.

Content of the Announcement and Bid Documents

The announcement should be made in two parts. The auction itself should be announced as widely as possible, with notices in the newspaper, radio announcements (in several languages if appropriate), and direct notification to appropriate business organizations (such as the Chamber of Commerce). The auction organizers should not attempt to cram all pertinent facts into these announcements. Instead, a second set of documents should be prepared and distributed to bidders on request, setting forth the complete procedures. Notices in the media should include the nature of the commodity, the planned date for the receipt of bids, a statement of who is eligible to bid, and the name and address that potential bidders should contact for the full bid documents.

The bid documents should clearly specify acceptable payment terms (see below), and they should indicate how bids with different payment terms will be compared. For example, if bidders may offer payment in the form of a 90-day banker's acceptance, will such a bid be treated as equal to a bidder offering to take immediate delivery and make payment in cash? The bid documents should also specify what is to be included in the price bid and what charges, if any, will be levied in addition to the price bid. For example, is loading included or will bidders be asked to pay a loading fee at the warehouse? Are there any taxes or fees that will be levied on top of the price bid? The documents should specify where transfer of title will take place and who is responsible for losses before and after this point.

Further information on the content of the bid documents is included in Appendixes G and H.

The Reserve Price

U.S. regulations require that an amount in local currency equal to the f.a.s. value of a shipment at the highest legal exchange rate be deposited in the counterpart account for any P.L. 480 sales. This price, which is included with the standard clauses of the f.a.s., is generally interpreted by the host government as setting the reserve price for the auction, but this interpretation is incorrect. This requirement sets the minimum deposit by the government, not the minimum sales proceeds, which might be higher or lower depending on market conditions. Fortunately, it is unlikely that a well-conducted auction will result in a price below the f.a.s. price (which does not include insurance or freight), unless there are problems with quality or unusual market conditions. It is far more likely that the auction price will be well above the f.a.s. price.

In general, it is appropriate to set a reserve price based on current market conditions. This price should be slightly below the current wholesale price, corrected for differences in quality, lot size, and so on. If a uniform price system is used, no maximum price need be set. If a pay-as-bid system is used, it might be desirable to set a maximum price, preferably slightly above the current retail price.[13] Bids above this level should be rejected, not accepted at a lower price.

Host government officials might need help in understanding that market conditions, not the auction price, will determine the price at which the commodity will ultimately be sold to consumers. If merchants pay a price well below the prevailing market price, they, not consumers, will reap the benefit. If traders pay a price well above the prevailing market price, they

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13. Even in the weekly Treasury Bill auction in the United States, unusually high bids are thrown out, based on the expectation that the bidder will not follow through.

will either lose money or be forced to hold the grain off the market until prices rise.

The formal auction literature differs on whether the reserve price, if any, should be announced. In general, analysts argue in favor of announcing the reserve price, which is expected to reduce strategic low bidding and to encourage greater competition. Where many of the bidders lack experience with formal bidding, however, a reserve price might cause them to concentrate their bids just above the announced price, in the belief that they are bidding against the government rather than each other. This problem can be addressed by holding orientation sessions for potential bidders. If there is reason to expect widespread collusion, however, the reserve price should not be announced, as this simply makes the colluders' task easier.

As an alternative to announcing the reserve price, the offeror might announce a range outside of which all bids will be rejected out of hand (with a minimum below the true reserve price and a maximum well above the maximum expected price).

Availability of Samples

Wherever possible, samples of the commodity should be made available for examination. If samples are not provided, uncertainty regarding commodity quality might translate into lower bids or disagreements over quality might lead to disputes that slow or complicate sale and delivery.

If the commodity is to be sold prior to arrival, a small quantity should be sent by the shipper by air freight (pouch, etc.) to be used as samples. A single 50-kilogram bag should be sufficient for this purpose.

Receipt of samples does not constitute a substitute for adequate inspection of the goods on arrival or for insurance to cover quality deterioration or quantity losses occurring after shipment.

Bidding Procedure

Ceilings on the Quantity Awarded and Lot Size

Setting a maximum quantity to be awarded is a separate issue from setting a standard lot size for bidding. The latter is a strictly administrative decision, and it does not necessarily imply a maximum award level, although it does imply a minimum. For example, a lot size of five metric tons might be set, with bidders allowed to bid on multiple lots (at a single price), up to a maximum of 10 lots. Thus, bidders would be constrained to bid on amounts between 5 metric tons and 50 metric tons in even 5-metric ton increments. A standard lot size makes it easier to manage the auction by standardizing bids.

The lot size or minimum quantity to be awarded to a given bidder should be set at a level acceptable to medium-scale wholesalers in the target trading community, to encourage broader competition. The amount that this group can handle varies with the commodity, the country, and even the time of year, and it can best be determined by asking a number of traders for their opinions. In Mali, for example, traders indicated that an amount equivalent to their turnover during a period of one to two months would be most appropriate. For medium-sized traders, this translated into a 50-metric ton minimum bid. As the constraint on traders' bidding capacity is generally more likely to be financial capability rather than storage space, a lower minimum might have to be set for a more valuable commodity than for a cheaper one.

The setting of a maximum amount to be awarded to a single bidder is technically unnecessary, but many governments insist on such limits to avoid concentration of the commodity in a few hands. The imposition of a maximum award limits competition by preventing the largest bidders from bidding on the full amount they would like to buy. It therefore tends to result in lower total revenues. In addition, it encourages the larger traders to work through agents and engage in other practices not consistent with full transparency in the auction.

If it is politically important to ensure a large number of "winners," it might be more economical to reserve a portion of the total for small bidders (in lots of under 100 metric tons, for instance), rather than reducing the maximum quantity sold to a level that small traders can manage and thereby lowering the price on the total quantity.

Whatever limits are chosen, it is extremely important that they be announced in advance and that they not be changed once the bids are received.

Time Allowed for Submission

Several auctions have fallen into difficulty by limiting the response time to a few days, leading to non-responsive bids when dealers were unable to meet all the requirements set by the deadline. In other cases, difficulties have been experienced simply because major traders happened to be out of town during the bidding (traders travel frequently both in country and internationally). A minimum of two weeks should be allowed between announcement and submission, particularly if bank documents are required. It it is preferable to announce the auction at least a month in advance, however, even if the period for actually submitting bids is limited to a few days.

Treatment of Late Submissions

In general, late submissions should be rejected. As with A.I.D.'s own procurements, however, the announcement should state that the government may, at its discretion, consider such bids. These submissions should then be held unopened until the other bids have been evaluated. If sufficient acceptable bids have been received, the late bids should be returned unopened. If sufficient bids have not been received, a second opening for late bids should be held.

Form of Submission

Ideally, the bidding documents should include a form to be submitted with the bid, specifying the bidder's name[14] and the price, quantity, and other terms. The form should indicate that failure to fill in all items might result in the bid being disqualified. The announcement should state acceptable forms for submission.

Use of Bid Bonds

Use of bid bonds appears to be the most straightforward and effective means of limiting non-serious bids,[15] and it should therefore be included in the procedure in some form, unless there is a strong reason for not doing so. The procedure must ensure that bidders who are selected but do not follow through lose their bonds, while unsuccessful bidders recover their bonds without delay. Both of these conditions are more difficult to achieve than it would appear. On the one hand, traders might be unable to complete purchases for reasons wholly outside their control (a long delay in arrival of the goods, for example), making it difficult politically to seize bonds. On the other hand, delays in completing the sales transactions might tempt the government to drag out the return of bonds. Those managing this process must bear in mind that, for cash-short traders, a long delay in returning the bond might impose considerable hardship and, if many traders are involved, affect the market itself.

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14. The name should be included, unless the bids are to remain unidentified until award has been made. In that case, a double-envelope system or two-part form must be used to register the bids before the opening.

15. A Malian trader, who had bid but not completed the purchase in a previous auction, commented revealingly that he would be willing to provide a bid bond if he were making a serious bid.

Permissibility of Multiple Bids

A policy on multiple bids must be set and adhered to, although multiple bids through agents are difficult to detect. In principle, there is no reason that a trader should not be allowed to submit multiple bids, as long as it is recognized in advance that: (1) failure to follow through on a successful bid at a high price precludes acceptance of any and all bids at lower prices and (2) limits on maximum award and minimum lots still apply.

Award Procedure

Pay-as-bid Versus Uniform Pricing

The most important decision in setting up the auction is the selection of the pricing mechanism. Only two options should be considered: pay-as-bid and uniform pricing. In the case of uniform pricing, the bids themselves — not an administrative decision — must be used to determine the price. As the experiences in Guinea and Mali demonstrate, once traders learn that bids determine who wins but not how much is paid, the bidding process deteriorates swiftly.

There are several arguments in favor of uniform pricing, but either mechanism can work well. As discussed in the following section, uniform pricing might yield a higher total revenue than pay-as-bid under certain conditions (essentially because it discourages strategic bidding). This system worked well in Somalia, once traders and the government became accustomed to it. Uniform pricing creates fewer potential problems than pay-as-bid. In pay-as-bid systems, traders might hesitate to pay the higher price they initially bid once they realize that others have purchased the grain for a lower price, leading to withdrawal of bids and other maneuvers.

A final advantage of uniform pricing is that it provides a "fair" price that can be used for sales taking place between auctions, including the sale of commodities offered but not sold at the auction itself (due to receipt of insufficient bids above the reserve price, for example). In the case of a pay-as-bid auction, traders who paid prices above the stop-out price will naturally take umbrage if the government later makes sales at the stop-out price, and they might refuse to complete their purchases or to participate in future auctions.

Despite these adantages, pay-as-bid might be preferred if traders and the government appear more comfortable with it. A long debate rages as to whether uniform pricing or pay-as-bid should be used for the sale of U.S. Treasury Bills, suggesting that there is not an easy answer to the question of which mechanism is best for a given situation.

Two pricing procedures should not be used: (1) administrative pricing, in which the sales price is determined by the auction committee based on the import price, the market price, or any other calculation, and (2) average pricing, in which offerors are asked to pay the average of the prices bid by successful offerors. In both cases, the essential connection between the price bid and the price paid is severed. In the latter case, approximately half the offerors are presumably asked to pay more than they bid, which violates the basic principles underlying the bidding process.

Procedure for Opening and Ranking Bids

Bid opening may be conducted publicly or privately. In the latter case, bids should be opened by a committee with an observer from A.I.D. or another presumably impartial party. Whether bids are opened publicly or not, consideration should be given to separating names and prices/quantities bid into two lists or to withholding the names of the bidders altogether, to undermine collusion. This procedure is particularly effective if uniform pricing is used, because it is then very difficult for would-be colluders to determine whether their partners have cheated.

The procedure for opening and ranking bids proceeds in the following steps:

- Sort unopened bids as acceptable or unacceptable (e.g., late bids). Set the unacceptable bids aside; they should not be opened, and they should be returned unopened.

- Open the acceptable bids and sort them into responsive or non-responsive (e.g., not including all the information requested, bidding outside the acceptable range, not including a bid bond to be submitted at time of bid, presenting unacceptable payment terms). Set non-responsive bids aside. The final report should list these bids, the price bid, and the reason for classifying them as non-responsive.

- List responsive bids and prepare a ranking list by price. Beginning with the highest-priced bidder, proceed to allocate lots down the list of bidders until either the quantity is exhausted (the price at which this occurs is the stop-out price) or the reserve price is reached.

- Prepare a list of winners, showing the quantity awarded to each and the stop-out price (the list may also include the price bid by each winning bidder or the prices bid by all bidders, a choice that should be made in advance).

- If the reserve price is reached before the quantity available is exhausted, there are several options (the decision as to what to do in this case should have been made before bids are opened). In the case of a uniform-price auction, perhaps the best choice is to announce the winners and then offer the remaining quantity on a first-come-first-served basis to non-successful bidders at the stop-out price. In the case of a pay-as-bid auction, the best option (though not an attractive one) is to hold the commodity for sale at a later time.

Preparation of Alternate Lists

The ranking should include all responsive bids, with those below the stop-out price serving as an alternate list. Although this list might or might not be made public, it should be maintained until all sales are completed, to supply alternates as needed. If the list is kept private, individual bidders may be informed of their position on the list ("fifth alternate," etc.) in answer to inquiry. The procedure for the alternate list should include a decision regarding the return of bid bonds and continued eligibility. This procedure should be spelled out in the bid documents. Generally, bidders should be expected to leave their bid bonds on deposit for a reasonable period (such as a week) after the announcement of the winners, to allow for orderly substitution of alternates if necessary, but a fixed date should be set after which bidders may retrieve their bonds. Bidders on the alternate list may be given the option of leaving their bid bond on deposit in order to be considered should the need arise.

Dealing With Apparent Collusion

If the number of bidders is limited, there is no way to prevent attempts at collusion. If the number of bidders is large, attempts at collusion are very likely to fail. A guiding principle in the design of auction procedures is to make collusion more difficult. Once the bids have been received, very little can be done in the absence of concrete evidence of collusion. If it appears that the bids have lowered the prices bid but the stop-out price is still above the reserve price, then there is little choice but to accept the outcome (assuming no concrete evidence of collusion) and to try to generate more competition next time. If the bids are below the reserve price (or there has been no reserve price set but the government refuses to go ahead with the sale at the prices bid), the best choice is to cancel the auction and to try another approach, such as direct negotiation with selected bidders or a new auction incorporating greater efforts to encourage competition. In this case, a clean break with the first auction must be made by announcing that it is cancelled. None of these choices is very attractive, but all are preferable to allowing the process to deteriorate into disorderly negotiations.

Non-responsive Bids

The active consideration of bids that do not meet all the requirements undermines the process. Traders learn that they do not have to comply with the requirements and cease to do so, or, worse, both sides begin to view the acceptability of bids as negotiable. Here again, careful planning is the key to avoiding problems during evaluation and award. Unrealistic requirements limit the pool of bidders and force the government to choose between considering technically non-responsive bids and accepting reduced revenues.

Short Weight and Other Problems

In cases where the commodity will be auctioned prior to delivery, the committee must determine in advance of the bid how short weight or quality problems will be handled. In general, losses associated with short weight (losses during delivery, etc.) should not be passed on to the bidders by reducing lot size or spreading damaged goods among the bidders. The bid documents should state that the total quantity to be auctioned is approximate and might vary. Bids are therefore accepted and awards made subject to the availability of the commodity. Once the shipment arrives, inspection should be made prior to delivery to any bidders, to determine the quantity actually available for sale. The winners list should then be adjusted by dropping off the lowest bidders until the quantity to be sold equals the quantity actually on hand. Bid bonds of winners dropped should be returned immediately. Any damaged goods should be segregated and sold (by auction or otherwise) at a later date. Any other procedure adds to bidder uncertainty and is likely to be reflected in lower bid prices or disputes after award.

Bid Publication Procedure

The outcome of the auction should be published, giving the names of the successful traders and the amount sold to each, but not necessarily the specific prices bid. The stop-out price should be announced, whether or not a uniform pricing system is used. Unsuccessful bids might or might not be published. Standard USDA procedure calls for the complete list of bidders, quantities, and prices bid (successful and unsuccessful) to be made available for inspection for a fixed period after the opening. As noted, however, this procedure makes it easier for colluding bidders to enforce their agreements on each other. As long as provision is made to handle protests, it is sufficient to publish the list of winners and the price above which all responsive bids were accepted, because any bidder can then readily confirm whether he should have been on the list. Requiring the prices bid to be published provides no protection against a low bidder gaining a place on the winners list through corruption, because an appropriate price can easily be entered onto the list to conceal this action.

Notification to Successful Offerors

Successful offerors should be informed personally, preferably in writing, and given a very brief period to confirm their bids (preferably in writing as well[16]), pending actual signature of a contract (if a written contract is used), payment, and delivery. Failure to ask for confirmation might lead to a situation of considerable uncertainty, due to the delay in identifying non-serious bidders and taking action to fill their places from the alternate list.

Delivery and Payment Procedure

Negotiation After Award

Negotiation after award must be strictly limited to non-material issues, such as the specific schedule for accepting delivery and making payment. Any material changes in the bid, particularly in the price; increases in the quantity to be purchased; or the terms of the sale (delays in payment beyond the date specified in the bid documents, request for credit, etc.) should be viewed as the basis for cancelling the award and proceeding to a bidder on the alternate list.

Use of Written Contracts

While the use of written contracts is generally preferred, this decision depends on local commercial practice and government regulations. It should be noted that written contracts are generally not used in the United States. Rather, the terms of the agreement are fully specified in the bid documents, and they are deemed to be accepted by the bidders.

Period Allowed for Payment and Delivery

The period to be allowed for payment and the payment schedule (percent to be paid when the contract is signed or the agreement is made, schedule for delivery and payment) should be fully specified in the bid

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16. Some traders in Mali commented that an oral agreement has greater force for them than a written agreement. In the former case, they have given their word, which is the basis of their honor, but a written offer is viewed as "just paper." Auction processes should reflect local market traditions to the extent feasible.

documents and strictly adhered to after award. The period allowed should be sufficiently long to allow traders to organize and complete the delivery process. Thirty to 45 days should be viewed as the outside limit, unless unusual conditions arise, and a shorter period, such as 10 days, is preferable if acceptable to the traders. Longer periods make it more difficult to complete the process in an orderly fashion, as traders on the alternate list are less likely to remain interested in following through on their initial offers.

It is helpful to specify a minimum size for individual deliveries, such as 50 metric tons, to minimize cost and confusion at the warehouse. The seller might also wish to establish a maximum number of tranches, for the same reason.

The payment schedule should mirror the delivery schedule or, if possible, call for payment in advance of pick-up. In no case should traders be allowed to take delivery of commodities that they have not paid for in full.

Use of the Alternate List

When initially successful offerors are unwilling or unable, for whatever reason, to complete their purchases within the time allowed substitute buyers should be drawn from the alternate list. These offers should be approached in order and asked if they are willing to buy. In uniform-price auctions, they should be offered the commodity at the same price as the other offerors, while in pay-as-bid auctions they should be allowed to pay the price initially bid. In uniform-price auctions, bid bonds should be returned to offerors on the alternate list who decline to buy at the stop-out price, which is by definition above the price they initially bid.

Receipt of the Goods and Distribution to the Purchasers

If the goods being auctioned are already on hand and stored in government warehouses, delivery is straightforward. If, however, the auction is to be conducted prior to the arrival of the goods, care must be taken to design an appropriate procedure for receiving the goods and distributing them to the purchasers.

Several choices must be made in developing this procedure:

- Who will take delivery of the goods and inspect them to confirm the quality and quantity? Options include the government itself, an agent chosen by it (through a separate competition, for example), and the purchasers. The last option opens a veritable Pandora's box of potential problems. It should not be used unless the number of buyers is extremely limited and the entire auction and payment procedure can be completed in time to allow the goods to be consigned directly to them (under current regulations this is only possible with Title I sales).

- How will short weight or damaged goods be handled? In principle, those bidding the highest prices should get full delivery, and any shortfall should be deducted from the lowest bidder or bidders. In a uniform price system, a substantial shortfall should lead to a recalculation of the stop-out price, but this might not be practicable.

- At what point will title pass to the buyers? This is not a trivial matter, as responsibility for losses and other costs incurred rests with the party holding title when the losses occur. If the government uses an agent, it might be desirable to make the agent responsible for losses incurred to ensure due diligence in managing the commodity, even though this will raise the upfront cost of the agent.

- What provisions need to be made for storage of the goods in the event that problems arise? Even if the government plans to make delivery to purchasers directly off ship, fallback plans should be made to permit storing some or all of the goods in government-owned or -rented warehouses. Without such provisions, the government has no recourse but to deliver the goods to the purchasers, even if they have not paid in full. The government is also in a very bad position if, due to unexpected problems, sales of the whole amount cannot be completed at the time the ship berths. Finally, the government loses the option of canceling the auction in the event of major problems.

In attempting to save storage costs, the government might find itself faced with very high demurrage costs or with non-payment by traders to whom it was forced to make delivery. In Guinea, for example, the government attempted to deliver directly off ship and, one year after the auction was completed, had received only 75 percent of the total amount due from traders.

If the government is unable or unwilling to make provisions for storing the goods, the use of the auction mechanism is highly risky, and serious consideration should be given to relying on negotiated sale.

Use of Agents

Practical considerations might suggest the use of a shipping or receiving agent when the auction is conducted before the commodity arrives and delivery to traders is to be made immediately following its arrival in port. The agreement with such an agent should clearly specify: (1) who is responsible for losses occurring in unloading; (2) how the agent will receive instructions regarding to whom to make delivery, when, and in what quantities; and (3) what the agent is to do if full delivery cannot be made for whatever reason (including provision for storage, if necessary, and revision of instructions to cover short weight). The contract should identify which party is financially responsible for each type of charge associated with the operation, including additional transfer and storage should the sale not be completed as planned.

Government Deposit of the Auction Proceeds and Cost Calculations

Prior to issuing the invitation for bids, A.I.D. and the government should negotiate which costs will be considered auction costs that can be deducted from the receipts to be deposited in the P.L. 480 special account and which costs must be borne separately by the government. This procedure should also clarify whether any charges over and above the price bid are to be paid by the bidders (delivery charges, taxes, etc). In the event that any such charges are to be levied, this information must be specified in the bid documents.

The procedures should also allow A.I.D. to review the charges deducted from the auction proceeds in order to identify any irregularities.

Credit

None of the auction experiences examined provided for credit sales to traders. Given the negative experience with the provision of government credit for agriculture, the implicit decision not to make sales on credit appears to be the right one. Nonetheless, decisions on quantities to be sold, timing for the auctions, and payment terms need to be made in the context of trader access to credit, to promote broader competition.

Dispute Resolution

Where disputes have arisen during the course of the auction process, they have been resolved through negotiation between the parties involved. In no case (except the Whitten program) did disputes spill over into the courts or other formal systems. Nonetheless, it is advisable to give at least some thought to this issue in advance. In most cases, the announcement should specify a binding arbitration procedure consistent with local practice, as judicial proceedings in Africa are cumbersome at best. In the absence of a formal procedure for resolving disputes, government unfamiliarity with commercial practice can lead to misunderstandings and losses for the government.

Administrative Requirements and Training

In most of the cases studied, neither the government nor the Mission recognized the complexity of the auction process. Even where committees were formed and a good-faith effort was made to establish clear procedures, the outcome reveals that insufficient attention was given to the development of a comprehensive set of guidelines and follow-through into implementation. Trial and error has proved to be a costly approach.

In developing the plan for an auction, several factors must be borne in mind. First, it is likely that neither the Mission nor the government has direct experience with auction sales. Second, it is likely that neither one has more than a general familiarity with local market procedures. Third, the various parties involved are likely to hold different views on the objectives of the auction process, which may be reflected in differences regarding the best procedures.

Training for Implementing Agency Personnel

Where problems have arisen, a root cause has frequently been a poor understanding of auction procedures by those called on to design and implement the auction. It would therefore be highly advisable to hold one or more orientation sessions for senior personnel involved in the auction to ensure that a consensus exists on why the auction procedure is being used, what can and cannot be achieved through an auction, and what the key design issues are requiring resolution before the auction begins. Training for operational personnel, while useful, should be assigned a lower priority. None of the auctions has been seriously affected by difficulties in this area.

Training for Offerors

Just as the government officials are likely to lack familiarity with auctions, the traders and merchants are likely to have little if any experience with formal bidding. In this environment, a "bidders' conference" would greatly help to promote understanding of the procedures and what is expected from the bidders.

Consistency of Procedures

Simply by establishing a clear and comprehensive set of procedures and sticking to them, the government can greatly reduce uncertainty and confusion among both bidders and administrators. Experience indicates, not surprisingly, that administrative difficulties and other problems are reduced as participants gain familiarity with auctions.

Monitoring and Evaluation

Need for Monitoring Beyond Award

The country experience convincingly demonstrates the need for monitoring beyond the announcement of the winners list. Although, in hindsight, the problems experienced were due to insufficient planning or poorly designed procedures, the problems actually arose after award, as the government tried to move from award to sale and delivery. In the latest auction in Mali, for example, no sale was actually completed with the offerors originally declared to be the winners.

Reporting Requirements

Based on this experience, minimum requirements for reporting would include the following:

- Copies of the announcements made, with a list of the dates of publication or announcement
- A copy of the bidding documents
- A list of the bids, with prices and quantities, showing the stop-out price and indicating which bids were declared non-responsive or otherwise ineligible
- The initial awards list, showing the trader's name, the price to be paid, the quantity allocated to each, and the alternate list (with names and quantities)
- An accounting of the final sale, showing actual sales, deliveries, and payments by trader and in total
- An accounting of the auction's costs, showing the amount to be deducted from gross proceeds and the amount to be deposited in the special account

IV. GUIDE TO THE LITERATURE ON AUCTIONS IN THEORY AND PRACTICE

Though auctions have been reported as early as 500 B.C. they have been the subject of serious research only since the middle of this century. Such research can be classified into two groups: academic studies largely concerned with the theoretical aspects of auctions, such as bidding strategies, efficiency of exchange, and revenue generation; and applied studies focused on relating actual auction results to auction theory.

Auctions have always been viewed as sales mechanisms or market institutions with explicit rules determining the terms of exchange. Since 1961, however, with the pivotal work of Vickrey (Vickrey, 1961), it has been recognized that the auction rules can affect bidding behavior and, as a consequence, auction outcome. Subsequent auction literature has concentrated on comparing auction outcomes under different bidding or award scenarios with a view to developing optimal auction formats or suggesting certain types of auctions for specific situations. Much of this literature has become increasingly academic (a shortcoming frequently noted in the applied literature), developing theoretical auction designs with complex procedures (side payments and so on) that would be difficult to implement in practice. Three articles are particularly helpful in any review of auction literature to date. They are "Auctions and Bidding Models: A Survey" by Richard Engelbrecht-Wiggans; "Auctions and Bidding" by R. Preston McAfee and John McMillan; and "A Theory of Auctions and Competitive Bidding" by Paul R. Milgrom and Robert J. Weber.

Auction Types

There are three primary auction types or institutions: English, Dutch, and sealed bid (of which there are two forms, first- and second-price auctions). These institutions differ from one another in the manner in which bids are processed. In English auctions (used by most auction houses to sell antiques, for example) an auctioneer takes an active role, soliciting and recognizing bids from an assembled crowd of would-be buyers. Bids are recognized only if they are higher than the standing bid, and the item is "knocked down" to the last and highest bidder, if the price has exceeded the seller's reserve price (if any). In the Dutch auction, the process is reversed, with an auctioneer calling out decreasing price levels until a bidder accepts a price (orally or by pressing a button). In sealed bids, bids are submitted separately in sealed envelopes; the bids are then opened by an auctioneer (or oversight committee) and ranked in descending order according to bid price.

In all types of auctions, the goods are awarded to the bidder(s) offering the highest price. With first-price auctions, the award is made to the highest or top-ranked bidder at a price equal to the amount bid; with second-price auctions, the award is made to the highest bidder, but at a price equal to the bid price of the second highest bidder. English auctions are generally classified as second-price auctions, because the winning bidder's price is actually determined by the second-highest bidder, who drops out leaving the winning bidder to name a price just barely over the second-to-last price.

Each auction institution is appropriate for the sale of one or multiple items. When more than one item is involved:

- The English auction is repeated in a sequential fashion until the supply is exhausted
- The Dutch auction is continued as subsequent bidders accept lower prices as offered by the auctioneer until all items are sold
- The first-price auction makes awards to the highest bidders at the prices and quantities tendered in the bids
- The second-price auction awards the highest bidders at a single market clearing price equal to the bid of the first unsuccessful bidder (or the last successful bidder)

The multiple-item variants of the first- and second-price auctions are known respectively as discriminative and competitive auctions (but they have been referred to in this manual as pay-as-bid and uniform-price, in the expectation that these terms will be less confusing to the non-economist).

English and Dutch auctions are continuous auctions, where bidders may alter their bidding strategy in response to rival bids. Conversely, sealed bid auctions require the bidders to commit to a bidding strategy at the time bids are submitted. Continuous auctions tend to involve lower information gathering and bid preparation costs for the individual bidder, because the auction proceedings themselves provide considerable information on the value of the goods being auctioned. Such savings, though, might be offset by the requirement to participate actively in the auction.

Much of the theoretical literature is devoted to comparing the revenue that a seller can expect from each of these auction styles under varying assumptions about the characteristics of the bidders and their bidding strategies.

Economic Efficiency

An auction is considered to be economically efficient (Pareto optimal) if it awards items to those bidders who value the items most highly. Efficiency in this sense has no relation to the cost of conducting the auction compared to its return to the seller. The bidders' value is a measure of their respective willingness to pay, which in turn might be affected by cost or capacity barriers constraining the various buyers as well as by their knowledge of the goods and differing assessments of their actual economic value.

All auction forms have the potential to be efficient, depending on the degree of competition inherent in the auction process. Two elements can increase competition: participation by a high number of bidders and uncertainty about the bidding strategies of rivals. To a great extent, uncertainty is engendered by larger numbers of bidders, but equally strong competition might arise among a smaller set of bidders who share equal access to market information and financial resources and who have similar operational costs and utility curves (i.e., who are known to place similar values on the goods). When this similarity is recognized by the bidders themselves, competition is likely to be keen as each bidder seeks to derive a bidding strategy that will outbid his rivals and still ensure an attractive profit.

It is generally noted that first-price sealed bids and Dutch auctions have a lower potential for being efficient, especially when they involve bidders with very different characteristics. Bidders in such auctions, unlike those in English auctions, do not have a chance to alter their bids on the basis of the current best bid. There thus exists the possibility that a bidder who actually values the goods at a lower price than a competitor will bid a higher price than this competitor, if one or both bidders misjudges his bid due to ignorance, inexperience, or misguided bidding strategy. In this case, both bidders would be better off if the winning bidder sold the goods to the loser at a price between what he paid and the loser's valuation of the goods.

Bidding Behavior

Bid prices are established from the results of two separate activities: setting a value to the item for sale (valuation), and guessing the bidding strategies of other bidders (strategic bidding).

Two polar models have been developed to describe the manner in which values are derived. The independent private value model assumes that all valuations are derived from privately formed assessments based on intended use, actual costs, perceived selling abilities, and so forth. Bidders in this model never deviate from their original valuation (though for strategic reasons, they might change their bid price, as seen below). The common value model, on the other hand, posits that bidders are highly influenced by the valuation of other bidders because the item for sale is believed to have a single objective value (such as a wholesale or retail market value), although bidders might differ in their assessment as to what this value is. Bidders under this model change their valuation, in addition to their bid price, whenever information about other bidders' assessments comes to light.

In actual situations, bidders' valuations reflect both models, reflecting both the inherent differences between bidders and the likely market value of the item for sale. In the case of grain, for example, bidders might differ in the costs they would incur in marketing the grain (independent private values) and in their guesses regarding what the market price will be when they sell the grain (common values). The values thus derived determine an appropriate range of bid prices.

It is highly unlikely that any one bidder will be able to guess the bid prices of every other bidder, but an astute bidder can surmise the bidding strategies of others based on commonly held information and private information and, to some extent, on previous auction outcomes. Generally, the optimum bid for each bidder is the one that maximizes the probability of winning a positive surplus (surplus being defined as the difference between the market value of the item for sale and all the costs associated with placing the item on the market in addition to the required profit).

An important finding of the theoretical literature is that, regardless of auction structure, the dominant or best bidding strategy is to remain true to one's best or optimum bid. In English auctions, where the competition is real and visible, bidders are motivated to bid up to their true valuation, with the winner generally paying an incremental amount over the last standing bid. In Dutch and sealed bid auctions, where the bidding is based on expectations of competitive behavior, bidders do best by submitting bids equal to their own individual valuations of the item for sale. A bidder who submits a bid below the value he placed on the goods risks losing out if the goods are sold at a price above his bid but below the value he places on the goods.

With second-price sealed bid (or uniform pricing) auctions, the situation is complicated by the winner being a price taker and paying a bid price equal to the valuation of the second-highest bidder. (In other words, a bidder's bid price determines whether he wins, but it determines only the maximum amount he will be asked to pay, not what he will actually pay). Despite this inherent difference in the awards process between first- and second-price sealed bids, the dominant bidding strategy remains the same for both. This finding is the basis for the comparison of different auction structures in terms of expected seller revenue.

Bidders are sensitive to the strategic opportunities inherent in auctions, and they are inclined to shade their bids upwards or downwards depending on their perceptions of a variety of factors, including the characteristics of the bidders and the environment of the auction. In a second-price auction, the bidder who shades his bid upward risks winning the auction at a price that is too high to generate a positive surplus.

Two important characteristics affect bidding behavior, both actual and perceived: the bidders' attitude towards risk and the degree to which bidders' value assessments are related (common or affiliated values). Auction theory suggests that risk aversion[17] (or the desire not to loose the auction and forego the commodity for sale) causes bidders to bid more agressively and to increase their bids marginally, because they have a strong desire to avoid a loss from a bid that is below the commodity's true value. In this situation, aggressive bidding lowers the bidders' potential for profits, but it increases their probability of winning. Similarity among bidders likewise causes bidders to shade their bids upwards since their valuations are recognized as being affiliated. When bidders are assymetric, their demands and valuations are different and their perception of competition becomes different. In other words, a rich man attending an antique auction, if he knows he is the only rich person there, will bid differently than if he knows that other bidders present are likely to be willing and able to pay a high price for the goods in question.

The environment in which bidders formulate their bids also has an impact on bidding strategies. When information is symmetrical (i.e., bidders tending to have the same information), bidders have a tendency to shade their bids upwards (see the discussion of winner's curse below). The

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17. Risk aversion refers to individuals' preferences with regard to situations of risk or uncertainty. Offered a choice between $1.00 for sure and a 50-50 chance at $2.00, a risk-averse individual will choose the dollar whereas a risk-neutral individual will regard them as equal choices, and a risk-seeking individual will prefer the chance at $2.00. Most individuals are risk averse to a greater or lesser degree, and they would take an amount somewhat lower than $1.00 ($0.90, for example) in preference to a 50-50 chance at $2.00.

converse situation (when bidders differ in the amount of information they have or when each has different information) has the opposite effect on bidders, because, in that case, they tend to perceive competition in different terms.

In general, more than one of these factors comes into play during a given auction. On average, the sealed bid auction is used more than the English auction when bidders and information are viewed as being asymmetrical, since sealed bidding itself adds an important element of uncertainty to the bidding process and therefore is viewed as encouraging higher bids. English auctions tend to be chosen over the sealed bid auction when bidders are symmetrical and risk-averse, in order to take advantage of immediate response mechanism built into such auctions.

Winner's Curse

Winner's curse is an interesting phenomenon occurring in sealed bid or sequential English auctions when the goods in question have a common value, but bidders differ in their ability to determine this value (or in their luck at guessing it). In this situation, the winning bidder is likely to be one who has placed too high a value on the goods, and consequently the winner pays a price that is too high to ensure a profit. This situation arises commonly in sealed bid submissions for construction contracts, for example, where there is a true value for the item in question (regardless of which contractor wins, it will cost about the same amount to build the bridge), but contractors differ in their success at estimating this amount correctly. Winner's curse might be aggravated by uncertainty (including lack of experience with auctions) and by the presence of a high number of bidders perceived to have similar utility curves. Technically an error in judgement, winner's curse is sometimes mistaken for speculative bidding, or the submission of deliberately high bids in order to ensure a positive outcome. The phenomenon can be minimized by providing as much information as possible to all bidders prior to the auction. In many cases, though, winner's curse disappears as comparisons are made by bidders among auction outcomes over time and as bidders improve their skill in valuation and bidding.

Collusion

Collusion might be implicit or explicit. Explicit collusion entails direct contact and an agreement among potential bidders concerning bidding strategies. One bidder might refrain from bidding, or hold his bid below a certain price, to increase the chances of another bidder winning the auction, with the understanding that the reverse will occur during a future auction. Implicit collusion results in "quasi-agreements" as bidders assess the degree to which their bids affect the bidding behavior of others. One bidder might raise bid prices in large increments to signal unexpected access to large financial resources and to discourage his competitors from agressive bidding. Whereas explicit collusion might be present in any auction form, implicit collusion can arise only during English auctions (where signals can be interpreted during the auction itself) or when sealed bid procedures are used repeatedly under similar circumstances.

Owing to their format, English auctions also facilitate bidding strategies designed to "bid up" bid prices as a means of discouraging rival bidders. One such strategy, preclusive bidding, occurs at the start of an auction when one bidder uses a high initial bid to signal to other bidders the high cost of actively participating in the bidding process. In essence, the bidder signals the presence of a perceived market with high entry costs. Another strategy, punitive bidding (or bidding above one's own valuation to drive up the price of rival bidders), might occur throughout the bidding process as a reaction against the transgressions, past and present, of rival bidders.

English auctions are also particularly susceptible to <u>bidder rings</u>, or groups of bidders who agree to remain silent during an auction and allow a single representative of the ring to bid up to the ring's price ceiling. In so doing, the ring hopes to minimize competition, aggressive bidding, and the final auction price. The ring then holds an illicit auction of the items thus won for its own members only.

Generally, bid prices ranging over a wide spectrum during an English auction is a sign of insufficient competition and of the possible presence of some form of unfair bidding practice. Collusion under sealed bid auctions is harder to ascertain, though the presence of a particular pattern in the bids tendered, such as nearly identical bid prices, is a signal of bargaining between bidders prior to bid submission or a lack of skill in collusion.

Revenue Generation

A critical finding of the theoretical literature is that <u>the amount of revenue generated for the seller is on average the same for all three auction forms under the following conditions</u>:

- Bidders are risk neutral
- Bidders assess the value of the item for sale in a statistically independent manner along the lines of the independent private values model
- Bidders are symmetrical

- Payment is a function of bids alone

The conditions signal the presence of bidding equilibrium, where each bidder's best strategy is to submit a bid equal to his own valuation on the goods. Whenever one of these conditions does not hold (as is the case in most actual auction situations where bidders' perceptions and characteristics are a composite of different theoretical elements), the amount of revenue generated for the seller differs, depending on the auction form employed. The conclusions reached by the theoretical analysis are as follows:

- The English auction results in higher revenue for the seller on average than a sealed bid or Dutch auction when bidder's valuations are affiliated (conform to the common value model).

- The first-price auction yields a higher price than any other when bidders are risk averse and have independent valuation. The multi-item variant of the first price-auction, the pay-as-bid auction, likewise results in higher revenue when bidders are asymmetrical.

- The uniform-price auction (a multi-item variant of the second-price auction, which approaches the English auction when competition is strong) yields greater revenue on average than the pay-as-bid auction in a risk-neutral, common value setting.

Finally, increasing competition by increasing bidders increases on average the revenue of the seller, as bidders tend to submit bid prices at the highest possible valuation.

The theoretical findings are ambiguous in cases where bidders are risk averse and their values conform to the common value model. Unfortunately, this is the situation that is most likely to hold in grain auctions in developing countries. Because the sellers all intend to sell the grain in essentially the same market, the values they place on the grain are clearly closely affiliated, differing only to the extent that traders differ in their interpretation of the way the market is going. Although traders might be less risk averse than the average person (as indicated by their choice of a highly risky profession), they are nonetheless likely to be somewhat risk averse.

Reserve Prices and Other Information

A reserve price establishes the seller's minimum acceptable price for bids. Such prices might or might not be announced prior to the auction. They define the dividing line between acceptable and non-acceptable bids. An announced reserve price might be an effective way of countering cartels and other forms of collusion designed to hold the sales price down, or at least of limiting their scope of action. In this case, the announcement that a reserve price exists might be nearly as effective as revealing what that price is.

To the extent that reserve prices are based on the seller's interpretation of prevailing market values, they contain valuable information on market conditions for the prospective bidders. On the other hand, reserve prices that bear little relationship with the true value of the commodity for sale tend to have a downward effect on bid prices and result in lower revenue levels. A reserve price that is too high discourages competition, while a reserve price that is too low might mislead bidders and cause them to adopt bidding strategies based on shading their bids downward. Even bidders who are sophisticated or regular participants in auctions will factor into their own bidding strategy the expected response of other bidders to a low reserve price.

When the characteristics of an item for sale are unknown and are difficult to ascertain directly (e.g. oil exploration and development leases), sellers rely on ways other than the reserve price for communicating important price information to prospective bidders. A variety of information (such as the results of recent auctions for similar items or the results of technical tests conducted) are commonly made public. In providing as much accurate information as possible about the item for sale, the seller ensures more even access by prospective bidders to pertinent market information, and he increases competition among the bidders.

Auction Uses

Auctions have been used in conjunction with practically every item imaginable (livestock, agricultural commodities, natural resources, and foreign exchange, to name a few categories). In many instances, auctions are used because the item in question has no standard value (as in the case with fresh fish and antiques, whose supply and demand conditions are continuously changing).

English auctions are a favored auction form when the item for sale is difficult to transport, requires the presence of sophisticated processing or holding facilities, is available only in limited quantities (relative to the bidder's processing or absorption capacity), and is a specialized and necessary input.

An example of such an item in the field of natural resources is timber, for which logging rights on government-owned land are generally sold through oral auctions. Natural resources with markedly different characteristics from timber are oil and gas, which tend to be sold through the use of sealed bids.