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**ASSESSMENT OF THE FUTURE ROLE
OF
INSTUTUTO DOS CEREAIS DE MOÇAMBIQUE (ICM)**

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LIST OF ACRONYMS

AGRICOM	State Company for Agricultural Marketing
DEA	<i>Direcção de Economia Agrária</i>
DINECA	National Directorate of Agricultural Marketing
FAO	Food and Agriculture Organization
FOB	Freight on Board
GRM	Government of the Republic of Mozambique
IARC	International Agricultural Research Center
ICM	<i>Instituto dos Cereais de Moçambique</i>
Kg	Kilogram
Km	Kilometer
MAP	Ministry of Agriculture and Fisheries
MICTUR	Ministry of Industry, Commerce and Tourism
MSF	<i>Medecins sans Frontierès</i>
MSU	Michigan State University
Mt	Meticais (@ 12,000 per \$ US)
MT	Metric Ton
NGO	Non-Governmental Organization
SIDA	Swedish International Development Agency
SIMA	<i>Sistema de Informação de Mercados Agrícolas</i>
US	United States
USAID	United States Agency for International Development
V&M	Mozambique brokerage firm

PREFACE

This assessment of the *Instituto dos Cereais de Moçambique* (ICM) was undertaken through a work order with the Agricultural Policy Analysis Project, Phase III. The assessment was done by a three person team consisting of Donald G. Brown and Norman Rask, agricultural economists, and José Egidio Paulo, economist/enterprise management specialist, under contract with Abt Associates, Inc. The assessment was undertaken from January 13, 1997 to February 21, 1997. As part of the assessment, the team made visits to the provinces of Gaza, Zambezia, Nampula and Cabo Delgado. Government officials, ICM staff, donors and private sector individuals were interviewed both in the field and in the capital Maputo. Several oral briefings were given to officials of the Ministry of Industry, Commerce and Tourism (MICTUR) and the Ministry of Agriculture and Fishery (MAP). An early draft of the team's report was left with USAID and the government for their comments which were later incorporated into this final report.

The team would like to thank Rich Newberg, Agricultural Officer and Fernando Paixao, Sectorial Policy Advisor of USAID/Maputo for their time and support in arranging our field trip and providing insight into the maize market in Mozambique. In addition, the team would like to thank Luis Eduardo Siteo, Director of Internal Commerce, MICTUR, and José Paulo Marra, Director of ICM, for their generous offer of time to meet with the team and provide guidance on the course of our endeavor.

Given the necessity of gathering information and forming impressions within such a short time, it was necessary to rely on much secondary data. Under these circumstances, factual errors and information gaps are possible. To the extent such errors and gaps exist, they are the responsibility of the team members, and, in no way, reflect upon the excellent insights provided to us by respondents.

EXECUTIVE SUMMARY

1. BACKGROUND

Mozambique is entering a period of remarkable economic growth and expansion. After suffering from years of war, economic mismanagement and drought, Mozambique is finally experiencing the benefits of peace, good weather, and sound economic management. This assessment is to see what role, if any, the *Instituto dos Cereais de Moçambique* (ICM) should play in this new economy.

Government policy in Mozambique encourages both the integration of agriculture and an efficient commercial sector in support of agriculture and rural development. An important issue is the role government plays in implementing this policy. In a free market economy government intervention should occur only where there is an obvious market failure which government can correct.

ICM can be linked to organizations going back to 1961. Today, ICM is a public institution with the broad social mandate of its predecessors but without state funding. It is forced to act and compete in the market place like a private institution. This conflicting situation creates a dysfunctional organization that underutilizes its resources and dampens the spirit and enthusiasm of its well qualified staff.

The review of ICM's operations was made in light of the country's current and projected maize market. Maize markets in Mozambique exhibit a great degree of change. The two most important are transitions to a market economy and to a two tier - deficit in the south, surplus in the north - market. A number of market imperfections have been identified including finance, poor roads, and a series of other market impediments that all contribute to very large marketing margins that are 4-5 times as large as U.S. marketing margins. This limits the income potential in agriculture, restricts market access for remote farmers, limits the areas of the country that can supply the Maputo market, and constrains the country's ability to compete in international markets.

In terms of price efficiency the markets are working well. Market margins between geographical areas and between stages of marketing are consistent and logical. This is especially true in the south and center of the country which serve the deficit Maputo market. ICM had a large presence in the three northern provinces and Tete in 1996, purchasing and holding for export about 40 per cent of the registered maize marketings there. Some noted price distortions may have resulted from this massive presence in the market.

2. ASSESSMENT OF ICM'S MANDATES

The assessment team looked at ICM's mandates and asked four questions: 1) is the mandate an appropriate public intervention (using a market failure test), 2) is government capable, both financially and technically to correct this failure, 3) if public intervention is called for, how much would it cost to implement the mandate, and 4) which public institution is best suited to

implement the mandate.

The 1994 decree creating ICM established nine distinct mandates. Of these nine, the team found six to be appropriate for public intervention and, of these, two are suited for possible implementation by ICM. Activities in research and in extension are more appropriate to other existing government and private organizations. Market information and studies are being well handled by SIMA in the Ministry of Agriculture and Fisheries and the team suggests expansion of this activity. Grades and standards presently apply only to export crops and these standards are managed by the private sector. The mandates related to guaranteed purchase of agricultural surplus (buyer of last resort) and of management of a physical strategic reserve are suitable for potential ICM activity if these activities are properly financed by the government.

Purchase of agricultural surplus may be an appropriate government activity if there is obvious evidence that there is a market failure with large numbers of farmers not being able to obtain a reasonable market price for their product. The team could not find that evidence. If the government wanted to implement a program of purchase of agricultural surplus, ICM would be a likely state organization to do so, but the cost of implementing such a program would be high. We estimate that it would cost approximately \$ 7.6 million a year (91 billion Mt) to operate a buyer of last resort program of approximately 60,000 MT. In addition to the direct cost of this program there would be indirect costs. These costs include higher consumer prices and a strong likelihood that this activity will lead to domestic maize prices too high for export sales unless there are export subsidies from the government. Government must decide if this is the best use of its resources to support agricultural development and markets. The assessment team does not support this activity.

Management of a strategic reserve is another potential ICM activity. A physical strategic reserve can be managed by either a public or private concern. A private firm would be less expensive because it can spread its fixed costs over a range of other activities. The team estimates that the cost of a 1 month (43,000 MT) reserve stock for Maputo would be approximately \$ 5 million a year and a three month (130,000 MT) reserve would cost some \$ 17.5 million a year.

If the management of a strategic reserve was combined with the purchase of agricultural surpluses, total cost would be higher than the sum of the individual programs. The assessment team estimates about \$ 6.4 million rather than \$ 5 million for a one month reserve stock. This results from the strategic reserve having to purchase product at higher prices. Government must weigh the cost of a physical reserve with that of a reserve based on private imports and foreign exchange. This type of reserve system has virtually no cost to the government. Unlike many of its neighbors, Mozambique has good ports and rail links for quick delivery of import if the need occurs. The assessment team recommends the consideration of a foreign exchange rather than a physical strategic reserve.

3. CONCLUSION AND RECOMMENDATIONS

The review of ICM's mandates and capabilities indicate that, unless the government is prepared to make significant expenditures on a physical strategic reserve and/or a program of purchase of agricultural surplus — moves which the team on economic grounds cannot recommend — there is no public role for ICM.

If there is no public role for ICM, then the issue to be dealt with is what to do with ICM's physical and human resources. Ideally these resources should be used to improve market operations and efficiency in the country. The best way to look at this question is to examine the present and projected cereal market. As we have seen, while the country has three geographical regions it has only two major but distinct markets for maize — the southern market with a deficit related to demand in Maputo and the northern market with surpluses.

ICM in the Southern Market

In the south the markets are working very well. There is a high degree of competition responding to a significant level of effective demand from the Maputo market. Market entry is easy and there are many informal traders in the market. ICM has almost no activity in the region and there is no need for state intervention in the market.

Recommendation for the Southern Market:

ICM's assets should be sold or transferred to the best use that supports competition and market efficiency. A commission or study should be undertaken immediately to inventory ICM's assets in the south to determine the best use of these assets.

ICM in the Northern Market

The situation in the north is more complicated. Presently there is less competition in the market with a small number of large traders and firms, including ICM, dominating the market. As a surplus area, the future of the northern region is in exports. To take advantage of export opportunities will require efficient collection of high quality maize and other products for speedy removal from the region.

Market entry is more difficult in the northern region due to natural barriers of access into the export market. These barriers include: the need for a minimum quantity of goods that meet international standards of quality and for contracts and brokerage outside the country. Informal traders will have to go through formal traders to access this market.

Recommendation for the Northern Market:

Decisions on disposal of ICM's assets in the north should adhere to three basic principles: 1) the assets should be used to increase competition, 2) the assets should also be used to expand exports of agricultural products, and 3) actions undertaken to dispose of these assets should not unduly disrupt the market.

The first step is to remove ICM's public mandates. Next, in a phased program over four

years, ICM's assets should be privatized. To increase competition in the region, the most desired action would be to assemble ICM's assets into logical groups — by province or markets. These grouped assets can then be sold to the private sector (as individuals or stakeholders) to create firms that will compete with the present traders and with each other. Ideally, the largest possible number of purchasers of these assets will be traders from outside the north region to further increase competition.

If these grouped assets cannot be sold, then the fall-back position of government would be to selectively liquidate the assets in support of competition in the region.

Role of Government

Government has a fundamental and essential role in the success of a market economy. The natural tendency of the private sector is towards monopoly and limiting the market. It is the state, through support, not direct intervention, which assures there is competition in the market. Competition is the constraint that turns the desire for profit into the motivating force that results in the improved well-being of people in a free market economy.

The most important way the Mozambique government can improve farmer's welfare and increase agriculture's contribution to the national economy is to reduce agricultural marketing margins. Only the state has the capability to do this. Critical actions to be undertaken are to: improve roads and transportation, expand market information, provide security of property and person, enforce legal contracts and facilitate contract dispute resolution, free both the formal and informal traders from excess regulation and "red tape", assure safe food in the market and, as the market demands, establish and maintain grades and standards. In addition, the state should not be a factor in increasing the marketing margin through taxation on marketing.

SUMARIO EXECUTIVO

INTRODUCAO

Mocambique esta a entrar num periodo de notavel crescimento e expansao economica. Depois de sofrer muitos anos de guerra, seca e com dificil administracao economica, Mocambique esta, finalmente, a experimentar os beneficios da paz, boas condicoes climatericas e uma administracao economica sa. A presente avaliacao e para ver qual e a posicao e ate que ponto (se valera a pena) o Instituto dos Cereais de Mocambique (ICM) podera continuar a participar nesta nova face de economia.

A politica do Governo em Mocambique encoraja, em simultaneo, a integracao da agricultura e um eficiente sector comercial no apoio a agricultura e desenvolvimento rural. Uma importante saida e o papel que o Governo joga / assume na implementacao desta politica. No livre mercado a intervencao do Governo deveria ocorrer somente onde ha uma evidente deficiencia de mercado que o Governo pode corrigir.

O ICM esteve ligado a sociedade em 1961. Actualmente, o ICM e uma instituicao publica com posicao de mandato social dos seus precedentes mas sem fundos do Estado. E forçado a actuar e a competir no mercado como uma instituicao privada. Esta e uma situacao conflituosa de uma organizacao nao funcional que subaproveita os seus recursos e desmotiva / desanima a iniciativa e entusiasmo dos seus tecnicos bem qualificados das delegacoes.

A revisao das operacoes do ICM foram feitos a luz do actual e projectado mercado de milho, no pais. Os mercados do milho em Mocambique apresentam grande nivel de mudanca. Os dois mais importantes sao transicao para economia de mercado e para dois tipos de mercado: - um deficitario, no sul e outro excedentario, no norte. O numero de imperfeicoes de mercado tem sido identificados nomeadamente: financas, estradas degradadas, e uma serie de outros impedimentos, todos contribuindo para uma grande margem comercial, que é 4 a 5 vezes mais que as margens comerciais nos Estados Unidos. Isto reduz a renda potencial na agricultura, restringe o acesso de mercado para camponeses das zonas remotas, reduz as areas no pais que podem abastecer o mercado de Maputo, e restringem a habilidade do pais para concorrer no mercado internacional.

Em termos de eficiencia de preco os mercados estao a funcionar bem. As margens de mercado entre areas geograficas e entre os niveis de comercializacao sao consistentes e logicos. Esta e, especialmente, a verdade no sul e no centro do pais que serve para o mercado deficitario de Maputo. O ICM teve uma grande presenca nas provincias do norte do pais e em Tete, em 1996, comprando e armazenando para exportacao cerca de 40% do milho registado na comercializacao dessa zona. Algumas distorcoes de precos registados poderao ter resultado da sua presenca massiva no mercado.

2. AVALIACAO DOS MANDATOS DO ICM

A equipe de avaliacao do ICM verificou os mandatos do ICM e colocou 4 questoes / perguntas: 1) o mandato e uma intervencao publica apropriada (usando um teste de mercado deficiente), 2) o Governo e capaz, financeira e tecnicamente, corrigir esta situacao / deficiencia, simultaneamente, 3) se a intervencao estatal e necessaria, quanto isso devera custar para a implementacao do mandato, e 4) que instituicao publica e melhor adaptada / conveniente para a implementacao do mandato.

O decreto de 1994 de criacao do ICM estabeleceu 9 mandatos diferentes. Sobre os 9, a equipe encontrou 6 que sao apropriados para a intervencao estatal e 2 dos quais sao compativeis para a possivel implementacao pelo ICM. As actividades de pesquisa / investigacao e de extensao sao mais apropriados outras organizacoes do Governo e organizacoes do sector privado existente. Informacao e estudos de mercado estao a ser bem encaminhados / realizados pela SIMA do Ministerio da Agricultura e Pescas e a equipe sugere a expansao destas actividades. Por enquanto, a classificacao e padroes sao aplicadas apenas para produtos de exportacao e estes sao manejados pelo sector privado. Os mandatos referentes a garantias de compras de excedentes agricolas (comprador de ultimo recurso) e a gestao de reservas fisicas estrategicas sao proprios para a funcao / actividade potencial do ICM, se estas actividades forem devidamente financiadas pelo Governo.

A comercializacao de excedentes agricolas pode ser uma actividade propria do Governo se estiver claramente evidente que ha um deficiente mercado com um grande numero de camponeses incapazes de obter / conseguir um preco razoavel no mercado para o seu produto. A equipe nao encontrou provas. Se o Governo quisesse implementar um programa de compras de excedentes agricolas, o ICM pode ser provavelmente o organismo do Estado adequado para fazer isto mas, o custo para a implementacao do tal programa pode ser bem alto. Nos estimamos que isso podera custar aproximadamente USD 7,6 milhoes por ano (91 bilioes de Mt) para intervir como comprador de ultimo recurso de aproximadamente 60.000 toneladas. Mais ainda, o custo directo deste programa pode ter custos indirectos. Estes custos incluem precos altos ao consumidor e uma forte probabilidade de que esta actividade podera moldar / induzir a precos domesticos mais altos do milho de exportacao, excepto quando houver subsidios do Governo. O Governo devera decidir se esta e a melhor forma de usar / utilizar os seus recursos para sustentar / apoiar o desenvolvimento da agricultura e mercados. A equipe de avaliacao nao podera defender / encorajar esta actividade.

A gestao de reserva estrategica e uma outra actividade potencial para o ICM. A reserva fisica estrategica pode ser gerida por uma outra empresa publica ou privada interessada. Uma empresa privada podera ser menos cara porque ela pode expandir / alargar os seus custos fixos sobre uma area de outras actividades. A equipe estima que o custo de um mes de (43.000 toneladas) reserva de stocks, em Maputo, podera ser de, aproximadamente, USD 5 millhoes num ano e, para 3 meses (130.000 toneladas) a reserva podera custar cerca de USD 17,5 milhoes, por ano.

Se a gestao de reserva estrategica for combinada com as vendas de excedentes agricolas, o custo total pode ser mais alto do que a soma dos programas individuais. A equipe de avaliacao estimata em cerca de USD 6,4 milhoes por mes de reserva de stock. Estes resultados de reserva

estrategica levam a comprar produto a precos mais altos. O Governo deve aliviar / aligeirar o custo de reserva fisica com a reserva baseada nas importacoes privadas e trocas externas. Este tipo de reserva nao tem, praticamente, custos para o Governo. Ao contrario de muitos dos seus vizinhos, Mocambique tem bons portos e linhas ferreas para rapida escoamento / entrega de importacoes se as necessidades exigirem / ocorrerem. A equipe de avaliacao recomenda a consideracao das trocas externas, preferivelmente, no lugar de uma reserva fisica estrategica.

3. CONCLUSOES E RECOMENDACOES

A revisao do mandato e das capacidades do ICM indicam que, salvo se o Governo estiver preparado para fazer gastos significativos na reserva fisica estrategica e/ou um programa de compra de excedentes agricolas - accao que economicamente nao e recomendada pela equipa - nao ha funcao publica para o ICM.

Se nao ha funcao publica para o ICM, entao a questao a ser negociada e o que fazer com os recursos fisicos e humanos. Teoricamente estes recursos poderao ser usados para promover operacoes e eficiencia de mercado no pais. A melhor forma de resolver / solucionar esta questao e examinar o mercado actual de cereais e perspectivar o seu futuro. Do nosso ponto de vista, o pais tem 3 regioes geograficas que comportam somente 2 grandes mas distintos mercados para o milho - o mercado da regio sul com um defice relativo a procura, em Maputo, e o mercado do norte com oferta excedentaria.

ICM no Mercado da Regiao Sul

No sul os mercados funcionam muito bem. Ha niveis altos de concorrancia, correspondendo para um nivel significativo de procura efectiva no mercado de Maputo. A entrada no mercado e facil e ha muitos comerciantes informais no mercado. O ICM nao tem, quase, actividade na regio e nao ha necessidade de intervencao do Estado no mercado.

Recomendacao para o Mercado da Regiao Sul

Os activos do ICM poderao ser vendidos ou transformados para o melhor aproveitamento, que apoie a concorrancia e eficiencia de mercado. Uma comissao ou estudo podera ser realizado imediatamente, para a inventariacao dos activos do ICM na regio sul, para determinar o seu melhor uso / aproveitamento.

ICM no Mercado da Regiao Norte

A situacao na regio do norte e mais complicada. Actualmente ha menos concorrancia no mercado, com um numero pequeno de comerciantes e empresas grandes, incluindo o ICM, dominando o mercado. Como uma regio excedentaria, o futuro da regio norte esta nas exportacoes. Para obter vantagens nas oportunidades de exportacao, sera necessaria a seleccao eficiente do milho de alta qualidade e de outros produtos de remocao rapida para a regio.

A entrada no mercado e mais dificil na regio norte do que no mercado da regio sul, devido as barreiras naturais de acesso no mercado de exportacao. Estas barreiras incluem: - a

necessidade de uma quantidade minima de bens / produtos que encontram padroes internacionais de qualidade, e de contractos e correctagem de fora do pais. Os comerciantes informais poderao entrar atraves de comerciantes formais para terem o acesso a este mercado.

Recomendacoes para o Mercado do Norte

Decisoes de alienacao / venda de activos do ICM na regio norte poderao apoiar-se e/ou resultar em 3 principios basicos:

os activos poderao ser utilizados para aumentar a concorrencia;

os activos poderao, tambem, ser usados para aumentar as exportacoes de produtos agricolas, e;

accoes empreendidas para alienacao / liquidacao destes activos poderao nao quebrar o mercado, indevidamente.

O primeiro passo e remover os mandatos publicos do ICM. Em seguida, num programa do periodo de 4 anos, os activos do ICM poderao ser privatizados. Para aumentar a concorrencia na regio, a accao mais desejada seria a de associar / juntar os activos do ICM em grupos coerentes - por provincia ou mercados. Estes activos agrupados podem ser vendidos ao sector privado (individualmente ou a proprietarios associados) para criar empresas que podem concorrer entre eles e com os actuais comerciantes. Teoricamente, a possibilidade de um numero maior de compradores destes activos pode ser de comerciantes de fora da regio do norte, para favorecer o aumento da concorrencia.

Se tais activos agrupados nao poderem ser vendidos, entao a posicao remota / recuada do Governo podera ser de, selectivamente, liquidar os activos em apoio a concorrencia na regio.

Funcao do Governo

O Governo tem uma funcao fundamental e essencial para o sucesso da economia de mercado. A tendencia natural do sector privado e concernente / rumo ao mercado de monopolio e limitado. E o Estado que deve assegurar que haja concorrencia no mercado. A concorrencia e o impedimento que torna o desejo de ganhar forca e motivacao que resulta no melhoramento do um bom comeco das pessoas na economia de livre mercado.

A via mais importante do Governo de Mocambique para melhorar o bem-estar dos camponeses e aumentar a sua contribuicao na economia nacional e reduzir as margens de comercializacao agricola. O Estado somente tem capacidade para fazer isso. As accoes cruciais / decisivas que devem ser empreendidas / desenvolvidas sao: - melhorar as estradas e trasnportes, expandir a informacao de mercado, providenciar a seguranca de propriedade e pessoal, obrigar contractos legais e facilitar contrato de resolucao de disputa, libertar os comerciantes formais e informais do excesso da legislacao e de "formalidades excessivas" para ambos, garantir alimentacao com qualidade no mercado e, quando o mercado de consumo exigir, estabelecer e

manter a classificacao e padroes. Mais ainda, o Estado nao pode ser / constituir um factor no aumento da margem de comercializacao atraves de impostos no mercado.

1. BACKGROUND

Mozambique is entering into a period of remarkable economic growth and expansion. After years of war and economic mismanagement, coupled with a recent drought, Mozambique is finally experiencing the benefit of peace, good weather, and sound economic management. This has allowed Mozambique's rich land and dynamic people to be able to produce abundant crops. It is within this context of change and growth that the *Instituto dos Cereais de Moçambique* (ICM) is evaluated to see what role, if any, it should play in this new economy.

In section 1 of this report, we first summarize government policy related to food and agriculture. This is followed by a review of ICM including its stated purpose, history, and present status. An overview of the 1996 maize market and ICM's role in it is presented next. These background sections serve to define the problems that need to be addressed to determine the future role of ICM. In section 2 of the report, each of the various mandates decreed for ICM is evaluated in terms of appropriateness for public intervention, including an assessment of the appropriate government agency to undertake the intervention. For three of the activities deemed appropriate for public action, estimates of the cost of undertaking the activity are made. Finally in Section 3, a series of recommendations for the future role of ICM is given along with a suggested implementation plan to put these recommendations into effect.

1.1 Review and Critique of Government Policy

In 1995, the Government of the Republic of Mozambique (GRM) published the *Política agrícola e estratégia de implementação* (Agriculture Policy and Strategy for Implementation). This document establishes four main economic objectives: 1) food security, 2) sustainable economic growth, 3) reduction of unemployment, and 4) reduction of poverty levels. These economic objectives lead to a central agricultural development objective to increase "the transformation of subsistence agriculture into an agriculture increasingly integrated into the functions of production, distribution and processing" which in turn will create a "self-sufficient family sector which contributes a surplus to the market" and the "development of an efficient commercial sector which participates in rural development." In addition to these objectives, the document also establishes four fundamental principles to achieve these objectives. These principles include sustainable use of natural resources, development of human capital, recognition of the role of women and—most directly relevant to ICM—expansion of agricultural productivity and production.

A clear understanding of the role government should take in meeting its policy objectives is as important as establishing those policy objectives. In a democratic society, government has continual requests from its constituency for support and intervention on their behalf. Clearly government cannot and should not respond to all of these request. Limited finances and human resources preclude this possibility. How does government decide what it should and should not do? What activities should be done by government and what should be left to the non-

governmental sector? These issues are particularly important as we look at the long list of mandates decreed for ICM.

The recent World Bank Agriculture Sector Memorandum (World Bank 1996) provides a useful guideline for making these choices. Basically this memorandum proposes that government intervention should occur only in areas where there is an obvious market failure which government is capable of correcting. This criteria has two parts: 1) the market failure is obvious and 2) government is capable both financially and technically to correct this failure. Economically speaking, market failures occur when "the market left to itself would generate suboptimal outcomes" (World Bank 1966, p.23). There are a number of reasons for this to happen, but generally speaking this occurs when there is a public good involved. Public goods usually include such activities as building roads, providing education and information, and protecting public health and safety. With government resources so limited within the country, choices to do one activity usually precludes doing other activities. Thus, government should focus on activities in which it has a comparative advantage. "In markets which are competitive or at least contestable, the private sector is usually a more efficient provider of goods and services" (World Bank, 1996).

1.2 Analysis of ICM's Purpose

The purpose of ICM as defined in the decree of January 1994 is to "encourage the production and marketing of cereals and other agricultural products as well as realize actions aimed at guaranteeing food security and management of strategic reserves." This purpose supports directly the government's overall economic objectives of food security and agricultural development (World Bank 1996). In addition, this purpose also supports directly the expansion of production capacity and agricultural productivity, one of the four fundamental principles used to achieve this objective.

ICM's purpose is similar to that historically used for grain marketing boards in a number of eastern and southern African countries. Within the last five years several of these countries have re-thought the implementation of this purpose by their marketing boards. The most radical change has occurred in Zambia where the national marketing board has been abolished and the responsibility for the strategic stock has been turned over to an autonomous board. The board is responsible for managing the reserve using resources owned by the reserve itself to finance its operations. Rent payments on unused warehouse space, for example, are used to help cover some of its operating costs. Malawi has taken a different approach. Admark—the former national marketing board in Malawi—has been restructured to separate its public or social activity from its commercial or private activities. Admark bills the state for its "social" activities. It purchases maize as a buyer of last resort, for example, under contract with the government. In the same manner, it bids for contracts to supply the national strategic reserve. Zimbabwe is moving towards an approach similar to Malawi in separating social from commercial activities of its cereal marketing board.

All of these countries are coping with the restructuring and liberalization of their economies. The often massive financial burden of marketing boards and strategic stocks are being re-evaluated to find more efficient and effective ways of achieving similar results with different

mixes of public and private sector participation. In addition, economic research is being used to reduce the size of physical strategic stock to a minimal effective level and to depend more on foreign exchange reserves and imports to respond to shortfalls in agricultural production. In Zimbabwe, for example, the size of their strategic stock has been reduced from 900,000 MT to 500,000 MT and the requirement to purchase grain to stock the reserve at the minimum government price is no longer in effect.

As Mozambique evaluates the possible implementation of the stated purpose of ICM in such areas as a buyer of last resort (see section 2.1.4) or the establishment of a strategic reserve (see Section 2.4), two things are important to learn from the experiences of its neighbors. First, new models are being tested to find more cost effective ways of reaching national objectives of food production, agricultural growth, and food security. These new models mark a sharp shift from patterns that have been put in place as far back as colonial times. Today command economies are giving way to market economies. Thus, some activities which until recently had been considered the exclusive domain of the state, are now being taken over by the market leading to more efficient and cost effective solutions to lingering agriculture and food security issues.

Second, the selection of any specific solution to Mozambique's agricultural and food security questions that is borrowed from another country, needs to take into account the unique situation of each country. Zimbabwe, for example, is land-locked, has limited areas of productive land, and highly variable rainfall and consequent production. Mozambique, on the other hand, has good ports and rail infrastructure, abundant land, and more stable weather particularly in the northern half of the country. What is done in Zimbabwe is not necessarily appropriate to do in Mozambique.

1.3 History of ICM

The government of Mozambique recognizes the importance of the agricultural sector in the national economy and through the years has provided public support for various activities to help promote all aspects of agricultural production and marketing.

Prior to independence (1974), much of this activity was channeled through the old Mozambique Cereal Institute (ICM). With independence, the National Directorate of Agricultural Marketing (DINECA) was created. Soon after (1981), the State Company for Agricultural Marketing was established (AGRICOM). AGRICOM was the last major effort by the state to directly control agricultural activities. While AGRICOM was established in 1981, it was not given legal status until 1990. In 1994 a new, but much reduced Mozambique Cereal Institute (ICM) replaced AGRICOM.

ICM Before Independence

The original ICM was created in 1961 with the purpose of marketing cereals and ground nuts. Other institutes were also created to market other products such as cotton. Marketing infrastructure was developed including transport (trucks) and warehouses. The purpose was to provide for the purchase, transport, and storage of cereals. Support for ICM activities in the pre-

independence period came from state budget and from a number of special funds such as export taxes, import and export license fees, warehousing services. etc.

DINECA and AGRICOM - 1975-1993

Soon after independence, the government opted for a centrally planned economy, and defined agriculture as the base for economic development. Agricultural marketing was defined as a fundamental state activity for the purchase of agricultural products to supply both the internal and export markets. DINECA and later AGRICOM had explicit mandates to: (a) "purchase and sell agricultural products, in particular, maize, rice, beans, ground nuts, millet, sunflower, and copra; and (b) provide various services including warehousing, storage and, delivery of products from surplus production areas to consumption areas; balance the marketing of cereals with the objective of supplying the internal market; guarantee the holding of food security stocks while insuring the application of state determined fixed prices for each of the production, marketing and consumption phases of the food market. AGRICOM received financial support from a combination of sources including state funding, selling of products and services, and SIDA, a Swedish development organization.

In 1994, as part of the restructuring/privatization of state enterprises AGRICOM was terminated and ICM created. The mandate for ICM continued to be the implementation of government policy, but now within the dictates of a free market economy.

The New ICM (after 1994)

ICM inherited the work force, warehouse structure, and equipment formerly used by AGRICOM, as well as a continued mandate to implement government policy. The specific mandates are detailed in Section 2.

ICM received a government budget of 10 billion Mt in 1995. However, since then, all state and donor funding has been withdrawn and ICM has been left to cover its operating and maintenance costs from commercial credit, selling of services, and warehouse rentals. ICM does receive an indirect subsidy in that they have free use of the warehouses and the rents from warehouse use by third parties.

ICM was fortunate to act as a cereal buyer and provider of warehouse space for donor food aid shipments in 1995. In 1996, they have, in collaboration with V&M, initiated maize export activities with most of their maize purchases.

However, with no public or donor funding, ICM has dramatically reduced its work force and essentially eliminated its trucking fleet. Maintenance of warehouses and equipment is not at a sufficient level and quality of these structures continues to decline.

Thus, in 1997, we find a public institution with a broad social mandate but no funding and forced, therefore, to act and compete in the market place like a private institution. These conflicting situations create a dysfunctional organization that underutilizes its resources and dampens the spirit and enthusiasm of its well qualified staff.

1.4 Status of Mozambique Grain (Maize) Markets End of 1996

Maize markets in Mozambique continue to exhibit a great degree of change. This results from a series of on-going transitions which will further transform the market in the years ahead. Thus, the status of the maize market at the end of 1996 is simply one point on a still evolving continuum.

The most important of these transitions are the transition to a market economy and the transition to a cereal surplus economy. Both of these transition require a fundamental change in the way policy makers view the market and their role in the market. Within this rapidly evolving market there are a number of market perceptions held by policy makers that are becoming less relevant than in previous periods, others perceptions that are increasingly relevant and require additional and immediate attention, and still other issues that are new to a free-surplus market. The interrelated problems of market access and unacceptably high marketing margins lead the list of those needing attention.

Finally, ICM, with a large (but unfilled) mandate from Government, but no financial support from Government to carry out this mandate, is finding it difficult to determine and define its place or role, either within the free market as a participant or as a hand of government policy. In fact, ICM market activity may be unintentionally distorting and delaying market reform in the north.

1.4.1 Market Transitions

We have noted five major transitions that are or will have major impact on the final configuration of cereal markets in Mozambique. These transitions are:

- (1) from a command to a market economy;
- (2) from a deficit national cereal market to a two tier market with deficit production in the south and export oriented surplus production in the north;
- (3) to continued increases in cereal production resulting from expanded area under production and improved productivity levels, primarily in the center and north regions;
- (4) to more market oriented enterprise selections by farmers reacting to market prices in addition to self-sufficiency food needs; and
- (5) to an increased domestic livestock demand for cereal feeds as livestock herds are rebuilt and diet changes respond to higher incomes by the inclusion of more animal products.

These changes are at various levels of completion. The change to a free, efficiently

functioning cereal market is largely completed in the center-south of the country. This market is driven in large part by the large food deficit in Maputo. Informal traders are the major market participants that make this market function.

The cereal markets in the north are less well delineated. The 1996/97 market year is the first with a significant surplus production not needed for internal consumption. In previous years, the surplus in the north was either purchased by traders for the Maputo market or by donors for internal redistribution.

The identification of alternative markets (exports) for surplus production in the north has not proceeded smoothly and a significant quantity of product (maize) remained in warehouse storage at year end. This results, in part, from an optimistic projection of price rises expected at the end of the marketing season. ICM maize purchases were the principal source of maize exports. Perceptions of the role of ICM as well as their current market activities may have contributed to the slower development of efficient markets in the north (see Section 1.4.5).

The combination of the return of displaced people to agricultural areas, the expansion of cultivated area on existing farm units, and favorable weather contributed to a major expansion in cereal production in the 1996/97 market year. A continuation of all of these conditions will probably result in modest additional production increases for the 1997/98 marketing year.

Enterprise change and livestock rebuilding transitions are at very early stages. Their market impact will not be felt for several years, though early enterprise changes may be evident in the north if market clearing prices are allowed to operate.

1.4.2 Market Perceptions

Policy makers and participants in the evolving free market hold a number of perceptions about imperfections in the present functioning of the market. Several have important implications for economic and/or social policy. We attempted to verify the existence, market impact, and relative importance of these imperfections. The imperfections noted are: (1) finance (interest rate, eligibility, loan duration, quantity); (2) Transport (road conditions, costs, vehicle availability, security [robbers]); (3) storage (availability and condition); (4) market access (especially for small and remote location farmers [this is related in part to transport costs]); (5); market information (type and coverage); and (6) private market capability (including price discovery [price setting], market efficiency [margins], and the plight of disadvantaged participants [low prices and market access problems]).

Finance. We found finance to be an important concern. Liquidity in the market is very important for each stage. Farmers are increasingly demanding cash payment. Some traders are not eligible for bank credit due to regulations concerning registration as traders (the informal traders) and others for poor performance on debts accumulated during the war.

ICM a former provider of liquidity to the market through advanced payment contracts with traders is itself forced to go to the banks for commercial credit and thus is more reluctant to finance trader activity than in the past.

High interest rates, loan rigidity, and other restrictive finance conditions are apparent. Credit interest rates continue at real rates of about 25-30 percent. Inflation is about 10 percent, rediscount rate 27 percent and commercial interest rates about 40+ per cent. These will likely be somewhat but not dramatically lower for the 1997/98 marketing season. The banking system is newly privatized and reluctant to expose itself to the possibility of renewed inflation.

Transport. Transport conditions and costs are probably the number one contributor to high marketing margins. Very poor road conditions in many areas are largely responsible for these high costs. We find this to be a continuing problem, though more so for the crops marketed in the rainy season than for maize which is marketed predominately in the dry season.

The availability of trucks did not appear to be a major constraint. In the Maputo market supply area which stretched into Zambezia Province, there was considerable availability of backhaul at more attractive rates. This is less evident in the market supply area for the north.

Market Access. Market access for remote small farmers is considered a major problem by some policy makers. In the areas we visited we did not find access a problem in an absolute sense. Access was a problem in a limited sense in that remote farmers were offered lower prices and received fewer visits from traders.

Further, we found that farmers had a number of market options that they were exercising - options not typically available to specialized market oriented enterprises. For example, specialized farmers must either sell now or sell later. Subsistence farmers, however, plant a variety of crops for home consumption and/or commercial sales and thus have additional options such as altering production, consumption, and marketing patterns.

In our visits we found farmers making very rational economic decisions including: changing their consumption patterns to eat more maize when maize prices were unacceptably low (Nampula); holding additional maize when prospects for next year's local harvest were not favorable (Cabo Delgado); selling additional maize from storage when production prospects were good (Zambezia), and planting less maize and more cotton when cotton market conditions were more favorable (Cabo Delgado).

Also, some farmers were engaging in marketing functions either by traveling directly to district markets or participating in group selling activities. These marketing activities generated significantly higher prices and incomes for these farmers.

Finally, market access was hampered by government's stated minimum price, which was two to three times greater than market clearing prices in remote areas. This was a major impediment to commercial transactions as farmers expected to be paid the higher price and often delayed sales until it was too late.

Market Information. This was a mixed situation. Regional and various market level price differentials (farmer, wholesale, retail) reflected expected market costs (see Section 1.4.3). Traders made use of and are satisfied with the *Quente - Quente* weekly price leaflet produced by

the *Sistema de Informação de Mercados Agrícolas* (SIMA) within the *Direcção de Economia Agrária* (DEA) of the Ministry of Agriculture and Fisheries. They would like regional and international prices as well.

While the commercial market seemed well informed, there was confusion at the farm level. As noted above, the minimum price established by the Government was a source of disinformation that adversely affected the market, particularly the ability of farmers and traders to arrive at market clearing prices.

Private Market Capability. The private market appeared to be working quite well given the early stage of its development. Farmers are making market decisions to hold or sell products, informal traders set up local sites to accumulate product, some local farmers are taking on market activities, and margins, as noted below, are quite consistent with anticipated market costs. These market activities are covered in more detail below.

1.4.3 Seasonal Market Performance

The information regarding market performance in this and the remaining parts of section 1.4 comes from an analysis of weekly maize price information collected by the MSU/Ministry of Agriculture and Fisheries SIMA office. The data set covers a period of 18 months, July 1995-December 1996. A more detailed description including tables and graphs are contained in annex E.

Seasonal pricing patterns are remarkably consistent across and within all regions. In 1995, lower prices were evident at the peak of the harvest season in July, the point where the price data series begins. Prices rose steadily throughout the marketing period as expected in a deficit production year. The rise was particularly steep in the December-February period, peaking in February and March in most areas and then declining rather abruptly as the new much larger 1996 crop began to reach the market. This price drop occurred in March and April of 1996 in the south and a month later in the north. By June of 1996, the market had stabilized at about the same level as a year earlier, though if adjusted for inflation would have been at a somewhat lower real price level. Prices remained at this level through the remainder of the year in most markets, though the Quelimane and Pemba markets showed some shortage of supply at the end of the year as prices were beginning to rise.

These consistent seasonal patterns across regions would appear to reflect accurately the supply and demand in the various regional markets as well as the transmission of prices and product across the markets. The high level of prices at the end of the 1995/96 marketing season (January-February 1996) reflects a condition of very short supply and will not be repeated in the 1996/97 marketing year.

1.4.4 Regional Marketing Margins

The dynamics of the internal maize market should reflect Maputo as the primary deficit

market. With freedom of import, this allows the Maputo market to choose between imports at international prices or domestic supplies at import parity prices. Domestic suppliers can thus compete for the Maputo market if sufficient supply and competitive regional marketing margins exist. In addition, within each region there are major urban markets such as Beira, Quelimane, and Nampula that attract surplus production from surrounding areas.

If surplus condition exist in the domestic market beyond that which can be supplied to Maputo, then the prices in the surplus regions would reflect export parity price levels. This would occur either because demand in Maputo has been met or because the surplus region can not transport excess supplies to Maputo at import parity price levels. In 1996 the maize market in the northern Provinces was strongly surplus.

In an efficiently functioning market one would expect, therefore, that regional prices in the 1996/97 marketing period would reflect a gradual regional decline from import parity prices in Maputo to export parity prices in the Nampula area, with perhaps some regional differences reflecting local supply and demand conditions. As noted below, regional markets reflect these conditions, especially in the south.

Evidence of Market Efficiency. During the first six months of the 1995/96 marketing year, Maputo has maintained a fairly consistent and constant price of about 2550 Mt/kg. This is approximately equivalent to an import parity price of \$230/ton. At the other extreme, Nampula maintained a consistent price of about 1150 Mt/kg. At an estimated transport cost of 200 Mt/kg (rail) to the Nacala port and a port cost of \$8 per ton this would translate into an export parity price of about \$130 per ton. This is close to the export price received for a limited quantity of maize exported in 1996, but slightly above long run expected export parity prices.

It is evident that the Maputo price influence reached well into the center region of the country and into southern parts of the northern region. Beira at about 1500 Mt/kg and Quelimane at 1200 Mt/kg reflected transport margin differences of about 0.5 Mt/kg/km to access the Maputo market. This is somewhat less than the stated costs of truck transport and reflects the availability of less expensive backhaul possibilities along the major transport routes to Maputo.

The only regional market that does not follow the above logical economic construct is Pemba and by extension the interior markets of Cabo Delgado Province. ICM stock inventories, anecdotal evidence, and team observations of large quantities of maize in storage at Pemba and in the interior of the Province in the off-season (late January 1997) would place this region in a strong surplus maize production position during the 1996 season. Other things being equal, this leads to the expectation that price levels in Pemba and in the interior of Cabo Delgado would reflect surplus conditions and be low enough to access export markets, and thus similar to prices in Nampula. Retail prices in Pemba, at over 1500 Mt/kg, however were substantially above Nampula (1150 Mt/Kg) and equal to or exceeded prices in Beira. In fact, in early January 1997, maize prices in Pemba were approaching 2000 Mt/kg. Possible explanations for this aberration are discussed in section 1.4.5.

Within Region Marketing Margins. To illustrate marketing margins between producing areas and regional consumption centers, we chose four examples, each from a different

region; Beira-Manica, Quelimane-Mocuba, Nampula-Ribaue, and Pemba-Montepuez. In the first three cases, the local market prices track very closely the regional market, but at a slightly lower level. This difference represents the necessary margin to deliver product to the regional center. For example, the retail market in Manica was about 350 Mt/kg less than in Beira. The spread in the Quelimane-Mocuba markets was close to 500 Mt/kg.

The spreads observed in the Nampula Market were more variable ranging throughout the market season from 1,000 Mt/kg to 100 Mt/kg. In Pemba, the markets did not show a distinguishable margin until the last three months of the season when prices in Pemba were about 500 Mt/kg greater than Montepuez. Actually, there was a price inversion during the first five months of the marketing season (May-September) when prices in Montepuez were equal to or greater than prices in Pemba.

Of the above examples, the lowest interior prices were observed early in the season in Mocuba in Zambezia Province (700 Mt/kg). Prices in Mocuba, however, tended sharply higher at the end of the season (1,400 Mt/kg). Again, this may be an example of the shifting dividing line between the influences of the deficit Maputo market, the Nampula export market, and the Quelimane regional market.

The Quelimane regional market, which is served by most areas of Zambezia Province, showed more volatility than the regional markets of Beira and Nampula. Again this probably reflects a convergence of the effects of three markets, the deficit southern region, the surplus northern region, and the local Quelimane market all operating with various strengths in Zambezia Province. The dividing line for products going south to Maputo and those going north to Nampula would be expected to move north and south in the Zambezia province depending on production levels, costs of transport, and international parity prices (both world and Southern African regional prices).

Summary and Implications of Market Performance. The markets for the 1996 marketing season appear to be working well and efficiently, though some aberrations are noted. Price discovery within and between markets and in terms of defining marketing margins between geographical areas and stages of marketing appear consistent and logical. This is especially true in the south and center of the country. In the north there is more variability. Within this variability, Nampula markets appear to be functioning reasonable efficiently. In Cabo Delgado, however, we note apparent seasonal price inversions and a significantly higher price level than expected. This occurs at all levels of the Province marketing chain.

With this one exception, it appears that the markets are operating efficiently given the present state of infrastructure (roads, warehouses, transport vehicles, etc.), government tax and licensing procedures, finance availability and cost, and other marketing conditions. We note, however that the overall poor state of these marketing conditions creates significantly high marketing margins. This in turn limits the income potential in agriculture, limits market access for some remote small farmers, raises food costs to consumers, limits the areas of the country that can supply the Maputo market, and constrains the country's ability to compete in the export market.

As noted earlier, we did not observe a significant problem of small farmer access to

markets. We suggest, therefore, that the primary focus of policy should be to create market conditions that will lead to substantial reductions in the marketing margins. This is the most economical way to assure that small remote farmers have access to markets.

1.4.5 ICM Market Activities

ICM's market activities are primarily with maize and primarily in the northern Provinces. In the 1996 marketing season they purchased 56,407 tons of maize. This was 24 percent of the official count of marketed maize in the country, though the official record probably understates the amount actually marketed and, some of the 1996 crop is still coming to market. Of this quantity, 45,612 tons or 40 per cent of marketed maize were purchased in the four northern provinces of Nampula (34%), Cabo Delgado (37%), Tete (39%), and Niassa (76%). At the end of the year (Jan.15, 1997), 19,791 tons remained unsold in storage, or about 35 per cent of ICM's purchases.

The maize is being held either for potential export or because buyers can not be found at an acceptable price. Most of the maize sold by ICM has been exported. In some areas of the north, ICM has played a leading role in setting the market price for maize. This, together with the holding of large stocks has probably helped put a floor under prices there, and may explain the higher than expected prices in Cabo Delgado. In fact, the results of ICM market activity in the north probably unintentionally perform a 'buyer of last resort' function by raising prices there, though the costs and risks are borne by ICM and its funding sources, not by government.

ICM's Vulnerability in the Market. As noted above, ICM has no public financial support, except for free use of its storage warehouses and/or rent from their use by others. Thus, it must seek financial operating funds from commercial banks or delivery contracts from buyers. Yet its operations are largely limited to a single commodity, maize, and it tends to hold this commodity for relatively long periods of time. Thus, in the absence of a delivery contract, ICM's market activity becomes pure speculation.

In a deficit market with pronounced seasonal price variation, speculation with buying and holding product can be remunerative if storage costs are low. However, in a domestic export market that is seasonally counter cyclical to the dominant world market, expectation of off-season price rises are problematic. This situation is further exacerbated by high storage costs caused principally by high interest rates.

In the case of Mozambique, there is a small favorable maize market window in the June-August period before the massive North American crop comes on the market in September. The likely result for maize prices under surplus conditions, thus, is for a long flat price through the major marketing period. Under these conditions, there is little or no advantage to hold stock. The need is to buy and sell quickly at the high point of the international market. ICM, therefore has little advantage since its major asset is storage capacity.

With operations depending completely on borrowed funds with no backup reserves or other diversified activities and no collateral, this becomes a poor bank risk and is unlikely to receive continued funding support.

1.4.6 A Probable Long Term Maize Market Profile

As noted above, the Maize market in Mozambique is evolving from a deficit to a two tier — deficit in the south, surplus in the north — market. For the north, this will require a fundamental change in approach to marketing. In short, prices will be externally driven and comparatively low, efficiency in marketing will be of paramount importance, quality of product will be at a premium, and the window of high market prices will be short and anti-cyclical when compared to price cycles experienced in the last few years.

World maize prices, both yellow and white maize, track U.S. yellow maize prices closely since the U.S. is the major supplier of maize to world markets. Below, we have described the conduct of the U.S. maize market in a normal year. This will serve as a bench mark to predict the probable normal year market situation in the surplus north of Mozambique.

First, a long run average FOB price for maize at U.S. export ports is \$115/MT. The current price is about \$130/MT both in New Orleans and in Nacala, an indication that export prices are quite similar at the two ports. If this price relationship holds, we can expect the long run export parity price at Nacala to be \$115/MT as well. The 115/MT translates to about 1380 Mt/kg. This will be the long run average FOB price expected at Nacala. Therefore, internal prices will be lower than this and reflect the average marketing margins. Note that this will be for good quality maize. Damaged and infested maize, which is commonly found in Mozambique will trade at lower prices.

Currently the average marketing margin for the interior producing areas of the north to the Nacala port including port charges is 840 Mt/kg (assuming a distance of 500 k). This leaves 540 Mt/kg for the farm price. Note this is 180 Mt/kg less than current average farm price (720 Mt/kg) with an export parity price of \$130/MT.

A comparable marketing margin in the U.S. is 180 Mt/kg for a distance of 1500 k. The U.S. has a very inexpensive marketing system primarily because of cheap barge costs on the Mississippi river system. However, with marketing margins in the north of Mozambique almost five times as high as the U.S., for only one-third of the distance traveled, it is evident that marketing margin is an important area of concern if the north of Mozambique is to become an efficient competitor in international maize markets.

Finally, since the maize harvest system is somewhat counter-cyclical to the U.S., and since Mozambique is a price taker in international markets, normal seasonal price cycles representing grain holding costs will normally not apply in export areas of Mozambique. In fact, the price for export will normally be highest at or just before harvest time in Mozambique. This will give Mozambique a short window of higher prices in the June-August period just prior to the large U.S. harvest.

In this case, storing and holding grain for later sale in International markets will not be a profitable activity in normal years. The seasonal price cycle in the U.S. starts at a low point in October of about 95 percent of average or in our example above at 1311 Mt/kg (.95 x 1380). It

peaks at 110 per cent of average in June or 1518 Mt/kg (1.10 x 1380). Costs of storage in the U.S. are 16 Mt/kg/month plus 8 Mt/kg/month for finance charges for a total of 24 Mt/kg/month. In Mozambique, finance charges are four times as large currently. This would give a total monthly cost of storage in Mozambique of about 45-50 Mt/kg/month. Thus, even if purchases were made in the low price month of October (1311 Mt/kg) and held until the high month of June (1518 Mt/kg), the storage cost of 360 Mt/kg (8 x 45) would raise the total cost of the maize in storage to 1671 Mt/kg or 153 Mt/kg above the potential selling price.

This evaluation of a probable marketing profile for an export market demonstrates several important issues.

- Reduction of excessively high marketing margins is a necessary step if Mozambique is to be an efficient competitor in international markets. Marketing margin reduction is also necessary to provide market access to farmers in remote areas and improved incomes to farmers generally.
- Storage for later resale will not be a profitable activity in most years.
- It is essential that farmers and traders understand and produce to quality standards if international prices are to be realized and maintained.

This is the export market profile for normal years. In years when neighboring countries have production shortfalls, Mozambique can become a privileged supplier at somewhat higher prices. But these are conditions that can not be forecast and can not serve as the basis for planning or market projection.

1.5 Statement of the Problem

This assessment of ICM is being undertaken for several reasons. The most obvious reason is to deal with the inconsistency of having a public institution with a lengthy mandate (see Section 2 below) and yet having no direct public funding. In addition, although ICM was created only three years ago, there have been such fundamental changes in Mozambique's economy and its agricultural production during this period that serious questions have arisen about both ICM's projected and its actual role in this new marketplace for cereals. This assessment attempts to provide information and analysis of these issues to guide decisions by government and donors on ICM's future role and activity.

Many of ICM's mandates come from AGRICOM, its predecessor organization. In 1994 under pressure from donors and the IMF, the government reviewed the major borrowers of resources from the banking system and sought to eliminate or reform the non-productive borrowers. One of these borrowers was AGRICOM. The government subsequently ended AGRICOM's operation and shifted much of its mandate to ICM. Under additional IMF pressure to keep direct subsidies to less than 1 percent of gross domestic product (GDP), the government further decided that ICM should not receive a direct subsidy for its operation. ICM was to cover its costs from its day to day market operations. As has been noted, however, ICM does continue to get an indirect subsidy through access to, and free use of, the former AGRICOM and other

government warehouses as well as the former AGRICOM vehicle fleet. ICM has sold or rented the vehicles to acquire operating funds. In addition, ICM rents some of its existing warehouse facilities to generate additional resources to pay for its operation. These generated funds do not go back to the general treasury but are retained by ICM. ICM pays no rent nor depreciation on these warehouses.

In its first two years of operation, ICM was able to obtain funding through government banks under liberal terms. This last year, however, these government banks were being privatized and no longer lent to ICM. ICM was finally able to obtain a loan from a commercial bank at commercial bank terms and interest rates. The result of this situation is that, while ICM is technically a public institution with an extensive public mandate, ICM operates as a private marketing and speculation firm under commercial bank funding. The achievement of most of ICM's public mandate is not even being attempted by the organization because to do so would jeopardize their ability to repay these commercial loans.

Under these circumstances, an assessment of ICM's mandates needs to be undertaken. Using the market failure criteria noted in Section 1.1, government can identify those mandates more appropriate to private rather than public sector activities. Mandates judged suitable for possible public sector consideration can then be evaluated based on the ability of government to resolve the market failure and the cost of doing so. If a given mandate should be undertaken, decisions would have to be made on which public sector agency should undertake that mandate, and how this activity is to be funded. In this way, it could be possible to rationalize ICM's future role and mandate.

Finally, it is also important to evaluate the role of ICM in terms of the country's increasingly active free market for cereals. This issue is particularly important in periods of surplus production as seen last year and expected again this year. As seen in Section 1.4 above, ICM is not active in large parts of the southern half of the country. In other parts of the country it acts in parallel with private traders.

2. ASSESSMENT OF ICM'S MANDATES

The January 1994 decree creating ICM contained six overall mandates for ICM. As noted in Section 1.2, many of these mandates date from the AGRICOM era. Specifically, these mandates are the following:

- "Promote agricultural production and marketing through: actions in support of agricultural production, especially inputs to the family sector; development of the technologies and capacity for storage of agricultural products in the country; participation in the definition and extension of grain conservation technologies in order to minimize post-harvest losses; and action to guarantee the purchase of agricultural surplus, acting as a reserve market."
- "Manage and coordinate projects to stimulate agricultural marketing through the distribution of inputs, elaboration of studies and proposals for pricing, among others;
- Plan and collect statistics concerning agricultural commercialization, analyze these data in order to permit an understanding of the evolution of the sector;
- Purchase, storage, conservation and sale of agricultural products with the objective of: guaranteeing strategic reserves and food security; and contributing to price stability for marketing and supply;
- Classify, according to pre-established criteria, products to ensure consistent nomenclature among different types and grades, issue quality certificates; and,
- Participate, in collaboration with all the other national institutions concerned with cereal and other requirements, in balancing the import and export of cereals with production and internal consumption, with a view to rationalizing the internal production of these products."

Each of these mandates and their sub-sections are reviewed below with four questions in mind. First, is the activity appropriate for government intervention. Second, is the government capable, both financially and technically, to correct this situation. Third, if the activity is a public good, how much will it cost government to implement. Finally, for public activities, what is the most appropriate public entity to implement this activity.

2.1 Promotion of Agricultural Production and Markets

This mandate is really composed of four sub-units: support input supply to the family sector, development of storage technologies, extension of storage technologies, and guarantee the purchase of agricultural surplus. The intent of the mandate appears to be to provide broad-base support to the agricultural sector of the country for the expansion of agricultural production and marketing. Much of this mandate replicates the former role played by AGRICOM and parts of it are redundant to other mandates in the decree.

2.1.1 Support of Inputs to Family Sector

This mandate is a direct carryover from AGRICOM which had a monopoly on distribution of inputs to the family sector. While this type of activity may have been consistent with the orientation of the former command economy, in Mozambique's present market-oriented economy there is little reason to support the state's involvement in this type of activity. The only exception would be for emergency relief to get farm families back on their feet again, as was seen in the last drought. The present level of input use in the family sector is quite low but that does not argue for state distribution of inputs. There is no evidence of a market failure in input delivery. Rather, there is a lack of basic economic structure and incentive to support expanded input use. As the agricultural economy develops, it would be expected that the larger farms will use more and more inputs and this will gradually expand into the family sector. This has already been demonstrated in the cotton export area where, under the right circumstances, small scale farmers that grew cotton also carried improve farming practices with inputs over to maize production (MOA/MSU). In a number of developing countries it has been seen that as demand for inputs increase both large and small input dealers quickly respond by putting more supply on the market. There is no reason to believe that this would not be the case in Mozambique. State intervention in this area often retards this development resulting in an inefficient and high priced input supply system.

2.1.2 Development of Storage Technologies and Capacity

This sub-mandate has two parts, the development of storage technologies and the development of storage capacity for agricultural products. The first part is a research activity and the second is a construction and warehousing activity.

There is a potential role for the state in research if the research is in areas where benefits are not likely to be captured by private sector concerns. This would not be the case for large scale commercial storage technologies but could be the case for on-farm storage in the family sector. While there is a potential state role in developing on-farm storage technologies, it is highly unlikely that ICM would be the appropriate state organization to carry this research out. This is a more appropriate task for the national agricultural research system. At the present time, however, there is not strong evidence of a priority need for additional research in this field. There has been considerable research in post-harvest loss by other African countries and by the International Agricultural Research Centers (IARC). In addition, a number of NGO's have and are doing research in this area. The issue then is not the development of this technology but the extension of existing technology (see Section 2.1.3 below).

The development of additional storage capacity for agricultural products also does not seem to be an important need at this time. Results of the teams visits and interviews suggest that, at the present time, there is excessive storage capacity for agricultural products. Out of a total usable capacity of 158,000 MT, ICM utilized only about 60,000 MT. Most of ICM's storage was under conditions of low throughput, often with only a single rotation of stock per year. In addition, much of the warehouse space ICM has rented to the private sector is not being used for storage of agricultural products but for industrial and other non-agricultural goods. In none of the

interviews the team had with private traders was a need for additional storage for agricultural product raised as a concern even though this question was specifically asked. Potential reasons for this limited demand for storage capacity is explained in Annex D. Basically, much of the maize is marketed by the informal sector that has a minimum use of storage as they prefer a quick turn-over of their inventory. Quick turn-over of stock is also the objective of many of the commercial traders as well. ICM appears to store its product longer but its resources to purchase maize is less than its warehouse capacity. An additional factor in the need for commercial storage is the duration farmers store and market their maize crop throughout the marketing season. The longer farmers store their maize on the farm the less need for commercial storage. In many regions, farm households on-farm storage appear to be a being a major factor in the storing the crop during the season.

Even if there was a need to expand storage capacity for agricultural products, it is highly questionable that the state should undertake this role. The private sector appears to have no constraints to constructing warehouse capacity if there is demand for it. There is no evidence that there is a market failure in supplying adequate storage capacity for agricultural products. Experience in other countries indicates that it would be much more cost effective for this capacity to be constructed by the private sector and then rented as needed to the state for strategic stock storage. In any case, development of additional storage capacity for agricultural products does not seem to be an appropriate role for ICM.

2.1.3 Extension of Grain Storage Technologies

As mentioned above, there exists considerable on-farm storage technology. The question is not the technology but rather how to get this technology in use in family sector farm households. Extension services in the country are spread out and are not standardized. The government extension system is supported with funding from the World Bank. This system is generally focused on high potential geographical areas and not the whole country. Much of these extension activities are directed toward production of the principal crops grown in the country. There has been little emphasis on post-harvest losses or marketing of crops in the government's extension effort. This does not mean that ICM should do this work. While small farm extension services are a legitimate public sector activity, it would not be an activity suitable for ICM with its present personnel and logistic configuration. Extension is a personnel intensive activity requiring a fairly large and mobile staff. ICM does not have that. It would be much more cost effective to add post-harvest information into the existing extension systems package of deliverable goods than to create and support a parallel extension staff dealing only with post-harvest technology questions.

The most effective extension operations at the present time are supported within NGO and private sector activities. These activities deal with both the production of specific crops as well as their storage and marketing. The private firms general support specific export crop production, but some—particularly in cotton areas—also support food crop production. These private and non-governmental extension activities should be encouraged in order to expand the extent of information they are providing their clients on post-harvest loss prevention technologies appropriate to family sector farms.

2.1.4 Guarantee Purchase of Agricultural Surplus

This mandate calls for ICM to "guarantee the purchase of agricultural surplus, acting as a reserve market." This activity, commonly called a buyer of last resort, can be interpreted in a number of ways. It could, for example, be interpreted as being a classic buffer stock — buying from farmers to support a floor price to producers and selling on the market to support a price ceiling for consumers. It could also be interpreted as just being a floor price to protect farmers from falling prices in surplus situations. To gain some idea of the magnitude of the cost of these effort under different assumptions, a spreadsheet was developed to model the maize marketing done by ICM in the country (see Annex G). This model has some 28 variables that can be manipulated to test various configurations of purchases, sales, exports and price levels.

The model assumes the cost of this activity would include the purchase cost of maize (under various assumptions) plus storage and transportation costs either to Nacala for export or to Maputo for retail sale. Revenue generated by the activity would include export sales in Nacala and wholesale sales in Maputo. The actual operation of ICM and the market are more complicated than seen in the model but the model at least gives some indication of the scale of the possible costs or gains of this operation.

A series of "runs" were made with the model to pattern various possible implementation of the buyer of last resort idea. Basic assumptions of some of these runs are seen in Annex G. The base or average model run uses a purchase price of 1,200 Mt/Kg for maize delivered to ICM warehouses. This is a price deemed high enough to induce traders to seek out maize in the more remote areas. Sixty percent of the purchases are in the north region and 40 percent in the central regions. This reflects estimated surplus in both regions. As previously noted, no maize is estimated to be purchased in the south region. Interest used in these calculations is estimated at 30 percent reflecting the expected downward trend in interest rates in the near future. A low estimate of five percent is made on storage losses and it is anticipated that maize would spend on average six months in the warehouses.

Transportation costs are made on the basis of 1,500 Mt/MT/Km which is an average for non-backhaul transportation in the north and central region on generally good roads. Finally, it is estimated that the maize would be exported at \$115 /MT which is lower than that received this last year in Nacala but is the long run average international price for maize. The result of these calculations is that a 60,000 MT intervention to purchase surplus production would cost the government about \$7.6 million a year to cover ICM's losses for this operation.

While we can put a figure on these direct cost, it is the less easily calculated indirect cost which are a greater barrier to the implementation of these programs. A program to purchase surplus production to maintain a price higher for maize than would normally be supported by the market has enormous negative consequences and costs. In the export orientated scheme noted in the basic model for example, increasing the price to the farmer over a market rate will translate into raising the level of the FOB Nacala export cost. The reason for this is that the marketing margin connecting the farm level price to the FOB Nacala price will remain unchanged. An increase of the farm price by 100 Mt/kg directly relates to an increase of the FOB Nacala cost by 100 Mt/Kg equivalent. Since Mozambique is at the higher level in terms of cost of product for

sale on the world market, even a slight artificial rise in the farm level price may quickly put the cost of Mozambican maize over the world price. If this higher cost occurred, the government would have to provide an export subsidy to adjust down the FOB Nacala cost to continue to export into the world market.

An additional problem is the cost to the economy resulting from the disturbance and hindrance of the private sector grain market. By playing both an active role in the market and paying prices higher than the going market rate, ICM will dampen or even stop private sector involvement in maize marketing and eventually in maize exports. This in turn, will mean ICM will have to be more involved in the market to take up the slack in demand as the private sector traders pull away from the market. Finally, raising market prices will also raise consumer costs.

The greatest cost of this type of activity is the resultant waste of funds and resources diverted to the wrong actions to help raise the price received by farmer's. Farmers prices are linked by a given marketing margin to the fixed world market price or a given Maputo price. Neither the government nor the farmer can effect a change in the world market price. This price is fixed by the action of the international market for maize. The Maputo market is so large that it would take major resources to affect its price level. The easiest element government can effect is the marketing margin that links the farmer to these given prices. A 100 Mt/Kg reduction in size of this margin should lead, in a competitive market, to a 100 Mt/Kg increase in the price the farmer receives for his production. The most effective way to increase farmers revenue is to reduce the marketing margin. To spend fund on activities that in the long run hinder that process is wrong and wasteful.

2.2 Manage and Coordinate Projects to Stimulate Marketing

A number of activities seem to be anticipated under the decree for this mandate, two of which are mentioned specifically. These two are projects for the distribution of inputs and projects related to studies of agricultural pricing. Projects on distribution of inputs is redundant to other input delivery activity noted in Section 2.1.1. For the reasons already given in that Section, input deliver is an inappropriate public sector activity.

The elaboration of studies and proposals for pricing and other market activity, on the other hand, can be considered appropriate for public sector action but not by ICM. The most logical place for these activities in within the on-going program of the *Direcção de Economia Agrária* (DEA) of the Ministry of Agriculture and Fisheries. This office is already doing these types of studies and has both the trained personnel and equipment to so. There is no reason to create a parallel organization within ICM to do what is already being done.

2.3 Collection and Analyses of Market Information

Market information is an important public good. Private firms can and do collect and analyze market data, but only for the use of those firms or individuals who can pay for this service. Since a basic condition of a well functioning market is free access to market information,

reliance on only private sector collection and analyses of market data would result in an obvious market failure as a result of asymmetrical information available in the marketplace.

At the present time, there are a number of private, non-governmental, and public agencies and offices that are collecting and analyzing market information. In the private sector a number of trading, storage and brokerage firms in Mozambique, and neighboring countries such as South Africa, are collecting and following specific price and commodity indicators within Mozambique for the firms internal decision making. Among the non-governmental organizations, World Vision has a fairly extensive data collection and analysis system for agricultural markets in their project areas. *Medecins sans Frontières* (MSF) is also collecting and analyzing data on food security issues. There are smaller data collection efforts by other NGO's related to their specific projects and areas of operations.

In the public sector, a number of agencies collect and use market data. ICM, for example, collects cereal price data from its warehouse operators for internal operational decisions. The largest agricultural market information system in the government is the *Sistema de Informação de Mercados Agrícolas* (SIMA) within the DEA of the Ministry of Agriculture and Fisheries. SIMA has a large number of enumerators throughout the country collecting price information on a variety of agricultural commodities. It has a well trained and equipped staff that can do sophisticated presentation and analysis of this price information. In addition to collection and analysis of data, SIMA has in place an extensive information dissemination system with a weekly fax publication (*Quente Quente*), a flash bulletin, and a weekly and monthly price series. It also provides information to a private information service that faxes information to local and international traders (Media Fax).

The most cost effective way for government to provide market information is to build upon the SIMA operations rather than develop a parallel structure within ICM. There is no financial, bureaucratic, or economic reason to transfer the present SIMA into ICM.

Interviews with traders and government officials by the Assessment Team found a strong appreciation of the marketing information now being collected by SIMA. There was also a request for more market information. Some of the specific information requested included price information on, not only domestic, but, relevant regional and international markets. In addition, there was a desire to have information on quantity as well and price of marketed goods. World Vision makes rough estimates of quantities in the markets it is surveying but SIMA does not. Several traders wanted simpler market information with a designation of which markets were in surplus and which were in deficit. Even though the free market for cereals in Mozambique is only several years old and still in its infancy, there is already a growing awareness within the market and with this awareness has come demands for more complete and sophisticated market information.

The present USAID/Michigan State University (MSU) supported SIMA project ends on September 30, 1997. It is estimated that it would cost \$150,000 a year to continue this activity at its present size and operation without external technical assistance. If some of the additional information needs of the market noted above were added to SIMA's work, it is estimated that it would cost about 20 percent more to operate or about \$180,000 a year. In addition, the expansion

of market information to include quantities may require the services of an external technical assistant which would cost another \$150,000 a year to provide. It is assumed that technical assistance would be provided by a donor and would not be a government cost. Given the expected expansion of the agricultural market and the importance of market information, these sums seem to be a most reasonable public expenditure.

2.4 Management of a Strategic Stock

Another mandate that ICM could potentially implement would be the management of a physical strategic reserve in the country. There are several possibilities on how such a reserve could be established. Sometimes a strategic reserve is part of a buffer stock scheme. In this format, the store of maize for strategic reserve also would serve as a stock to intervene in the market to support floor and ceiling prices. The cost of this activity would be extremely high. A modification of this approach would be to use the strategic reserve as part of a program to help purchase agricultural surpluses. We look at the cost of this option later.

The basic model (see Annex G) used in our calculations is based on several assumptions. The first assumption is that the strategic reserve is established to provide short-term supply of food for humanitarian purposes until such time as imports and donor food aid can be delivered into the country during a natural disaster or production shortfall. In our model, the strategic reserve will not be part of a price manipulation scheme. We relax this assumption later to look at the cost of using the strategic reserve to support farmer prices. The second assumption is that the maize held in the reserve is purchased in the country and is not imported. As we shall see, using imported maize could be considerably less expensive depending on market conditions. Thirdly, we assume that maize in the reserve is purchased in the central region and trucked to Maputo where it is stored. Finally, using FAO figures of 516,000 MT of maize utilization per year in the south region, we assume that a one month reserve stock would be 43,000 MT. Using these assumptions, we calculate that a reserve for one month consumption in the south would cost the government \$ 5 million a year (if only 25,000 MT were needed the total cost would reduce to about \$ 3 million).

Various runs were made with the model to look at alternate scenarios. For a three month reserve of 130,000 MT, for example, it is assumed that purchases would have to be made in both the surplus central and north regions. Assuming eighty percent was purchased in the central region and twenty percent in the north, the cost of a three month reserve would be \$ 17.5 million a year. These higher costs reflect the additional transportation cost of moving maize from the north region to Maputo.

If the government wanted to use the strategic reserve to help purchase surplus agricultural products (at above market rates) then the costs are even higher. Our basic model assumes a market clearing price of 1,000 Mt/Kg for purchases. To also undertake a buyer of last resort scheme would require prices to go above the market rate. We assumed a purchase price of 1,200 Mt/Kg in the model in Section 2.1.4. Using this higher price for purchase of maize for the strategic reserve would raise the cost of a one month reserve from \$ 5 million to \$ 6.4 million a year.

The cost of a strategic reserve could be reduced if maize to fill and stock the reserve was

imported rather than obtained through local purchase. In our model it costs approximately \$ 208/MT to deliver maize from the central region to Maputo. If world market prices of maize were in the \$ 115/MT range, maize could be delivered to Maputo from the world market at \$ 30/MT less than the cost of local purchase. This would be a significant saving. The problem with this approach is that the sale of imported maize on the Maputo market as part of the normal stock rotation procedure will displace effective demand for local production. This, in turn, would dampen incentive for local markets in maize and discourage production and marketing within the country.

More significantly, the maintaining of a physical reserve stock is, most likely, an unnecessary expense for government. With the reconstruction of Mozambique's ports and rail linkages, it is easy to arrange delivery of imported grain into the country within a short period of time. By shifting from a physical stock to a humanitarian reserve based on foreign exchange reserves and private sector imports, the same objective can be obtained at virtually no cost to government. In addition, this use of the market to provide food security enhances the overall market operation and efficiency unlike a physical reserve stock that can be a potential market hindrance. With the present technology for prediction of the future crop, it is possible to have a very good idea of the food situation in the country in the next critical January - February period as early as a year beforehand. Private traders could be encouraged at this early date to forward contract for deliver of maize in the November - December period to respond to projected shortfalls in production. The only cost to government of this type of approach is to support an effective early warning system coupled with good market information in the country about local and international markets. In addition, the government would need to assure that the banking and port facilities are effectively and efficiently operating. The cost of this type of program would be a tiny fraction of the cost to manage a physical reserve stock.

2.5 Management of Cereal Grades and Standards

A fundamental element in the shift from a simple to an integrated agricultural market is the establishment and enforcement of grades and standards for agricultural commodities. The structural transition needed to move into a modern economy requires a shift from subsistence-oriented, household level production to integrated production based on specialization and exchange. At the heart of this shift is a movement from personalized systems of exchange to non-personalized systems of exchange (Jayne 1995). Specifically, to go from the face to face negotiation over the price of a sack of maize in a village marketplace to the buying and selling of future contracts while sitting at a computer terminal, can only happen if there are universally agreed upon grades and standards.

Mozambique's cereals markets are not yet at the level where transactions commonly take place at a non-personalized level. Nevertheless, these markets, like the others in the rest of the world, are moving in that direction. This can already be seen in Mozambique in the emerging export market for maize and other crops that is just now beginning to occur.

Management of grades and standards can be both a public and private activity. In international trade, contracts are made based on international standards of quality for the commodity being traded. Private companies are often hired to judge if the standards specified in

the contract have been met. These company's judgement can be used for the acceptance or rejection of commodities in any given transaction. There is no need for public intervention in this situation as there is no market failure.

Grades and standard in the domestic market need public management. Since there are no effective grades and standards for cereals in the domestic market at the present, then there is no role for public intervention. It is inadvisable for government to attempt to introduce grades and standards prematurely into the market as such action will likely raise transaction costs and marketing margins. The best procedure would be to let the market provide the lead in the introduction of grades and standards. It is anticipated that grades and standards will be slowly introduced into the Mozambican domestic cereals market through its initial acceptance, by necessity, in the export market for cereals particularly to South Africa. As the market demand for grades and standards develops, the public sector should respond with appropriate action to introduce and manage grades and standards. This development will most likely be part of a general standardization of contract law and adjudication.

Thus, for the near term there is no need for public intervention in cereal grades and standards. When that need develops it is unlikely that ICM would be the most appropriate public agency to manage these grades and standards. More likely this activity would be the responsibility of the Ministry of Industry, Commerce and Tourism, although it could just as well be done by the Ministry of Agriculture and Fisheries. This is an issue that can be dealt with at a later time.

2.6 Rationalizing of Internal Production of Cereals

This mandate seeks to coordinate the import and export of cereals among "all other national institutions concerned with cereals" with a view to establishing rational production and markets. The problem with this mandate is that this type of activity is not the task of government but of the market. This mandate seems to be a carryover from the former command economy and the idea that the state should and is capable of controlling market forces to achieve some predetermined conclusion. The cereal market in Mozambique is already strong enough that it is extremely unlikely that the state can directly manipulate it. The state's role in a market economy is more indirect and supportive. The instruments available to the state to direct a market economy revolve around such things as investment and banking policy, information and disclosure, and health and safety regulations. In a command economy, a cereals board like ICM was often used to coordinate the market. There is no such role in a market economy. In the past year, ICM has played a role in exports of maize but this role has been more as a commercial warehouse and trader in the market than as a public entity with a public mandate.

3. CONCLUSION AND RECOMMENDATIONS

The assessment of ICM's mandates is summarized in Table 3.1 below:

Table 3.1 Summary of the Assessment of ICM's Mandates

Mandate	Appropriate for Government	By Whom
1. Agricultural Input Distribution	No	Market
2. Increase Storage Capacity	No	Market
3. Rationalize Grain Market	No	Market
4. Technology for Storage	Yes	Ag. Research
5. Extension of Storage Technology	Yes	Extension Systems
6. Manage Grades & Standards	Yes	Min of Commerce
7. Market Information	Yes	SIMA/Min of Ag
8. Purchase Agriculture Surplus	Yes	ICM
9. Manage Strategic Reserve	Yes	ICM

From this assessment it can be seen that of the nine distinct mandates in the 1994 decree creating ICM, two mandates — guaranteed purchase of agricultural surplus and management of a physical strategic reserve — would be potentially suited for possible ICM implementation if these activities were properly financed by the government.

As documented in Section 2.1.4 and 2.4, it is the view of the assessment team that neither of these two mandates has economic justification to support government expenditures of resources. Not only economic but political considerations guide governments decisions on allocation of their budgets. That obviously is the case here as well. Given the fact that during ICM's three years of existence government has chosen not to fund any of ICM's public mandates, it can be reasonably assumed that there is limited political support to fund the two mandates deemed appropriate for potential ICM implementation. Unless the government is prepared to

make significant expenditures on a physical strategic reserve and/or a program of purchase of agricultural surplus there is no public role for ICM. It is not tenable to assume private funds from ICM should fund public activities.

If there is no public role for ICM, then the issue to be dealt with is what to do with ICM's physical and human resources. Annex G provides an inventory of ICM's physical assets. By ICM's estimate, they have some 103 warehouses in useable condition out of 136 in their inventory. These 103 warehouses can store some 158,400 MT of produce. Fifty-four of these warehouses are in the north region with a capacity of almost 80,000 MT. There are 24 warehouses in the central region with 24,300 MT capacity and 25 warehouses in the south region with 54,904 Mt capacity. The capacity in the south is dominated by ICM's 31,921 MT warehouse near the Maputo Airport. In addition to warehouses, ICM has some 240 employees, most of which are guards, and a small remnant of the fleet of vehicles it was given from AGRICOM.

Ideally these resources should be used to improve market operations and efficiency in the country. How to achieve this objective can be best understood in the context of the country's present and projected cereal market. As we have seen in Section 1.4, while the country has three regions, it has two distinct markets for maize — the southern market with a deficit related to demand in Maputo and the northern market with surpluses.

3.1 ICM in the Southern Market

Markets in the south are working very well. There is a high degree of competition responding to the significant level of effective demand of the Maputo market. Annex E demonstrates how well retail prices and margins seem linked and integrated within the southern market and how well the market sends price information. This demonstrates the degree of competition within the region. While the level of competition is high, that does not mean the market is cost effective. As we have seen, a number of factors including roads and information flows have resulted in an extraordinarily large marketing margin.

The high degree of competition demonstrated in the southern market reflects the fact that entry into the southern market is relatively easy. There are many informal traders in the market and they compete actively among themselves. Ease of entry results from the fact that there are many wholesale and retail outlets in Maputo that can accept maize brought in by traders. With the size of demand in the Maputo market and this number of selling points, traders find it easy to turnover quickly their stock and return to the countryside to make additional purchases. Thus, there is limited demand for financing and storage. In addition, there are no quality standards to meet as the product becomes differentiated within the large Maputo market by de-facto standards at the point of sale. Thus, poor quality maize would be diverted, within limits, into a low quality/low price category for sale on the retail market. The Maputo market is large enough that it would be sold.

These market attributes favor the informal trader who can more quickly make and implement marketing decision. The formal traders must cope with a larger asset base that is more inflexible and raises their fixed costs. In addition, the informal traders generally operate outside of government regulatory and taxation requirements. Both of these conditions mean that the

informal traders operating costs can be lower than the formal traders.

ICM has almost no activity in the southern market. Most of its warehouses are inactive or are being rented to cover local operating costs. Part of the reason for this is that with the highly competitive market, ICM cannot effectively compete with the informal sector. In addition, with this degree of competition there is no need for state intervention in the southern market.

Recommendation for the Southern Market:

Since ICM has no role in the southern market, either theoretical or actual, ICM's assets within that market should be shifted to the best possible use that supports competition and market efficiency. These assets can be either sold or transferred.

The exact disposition of each warehouse could not be determined in the short time the assessment team had in country. To be able to make the best use of these resources, it is suggested that a commission or study should be undertaken immediately to inventory ICM's assets in the southern market to determine their best use. This determination can be only indicative. At the initial level a determination can be made of which resources should be transferred to other public agencies. This should be a minor part of these resources. The rests would be sold to the private sector. Ideally, but not necessarily, these warehouse would be used for the storage of agricultural products. Some of the warehouses in need of extensive repair would simply be disposed of. The large warehouse complex in Maputo will need to be looked at carefully to determine how to best use it. Among a number of options, it could be transferred to the NGO community for storage of humanitarian relief assistance.

Another issue this study or commission will need to look at is the difficult question of deciding which of ICM's assets support either the southern or the northern market. As we will see, the disposition of ICM's assets is different in each respective market. In Section 1.4 we have seen that the dividing line between these two markets moves up and down the country depending on the relative prices between the Maputo and the Nacala export market. In general, the line marking the division between the two markets occurs within the central region. South of the Zambezia Province maize generally goes towards Maputo. North of the Zambezia Province maize tends to go towards Nampula and then towards Nacala if it is exported. Within the Zambezia Province, maize can go either way depending on prices and trader availability to buy and transport the grain. The line between the two markets is not clear cut. In a short season such as 1994/95, for example, traders went as far north as Cabo Delgado in search of maize for the Maputo market.

3.2 ICM in the Northern Market

The market situation in the northern market is more complicated than that found in the southern market. Presently the northern market has less competition than the Maputo market. A relatively small number of large traders and firms, including ICM, dominate the northern market. While informal traders do operate in the market, there numbers are small compared to the south.

There are a number of reasons why there is less competition in the northern markets. Demand in the market comes from two sources: 1) a limited demand generated by the urban populations of Nampula and other small urban areas, and 2) demand generated for maize to be exported out of the ports of Nacala and Pemba. Informal traders have the same advantages in the local market as they do in the market in Maputo but, the local market is much smaller so fewer traders service it even though entry into the market is easy.

For the export market, the formal traders have a distinct advantage. As a surplus region, the future of the northern market is in exports. To take advantage of export opportunities, however, requires that a number of restrictive marketing conditions be met. Prices on the international market for maize are determined, to a large extent, by maize production in North America. The high point in prices generally occurs in the May - July period. This is also the time of Mozambique's maize harvest. To take advantage of this peak in world market prices requires efficient collection of a quantity of maize to get it to the port for speedy removal from the region. A month delay in the export market can mean the loss of millions of dollars.

In addition to the need to quickly assemble and transport an exportable quantity of product, the product also has to meet detailed and strict international quality standards. If even one element of quality does not meet these standards then the entire shipment may be downgraded substantially in price or may not be sold at all. Quality control of the grain purchased and of the storage and transportation process from producer to the port is essential. Most informal traders are not capable of doing this.

Finally, export trade requires that an international contract is made and brokerage is done to cover shipping and handling of the product at the port. Access to information on international markets, international buyers, and brokerage services are required for export of agricultural products. Again, most informal traders do not have this access. All of these restrictions makes market entry into the export market more difficult in the northern market. It is likely exports can only be handled by formal traders. Informal traders will have to go through formal traders to access this market.

At the present time, the import-export brokerage agent V&M with ICM as the collection and storing agent is handling all the maize exports from the northern market. An issue that has been raised is whether or not other formal traders can handle the complexity of maize export trade. The assessment team questioned formal traders in the north region and other individuals familiar with the export trade about this issue. It is estimated that about 60 percent of the maize exports made this last season were handled outside of ICM's warehousing and storage system. Formal traders bought, stored, fumigated and transported the maize directly to the port for shipment under contracts brokered by V&M. In addition, formal traders in the region have been exporting other agricultural products for the last several years. These products include beans, groundnuts and cashew nuts. The process of exporting these products is the same as maize. To be sure, export of agricultural food products from the northern market is still in its infancy. Most formal traders are not very good at it but it appears that they can do it. Some of the services noted in Section 3.3 below will enable formal traders to do export trade more efficiently and effectively.

A final important feature of the northern market is the dominant role ICM plays in the

market. In Cabo Delgado, ICM handled some 40 percent of the marketed maize and in Niassa it handled some 78 percent. This dominance in the maize market may in fact be artificially raising market prices in these provinces (see Annex E). For much of the northern market, ICM acts as the de facto financier for the maize market by letting contracts to formal traders with advance funding that the traders can quickly turn-over with delivery to ICM. The biggest complaint the team heard from formal traders was that ICM should have let more contracts for maize, with attached funding, even though ICM's warehouse were backed up with more than 2,000 MT of unsold stock. In fact, the back-up in ICM's warehouses in Cabo Delgado coupled with artificially high prices for maize on the local market may have resulted in the premature stopping of maize marketing in the Province.

Recommendation for the Northern Market:

Given the characteristics of the northern market described above, the disposal of ICM's assets in the market has to be done differently than the in southern market and with greater care. To assure that the maximum social benefit can be obtained, decisions on disposal of ICM's assets in the northern market should adhere to three basic principles:

- 1) the assets should be used to increase competition,
- 2) the assets should also be used to expand exports of agricultural products, and
- 3) actions undertaken to dispose of these assets should not unduly disrupt the market.

The first of these principles reflects the inherently more limited competition in the northern market and the need to increase this level of competition. The second principle reflects the importance of agricultural exports to create demand necessary to drive economic growth of the region. Finally, the third principle reflects the dominate role ICM now plays in the market and the need to systematically phase the draw-down of ICM's operation so the market can adjust and continue operation with limited disruption.

The first step in implementing these principle is to remove ICM's public mandates. ICM should be freed of mandates it does not and can not carry out. This would put the organization in a rational mode that it, and its staff, can focus their attention on the phase-out operation.

Next, in a phased program carried out over four years, ICM's assets should be privatized. How this is undertaken needs to be well planned and executed. Descriptions of details of this activity is beyond the scope and resources of the present assessment team and will require additional study.

The general concept, however, can be laid out. The basic goal is to increase competition in the region by rational sale of ICM's assets to the private sector. These assets would be assembled into groups that are economical viable and logical — by province or markets. It would be expected that at least four of these asset groups would be created out of the present ICM operation in the northern market. These assets would consist of ICM's present warehouses, vehicles, and equipment. These grouped assets can then be sold to the private sector (as individuals or

stakeholders) to create firms that will compete with present traders and with each other primarily for the export market. The purchasers of the asset groupings would bring expertise in business management and marketing to add to ICM's warehousing skills and facilities. It is assumed that ICM's trained and experienced warehousing staff would be employed by these new ventures. Ideally, the largest possible number of purchasers of these assets will be traders, business people, or investors from outside the northern market to assure additional competition with existing firms.

If these grouped assets cannot be sold, then the fall-back position of government would be to selectively liquidate ICM's assets in support of competition in the region. These could be sold to existing traders or to other investors in the region. To the extent possible, government should set the terms of such sales to encourage the use of these warehouses for storage of agricultural products.

3.3 Role of Government

Government has a fundamental and essential role in the success of a market economy. It is the state that allows a market economy to work by its supportive action. Businessmen, and sometimes donors, admonish government to step aside and let the private sector do its work unhindered by government to achieve a better economy and society. Nothing could be further from the truth. Any student of capitalism knows that a market economy is driven by profit and greed. The miracle of market economies is the alchemy of competition that turns these unsavory human attributes into a virtue. Competition is the constraint that turns the desire for profit into the motivating force that has resulted in the remarkable well-being of people who live in a market economy.

The private sector is not the market but only a participant in the market. The state is also a participant, not by actively engaging in market activity but by guaranteeing that the market works. The natural tendency of the private sector is towards monopoly and limited markets. A private monopoly is as bad or worse than a public monopoly that is characteristic of a command economy. It is the state that is responsible to see that the market actually operates through the provision of public goods to facilitate the market and the assurance of free access and a level playing field for all market participants. In this way the state supports, but does not direct, the market.

The most important way the Mozambique government can improve farmer's welfare and increase their contribution to the national economy is to reduce the agricultural marketing margins. Only the state has the capability to do this. Among the critical actions that need to be undertaken to reduce the marketing margins include:

- Improve roads and transportation Almost every document about Mozambique development stresses the need to improve the country's road network and transportation facilities. Every trader and farmer that the assessment team met also placed roads as the top priority for improvement of agricultural marketing and development.
- Expand market information As seen in Section 2.3, both the quality and quantity of market information being demanded by traders and some farmers has increased. As

Mozambique moves closer to international markets and a more sophisticated marketing system, market information will be critical for success.

- Provide security of property and person It is the primary responsibility of all governments to protect the security of their citizens and the citizens' property. Costs required for security guards, theft of shipped goods, and all the other extra expense of poor security adds to the marketing margin.
- Enforce legal contracts and facilitate contract dispute resolution The market is founded on contracts between buyers and sellers. As the market develops, more non-personal transactions take place. The efficiency of the market depends on how easily a contract can be made and the effort needed to enforce it or to resolve disputes about it.
- Free both the formal and informal traders from excess regulation and "red tape" At the present time the informal traders have an advantage over formal traders in their ability to avoid the excessive regulation and bureaucratic requirements imposed on the formal sector. The answer to this situation is not to try to impose this bureaucratic structure on the informal sector but to free the formal sector from all but the most basic required licenses and regulations. This would create the "level playing field" needed to energize both the formal and informal sector.
- Assure safe food in the market Safety of the product sold in the market is required to allow consumers to purchase goods without the additional cost to fully inspect and test it themselves. Just as the structure of legal contracts and security of property facilitate exchange in the market, so to does assurance of public health and safety of the products being exchanged.
- As the market demands, establish and maintain grades and standards We have seen in Section 2.5 that the export trade is imposing international grades and standards in the export market. Over time, grades and standards will spread to the domestic market as well. Following the markets demand, the government has primary responsibility for grades and standards in the domestic market.
- The state should not be a factor in increasing the marketing margin through taxation on marketing The state can play a positive role in keeping the marketing margin down by keeping taxes on marketing process to a minimum. Taxes such as the circulation tax, directly adds to the marketing margin. Taxes are better placed on consumption, such as a VAT.

4. IMPLEMENTATION PLAN

If government accepts the basic thrust of these recommendations, implementation could begin almost immediately. This action could be done in the following steps:

1. The first step would be to officially free ICM from the burden of mandates established in the 1994 decree. This action could be done by a directive or decree from the Ministry of Industry, Commerce and Tourism.
2. Next, a complete and detailed inventory of ICM's assets should be undertaken. This inventory can be done internally within ICM or by outsiders. The inventory should take into account all of ICM assets both in the southern and northern market areas. It is critical that the inventory is standardized to allow judgements on the most appropriate uses of the assets. The inventory would include such items as: location of the warehouse, its capacity, present use, contents, state of repair, cost to repair, potential users, distance to rail links and other transportation, and any other pertinent information needed to make comparative judgements and evaluation by planners and potential buyers. In addition to the warehouses, all auxiliary vehicles and equipment should also be inventoried in the same manner. Of particular importance is to identify any outstanding ownership questions concerning the asset.
3. Once the inventory is completed then the more difficult task must be undertaken to separate these assets between a southern market to be liquidated, and the northern market to be grouped into coherent packages to be sold. This can be done by a special study group appointed by MICTUR, a commission from several ministries or by a contract consultant.
4. After determination of those assets that are in the southern market, these assets can then be turned over to the proper authority for sale or transfer as appropriate. Assets found to have unclear title would be processed to adjudicate ownership so they could be disposed of.
5. Assets deemed part of the northern market would then be reviewed by a commission, study group or outside consultant to group them into coherent and economically logical units in order to sell them to form independent warehousing and assembly firms that would compete with the existing traders in the region. This review would also establish a timetable to phase the transfer of these grouped assets over time to assure a smooth transition of assets in the northern market over a four year period.
6. Following the timetable thus established and the recommendations of this review, the assets of ICM would be transferred to the private sector.