Enhancing the Role of Informal Maize Imports in Malawi Food Security

A consultancy report for DFID by

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Table of Contents

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Glossary

ADIPSA	Apoio ao Desenvolvimento de Iniciativas Privadas no Sector Agrario (Tete and Manica programme to support private sector initiatives in agriculture).
ADMARC	Malawian parastatal marketing organisation
CMR	Crude Mortality Rates
COMESA	Common Market of East and Southern Africa
CSO	Central Statistical Office
DRC	Democratic Republic of Congo
EC	European Commission
FAO	Food And Agriculture Organisation
FEWS	Famine Early Warning System
GAM	Global acute malnutrition rate
ganyu	Informal agricultural labouring
GCMR	Global Chronic Malnutrition Rates
MACO	Ministry of Agriculture and Co-operatives (Zambia)
MADER	Ministry of Agriculture and Rural Development of the Mozambican Government
MIC	Ministry of Industry and Commerce, Government of Mozambique
MK	Malawi Kwacha
Mt	Mozambican Metical (currency)
MT	Metric Tonne
NFRA	National Food Reserve Agency (Malawi)
NGO	Non-governmental Organisation
NSO	National Statistical Office (of the Malawian Government)
RATES	Regional Agricultural Trade Expansion Support Program
SADC	Southern Africa Development Community
SAM	Severe Acute Malnutrition Rates
SCMR	Severe Chronic Malnutrition Rates
SGR	Strategic Grain Reserve
TIP	Targeted Input Programme (Starter Packs) in Malawi
Tsh	Tanzanian Shilling
U5MR	Under 5 Mortality Rates
VAC	Vulnerability Assessment Commision
WFP	World Food Programme
ZK	Zambian Kwacha

EXECUTIVE SUMMARY

Background

The objective of this study is to produce recommendations on:

- How estimates of informal trade can be included to improve Malawian food security planning.
- How constraints faced by informal traders in responding to periodic demand for food in Malawi can be minimised.

The study involved literature review, data analysis, key informant discussion and field research. Fieldwork was done in 2003, after the food security crisis and active informal imports of 2001 and 2002; at this stage very little trade was taking place, and therefore it was difficult to cross-check key informant information with direct observation. Further monitoring during a year of active trade is recommended. The study mainly focussed on maize, as this is by far the most important foodstuff traded; however other crops are very important in terms of local consumption. The trade in dry cassava, although still relatively small, does seem to be increasing in the region.

The maize trade in the region is extremely dynamic, changing in volume and even direction from year to year (and even within the season) – driven by weather, local policies and exchange rates[1]. It involves an enormous range of type and nationality of trader – large and small, male and female.

Food security in Malawi combines a longer-term chronic problem and shorter-term occasional crises. It is worrying that the 2001 and 2002 harvests, which contributed to the latest crisis, were not much below the 12 year average – which shows the precarious food security balance in the country. The majority of poor households are net purchasers of maize, and therefore in the short-term at least, the Malawian poor benefit from low prices. Imports from neighbouring countries with more abundant fertile land, tend to keep the prices in Malawi low, and therefore benefit vulnerable Malawians.

A slightly below average harvest in Malawi in 2001 provoked a food security crisis that caused maize prices to go sky high in late 2001 and early 2002. The situation was exacerbated by the Malawi Government selling off a large portion of its strategic grain reserve in early 2001, so that there were few reserves available to dampen the price rise in late 2001. Despite an even worse harvest in 2002, prices did not rise as high – this was thanks to informal, commercial and institutional imports. However, by early 2003, it became clear that the Government of Malawi had bought more maize than needed, probably because it failed to predict the informal and commercial imports that took place, and prices fell very rapidly. Compounded by a good harvest in 2003, the Malawi Government in 2003 was unable to sell on the domestic market the maize bought from abroad, even with a heavy subsidy - this has caused huge financial losses. The glut of maize on the Malawi market had a knock on effect in neighbouring countries, where producers and traders, who usually sell to Malawi, have seen the market collapse and their livelihoods damaged.

[1] The devaluation of the Malawi Kwacha made import of maize much less attractive and means traders are less keen to be paid in Malawi Kwacha.

The demand for maize in Malawi is met by a number of different types of imports that can be categorised in different ways. When analysing imports in relation to the national food balance, it is most useful to use three main categories:

- **Institutional** – driven by estimates of need, politics and funding;
- **Commercial recorded** – driven by profit;
- **Unrecorded** – driven by profit and need.

The word "informal", although in widespread use, is less clear than unrecorded.

Using import prediction in food security planning

A stepwise, iterative process is suggested:

1. **Estimating the food balance for the forthcoming year** – this is likely to provide an overall estimate on potential import/market requirements and to drive the price;
2. **Estimating current and future price differentials** – these are likely to drive imports;
3. **Estimate saleable surplus in neighbouring producer areas** – starting in source areas likely to be attractive given the price differential;
4. **Check for specific barriers to trade and competition for the surplus** – e.g. export bans or shortages elsewhere;
5. **Predict market driven imports** – triangulate these with opinions of key informants;
6. **Answer the key questions -** will markets fill the gap? How much are prices likely to rise? Is there a need for SGR intervention? Is there sufficient purchasing power in Malawi? Is there a need for institutional purchases? How much, where and when?
7. **Monitor the situation throughout the season –** observing border flows and changing price differentials.

There are many unknowns in this process, and therefore a need for good judgement to interpret questionable data. Building better judgement requires experience. Improving estimation needs both experience and specific improvements in data collection. To achieve this needs a small Malawian team to gain experience over a number of years, they need to have visited and made contact with key informants in producer areas, they need to have good relations with Malawian officials at key borders and they need to have relations with traders – who are usually extremely well informed.

Timing is critical, as there is only a limited time between data becoming available and decisions needing to be taken on institutional imports or releasing some of the SGR. Pre- and post harvest surveys are done in Malawi and neighbouring countries, although their reliability is variable; these are being made available much more quickly than in the past by electronic means. These can be triangulated with much cruder estimates of production, with a five point qualitative scale[2]- giving a good prediction of availability of exports. Prices are published electronically weekly or monthly. With a three month buffering capacity provided by the SGR, and further buffering provided by traders, it should in future be possible to avoid the enormous price rises experienced in late 2001/ early 2002 and the excessive institutional purchases of 2002.

Each of the three neighbouring countries, and potential maize supplying areas within them, has different characteristics.

[2] very good, good, average, poor, very poor.

Food imports from Tanzania to Malawi

The characteristics of maize imports from Tanzania are largely driven by geography. Tanzania is a long way from the major consumption areas of Malawi, therefore transport costs are high and volumes are only large when price differentials are significant or when there are large institutional orders. Most of the imports are formal because the border is short and the Songwe River forms a natural barrier, and there are also roadblocks on the road south. The volume of unrecorded trade is relatively small and mainly supplies the border area, other food imports from Tanzania have a limited local impact.

Production in the southern maize belt regions of Tanzania, adjacent to the Malawi border, averages 900,000 MT per year with around 300,000 MT surplus; an added advantage is that this area tends to experience different peaks and troughs of production to Malawi. The study found that when price differentials between Malawi and Tanzania are very high, like in 2002, maize comes from as far as Northern Tanzania in response to Malawian demand. However Malawi consumers may have to compete for the production of the southern maize belt with consumers within Tanzania (as in 2003) or from Zambia or DRC. Tanzania has a history of banning exports of maize if there is a national shortage (as they did in 2003), even when it is advantageous for southern maize belt farmers to sell to Malawi.

The price differential needed to stimulate maize trade between Tanzania and Malawi will vary with changes in cost, but was estimated to be about US$ 0.06/kg in 2002. Pure commercial imports from Tanzania in the 2001/2 and 2002/3 marketing seasons were probably reduced by the large orders placed by NFRA and WFP tying up trader capacity. Without institutional orders and in years of average production in Tanzania, without excessive competition from other areas or a ban on exports, it seems likely that at least 50,000 MT will be exported commercially from Tanzania if there is a sufficient price differential. About 3-7,000MT of this will be unrecorded.

Food imports from Zambia to Malawi

Zambia has a long border with Malawi, and from Chipata a rapid road connection to Lilongwe. Therefore the potential for unrecorded trade is relatively high and the price differentials, at least between Chipata and Lilongwe, do not need to be high for trade to take place. A limiting factor in recent years has been low maize production in Eastern and Northern Provinces of Zambia, which is around 300,000 MT and with only about 50,000 MT available for sale. There have also been export bans on maize due to shortage of food within Zambia, which has eliminated recorded trade. Estimates of unrecorded trade in 2000/1 and 2001/2 are around 15,000 MT, with virtually none in 2003/4.

In future years, with average production in Zambia, if price differentials are right and there is no export ban, one might expect a total trade of around 20-40,000 MT, perhaps higher in a good year. If there is an export ban, the trade is more likely to be 10,000-20,000 MT.

In addition to maize - groundnuts, soybeans, sugar beans, and to a lesser extent sweet potatoes are traded with Malawi; the groundnut trade seems to be on the increase.

Food imports from Mozambique to Malawi

Southern Malawi is surrounded by maize producing areas of Mozambique and separated by a long and porous border. Maize in Mozambique is produced relatively cheaply without fertilizer, although formal marketing transactions costs can be high. Border areas can export informally to Malawi quite cheaply, therefore price differentials do not need to be high to stimulate trade.

Government figures show that maize production has increased quite consistently in the last 11 years since the end of the war in Mozambique. Average production in Northern Mozambique is currently around 700,000 MT and since in many areas cassava is the staple food crop, and maize is considered a cash crop, a significant proportion of this total is available for sale – perhaps at least 300-400,000 MT. Although some of this will be consumed in Mozambique, the majority is available for sale to Malawi. Given the cost of North – South trade in Mozambique, there is considerable reliance by Northern Mozambican farmers on the Malawi market.

More Mozambican small farmers are dependent on the market with Malawi than their counterparts in Zambia or Tanzania. Mozambique at a national level has followed policies of not restricting exports of maize, even in years of national shortage, this has been good for the livelihoods of Northern Mozambican farmers. The exporting environment has become easier in recent years. In 2003, Mozambican farmers and traders have been badly hit by the surplus in Malawi. The instability of the maize trade is an incentive to look for other cash crops and a disincentive for traders to invest in trade capacity. Production support programmes in Malawi, like starter packs, also reduce the income of Mozambican farmers and traders.

Zambezia Province is the largest maize producer and also the largest exporter to Malawi. The bulk of the trade is unrecorded – with most of it carried through the Milange-Mloza border post on bicycles to avoid the costs and hassle of taking vehicles across the border. In 2001/2 and 2002/3 unrecorded trade was estimated at around 70,000 MT and 130,000 MT respectively; this has dropped to 30,000 MT in first part of 2003. The fact that the trade has not stopped entirely in 2003, in response to low prices and surplus in Malawi, is perhaps an indicator of low priced production and lack of alternative markets in Mozambique. In addition there was 50,000 MT recorded trade in 2001/2 and 13,000 MT in 2002/3.

Tete Province has considerable scope for unrecorded exports to Malawi because of its long border and closeness to populated parts of Malawi. An estimated 40-50,000 MT crossed the border unrecorded in 2001/2 and 2002/3, but less than 10,000 MT is expected in 2003/4. Recorded imports across the Zobue-Mwanza border are massive, but much of it comes from beyond Mozambique, particularly South Africa, and in 2002 much was institutional. Tete also exports other foodstuffs to Malawi, particularly potatoes.

Although Niassa Province maize production is similar to Tete, distances to population centres in Malawi are further. Some maize from Western Nampula Province travels through Niassa and some through Zambezia. Despite some rehabilitation the railway is not yet a route for commercial and unrecorded maize, but is being used for some institutional imports. The potential for trade flows are around 30-50,000 MT when prices are favourable and 10-20,000 MT when they are poor.

Looking at trade with Mozambique as a whole it seems likely that around 150,000 - 250,000 MT of maize is likely to cross the border unrecorded in a year of reasonable production in Mozambique and high demand in Malawi (e.g. marketing year 2002). In years of low production and high demand this figure would be much reduced – the degree of reduction would need to estimated by looking at the Mozambican crop forecasts. In years of low demand in Malawi, some maize is still likely to be imported from Mozambique because of the low priced production in border areas and the lack of alternative markets – however this could fall to around 70,000 MT as seems to be the case in 2003.

Conclusion

The data available on which decisions need to be taken remains extremely weak – therefore statistics need to be triangulated with qualitative information from key informants and be interpreted by experienced people. The experience needs to be built, a network of key informants developed and the statistical information base improved.

Improved capacity to make food balance predictions will only be of value if technicians are able to produce these predictions free of political or donor pressure. It is then up to the politicians and donors to assess these, and if appropriate to respond rapidly and transparently to the predictions made. To over-react can be as damaging as to under-react.

It is possible to predict unrecorded and commercial imports into Malawi - using estimates of price in Malawi and production in key areas of Tanzania, Zambia and Mozambique - and therefore include this in annual food balance calculations. If production in neighbouring countries is favourable and there are no export bans, trade is likely to be able to plug a maize deficit of 200-300,000 MT. However the problem is that in a year of poor harvest, a large proportion of Malawian households may not have the cash to buy the maize, even if it is available – some type of safety net for these households may be required. Judicious and transparent management of the SGR is needed to prevent prices rising too high, while still remaining high enough to stimulate imports from neighbouring countries[3].

Larger deficits will need institutional imports (Government, WFP, NGO), and these may be available from neighbouring countries and be bought from local traders. However it is probable that large-scale institutional imports, which involve the same traders and the same production areas, will reduce commercial recorded imports.

Although barriers to trade have tended to reduce in recent years, and traders are very inventive at overcoming barriers, there are still disincentives to trade including:

- Maize export bans;
- High costs of cross-border vehicle movement;
- Possibly inappropriate phyto-sanitary controls;
- Unnecessarily centralised and complex documentation;
- Lack of credit for informal trade;

[3] The ideal trigger for stock releases should be the import parity price + a certain margin. By publishing such actions, private sector will be encouraged to remain trading. If not, the sector feels threatened by the potential of politically motivated reserve releases and will limit its trade investment, putting more pressure on the SGR.

- Risk of cartels;
- Size, quality and bureaucratic procedures on institutional tenders not always suitable for smaller regional traders.

Producers, traders and consumers are still hurt by poor decision-making that undermines the cross-border maize trade. For a more consistent and supportive policy environment there needs to be a change in attitude among some politicians and officials. The recent excessive import of maize by the Malawian Government has not only had a disastrous impact on the Malawi economy, but has also damaged traders and farmers in neighbouring countries.

Recommendations

To the Malawi Government

1. The data baseline and use of the Malawi food balance needs development and improvement.
2. The Malawi food balance should include a prediction of both unrecorded and commercial recorded imports.
3. Prediction of imports from neighbouring countries should be based on price differentials, estimation of production in key areas, the presence or absence of trading bans and other competition for maize in the producing areas.
4. Malawian food security officials need to build up their knowledge of cross-border maize trade, build contacts in producing areas, develop a network of key informants among traders and develop their experience in predicting maize imports.
5. Simple systems need to be developed for recording the large volume of maize crossing through some border posts without documentation (unrecorded because it comes across in a large number of small quantities) – in this way a significant proportion of the currently unrecorded imports could be recorded.
6. In the next representative marketing year[4] there should be a year of official monitoring to establish a better baseline of maize imports.
7. In future impending crises, more emphasis should be placed on early interventions which prevent excessive price rises and prevent the suffering and asset depletion that these cause. The emphasis should be in working with the market to address the crisis, rather than on interventions that undermine the market.
8. The Malawi Strategic Grain Reserve needs to be managed in a transparent way, in consultation with other stakeholders and with advance information about its plans published as far in advance as possible. Food insecure families, traders and aid agencies, all need advance warning of SGR plans in order to improve their own decision taking.

To be negotiated with neighbouring Governments

1. Before a decision on a maize export ban is taken, it is necessary to consider the detrimental side-effects, including the impact on the livelihood of producers and the longer-term undermining of market confidence. This could involve the introduction of regionally acceptable parameters to guide the invocation of an export ban (where appropriate as part of the 'Safeguards Clause' of the COMESA treaty[5]).

[4] E.g. a marketing year with significant predicted informal imports

[5] This is in agreement with the recommendation in the Regional Maize Trade paper by RATES (September 2003).

2. Continued efforts are needed to simplify the paperwork and reduce the costs of commercial vehicles crossing SADC borders as part of the harmonisation process.
3. The efficacy of current phyto-sanitary procedures need to be reviewed and procedures revised if necessary.
4. The documentation required for maize export should be reviewed and made as simple as possible – ideally just a volume record in the customs database[6]. Maize trading procedures should be harmonised between SADC members.
5. Cartels among traders should be prevented – the best strategy is to encourage as wide a variety of trader size and nationality as possible to compete within a purchasing area. To achieve this, it is necessary to move towards a level taxation playfield.
6. Farmers need better information on the probable seasonal development of the farmgate price, so that they can capture a fairer share of the price when prices are high and rise through the season – radio is the most practical medium for transmitting this information.

Recommendations to DFID and other donors

1. Donors should support the development of a stable and experienced Malawian technical team, able to predict impending food shortages with increasing accuracy.
2. Donors should support a representative year of monitoring of unrecorded imports into Malawi in order to establish a baseline.
3. Donors should apply appropriate measures to ensure the Malawi Strategic Grain Reserve is managed more transparently and effectively in future.
4. Donors should be prepared to support the Government of Malawi to intervene earlier in a crisis in order to prevent asset depletion and malnutrition, but at a scale that does not undermine the market.
5. Donors should assess the wider cross-border impacts of programmes, like starter packs, that support production in one country – this is necessary at the assessment and the evaluation stage.

[6] This is in agreement with the recommendation in the Regional Maize Trade paper by RATES (September 2003).

1. BACKGROUND

1.1 Objective and Methodology

The objective of the study is to produce recommendations for the Malawi Government and donors on:

(a) How to include estimates of probable food produced in neighbouring countries, and sold informally in Malawi, on food security planning, particularly in years of deficit.

(b) The constraints faced by both producers and informal traders in Southern Tanzania, Northern Mozambique, Eastern Zambia and Malawi in responding to the periodic demand for food from Malawi and how these constraints can be minimised.

This study has used a number of overlapping methodologies to try to piece together a picture of what happened in cross-border food trade in the crisis years of 2001 and 2002 and then use this to answer the questions in the Terms of Reference. The methodologies included:

- Case studies on four key border crossings into Malawi, done from the Malawian side and involving interviews with traders, border officials and other key informants. Borders covered were Songwe-Kasumulo (Tanzania), Chipata-Mchinji (Zambia), Zobue-Mwanza (Mozambique) and Milange-Mloza (Mozambique). Information from these case studies is given in Annex 1.
- Field visits, key informant interviews, questionnaires and data collection in border areas of the three neighbouring countries to Malawi – Tanzania, Zambia and Mozambique. Reports on these visits are given in annexes 2,3 & 4.
- Literature review of a wide variety of official and unofficial reports relating to agriculture, trade and food security in these border area.
- Collection and analysis of a wide variety of official data on imports, exports, production and prices.
- Discussion with various key informants about some of the overall issues and trends – unfortunately a key workshop to discuss the preliminary findings of this work had to be postponed due to a flight cancellation[7].

The fieldwork was carried out from August – September 2003, this was at a stage when there was very little cross border trade, and therefore most of the data collected was based on recall information from key informants. Crucially it could not be triangulated with direct observation. This is problematic when dealing with an issue like informal trade where many things are hidden. Therefore the figures for informal trade are quite tentative. There is a need to complement this study with a process of monitoring and observation informal trade throughout at least a year in which significant maize trading is taking place. Despite this constraint caused by the timing of the timing of the study, it is believed by the author that the overall thrust and recommendations of this report are valid.

[7] It is still hoped to have this workshop in January 2004.

1.2 Introduction – Malawi Food Security

Food security for the large proportion of the Malawian population who are poor is both a long-term concern and a periodic short-term crisis.

The long-term problem is shown by high levels of chronic malnutrition – nutritional surveys in April/May 2003 showed very low Global and Severe Acute Malnutrition Rates (GAM/SAM) and low Under 5 Mortality Rates (U5MR) and Crude Mortality Rates (CMR) but alarmingly high Global Chronic Malnutrition Rates (GCMR between 32-63%) and Severe Chronic Malnutrition Rates (SCMR between 13-33%)[8].

The root causes of both the longer-term food security problem and individual short-term crisis has been the subject of considerable debate[9]. A combination of factors create long-term problems:

- Relatively high population density, leading to small household plot sizes, intensive soil use and declining soil fertility;
- Landlocked position making imported fertiliser expensive and reducing margins on exported crops;
- Limited economic opportunities outside of agriculture, although petty trading and the informal sector is an important contributor to household livelihood;
- Poor governance, both of food security stocks and the overall economy, has meant sub-optimal management of the limited opportunities available.

Superimposed on the long-term insecurity are periodic shorter-term crises, usually provoked by poor weather conditions, but severely aggravated by the non-existent food or cash reserves in many poor households. This means that even relatively small reductions in production can lead to a crisis.

Most poor households are net purchasers of maize in average years and this becomes more marked in years of shortage. The ability to buy supplementary maize[10] is therefore a key determinant of food security – this in turn is dependent on both the ability to generate income and the prevailing price of maize – the result is that **poor Malawians benefit from low maize prices**, at least in the short term[11]. Maize price can rise disastrously during the 'hungry period' and even more so in a deficit year. Key determinant of the maize price are:

- Domestic Production;
- Import of maize, through a wide variety of channels both formal and informal, from neighbouring countries;
- Exchange rate;
- The management of the Malawi Strategic Grain Reserve (SGR)
- Imports by institutions like the Malawi Government, multilateral, bilateral and NGO agencies.

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[8] Malawi Food Security Assessment Committee (August 2003) – Malawi Food Security Assessment Report (Draft).

[9] See for instance Malawi Food security Issues Paper 2003, Forum for Food Security in Southern Africa available on www.odi.org.uk/food-security-forum

[10] This report focuses on maize because it is by far the most important foodstuff traded from neighbouring countries into Malawi. This does not mean however that at a local level other foodstuffs, including beans, cassava and sweet potato are not also extremely important in the food security jigsaw.

[11] See Levy S. & Barahona C. 2003 – 2002-03 TIP Evaluation Findings

A particular feature of Malawian geography is that it constitutes an area of relatively high population density, which under current agricultural practices struggles to produce enough food to feed the inhabitants, surrounded by areas of much lower population density, many of which produce a surplus of maize, and which struggle to find suitable markets for their surplus. The potential synergy between these surplus and deficit areas is increasingly being exploited by a growing band of traders of various sizes – this is because of the relatively recent, and only partial, relaxation of cross-border movement of maize. Maize is still seen as a strategic commodity, with periodic export bans imposed by various countries in the region. In addition there are a number of official and unofficial practices that impede the cross-border movement of maize and other products. However overall the barriers to trade in maize have reduced significantly in the last 5 years[12].

1.3 Regional Overview

Malawian food security, and the linked issue of cross-border maize trade, exist within a constantly changing environment of weather patterns, changing trading regulations, changing Government actions, changing exchange rates, changing market opportunities and changing cropping patterns. The context is dynamic, with enormous differences in trade volumes, directions and prices from year to year, and spans several countries – which makes it challenging to understand the past and even more challenging to predict the future.

A brief summary of key events in the last four years is given in Table 1.3, more details can be found in Annex 7.

Table 1.3 – Maize production and trade with Malawi

Year	Malawi	Mozambique	Tanzania	Zambia
Crop - 99/00 Mkt - 00/01	Good production, helped by universal 'starter packs'. Year starts with record official maize stocks, retail maize prices fall throughout year. NFRA tries to sell maize at below cost price.	Below average harvest, low prices for maize undermined by lack of export opportunities to Malawi hit farm incomes.	Poor harvest nationally and in southern maize belt. Food shortages, export ban and no exports to Malawi.	Better production but export ban remains in place. Little export to Malawi.
Crop - 00/01 Mkt - 01/02	NFRA sells off most of strategic grain reserve at start of year. Slightly below average harvest creates deficit and hunger. Maize price rises spectacularly and out of reach of poor households towards end of 2001, start of 2002.	Average harvest. Limited surplus exported, rising price in Malawi as season progresses increases profitability of exports.	Average harvest. Export ban from all Provinces except Rukwa up to August 2001, after this exports to Malawi start to rise. Informal exports also to Zambia and DRC	Drought year, poor production, export ban.
Crop - 01/02 Mkt - 02/03	Slightly below average harvest creates deficit, however prices do not rise like the previous year	Good harvest in northern Mozambique, considerable surplus sold to Malawi at reasonable profits, but not	Good harvest in southern maize belt and in north. Considerable exports	Poor harvest, exports banned, extensive food relief.

[12] See Whiteside M. 1998 – When the Whole is More than the Sum of the Parts – the effects of cross-border interactions on livelihood security in Southern Malawi and Northern Mozambique. A report for Oxfam GB, and also Whiteside M. 2002 – Neighbours in Development: Livelihood Interactions between Northern Mozambique and Southern Malawi. A report for DFID.

Year	Malawi	Mozambique	Tanzania	Zambia
	due to formal and informal imports from neighbouring countries.	as high as previous year.	both from south and north..	
Crop - 02/03 Mkt - 03/04	Good harvest coupled with institutional purchases in response to previous year's food shortages cause a glut of maize and falling prices. Government unable to sell maize for fraction of price bought for on the World market.	Reasonable harvest, particularly in Zambezia results in surplus, but only part exported to Malawi as very low prices in Malawi. Collapse in maize trade to Malawi.	Reasonable harvest in southern maize belt but poor in north leads Government to impose an export ban. Low prices in Malawi and fall in Malawi Kwacha make exports to Malawi unviable.	Good harvest., likely to be unsold surplus in Eastern Zambia despite Government purchases – however poor prices in Malawi means make exports unviable.

The regional timeline needs to be looked at in conjunction with three other regional comparisons – the maize production deviation from the average in recent years, maize price comparisons between these neighbouring areas and overall production levels – these are shown in Figures 1.3 a-c.

Fig 1.3a - Production deviations from the mean

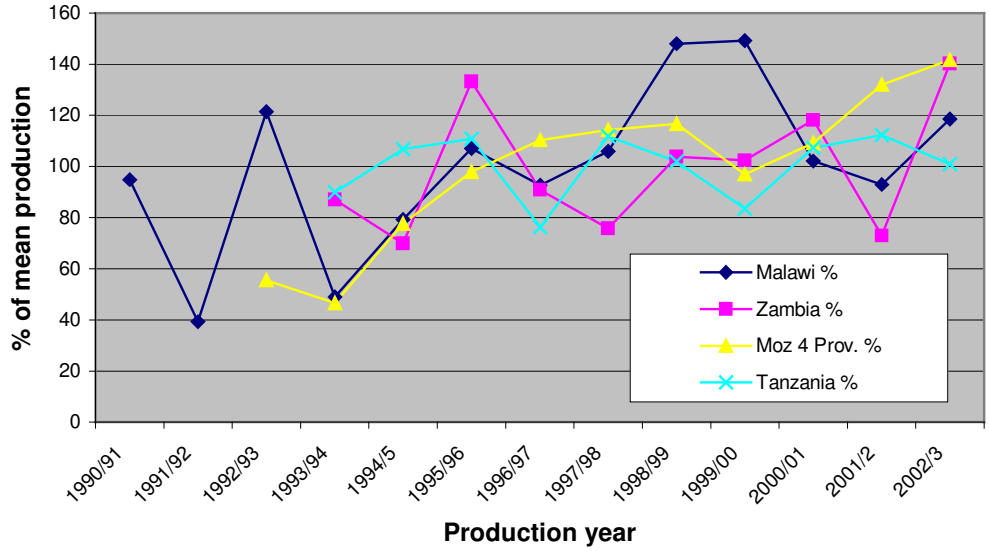


Fig 1.3b - Maize Production in Malawi and surrounding areas

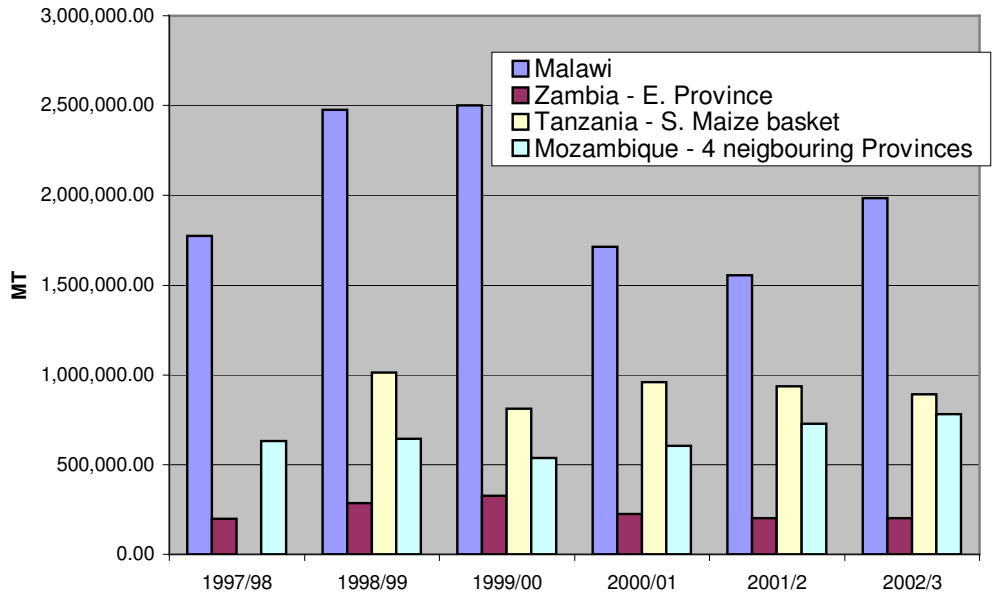
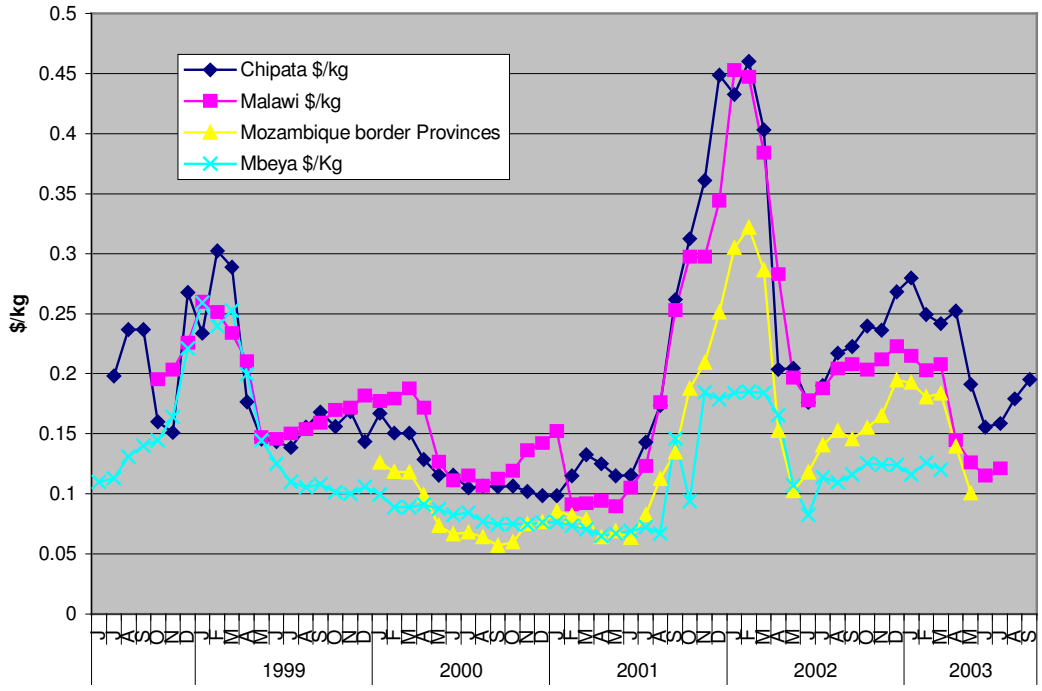


Fig 1.3c - Maize price comparison - Malawi and neighbouring areas



The timeline and three graphs show:

- Maize production and stocks in Malawi have oscillated between surplus, deficit and surplus in Malawi over the last four years - with detrimental impact on Malawian food security and with no stability to build up supply and stable market channels from neighbouring countries.

- The Malawi Strategic Grain Reserve has not been managed in a way that has either succeeded in stabilising prices or covering some of its costs (by buying when there is a surplus and prices are low and selling when there is a shortage and prices are high) – in fact it seems to have done exactly the opposite – exacerbating the problems.

- The food security crisis in 2001 and 2002 were provoked by production levels that were lower than the previous two years but that were actually very close to the 12 year average – this shows how precarious the Malawian food balance is, when an average year can create a national crisis, it also indicates an ongoing need for imports from neighbouring, low-cost maize surplus producing areas in most years.

- Fortunately there is a degree of independent variability between good and bad years in the four countries (this can be seen in fig 1.3a where the peaks and troughs do not necessarily coincide[13]). This suggests that regional trade can help address both the longer-term structural deficits and also some of the annual variability.

- In contrast to the largely unrelated peaks and troughs in production (Fig 1.3a), there is a remarkable level of coherence in maize prices in neighbouring countries (Fig 1.3b). This suggests that cross-border trade is influencing cross-border prices and perhaps more specifically that demand in Malawi is driving prices in neighbouring countries.

- Fig 1.3c is interesting in that it shows that even in a poor year, maize production in Malawi is significant in comparison to production in those parts of the three neighbouring countries which are close and can supply Malawi at relatively low transport costs. This indicates why Malawi is such a significant driver of the boom-and-bust trading scenario highlighted in the timeline. Production in Malawi only rarely meets consumption needs and the variation in production in Malawi is large in comparison to the overall production in these neighbouring countries. Therefore the food balance in Malawi has a very significant impact on demand in these neighbouring areas. To this needs to be added that maize is primarily a subsistence crop for most farmers in Malawi, but that it is the key cash crop for many farmers, and particularly poor farmers, in the neighbouring countries.

Caution

These figures rely heavily on Government published figures of production and price. Those figures used are believed to be reasonably accurate, however there are continuing problems with data collection and handling in all four countries, so such figures need to be treated with a degree of caution.

1.4 Types of Cross-border Trade

The cross-border trade between Malawi and its neighbours in maize takes a whole range of forms and can be subdivided according to a whole range of different criteria:

[13] This is confirmed in other studies…..

- **Legality -** ranging from the fully 'legal' involving all the required documentation, through various levels of 'lighter' documentation tolerated for smaller quantities or in times of need, to 'smuggling' where there is a deliberate avoidance of border controls for a range of reasons.
- **Recorded or unrecorded –** there are a range of different systems for recording cross border movement - by customs, export permit officials and phyto-sanitary staff - most are limited to legal trade. Unfortunately the systems currently used seem highly bureaucratic and ineffective in providing rapid 'best-estimate' type data required by decision makers.
- **Size of trader –** these range from international companies, through a whole range of different sized traders, with different levels of access to capital, transport and storage, to individual farmers crossing the border to sell a sack or individual consumers crossing the border to buy.
- **Decision making driver –** the decision making drivers of "Institutional Imports" (Government/SGR and other agencies) which are based on predictions of need, linked to political criteria and availability of finance, can be differentiated from that of traders which are driven by the opportunity to make a profit and are based on comparisons of price and overheads. An overlap can however arise when "institutional imports" are met through the activities of commercial traders. Different again are those communities where, due to geographical factors, the only market or the only source of food for work (e.g. by *ganyu*) may be across the local border – here necessity rather than price may be the driver, although the amount of maize received or bought may be very price sensitive.

For the purpose of assessing the degree to which any food deficit is likely to be, or is being met, from all possible sources, the priority criteria are:

- **The decision making driver** - to be able to predict what is likely to happen;
- **Whether the trade is recorded or not** – so at least to monitor that part of the trade that is 'monitorable'.

Based on these priority criteria the following typology is used in this report:

Fig 1.4 Typology of Trade Types[14]

Category	Driver	Description
Institutional	Estimated need, politics, funding, publicity[15].	Cross-border trade in response to orders placed by institutions such as the NFRA, governments, bilateral and multilateral agencies and NGOs.
Commercial recorded	Profit margins	Imports in response to price demand in Malawi that are recorded in some way at the border, whether or not full legal documentation has been complied with. To avoid double counting, institutional imports which are likely to have been recorded on entry, should be subtracted from this figure.
Unrecorded	Profit, need.	This covers a large range of trade types including legal imports that are not recorded, small informal sales, cross-border *ganyu* for maize and smuggling

[14] These categories are further divided and discussed in later stages of this report.

[15] In contrast the driver to fulfil the institutional tender is very strongly commercial. If the institutional purchasing is done within Malawi (i.e. by ADMARC), then at the border and for the trader there may be very little difference between the Institutional and Commercial categories – however the original driver is different.

2. USING IMPORT PREDICTION IN FOOD SECURITY PLANNING

2.1 Introduction

The fundamental challenge is to develop the capacity within those managing Malawi's food security strategy, to be able to predict probable commercial (recorded and unrecorded) food imports and therefore be better able to recommend appropriate Government and donor agency actions. To do this requires an understanding of the factors that drive the trade and an ability to predict how these factors are most likely to develop during the year. The key steps in the process are:

1. **Estimating the food balance for the forthcoming year** – this is likely to be a major primary driver in developing price differentials. However this does need to be complemented with more area and household specific vulnerability assessments.
2. **Look at current and probable future price differentials** – to see if there is an incentive to import and from which source areas.
3. **Make estimates of saleable surplus in neighbouring countries** – in source areas with sufficient price differentials (using crop production estimates and records of volume flows in recent years).
4. **Check for specific changes in barriers to trade and competition form other countries** – (e.g. export ban currently in place in Tanzania, or a new road reducing costs) – export bans are likely to reduce volumes considerable between Malawi and Tanzania but to have a lesser effect between Malawi and Mozambique and an intermediate effect between Zambia and Malawi. Look for possible other competition for the maize in identified source areas – are other potential markets developing (e.g. DRC for Western Tanzania and Northern Zambia in 2002 and Northern Tanzania and Kenya for Southern Tanzania in 2003);
5. **Predict market driven imports** – including recorded and unrecorded**.** Triangulate these estimates with opinion from key informants in the region – principally traders.
6. **Answer the key questions -** will markets fill the gap? How much are prices likely to rise? Is there a need for SGR sales? Is there a need for institutional purchases? How much and when?
7. **Monitor the situation throughout the season** – observing border flows and changing price differentials.

2.2 Malawi Food Balance Prediction

Using a food balance calculation has become a fairly standard way of predicting the overall food security picture. Here is an example of a simplified balance for the consumption year 2002/3:

Table 2.2 - Simplified Food Balance – Consumption Year 2002/3[16]

Item	Maize Equivalent MT (maize, rice, sorghum & cassava)
Stocks	28,000
Net production	1,773,000
Domestic availability	**1,801,000**
Total Utilization	**2,352,000**
Domestic Food Gap	(552,000)
Projected commercial imports	58,000
Projected food aid imports	17,000
Informal imports	?
Total Food Gap	**(477,000)**

Clearly the enormous deficit shown in the bottom line was enough to get Government and donor alarm bells ringing and there were substantial Government and donor food imports in 2002/3. However there are a range of issues that need to be considered even before the bottom line is calculated:

- **Accuracy of the production and utilisation figures** – this is particularly important because the bottom line is calculated from the difference of two larger production and consumption figures- relatively modest inaccuracies in the either can have a disproportionate impact on the balance. Production is not easy to estimate, particularly in the less seasonal crops like cassava, and when a large amount of maize is eaten green. Utilisation figures are also subject to uncertainty. Even the population of Malawi is being questioned, with the TIP surveys showing significantly higher rural populations than the national census. On top of this, consumption seems to be based on a standard intake per person – whereas it almost certainly varies considerably according to availability and price.
- **Informal imports -** the food balance calculations do not usually include estimates for informal imports. This is the subject of this report – to try to make this possible.
- **Malawi regional variability –** national food balances only give part of the story. Given the long, thin nature of Malawi, food shortage in the North or South may be more efficiently addressed by local cross-border imports, rather than transport from distant surplus areas within Malawi. This in turn has an impact on the national picture, therefore in predicting informal trade it is important to look at the picture both nationally and in each of Malawi's three regions.
- **Vulnerability Assessment** – a positive national food balance does not imply that there is food security at the household level – households may or may not have the means to access the food, which is dependent on home production and price and resources to make up any deficit. The VAC Food Security Assessment Reports are developing experience in predicting more area and household type specific vulnerabilities. This process relies on predictions on food prices – which rely heavily on assumptions about regional/national balances and probable imports. Therefore there is an important inter-relation between the VAC process and the import prediction process.

The process

The 'first-cut' of the national and regional food balance calculations is likely to concentrate on the carry-over of stock, national production and that part of imports that

[16] Figures from RATES 2003 – Maize Market Assessment and Baseline Study for Malawi.

is in the pipeline or more or less assured. This then gives a first estimate of whether there is a deficit that needs to be made-up by imports. It is then necessary to look at price signals and estimates of production in the neighbouring countries – to be able to predict to what extent commercial imports will meet this need.

Although the food balance needs to consider all food types, since the vast majority of any deficit is made up by maize imports, the following sections deal primarily with the maize trade. However it must be remembered that this maize trade is supplementing a more diverse household food economy made up of a variety of food types.

2.3 What type of imports do we need to predict?

The food balance indicates that we need to predict all imports. We need to be clear on our definitions in order to understand the different drivers (and also not to either double count or leave something out).

Table 2.3 - Main categories of Maize imports

Category		Driver	Response rate
Institutional	Government	Driven by prediction of need, politics and availability of funds. Sometimes highly directed by a donor providing the funds and of publicity around 'impending famine'.	Can act surprisingly rapidly, or be a slow process. Supplies often arrive too late for maximum impact (e.g. too late to prevent increased vulnerability, even if time to prevent starvation).
	WFP	Driven by prediction of need, politics and supply chain (particularly from the USA).	Supplies often arrive too late for maximum impact (e.g. too late to prevent increased vulnerability).
	NGOs	Driven by prediction of need and often availability of backdonor funds.	Supplies often arrive too late for maximum impact (e.g. too late to prevent increased vulnerability).
Commercial Recorded	Formal	Driven by profit margins, constrained by a variety of barriers. Usually made up of contracts signed by medium and large trading companies.	Relatively rapid response to changing profit margins.
	Semi-formal	Driven by profit margins, constrained by a variety of barriers (but slightly different barriers to the formal). Although not always following all required documentation, the cross-border movement can be recorded (at least one side of the border). Not usually governed by contracts.	Rapid response to changing profit margins.
Unrecorded	Commercial	Driven by profit margins, constrained by a variety of barriers (but slightly different barriers to the formal and semi-formal). Cross-border movement not recorded.	Rapid response to changing profit margins.
	Household cross border sales	May be relatively insensitive to profit margins, as the cross-border market can be the only one available.	Rapid or seasonal
	Cross-border *ganyu* for food	Although wage rates may depend on prevailing supply and demand, the choice to do the *ganyu* is driven by need.	Seasonal

2.4 Look at Current and Probable Future Price Differentials

Maize and other foodstuff prices are now monitored in all countries in the region. The advent of electronic communication and organisations like FEWSNET makes it relatively simple for Malawi based officials to monitor prices in key market centres in neighbouring countries. The time delay should be around one month at a maximum.

Figure 2.2c shows market prices in key centres in countries around Malawi, compared to the Malawi price. This gives an indication of whether there are sufficient current differentials to drive commercial trade. There are some very preliminary estimates in later sections on the size of margins needed across the different borders to make trade worthwhile. This information needs further elaboration with experience.

This price information can be triangulated with other sources of information:

- Information from border posts on the current volumes crossing (food security officials need to build relationships with custom post officials);
- Information from traders on where imports are likely to come from, how prices are likely to change in the season etc. Once again food security officials need to build a relationship with key traders.

The information from current price levels, the national food deficit calculation, key informant estimates and the potential availability in neighbouring countries (see next section), provides the starting point for predicting the development of the price during the coming year.

2.5 Make Estimates for Saleable Surplus in Neighbouring Countries

All neighbouring countries now produce crop estimates at various stages of the production and harvesting season.

Table 2.5 - Crop estimate schedules

Country	Schedule	Source
Mozambique	• Pre harvest survey • Post harvest survey • weekly and monthly market information bulletins • Monthly Agricultural Trade Bulletin of MIC • Periodic *'Flash'* publications on specific emerging issues	Available free electronically by Email and from the website http://www.aec.msu.edu/agecon/fs2/mozambique Trade bulletin soon available on the web www.mic.gov.mz
Tanzania	▪ Generally, April of each year Crop Forecast Survey is undertaken; and a report, 'Preliminary Crop Production Forecast' for the year is produced in May. ▪ Generally, September of each year Crop Forecast Survey is undertaken; and a report, 'Final Crop Production Forecast' for the year is produced in October. ▪ The Forecast covers area, yield and production for cereals (Maize,	Crop Monitoring and Early Warning, National Food Security Division, Ministry of Agriculture and Food Security, P.O. Box 9192, Phone: 255-22-2865950; Fax: 255-22-2865951. E-mail: cmewu@ud.co.tz Dar es Salaam, Tanzania

Country	Schedule	Source
	Sorghum, Millets, Rice and Wheat), and non-Cereals (Pulses, Cassava, Banana, and Potatoes). All the above data is disaggregated by Region.	
Zambia	(month?) : Crop Forecast Survey – covers expected production, crop sales and retention. Data disaggregated by Province and District.	Data can be accessed through the CSO and also MACO's Early Warning Unit.
	(Month?): Post harvest Survey – covers expected production, crop sales and retention. Data disaggregated by Province.	Data can be accessed through the CSO and also MACO's Early Warning Unit.

These estimates are not necessarily very reliable in quantitative terms, but they can provide an indicator of production in a source area on a five point scale – very high, high, average, low, very low. This can be triangulated by other information from key informants, particularly traders – qualitative information on whether there is a high, medium or low marketable surplus in a particular area is probably sufficient at this stage.

The qualitative information from any area can be compared with estimates from previous years (see sections 4-6) in order to make a first prediction of this year's volume of imports from a particular area. However before doing this it is important to look for any specific constraints or changes from trade conditions in previous years.

2.6 Check for specific changes in barriers to trade

Having looked at price differential and production volumes, it is necessary to consider other factors that may increase of decrease the volume of imports. The most important ones are:

- **Import/export bans -** maize export bans are in place in Tanzania, Zambia and Malawi in 2003– export bans are likely to reduce volumes considerable between Malawi and Tanzania but to have a lesser effect between Malawi and Mozambique[17] and an intermediate effect between Zambia and Malawi.
- **Changes to import/export procedures –** relaxation or tightening of documentation like phyto-sanitary certificates. Sometimes this is quite informal – it seems that in years of scarcity border customs and other guards get instructed by politicians not to hassle informal importers. Similarly, when a local surplus is in danger of rotting, officials are told to relax the rules on informal exports.
- **Competition with other markets** – are other potential markets developing (e.g. DRC for Western Tanzania and Northern Zambia in 2002 and Northern Tanzania and Kenya for Southern Tanzania in 2003)?
- **Changes to infrastructure** – the improvements to the road to Chitipa may encourage more imports from the Tanzanian District of Ileje. Improvements to the Nacala-Malawi train line and operation could dramatically affect import costs and therefore volumes and source areas.
- **Changes to trader capacity** – with liberalisation of markets throughout the region and peace in Mozambique, trader capacity has steadily grown. However capacity can vary from year to year according to the availability of credit, fuel and competition for transport in other directions.

[17] Mozambique has had no formal export or imports bans since 1992

For food security officials to monitor all these factors requires some knowledge of the different areas. However traders tend to be knowledgeable about many of these issues, and with good contacts, this sort of information can be monitored.

2.7 Predict Market Driven Imports and answer key questions

The information from sections 2.2 to 2.6 needs to be used in an iterative way, using some of the information provided in chapters 3-5, to give a prediction of food imports and the probable levels prices may rise to:

- Having calculated the preliminary food deficit….
- Look at the probable surplus in those areas closest to the deficit areas, with low transaction costs and good price differentials….
- If these low price areas look unlikely to be able to meet the deficit, look slightly further afield…. where are the potential surpluses….? how much would the prices need to rise for commercial supplies to start to flow….?

The assumptions and calculations on which the predictions are made need to be triangulated with other key informants – do they make sense? Several revisions may be needed.

Finally if there is a deficit, check whether the key questions have been answered:

- Will markets fill the gap?
- How much are prices likely to rise?
- Is the predicted price rise acceptable in Malawi?
- Is there a need for SGR sales?
- Is there a need for institutional purchases?
- How much, where and when?
- What are the consequences of implementing these alternative actions on commercial maize imports?

It is very important that decisions around market intervention by the SGR or ADMARC are transparent and predictable – so as not to undermine confidence in the market. The ideal trigger for stock releases should be the import parity price, plus a certain margin. By publishing such actions, the private sector will be encouraged to remain trading. If not, the sector feels threatened by the potential of politically motivated reserve releases and will limit its trade investment, putting more pressure on the SGR.

Decisions of where to place tenders for institutional imports need to be taken within an understanding of their effects on the regional maize market. In principle it is good to support maize producers and maize traders in neighbouring countries and place tenders locally. However such tenders can also compete with the informal market and therefore may result in less informal imports. Therefore a judgement needs to be taken on where the tender should be placed, according to estimates of totals available in neighbouring countries and the likely impact of institutional tenders on overall availability, trader capacity and price. It is also important to ensure that regional tenders are accessible to smaller, informal traders, and that there are not unreasonable hoops to jump through.

2.8 Timing

Pre and Post harvest surveys are done in Malawi and neighbouring countries, although their reliability is variable; these are being made available much more quickly than in the past by electronic means. This can be triangulated with much cruder estimates of production, with a five point qualitative scale[18] giving a good prediction of availability of exports. Prices are published electronically weekly or monthly. With a three month buffering capacity provided by the SGR, and further buffering provided by traders it should be possible to avoid the enormous price rises experienced in late 2001/ early 2002 and the excessive institutional purchases of 2002.

Preliminary pre-harvest predictions of production start from about March (depending on the growing season of different areas), harvest itself is around April-June and post-harvest surveys around June-July. In 2002, without buffering provided by selling from the strategic grain reserve, prices started signalling problems ahead in July and August, being dangerously high from October to December, before peaking in January and February. In other words there was a six month warning on production figures and a three month warning on price figures before the crisis really hit.

2.9 Monitor the situation throughout the season

External factors can change quite rapidly – therefore continuous monitoring is needed. Monitoring of cross-border flows and price changes can also reveal if the original assumptions were correct, or whether modification is needed. This is also a key way to learn from experience – and therefore improve the predictions in the next year.

Key information to be monitored includes:

- Price changes in Malawi and neighbouring markets;
- Commercial recorded (formal and semi-formal) imports – should be reported by border posts (at least monthly – and perhaps more rapidly if there is a significant change – i.e. suddenly stop or increase in volume);
- Qualitative information on informal imports – (increasing/decreasing, more/less than the same time last year – again monthly or if there is a marked change).
- Changes to non-commercial import predictions (by NGOs, Government, WFP etc).

2.10 Conclusion

Predicting food shortage is a technical task, however the outcome is highly political. Governments can be reluctant to admit there is a crisis, but once a crisis is acknowledged they often want to get as much aid or other concessions[19] out of it as possible. NGOs are often the first to flag up an impending crisis, and often receive enormous additional funds to respond to a crisis and therefore can be reluctant to admit the crisis is not as great as originally predicted. The media is often keen to 'discover' a famine, but can be less keen to discover a famine is not as great as first thought. Those who recognise the chronic food insecurity in Malawi may welcome any additional programmes – even if the famine response may not be the most appropriate. Famine responses of food distribution or other emergency support often start too late and go on too long – failing to prevent asset depletion at the start and slowing market recovery at the end. This reflects a decision-making inertia.

[18] very good, good, average, poor, very poor.

[19] For instance relaxation of IMF or other donor conditions.

This is a great challenge to those trying to predict and manage Malawi's food security. There may be a tendency to 'play safe' and err on the side of predicting shortage. However it is important to also recognise that there are costs in over-predicting shortage as in 2002/3:

- Cost to Malawian economy of imports which cannot be sold without subsidy;
- Costs to Malawian producers of surplus maize (e.g. estates);
- Costs to maize producers in neighbouring countries;
- Damage to trade networks;
- Damage of "crying wolf" to future responses.

3. FOOD IMPORTS FROM TANZANIA TO MALAWI

3.1 Introduction

This section includes information from the section of the Malawi sub-component report which covers the Tanzanian border (Annex 1) and the Tanzania sub-component report (Annex 2).

The dynamics of trade across this border are closely linked to the geography:

Fig 3.1 – Border area between Northern Malawi and Tanzania

- The border with Tanzania is short and the river Songwe forms a natural barrier, this is reputed to be dangerous to cross due to crocodiles, in addition the limited number of roads south means it is relatively easy for the Malawian authorities to intercept maize without documentation – therefore there is a tendency for maize to cross the bridge and go through the border post at Kasumulo-Songwe.
- There are informal routes from Ileja District in Tanzania to Chitipa, and possibly even via Nakonde and briefly through Zambia, however the poor condition of the road, the potential for road blocks and the limited local demand (population density in the extreme north of Malawi is relatively low and maize is not everywhere the staple food) means that the volumes involved do not seem to be high. However the Chitipa-Karonga road is currently being upgraded and so there maybe some increase in the future.
- There seems to be a pretty limited cross-lake trade, probably due to difficult access to the lakeshore on the Tanzanian side. The trade seems to be predominantly formal.

- Although peak areas of demand vary from year to year, the lower population in northern Malawi means that maize typically has to travel a considerable distance once it is inside Malawi.

These factors means that a greater proportion of maize imports from Tanzania tend to be recorded and price differentials need to be high to stimulate significant flows in comparison to imports from either Mozambique or Zambia. Unrecorded imports are only likely to exceed recorded imports when export or import bans are in-place, and even at this time the scope for large-scale unrecorded imports is likely to be quite limited.

Although the major volumes in food trade are in maize, there is also a more limited trade from Tanzania to Malawi, particularly beans and onions. In most years there is also a small (200-600 ton) recorded trade in maize from Malawi to Tanzania.

3.2 Maize Production Areas and Perspectives

The area of Tanzania adjacent to the northern border of Malawi is a major maize producing area, sometimes known as the southern maize belt, producing nearly 40% of Tanzania's maize. Key maize producing regions in this area, which is relatively close to Northern Malawi are Mbeya, Iringa, Rukwa and Ruvuma Regions, of these the first three have had significant surpluses in the last three years.

Table 3.2a: Maize Production and cereal surplus in Iringa, Mbeya, Rukwa and Ruvuma Regions ('000 tonnes)[20]

Region	YEARS					5-Year Average	Average cereal surplus[21]
	1998/99	1999/00	2000/01	2001/02	2002/03		
Iringa	373.7	285.3	262.1	315.5	304.8	308.3	97
Mbeya	235.0	189.2	307.0	234.1	232.3	239.5	82
Rukwa	203.7	180.7	226.5	224.5	193.1	205.7	109
Ruvuma	199.8	155.0	163.9	162.4	161.1	168.4	6
TOTAL	**1013**	**810**	**960**	**935**	**891**	**922**	**294**

At the start of the study it was expected that surpluses in these four regions would be the key determinants of maize availability for export to Malawi. However interviews with traders in Mbeya illustrated that in 2002 maize was being bought in the northern part of Tanzania, like Arusha and Dodoma, and was transported all the way to the Central Region of Malawi. Clearly price differential need to be very high to make such long-distance trade viable, but it does highlight the need to consider maize production throughout Tanzania.

It is also important to consider other demands on maize produced in the southern maize belt – typically this area also supplies other deficit areas of Tanzania, particularly Dar-es-Salaam. In 2003, poor harvests in the north of Tanzania were raising alarm in some

[20] **Source:** (a) 'Tanzania Mainland: Basic Data Agriculture Sector. 1994/95 – 2000/2001'. Statistics Unit, Ministry of Agriculture and Food Security, Dar es Salaam. August 2002.
(b) Crop Monitoring and Early Warning, National Food Security Division, Ministry of Agriculture and Food Security. Dar es Salaam. October 2002.

[21] This is a three year average and covers all cereals, not just maize.

quarters of the Government and donor community (despite overall production in Tanzania being close to the longer-term average), this had resulted in a maize export ban. In September 2003 farmers and traders in the Mbeya area were not satisfied with the margins available for trade with Northern Tanzania and movement of maize was sluggish.

Competition for maize grown in the southern maize belt is not however limited to other parts of Tanzania – in recent years there has been considerable demand from both Zambia and DRC, in particular demand from DRC is expected to remain high at least in the medium term.

Fig 3.2b – Maize production trend in Tanzania and the Southern Maize Belt

Production ('000 MT)	YEARS										Aver-age
	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	
Tanzania	2,159	2,567	2,663	1,831	2,685	2,452	2,009	2,579	2,698	2,526	2,417
Southern maize belt	-	-	-	-	-	1,013	810	960	935	891	920

Figure 3.2b shows that although there are significant variations in production from year to year, there is not an obvious trend, either upwards or downwards. Discussions with farmers in the Mbeya and Ruvuma Regions revealed considerable concerns about the profitability of growing maize – the cost of fertiliser has risen considerably, but this has not been matched by a rise in sale price. There were rumours that the Tanzanian Government was planning to provide subsidised fertiliser for the maize belt in 2003/4 to address this problem, however the longer-term sustainability of this approach seems doubtful.

More sustainable might be the development of a more consistent export market to DRC and Malawi. In order for farmers to respond to these export opportunities with increased production, the farmers would need to receive a fair share of the profits. This will probably require:

- Increased farmer organisation to be able to negotiate more strongly with traders;
- Measures to ensure there is open competition between traders;
- Minimisation of cost increasing barriers at the borders.

3.3 Maize Exporting Policy Environment

The food trade has been officially liberalised in Tanzania since the 1990s, however there are still periodic import and export bans, often decided on according to national need, rather than the needs of farmers in a particular part of the country. There has been a general ban on maize exports since 1997 and local authorities have mounted road blocks on many roads, confiscating maize thought to be moving towards the borders. In 2001 there was still a general export ban with the exception of maize from Rukwa; from mid-2002 exports were permitted, but a ban was re-imposed in 2003 when it became clear that the harvest in the North was likely to be poor.

Although there is no export tax, there are local taxes in the producer districts. Exporters require an **Export Permit**, **Phyto-sanitary Certificate** (US$15 plus $2 per ton) and **Certificate of Origin** (US$20)**.** Although these certificates are supposed to be available rapidly, it is not clear exactly what the experience of smaller, perhaps semi-literate, traders

is. It is however known that some small traders 'hire' documentation at the border from brokers for Tsh12,000 (US$12) for 10MT rather than go through the official channels.

Using a Malawian registered vehicle within Tanzania or a Tanzanian registered vehicle in Malawi is expensive and tends to attract the attention of the police. Most small and medium traders do not cross the border with their vehicles, but tend to sell at the border or load onto other trucks – which results in a small but significant additional cost.

3.4 Trader Dynamics

The trading environment is very dynamic, with very large changes in volumes, and trading routes from season to season and even within seasons. There are a large number of different sizes of traders, both Tanzanian and Malawian, involved in different steps of the chain. Some of the key players are:

Tanzanian side

- **Middlemen/local agents** – these work directly at a village level, organising the purchase of maize off farmers and arranging the transport, often by bullock cart, to a collection point, often a hired house, where sufficient bulk is amassed to fill a lorry. Typically the middleman, who is from outside the community, will employ a local person as an agent, making direct contact with farmers, distributing the money etc.
- **Small and medium traders** – these can buy direct from farmers (by employing middlemen) or can buy from District markets. Typically they then transport the maize to be sold at the Malawi border, or they may arrange its transport all the way to Mzuzu or Lilongwe. Even in these cases, it is likely to be offloaded from Tanzanian (10-30 MT) trucks at border and loaded onto Malawian (40 MT) trucks for the journey within Malawi. Small traders typically do not have their own transport, they buy the maize and then pay a transporter to carry it for them, they may have a small warehouse but storage and capital are limited so they tend to try to turnover their maize and capital as fast as possible. Medium traders may own a lorry, but again storage capacity and capital are quite limited, so the aim is rapid turnover. It was estimated that in 2002 there were about 200 Tanzanian and 50 Malawian small and medium traders operating on the Tanzanian side – during the peak period they were sending 50 lorries per day to the border[22].
- **Large Scale Traders** – there are three operating in the border area, but with headquarters in Dar-es-Salaam but. They have large warehouses, the capacity to store and wait for price rises and have a fleet of lorries. Typically they respond to large-scale contracts – such as WFP or the Malawian brewers. These traders are reluctant to be seen as 'profiteering' by buying straight after harvest and selling back to the same areas later in the year.

Malawian side

- **Local traders** – these trade up to 750kg per week and make up 70% of the number (but not volume moved), some are resident in both Malawi and Tanzania and about half are Tanzanian. They tend to re-sell their maize as soon as possible, if necessary storing for up to a week within their own houses.
- **Small Traders** – these trade from 750 kg to 5 MT per week and make up around 30% of the number of traders, again around half are Tanzanian.

[22] It seems likely that this estimate includes the activities of the large scale traders.

- **Medium Traders** – these trade from 5 – 25 MT per week, make up around 3% of the number of traders and come from Karonga, Mzimba and Mzuzu to buy maize in the border area. They may rent houses for temporary storage.

Trade routes

Maize destined for Malawi is typically bought from farmers in the southern maize belt in the manner described above. However in exceptional years, such as 2002, the purchasing can be from much further away. The maize may change hands several times – at District market and/or at the regional market (such as Makambako or Uyole) before reaching the border, but this is not always the case. The maize may change hands again at the border market at Kyela/Kasumulo, where it may be bought by Malawian traders. However in other instances the Tanzanian trader may retain ownership to the sale point well inside Malawi, such as Mzuzu or Lilongwe. In still other instances, Malawian traders may have bought the maize at a Tanzanian regional market and sell it in the central towns of Malawi. However, even when the maize does not change ownership at the border, it tends to change lorry. Once at a centre such as Lilongwe or Mzuzu the maize may be sold at the market, or to corporate buyers such as ADMARC, brewing or milling companies.

There is also a smaller informal trade, which tends mainly to serve the local demand in the communities in far northern Malawi. This seems to mainly come unrecorded across the border to the Chitipa area. Some maize also comes across the Kasumulo-Songwe border on bicycles etc – however it is less clear whether this is still recorded, despite the limited individual quantities. When exports are banned, but when price differentials are still favourable for exports, such as in mid 2001, then maize tends to be unloaded before the border, carried to the river by bike, and carried across by canoe.

The dynamism of routes and prices make the presentation of 'typical' value chains difficult. Price data for different routes at different times were collected, and they illustrated how price sensitive small traders are, and how inventive traders are at finding profitable trading scenarios.

Box 3.4 – An example of a value chain from Sumbawanga to Mzuzu in September 2002

Step	Local transaction Tsh	Tsh per kg	MK per kg
Trader 1 Purchase from farmer (Sumbawanga District)	**Tsh10,000 per 100 Kg bag**	**100**	
Payment to local procurement middleman	Tsh 200 per bag	102	
Animal cart to collection point (Av 10 km)	Tsh 150 per bag	103.5	
Storage at collection point (leased house)	Tsh 100 per bag	104.5	
Loading onto truck	Tsh 150 per bag	106	
Transport to Uyole (Trading centre, Mbeya)	Tsh 1,500 per bag	121	
Unloading at Uyole	Tsh 150 per bag	122.5	
Sale to Trader 2	**Tsh 14,000 per bag (Tsh 2400 per 18 kg bucket)**	**130**[23]	
Packing in 180kg sacks (to reduce costs)	Tsh 300 per 180 kg bag	131.7	
Transport to border	Tsh 90,000 for 10 MT	140.7	
Broker to provide false phytosanitary papers	Tsh 12,000 for 10MT	141.9	14.2[24]
Border to Mzuzu	MK 90,000 for 30 MT		17.2
Sale to wholesaler in Mzuzu	**MK 400 per 18 kg**		**22.22**[25]

[23] This gives a profit of about Tsh 7.5 per kg, or about 6%.

[24] At this stage traders were using an exchange of 1 MK = Tsh 10

[25] Amounts to 29% of costs incurred.

In summary:

- Routes vary from season to season according to availability, price differentials and current border regulations.
- The current trading regime is very diverse in terms of nationality and size of traders and at what points maize ownership changes hands.
- The diversity of trader and nationality is probably an advantage to Tanzanian farmers, as it makes cartels and price–fixing by traders less likely. However additional efforts to empower farmers to capture a fair share of the export profits would be beneficial to the Tanzanian rural areas and the overall growth in production and trade.
- Only the largest traders have the financial or warehouse capacity to store for more than a few days, and they are sensitive to accusations of 'profiteering' if they sell back to Tanzanians at a higher price later in the year.
- In periods when export bans are not in force, the export regime is bureaucratic, and expensive for smaller quantities, but not severely restrictive. The need to change lorry at the border creates additional unnecessary costs.

3.5 Estimating the Volume of Trade

Tanzania-Malawi (Kasumulo-Songwe and Chitipa)

Crop Year	Trade Year	Source of information	Institutional Trade MT	Recorded commercial Trade MT	Unrecorded Trade MT
2000/1	2001/2	Tanzanian traders	20,000		3,000
		Government of Tanzania figures/ FEWSNET	38,000		
		FEWSNET/WFP[26]		15-20,000[27]	
		Malawi plant health inspectors	21,000		
		Malawi key informants (Songwe only)			1,000
		WFP imports	11,000		
		Best estimate	**11,000**	**25,000**	**3,000**
2001/2	2002/3	Tanzanian traders	100,000		5,000
		Government of Tanzania figures/ FEWSNET	134,000		
		Malawi plant health inspectors	125,000		
		Malawi key informants			8,000
		WFP imports	57,000		
		NFRA	55,000		
		Best estimate	**112,000**	**22,000**	**7,000**
2002/3	2003/4	Tanzanian traders		Very little	1,000
		Government of Tanzania figures/ FEWSNET		0[28]	
		Best estimate	**0**	**0**	**1000**

[26] FEWSNET/WFP 2002 – Cross Border Trade During the 2001/2 Marketing Year in the Mbeya and Rukwa Regions

[27] It is not clear from the report how this figure was arrived at. It seems likely that much of this was recorded, although it is likely that the documentation was not complete.

[28] Until September 2003

Trade between Tanzania and Malawi is driven by profitability. Profitability is dependent on the relative prices in Tanzania and Malawi, and on the costs of the trade. Costs vary with time, different routes, with changing border regulations and also vary for different sizes of traders.

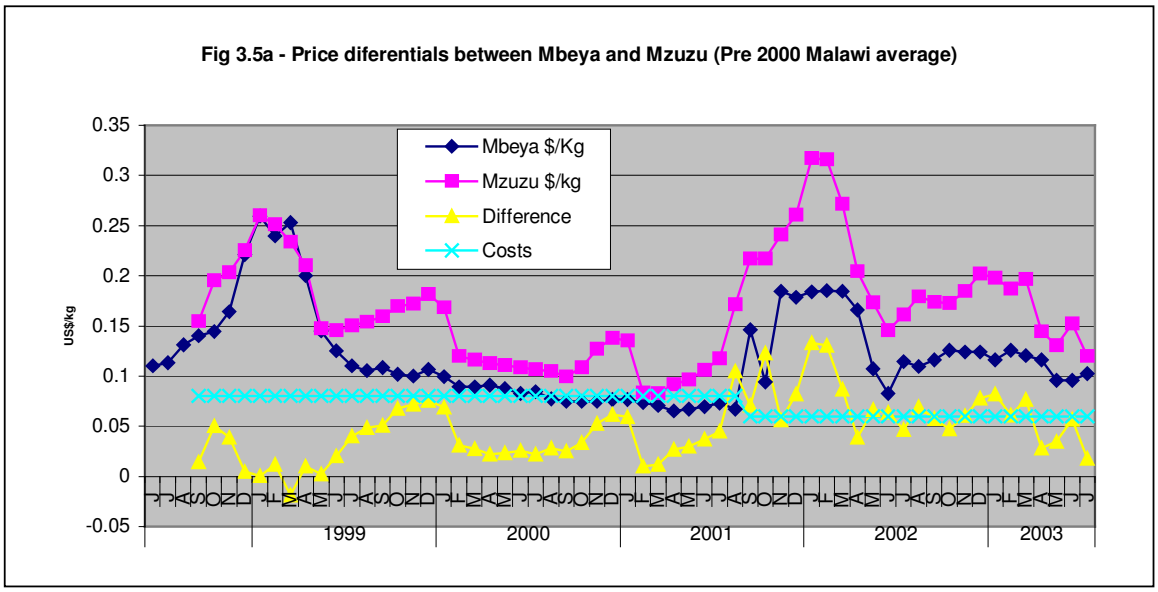


Figure 3.5a shows the wholesale prices in Mbeya and Mzuzu, the yellow line shows the price differential – and indicates how the difference became particularly wide in the second half of 2001 and the first half of 2002, remaining reasonably high until mid 2003, when they have since fallen to very low levels. The blue line gives one estimate of costs, from data provided by small Tanzanian traders based in Mbeya. Costs fell in mid 2001, when the export ban was lifted and the traders no longer had to take the maize across the border by bicycle and canoe. This graphically illustrates how lifting an export ban can tip the balance between profitable and unprofitable trade.

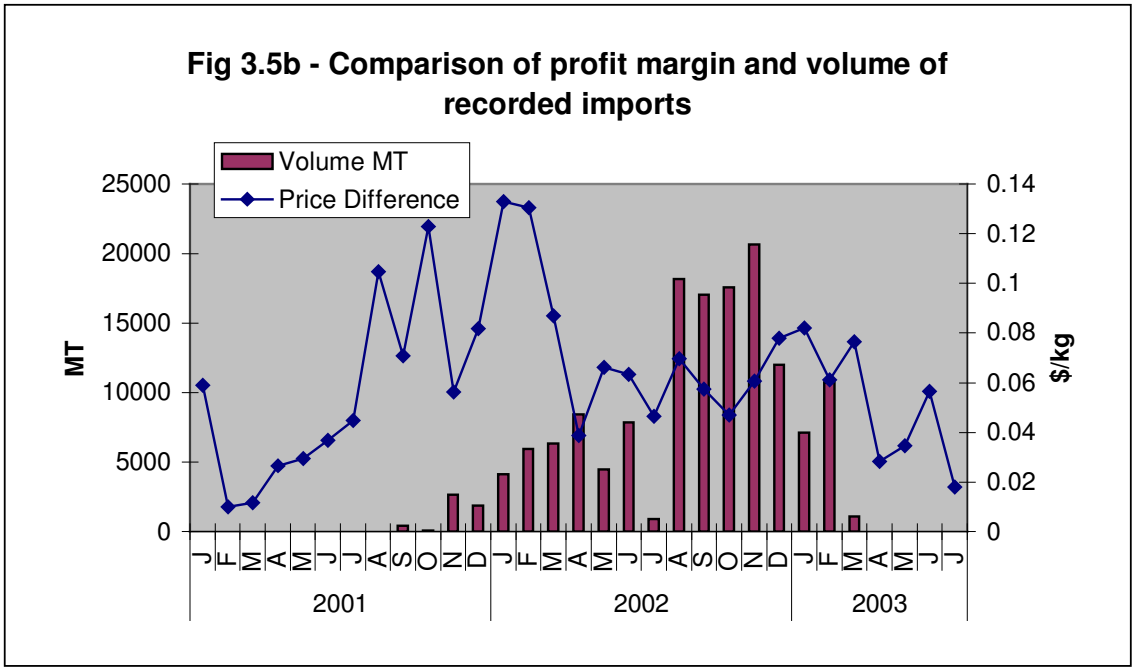


Fig 3.5b shows that recorded imports through the Kasumulo-Songwe border only really started in September 2001 once the export ban was lifted (before this there seems to have been a more limited unrecorded trade). Trade built up over a number of months to April 2002, as more and more traders became involved, when price differentials declined – possibly as a result of the larger numbers of traders involved. Although price differentials were not as high in the second half of 2002 and early 2003, the volume of recorded imports were higher – this is probably due to the institutional orders from NFRA and WFP eventually coming through.

3.6 Conclusion- predicting potential imports from Tanzania

- The maize price differential probably needs to reach around $0.06[29]/kg between Mbeya and Mzuzu before significant movement of maize can be expected;
- Initially supplies are likely to originate from the southern maize belt; the current year's production for these four Regions can be obtained from Tanzanian sources, average surplus is around 300,000 MT – however competing demand from within Tanzania and from other countries, particularly DRC and Zambia, would also need to be considered.
- Maize surpluses may travel from other parts of Tanzania to Malawi if price differentials are sufficient, therefore production throughout all of Tanzania should be considered.
- In a year of shortage in Malawi, but with average production in Tanzania and average other calls on southern maize belt production, and without large institutional purchases, it is probable that around 50,000 MT of maize will flow in, in response to straight commercial pressure.

[29] This figure could be checked with traders in any particular year to try and get a more up to date estimate of what 'price trigger' would be needed for traders to move maize from Tanzania to Malawi.

- Since the majority of imports are likely to flow through the Kasumulo-Songwe border, it should be possible to monitor these imports as they occur.
- A maize export ban from Tanzania is likely to significantly reduce imports – perhaps to below 10,000 MT.

4. FOOD IMPORTS FROM ZAMBIA TO MALAWI

4.1 Introduction

This section includes information from the consultants report on Zambia (Annex 3) and that part of the Malawi report (Annex 1) that covers the Zambian border.

There is more opportunity for unrecorded trade between Zambia and Malawi than between Tanzania and Malawi as the border is much longer and is not blocked by a river. The southern part of the border is also closer to the more populated areas of high maize demand (see Map 4.1).

Map 4.1 – The border between Zambia and Malawi

The northern border areas are isolated from major centres of demand in Zambia and therefore the natural marketing routes are often into Malawi or Tanzania. However, although any maize trade from northern border areas into Malawi may be locally important, relatively low production in this area of Zambia, poor transport connections and distance to the major population centres in Malawi mean this trade has been quite small in recent years.

There is more potential for trade in the southern border area, from the Eastern Province of Zambia to the Central Region of Malawi. This is because there is more production potential in this part of Zambia, distances to populated parts of Malawi are lower and transport infrastructure is better. Lilongwe and other potential market areas in Malawi are much closer to Eastern Province and particularly Chipata District than Lilongwe, the Copper Belt or other potential deficit areas in Zambia. Northern Province and

particularly Isoka district is much better connected to Mbeya and the southern maize belt of Tanzania than it is to most of the rest of Zambia or to most of Malawi.

4.2 Maize Production Areas and Perspectives

Table 4.2: Metric Tonnes of Maize Produced 1989/90-2002/3- Zambia, Eastern and Northern Provinces[30]

Growing Season	Zambia	Eastern Province	Chipata District	Northern Province	Isoka District
1989/90	1,119,670	283,367		103,261	
1990/1	1,095,908	316,108		85,602	
1991/2	483,492	82,317		71,984	
1992/3	946,941	287,073		108,156	
1993/4	718,058	224,782		97,225	
1994/5	575,915	211,133		56,402	
1995/6	1,098,500	304,412		80,576	
1996/7	748,889	212,112		66,376	
1997/8	625,015	198,257		31,791	
1998/9	855,869	284,360		62,388	
1999/2000	845,549	324,513		71,399	
2000/1	975,610	224,674	42,622 (2,181)	49,779	4,267 (985)
2001/2	601,607 (228,181)	202,385 (19,670)	46,104 (2,418)	38,022 (12,114)	6,213 (1,143)
2002/3	1,157,861 (591,300)	201,521 (32,931)	52,318 (6,447)	79,881 (32,593)	10,897 (2,985)
Average	**846,000**	**240,000 (26,000)**	**47,000 (3,700)**	**56,000 (22,000)**	**7,000 (1,700)**

(Figures in bracket are expected sales)

The table shows that Eastern Province is a more significant producer of maize than Northern Province. Similarly, Chipata District, adjoining the main border crossing in Eastern Province, is both one of the main maize producing districts of eastern Province and a more significant producer than Isoka, the border district in Northern Province. However the figures also indicate that Northern Province tends to have a higher proportion of its production available for marketing, therefore there is less difference in quantities available for sale. Qualitative estimates from key informants (see annex 3) suggest that farmers sold 40% of their production from the 2000/1 season, 30% from the 2001/2 and only 20% of the 2002/3[31] - these produce considerably higher estimates for crop sales than given in the official CSO/MACO figures [32].

[30] Source: Central Statistical Office/ Ministry of Agriculture and Co-operatives

Notes:

1.1989/90-1991/2 and 1998/9 to 2002/3 production data are from Crop Forecasting Survey estimates. 1992/3- 1997/8 data are from Post Harvest Survey estimates

Figures in brackets are expected sales.

[31] Up to September 2003.

[32] Once again it is important to urge caution with excessive reliance on crop production and marketing figures as the collection discipline is variable, with some incentive for over and under estimation at various times.

Production nationally was very poor in 2001/2, but there has been a bumper crop in 2002/3. A similar picture is found in Northern Province with a poor year followed by a good year, however in Eastern Province both the last two years have been poor.

Production overall in Zambia, and also in the different Provinces and Districts show a high variability. The major factor is of course rainfall, however the availability of inputs, and particularly subsidised fertiliser, also tends to be a factor. Subsidised fertiliser is delivered through farmer's cooperatives and associations – however delivery can be late and uneven. Agricultural staff believe that maize production potential in Eastern Isoka District (along the Malawi border) is much higher than realised in the current year, because the soils only produce well with fertiliser, and deliveries of fertiliser was very poor in this area due to poor transport links. Also due to the poor transport links, this area tends to export most of its surplus maize to Malawi using informal routes – these exports are therefore unrecorded.

Other crops grown near the border, some of which compete with maize, are tobacco, cotton, soybeans, sugar beans, groundnuts, cassava and sweet potatoes. Of these maize, groundnuts, soybeans, sugar beans, and to a lesser extent sweet potatoes are traded with Malawi. In particular groundnut production is steadily increasing in Eastern Province – this seems to be because it is produced without fertiliser and because export is unrestricted and prices have been favourable in recent years.

Compared to the southern maize belt of Tanzania (Table 3.2a) the production and export potential for the areas of Zambia bordering Malawi are much more limited.

4.3 Maize Exporting Policy Environment

Maize exports were banned from Zambia in 2002. In 2003 limited exports were permitted by central government, however local officials in Eastern region still tend to act as if the ban is still in effect.

For official exports of maize a certificate of fumigation is required which is then shown to phyto-sanitary officials to get a clearance certificate. The clearance certificate can then be used to get an export permit, which costs ZK35,000 (US$7) and can be only used once. These certificates are issued at Provincial level, which is convenient for those exporting from Chipata, but not for those exporting from Isoka.

4.4 Trader Dynamics

For farmers/traders exporting small quantities and those living far from Chipata, it is easier to take the risk and export informally. Those handling larger quantities or operating close to Chipata tend to choose the formal route. However when there is an export ban in place, there is little other option except to export informally or not at all. Informal sales increases costs – as there are risks of getting the crops confiscated, informal routes across the border mean transporting in smaller quantities or greater wear and tear on vehicles. Credit agencies tend to refuse to lend money for informal trade because it is illegal and the risks are higher.

One way of avoiding the customs formalities at the Chipata-Mchinji border is to claim the maize is destined for Sinda-Misale, this is because the road goes from Chipata into

Malawi, but then branches to re-enter Zambia to reach Sinda-Misale. Thus traders pretend they are Zambians just transporting from Chipata to Sinda-Misale, but actually sell in Mchinji.

Following the drought in 2001/2, maize actually moved from Tanzania, through Malawi and then to Lundazi in Zambia. Also at this time consumers and small traders came to Chipata on bicycle to buy maize meal, carrying six 12.5kg bags per trip. Another profitable trade during the drought was the purchase of bran from milling in Chipata (at ZK6,000 per 90kg) and selling it for up to ZK18,000 within Malawi.

During the fieldwork in 2003 most farm sales were directed towards Zambian Government purchasing agents who were buying at ZK30,000 per 50 kg bag. This was above the prevailing price offered in Malawi at that time, so there was little incentive to export[33]. However the realities of selling to the Government were not always proving straightforward, with the agents frequently running out of money, leading to delays in receiving the farmer's crops. Some farmers preferred to sell to private traders for ZK25,000, and farmgate prices in some outlying areas were as low as ZK16,000. Across the border in Mozambique the maize prices had risen from ZK10,000 to ZK15,000 and was being brought across to sell to the Zambian Government buying agents, purporting to be maize grown in Zambia.

Interviews with traders in Mchinji in Malawi indicate that almost no importing from Zambia was taking place in 2003 due to low prices in Malawi. However in 2001 and 2002 local and small and traders went to Chipata and to border areas inside Zambia to purchase maize. In Mchinji, neither local nor small traders stored the maize - local traders sold it on to small and medium traders who transported it to Lilongwe. About 75% of the total informal maize coming across the southern border area is transported on to Lilongwe, with the balance being consumed more locally. An additional market player are tobacco estate owners in Malawi, who not only produce maize, but also buy maize when prices are low and sell later in the season.

Traders and other key informants suggest that in recent years over 80% of the maize that crosses the border is informal, this is not surprising as there was an export ban operating in Zambia[34]. The vast majority of this informal maize does not come through the border post at Mchinji, but uses the large number of informal routes.

In Isoka District there tend to be two different trading environments. The eastern area, along the border with Malawi, has better transport links with Malawi than with Zambia (although they are still not good). Therefore, for these farmers, often the only market available may be Malawi, even if, like in 2003, the prices are poor[35]. Marketing tends to be by individual farmers or local traders, using bicycles. Often they will buy consumer goods in Malawi and return with them on the same day despite a 60 km round trip. These farmers and sellers were badly hit by the fall in Malawian maize prices in 2003.

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[33] Actually at this time Mozambican traders and farmers were bringing maize from Tete Province to profit from the relatively favourable price being offered by the Zambian Government. Similarly some maize was coming from Malawi into Zambia.

[34] Despite the ban, some formal maize that comes from other countries, passes through Zambia and crosses the border formally.

[35] In addition to maize a considerable informal export of livestock also seems to be taking place across this border.

The rest of Isoka District is better connected to Zambia and Tanzania, in 2002 much of the surplus had been bought by Tanzanians, some of which might have been subsequently exported via Mbeya and the Kasumulo-Songwe border into Malawi. In 2003 farmers were trying to sell to Zambian Government purchasing agents, but supply was outstripping the cash available.

4.5 Estimating the Volume of Trade

From the Zambia's Eastern Province, three different ways were used to estimate the quantity available for export:

- Government figures of expected sales (estimated from farmer surveys) – 20,000 MT from the Province and 2,500 MT from Chipata district;
- From estimated percentage of crop sold by key informants each year - 60,000 MT for the Province and 14,000 MT for the District.
- From estimates of crop sold from those districts, which usually have a surplus – 20,000 MT for the Province.

The 20,000 MT provincial figure was used and an estimate of 50% of this being exported informally to Malawi – as three out of five key informants gave consumption in Malawi as the first or second most common destination for their maize.
The Malawi key informants estimate is an average of figures provided on the Malawi side of the border by traders and other key informants.

Table 3.5 - Zambia-Malawi Trade (Mchinji and rest of Zambia border)

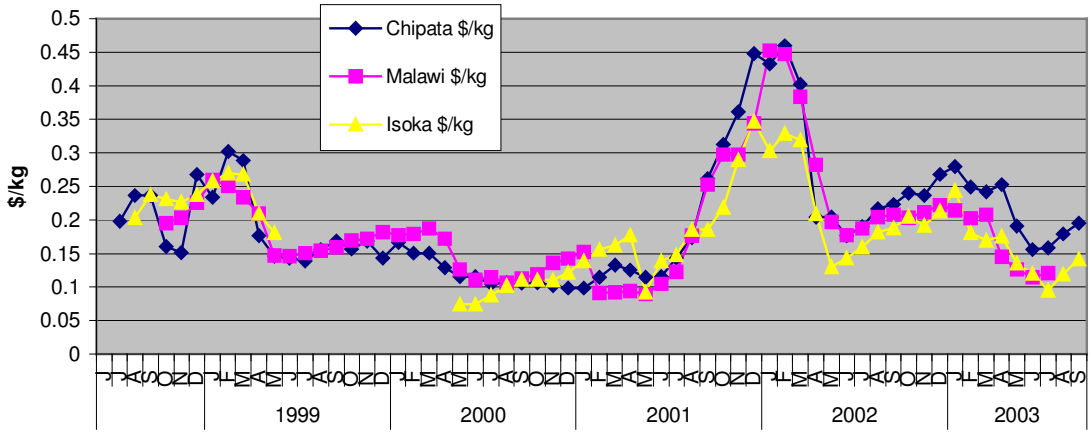
Crop Year	Trade Year	Source of information	Institut-ional	Recorded Commercial MT	Unrecorded MT
2000/1	2001/2	Malawi key informants (Maize from Eastern Province – crossing near Mchinji border)			18,000
		Zambia farmers estimate (from Isoka East, Northern Prov.)			1,000
		Estimate from Zambian production information and questionnaire responses (Maize from Eastern Province)			10,000
		Best estimate	**0**	**0**	**15,000**
2001/2	2002/3	Malawi key informants (Maize from Eastern Province - crossing near Mchinji border)			19,000
		Zambia farmers estimate (from Isoka East, Northern Prov.)			2,000
		Estimate from Zambian production information and questionnaire responses (Maize from Eastern Province)			10,000
		WFP import from USA	8,700		
		Best estimate	**8,700**	**0**	**16,000**
2002/3	2003/4	Malawi key informants (Maize from Eastern Province)			0
		Zambian interviews (Maize from Eastern Province)			V. Low
		Zambia farmers estimate (from Isoka East, Northern Prov.)			1,000
		Best estimate			**1,000**

Fig 4.5 shows that there is a remarkable correlation between prices in Chipata and those in Malawi, with close but slightly lower price correlation with Isoka and Malawi. This would appear to suggest relatively easy cross border movement equalising prices – this is even more remarkable since formal exports of maize have been banned in 2001/2002, and still highly restricted in 2003, therefore this is likely to be largely due to informal trade. Since these are retail prices the profit margins for movement in either direction is likely to be provided by the difference between farmgate/wholesale and retail. It suggests that selling across the border, at least around Chipata, is not much more expensive than internal trading within Malawi.

Therefore as predicted, trade bans between Zambia and Malawi, seem unlikely to have as great an impact as those between Tanzania and Malawi.

The correlation of prices does not necessarily imply large-scale informal movement, it does imply the ability to move, and perhaps that Chipata prices need to match those in Malawi, otherwise movement will take place, there will be shortage on the local market and prices will rise to match those in Malawi.

Fig 4.5 - Zambia and Malawi Maize Retail Price Comparison



4.6 Conclusion - predicting potential imports from Zambia

In 2001 and 2002 much smaller quantities of maize seems to have moved from Zambia into Malawi, than from either Tanzania or Mozambique. This was primarily due to the limited quantity available in Eastern Province, which had a poor harvest in both 2001/2 and 2002/3 (as did Malawi). The export ban imposed by the Zambian authorities probably had limited effect.

Price probably does not need to rise very high in Malawi to achieve significant inflow, as distances and trading costs seem moderate – however this will be dependant on demand from other parts of Zambia. In some years (like in 2003) purchasing by the Zambian Government may force the Chipata price above the Malawi price and discourage any exports.

In future maize deficit years in Malawi, potential imports from Zambia are likely to depend primarily on production levels in Eastern Province. Unfortunately current estimation of market surplus is weak in Zambia. However the probable quantities available are likely to range from 10,000 MT in a poor year to 80,000 MT[36] in a very good year.

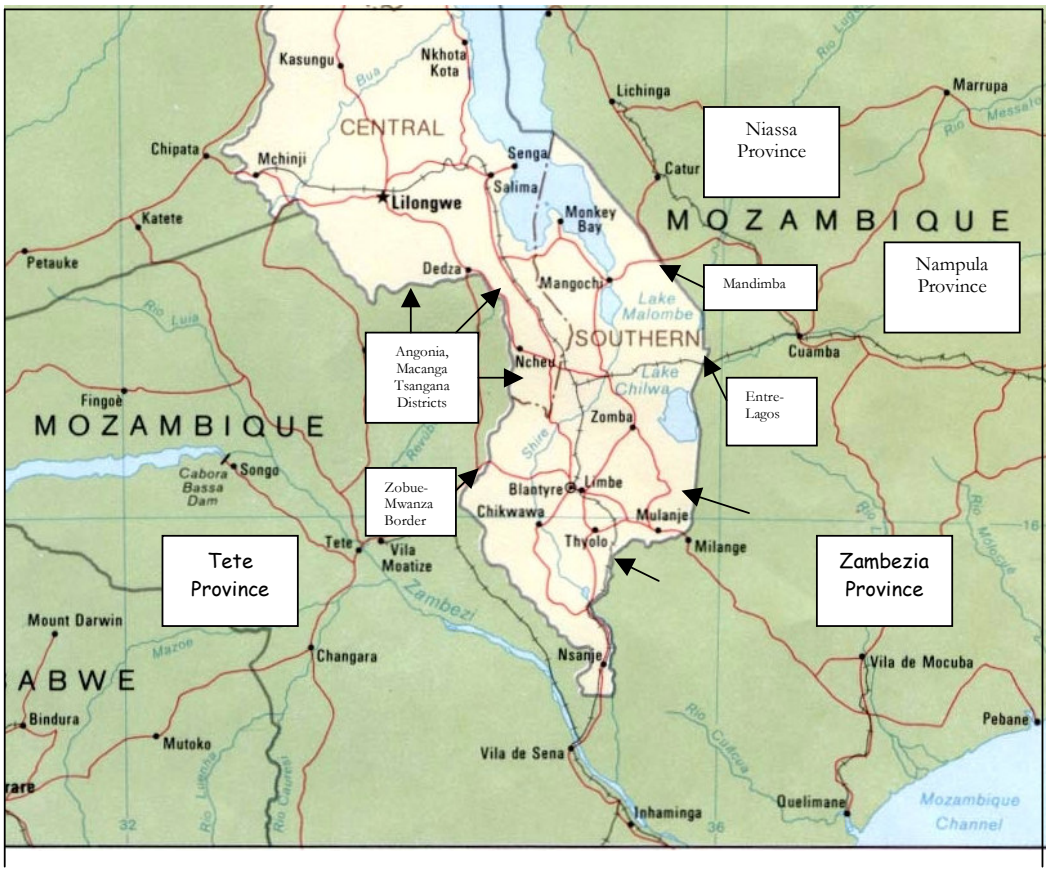
[36] 1/3 average total production in eastern Province, perhaps ¼ of total production in a good year.

5. FOOD IMPORTS FROM MOZAMBIQUE TO MALAWI[37]

5.1 Introduction

The border between Mozambique and Malawi is substantially different from that between both Tanzania and Zambia with Malawi. The Mozambique border wraps around Southern Malawi – with the result that no area of densely populated Southern Malawi is far from the Mozambique border. There is thus enormous scope for both formal and informal trade, and because distances are not great and the border is permeable, transaction costs can be low. Moreover the areas of Mozambique bordering Malawi have quite a low population density, soil is currently quite fertile and in many areas there are reserves of unused land. In most years there is a substantial maize surplus in most areas.

Fig 5.1 Border area between Mozambique and Malawi



- From Tete Province there is a major road border at Zobue-Mwanza which is important for formal imports of maize from the Mozambican Provinces of Tete and Manica, as well as the route for maize from South Africa and by sea through Beira. In addition the Districts of Angonia, Tsangano and Macanga are major maize producers,

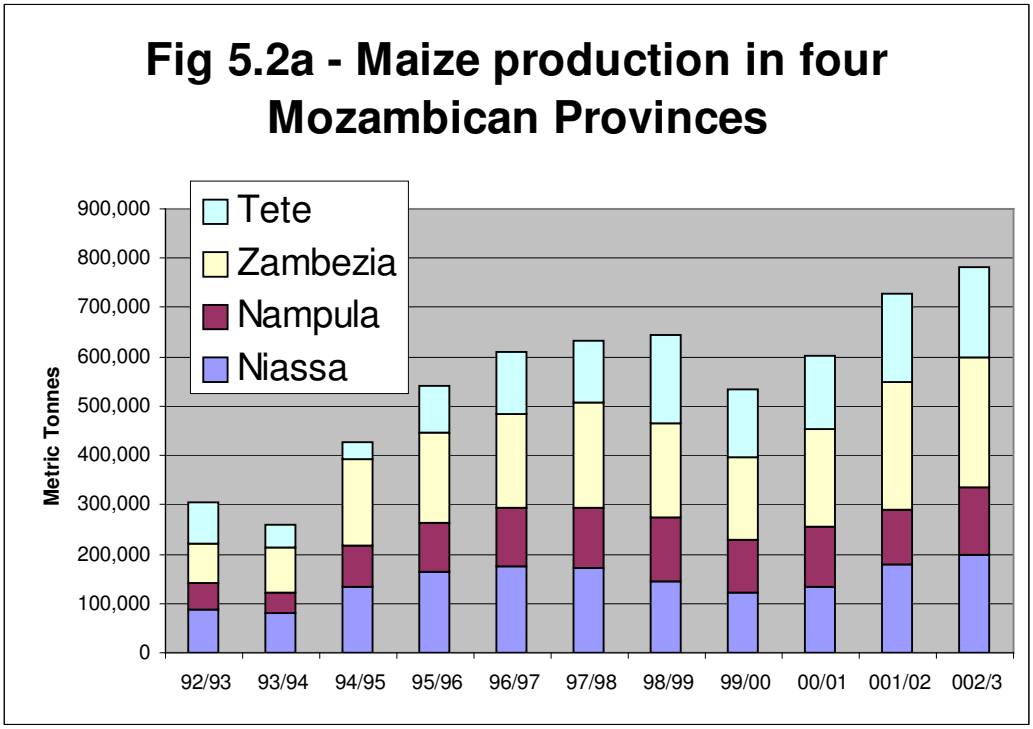
[37] Further details of cross border trade between Mozambique and Malawi are given in Annexes 1 & 4.

however the imports tend to cross the border through smaller border posts or just across the border, without going through a border post.

- Maize from Zambezia tends to cross the border by road at the Milange-Mloza border post or informally at other points along this border.
- Maize from Niassa and Nampula can enter by road at Entre-Lagos and Mandimba or across the border informally throughout this area. Some Nampula maize may also enter via Zambezia and Milange. The railway is a route that has been used for some institutional imports, but not much for commercial imports, but there is more potential once rehabilitation is complete.
- In most areas the Malawi-Mozambique border is not naturally defined by geography or ethnicity - lineages and families lie straddled across the border, many Malawian families have roots in Mozambique, having come from there in the last five generations. Moreover during the war, millions of Mozambicans lived as refugees in Malawi and built up many connections. In some areas people cross the border to go to school, go to the health post, to grind their maize or to shop or to do *ganyu* labour. Trading in food is just one part of a bigger picture of cross-border relations[38].

5.2 Maize Production Potential

Figure 5.2a shows that the all the Mozambican Provinces with easiest access to Malawi are substantial maize producers, moreover production has tended to increase over the last ten years.



Source: MADER

[38] See Whiteside 1998 (op cit) and Whiteside 2002 (op cit)

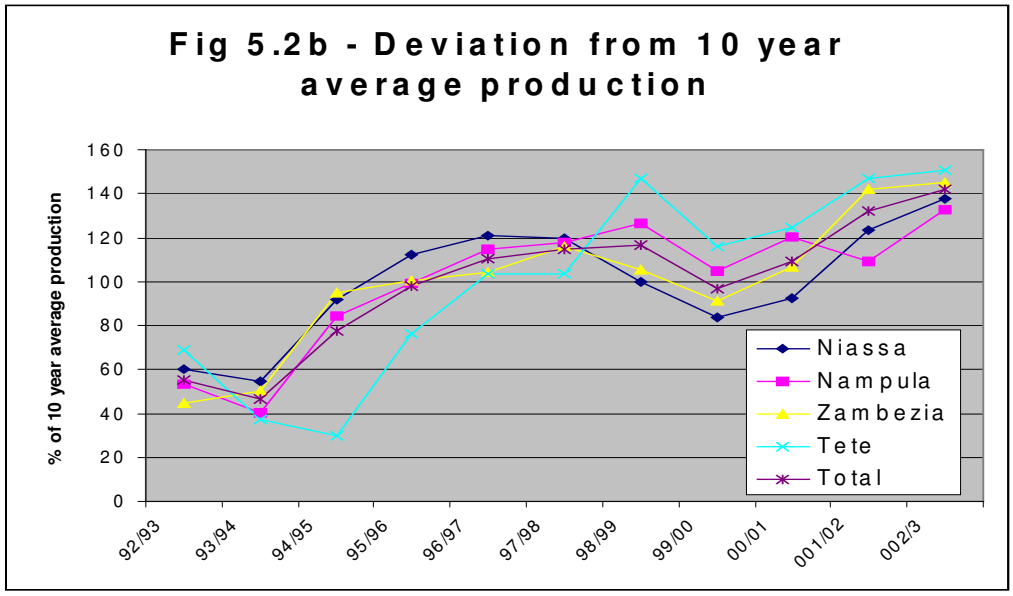
Table 5.2 – Maize production in four Northern Mozambique Districts

	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	001/02	002/3	Average last 3 years
Niassa	87,017	79,481	133,000	163,000	175,625	173,508	144,568	121,641	134,327	178,633	199,556	170,839
Nampula	54,095	41,173	86,000	101,000	117,229	120,410	129,197	106,995	122,660	111,582	135,345	123,196
Zambezia	81,979	91,831	174,000	184,000	190,584	212,547	192,366	166,787	194,953	260,066	265,461	240,160
Tete	83,265	45,305	36,000	92,000	125,677	125,282	177,544	139,986	151,078	177,798	182,068	170,315
Total	**306356**	**257790**	**429000**	**540000**	**609115**	**631747**	**643675**	**535409**	**603018**	**728079**	**782430**	**704,509**

Zambezia tends to be the biggest producer, followed by Tete and Niassa Provinces. Many of these maize producing areas are also major cassava producers - with cassava as the staple food crop, and maize as a major cash crop. Therefore in many years a relatively high proportion of the maize grown is available for sale. It is not unreasonable to expect an availability of 300-400,000 MT for sale in most years, probably more in years of good production. Some of this will be traded with the local urban populations, but the majority is likely to be available for export to Malawi if the price is right.

Maize tends to be produced without fertiliser in most areas, although where it is grown in rotation with either cotton or tobacco it may benefit from the residual fertility of previous fertilizer applications. Therefore maize is being produced in a relatively low cost environment – the main cost and limiting factor being human labour power – although market transaction costs may be high. There are still considerable quantities of available land in most of the maize producing areas and new land tends to be cleared when fertility declines. Although sustainable intensification will be needed in order to maintain production in the future, currently there is potential for maintaining or increasing production as long as there is sufficient incentive to do so.

Fig 5.2b shows that there is quite a close correlation in production between Niassa, Zambezia and Nampula Provinces – a bad year in one province is likely to be mirrored by poor production in all three. Although there is also a correlation between production in these three provinces and production in Tete Province, it is not quite as strong - for instance Tete had a much worse harvest in 94/95 and a particularly good year in 99/00 that were not shared by the other provinces.

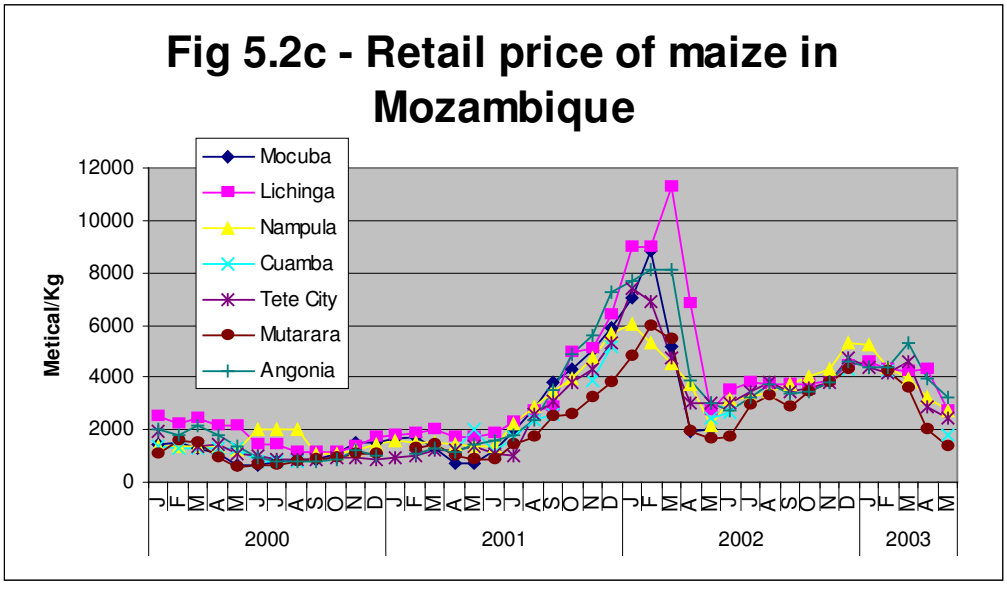


Source: MADER

Figure 2.2a (Chapter 2) shows that in recent years the variation in production level in Malawi has not been particularly closely correlated with those of Mozambique's four neighbouring provinces – this is because factors other than weather (for instance starter packs) have had a major role in determining overall production levels in Malawi. There seems to be more correlation between Malawi and the Northern Mozambique before the starter packs, which would be expected given the geography. Therefore Northern Mozambique is likely to be able to provide only a limited buffer against the vagaries of the weather (unlike Tanzania), but despite this, given the low cost production and general surplus in Northern Mozambique, it is still has the potential to play a major role in Malawi food security – in all years, good and bad.

Maize as a cash crop has been a boom-and-bust experience for both producers and traders in Northern Mozambique in recent years. This is primarily due to the great variability in demand from Malawi. This is damaging to farmer and trader confidence and there is considerable interest in developing alternative cash crops. Tobacco, cotton, sesame, pigeon pea, sunflower, paprika, butter beans, cassava for sale, and vegetables are all being tried by farmers. While many of these do not necessarily compete directly with maize, they do mean that the substantial maize surplus seen in recent years will not be guaranteed, unless farmers feel more confident about the future market for maize. The 2003 marketing year, with substantial surplus and low prices in Malawi, has been a disaster for many Mozambican farmers. Many will be thinking twice about planting as much maize in the current season – 2003/4.

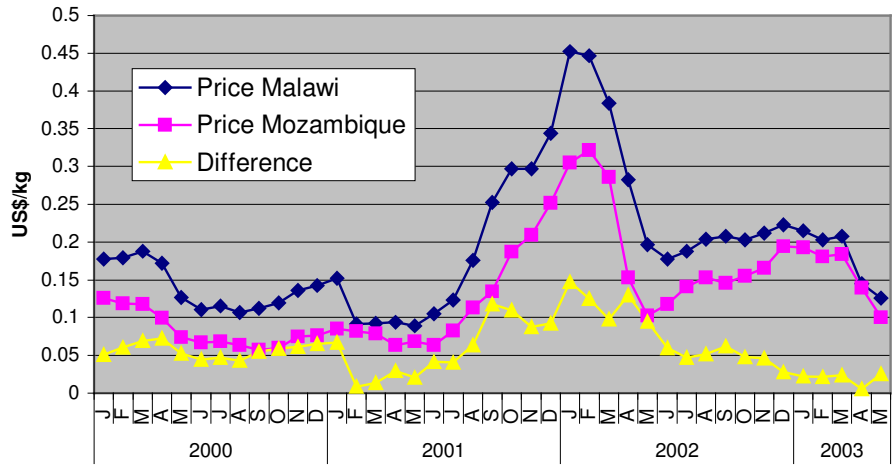
There is a remarkable correlation in maize prices between different parts of Northern Mozambique, despite considerable distances and poor transport infrastructure, as is shown in fig 5.2c. There was some divergence at the peak of the price explosion in early 2002, particularly for Lichinga, but otherwise the prices are remarkably similar. This is probably due to price being driven by demand in Malawi, which has an effect on prices across the markets in Northern Mozambique.



Prices in the last three years have followed a roller-coaster, which has been very difficult for consumers both in Mozambique and Malawi. The graph shows retail prices and in general the average farmgate prices realised, and to even a greater extent the income received by farmers, have not varied as much. This is because in years of high prices the volume farmers have to sell tends to be lower. However more significant is that farmers tend to sell their crop during the marketing campaign – around May to September, when prices tend to be much lower. Therefore they don't tend to benefit from the higher prices later in the season.

Fig 5.2d shows the relationship between the average price in Northern Mozambique and the average price in Malawi. The prices are generally lower in Mozambique and given the generally low transaction costs across the border, this is the reason maize usually flows in quite large quantities across the border. The exceptions have been in early 2001 and even more critically from mid 2003. In 2003 surplus maize in Malawi has caused falling prices in both countries and an erosion of trading profits. Border reports indicate that the trade is very low in 2003 and many farmers are being left with unsold maize.

Fig 5.2d - Comparison of Retail Maize Price in Malawi and Four Northern Provinces of Mozambique



Source: calculated from MADER and FEWSNET figures.

5.3 Maize Exporting Policy Environment

There has been an active debate in recent years in Mozambique about how open an exporting environment there should be – particularly from Northern Mozambique to Malawi. When there are maize shortages in various parts of Mozambique, and yet continued exports to Malawi, there are understandable calls for exports to be restricted.

The South of Mozambique is generally maize deficit and the North a maize surplus area. North – South transport links in Mozambique are poor and transport costs are high, numerous studies have shown that is cheaper to meet the deficit in the South from the

centre of the country (for instance Manica Province) combined with import of maize from South Africa[39]. Meeting the Southern needs from the Northern Provinces results in either very low prices for the farmers in the North or very high prices for consumers in the South. While this may change in the longer term, with improvements to North-South road links or improvements in port efficiency making coastal shipping more economic, reliance on North-South trade is currently not beneficial to either northern farmers or southern consumers.

Officially exports to Malawi are permitted without payment of tax and indeed the exporting environment in reality does seem to have got easier than in the late 1990's[40]. There has been streamlining of the documentation required in Mozambique, with for instance a 'one-stop-office' for export documentation operating in Tete. Mozambican Ministers have defended the rights of Northern Mozambican farmers to sell to Malawi despite the periodic calls from various politicians for exports to be banned. Despite this, there are a number of both legal and illegal constraints to trade that continue to cause restrictions for various categories of traders and raise costs:

- **Import-Export License –** this requires documents to be processed at Provincial level and each needs approval from Maputo. It can be onerous for small District based traders, who often as a result don't get their own license and end up working in conjunction with a trader with a license, and sharing some of their profit with them. It also encourages the formation of local cartels.
- **Cross border vehicle circulation –** it is expensive to get correct documentation and taxes for a Mozambican lorry to travel into Malawi and a Malawian vehicle to travel into Mozambique. For this reason at some borders (e.g. Mloza-Milange) Mozambican vehicles tend to unload onto bicycles, which carry the maize across the border and then reload onto Malawian lorries. This raise costs, although it does provide an income for border dwelling bicycle owners. A similar 'no-man's-land' transaction happens at the Zobue-Tete border.
- **Bicycle taxes –** Malawians collecting maize in Mozambique get hassled by a variety of official and unofficial Mozambican power structures for bicycle tax, some get their bicycles impounded and not returned.
- **Malawian traders often cannot buy direct from the farmer –** they must work in partnership with a Mozambican trader who has the correct documentation. This restricts competition, encourages cartels and reduces the price offered to Mozambican farmers, sometimes quite considerably.
- **Semi-official border charges –** there are numerous examples of a combination of Mozambican police, agricultural staff, customs staff making what seem to be unofficial charges to small-scale exporters (typically two bags on a bicycle). It seems doubtful whether all this money finds its way into state coffers. The end result is lower prices to the Mozambican farmer and higher prices to the Malawian consumer. However it should also be said that at some borders and at some times (particularly when there is a widely recognised need to get the Mozambican surplus sold) border officials make no attempt to impede or charge for small-scale cross-border trade. Therefore it does seem that these border behaviour is linked back in some way to the local political hierarchy and are not just the money-making idea of low level border officials.

[39] For instance Arlindo P. & Tschirley D. 2003 – Regional Trade in Maize in Southern Africa: Examining the Experience of Northern Mozambique and Malawi. Also Ministerio da Industria e Commercio 22 – Havera Ressugimento de uma crise na Comercializacao de Milho na Zona Norte?

[40] See Whiteside 1998 (op. cit.) and Whiteside 2002 (op. cit.)

Attitudes to maize as a cash crop

Although at a national level in Mozambique there seems to be growing recognition within both the Ministry of Agriculture and Rural Development and the Ministry of Industry and Commerce that maize is a cash crop as well as a food crop, there is still quite a different attitude among District Government officials, and this tends at times to drive local policies. The perception of border farmers and the local government officials are quite widely divergent:

- **Northern Mozambican farmers** – in many areas maize is considered a cash crop **and** a food crop (in some areas where cassava is important, maize is primarily a cash crop, in some areas with alternative cash crops then maize is predominantly a food crop). This means that in many areas, including most border areas, maize is a main source of cash and the existence of a stable and profitable market for maize is essential for livelihood.
- **Local Government officials** – maize is classified as a food crop, and any surplus should first be considered for other food deficit parts of Mozambique (the border was often described as 'vulnerable' to unregulated selling of maize). There is only positive support for maize exporting when farmers have a surplus that cannot be moved to other parts of Mozambique. The development of a consistent and profitable maize trade with Malawi is **not seen as an opportunity for farmers and Mozambique** that needs strategic and longer-term support.

Creating a level playing field

Formal Mozambican traders rightly point out that they pay taxes and that the small informal traders do not. Mozambican traders also complain that if Malawian traders are allowed to operate freely this is not fair, as they don't pay taxes – this may not be true as these traders may pay taxes in Malawi.

The challenge is to create a level playing field, in which appropriate levels of tax are paid to the respective Governments, and in which traders of different sizes and nationalities can compete freely – this is likely to provide maximum benefit for the Mozambican farmers and Malawian consumers. There are still attempts within Mozambique to form local cartels, which can have very damaging impact on farmers.

There is also concern in Mozambique that production subsidies in Malawi (e.g. Starter Packs) raise production levels in Malawi and therefore reduce exports from Mozambique to Malawi. The additional maize produced due to starter packs is estimated to be between 40,000 MT and 499,000 MT of maize a year over the last five years with an average of 260,000 MT[41] These are at a similar order of magnitude to total exports from Northern Mozambique to Malawi and therefore are likely to have a significant impact on exports and on the income of Mozambican farmers. This is an important area for further debate, as action to alleviate poverty and increase food security in one country seems likely to be having a detrimental impact on poverty in the neighbouring country[42].

[41] Levy S. & Barahona C. 2003 – TIP Evaluation Findings.

[42] It is interesting to note here that Zambia provides fertiliser subsidy and Tanzania is in the process of introducing it for the Southern Maize Belt.. Mozambique has avoided such an approach. Fertilizer subsidies in Zambia have for many years resulted in informal exports of fertilizer to Malawi. In the late 90s such exports were estimated to amount to some 15,000 MT, i.e. nearly 15% of total annual fertilizer demand in Zambia.

5.4 Tete-Malawi Border Trade

Tete province has a massive 350km border with Malawi, however it is particularly in the northern half of this border where there is considerable maize production and cross-border trade with Malawi. Three of the Tete Districts bordering Malawi - Macanga, Tsangano and Angonia - produce 60% of recorded maize production in the Province. There is little difficulty in crossing from these Districts into Malawi and they are close to the major population and market centres of Lilongwe and Blantyre-Limbe. For many producers and small traders in these areas the natural market route is directly to Malawi, rather than back to the Provincial Capital – Tete City, and from there via the main road across the Zobue-Mwanza border into Malawi. The Zobue-Mwanza border is however important as an access route primarily for imports from other countries (particularly South Africa) through Mozambique to Malawi and to a lesser extent from other more southerly parts of Mozambique into Malawi.

Maize is not the only food traded from these Districts into Malawi. Tsangano in particular is a major producer of potatoes and the other districts also produce a range of beans, vegetables and groundnuts that tend to be sold in the border districts and then resold again in the urban areas of Malawi.

A major development in the last two years in Macanga and Angonia is the rapid development of a Tobacco Concession, now involving 40,000 outgrowers and expanding. This provides an alternative cash crop, although those involved in the concession company claim that the tobacco growing will not reduce maize production, as maize will remain an important rotation crop with tobacco. It remains to be seen if this is true, and it will depend largely on the profitability of growing maize. With Malawi maize prices rock bottom in 2003 and therefore little incentive to export, the current incentive to continue to cultivate maize, beyond that needed for home consumption, is not high. Therefore unless Malawi can offer a reasonably consistent and profitable market, it may see maize production in this area dwindle, which could be detrimental to Malawi's longer-term food security[43].

Estimates have been made from both the Mozambican and Malawi[44] side of the probable scale of unrecorded trade. Different informants gave some quite divergent estimates. Table 5.4a and b are attempts to bring these estimates together.

Table 5.4a – Imports from Tsangano, Angonia and Macanga Districts of Tete into Southern and Central Malawi

Crop Year	Trade Year	Source of information	Recorded Trade MT	Unrecorded Trade MT
2000/1	2001/2	Combined Mozambican traders, farmers and other key informants and national data	0	25,000
2001/2	2002/3	Combined Mozambican traders, farmers and other key informants and national data	0	35,000
2002/3	2003/4	Combined Mozambican traders, farmers and other key informants and national data	0	5,000

[43] This could also have a detrimental impact on Mozambican food security as well.
[44] See annexes 1 and 4 of this report for more details.

Table 5.4b – Imports across Zobue - Mwansa border and surrounding (30 km) area into Southern Malawi

Crop Year	Trade Year	Source of information	Recorded Trade MT	Unrecorded Trade MT
2000/1	2001/2	Malawi traders		22,000
		Malawi Revenue Authority	86,000	
		WFP +NFRA		
2001/2	2002/3	Malawi traders		23,000
		Malawi Revenue Authority	266,000	
		WFP		
2002/3	2003/4	Malawi traders		3,000
		Malawi Revenue Authority	Too soon to estimate	very little

Malawi crop inspectors report that 75% of the recorded maize is for the government or food relief organisations and 25% for commercial sale. All the unrecorded maize is likely to be for commercial sale.

Trading dynamics

From border areas of Tsangano, Angonia and Macanga farmers can carry their produce to the border and sell it at the numerous border markets or at the Mwanza market; here it is either bought by local Malawian consumers, or bought by Malawian traders and taken to the larger wholesale buyers within Malawi.

From further in the interior of the border Districts, Mozambican traders transport the maize to the border markets by bicycle or truck. Malawian consumers and local traders also venture deep into Mozambique by bicycle, however they run the risk of falling foul of the bicycle tax laws[45] and sometimes even loosing their bicycles. Malawian small traders usually require about two days to buy sufficient maize from farmers, they may transport it back on their bicycle or hire Mozambicans to carry it on their bicycles at about MK40 ($0.40) per 70 kg bag.

Apparently during the period of high demand in late 2001 and early 2002 Malawian traders were stationing trucks on the border with Angonia, offering high prices and either waiting for the maize to arrive or sending pick-ups into Mozambique to buy maize, while avoiding contact with Mozambican authorities.

At the Zobue-Mwanza border the largest importers, often bringing maize from outside of Mozambique, have the correct paperwork for both the maize and their lorries and travel straight through to wholesale buyers in Malawi. However many small and medium traders used a different technique – with Mozambicans bringing their maize in trucks to no-man's-land between the frontier posts, where it would be sold and loaded onto Malawian trucks for the journey inside Malawi. In still other cases the ownership of the maize would stay in the Mozambican or Malawian traders hands throughout the journey on both sides of the border, but different trucks would be hired, with similar unloading and loading within no-man's-land.

[45] Bicycle tax in Mozambique is apparently MK250 ($3) and valid for a year – it is interesting that in this border area the Mozambican tax is quoted in Malawi Kwacha.

5.5 Zambezia-Malawi Border trade

Production and marketing in Zambezia

Zambezia has the highest maize production of any of the northern Provinces; it shares a 200km border with Malawi and particularly for North-Western Zambezia, Malawi is the historical and natural market. The major border crossing is Milange-Mloza and the road from Mloza has recently been upgraded to give rapid access to the large population centres of Blantyre-Limbe. Moreover directly across the border from Milange District in Mozambique is Mulange District in Malawi, an area of particularly high population density, small plot sizes and frequent food deficit. Earlier research indicated that people from Mulange did go to do *ganyu* labour in Mozambique, often with payment in maize, and this has probably expanded since then[46]. Questionnaire returns from Milange District indicate that paying *ganyu* labour is currently a significant use of the maize being grown.

Production and marketing in recent years has varied enormously – which makes it difficult for farmers and traders to plan:

- **2000/1 crop season, 2001 marketing season –** production was generally good and demand from Malawi was very high, leading to high prices which rose considerably during the season. 40-60% of the production was sold destined both for Malawi and the Mozambican market.
- **2001/2 crop season, 2002 marketing season** – production was generally very good and demand from Malawi was high, prices were a bit lower than the previous year and rose less steeply during the season, falling in Feb 2003. Around 60% of the crop was sold.
- **2002/3 crop season, 2003 marketing season** – production was generally good but demand from Malawi was low, leading to low prices. Only about 20% of the crop was sold by August 2003.

Informants from Mozambique indicate that during the last three years both Malawian and Mozambican traders have been buying direct from farmers and operating both formally and informally; Malawian traders also buy direct from Mozambican traders. The Milange authorities seem to have been trying to prevent Malawian traders from buying direct from farmers, but the authorities in some other Districts, often with more difficult market access, seem to have taken a more relaxed view. Farmers also transport their crop themselves and cross the border unrecorded to sell in Malawi. Informants from the Malawi side paint a similar picture, indicating that 60% of the traders arriving are Mozambicans. The vast majority of traders are local or small, with a much smaller number of medium or large traders.

In addition to maize - beans, pigeon peas, sweet potato and cassava are significant exports from Zambezia to Malawi. In particular the informal trade in dried cassava seems to be expanding both within Mozambique and between Mozambique and Malawi. This is a developing trend whose likely consequences need to be understood further.

Trade routes

It seems like there are three main systems of trade operating:

- **Unrecorded across diverse crossing points to consumption mainly in Malawian border areas** – this can occur anywhere along the 200km border and can

[46] Whiteside 1998 – op. cit.

include people bringing back *ganyu* maize or consumers going across to buy. Some finds its way via local markets to urban centres, but this is not an organised progression. There is still no estimate for the volume of this trade.

- **Unrecorded across Mloza-Milange border point** – this can arrive by a variety of means at the Mozambican side, most commonly by truck, but also by bicycle. In Milange *sede* it is unloaded and loaded onto bicycles to cross the border - as no documentation is required for small quantities. However it seems the Mozambican authorities charge MK5 (US$ 0.2) per bag – the basis of this charge or destination of this money is unclear[47]. On the Malawian side it may be sold on the market or to be loaded onto Malawian trucks for transport, often to Blantyre-Limbe. The maize crosses the border by bicycle because of the cost of crossing the border with a lorry (MK600 - $6), the need to pay Mozambican and Malawian taxes for the lorry and the need for more documentation.
- **Recorded** – this is usually part of an order to a source such as NFRA, miller or brewery companies in Malawi. The maize travels in the same lorry from a warehouse in Mozambique to its destination in Malawi.

During the height of exports in 2002, the Malawian authorities stationed a phyto-sanitary inspector at the border without prior notice. This caused enormous delays and a lot of maize was rejected. A riot ensued, in which one trader was apparently killed. This indicates the sensitivity of doing anything that disrupts flows at the height of the season.

Trade volumes

Table 5.5 gives the best estimate of recorded and unrecorded flows across the Milange-Mloza border over the last three years. The Malawi trader estimates don't include maize that crosses along the length of the border and is consumed in the rural border areas of Malawi. It also doesn't include any crossing the Chilomo border in Morrumbala District. Some estimates suggest that including these other areas might increase the informal total by a further 25-50%.

Table 5.5 – Zambezia-Malawi maize trade volumes[48]

Crop Year	Trade Year	Source of information	Formal Trade MT	Unrecorded Trade MT
2000/1	2001/2	Malawi traders estimate[49]		143,000
		Malawi Revenue Authority	53,600	
		From Zambezia – Mozambican key informants – 40% of production, mainly informal	30,000	90,000
		150% Zambezia surplus[50], 50% Nampula maize triangle surplus and 30% Niassa surplus	94,400	
		Best estimate (includes some from Nampula & Niassa)	**54,000**	**70,000**
2001/2	2002/3	Malawi traders estimate		154,000
		Malawi Revenue Authority	12,600	

[47] It may nominally be for phyto-sanitary inspection.

[48] It seems likely that some of this maize actually comes from the Nampula Province maize triangle bordering Niassa and Zambezia.

[49] This was calculated by the traders recollection of the number of trucks leaving Mloza per day in different months.

[50] It is reported that people sold a large proportion of their production and went hungry or relied on other foods.

Crop Year	Trade Year	Source of information	Formal Trade MT	Unrecorded Trade MT
		From Zambezia - Mozambican key informants – 40% of production, mainly informal	15,000	115,000
		100% Zambezia, 40% Nampula maize triangle surplus and 20% Niassa surplus	118,000	
		Best estimate (includes some from Nampula & Niassa)	**13,000**	**130,000**
2002/3	2003/4	Malawi traders estimate		31,000[51]
		Malawi Revenue Authority	2,300	
		From Zambezia - Mozambican key informants – 10% of production, mainly informal*		30,000
		30% surplus from near border Districts	32,000	
		Mozambican trader estimate		20-30,000
		Best estimate (includes some from Nampula & Niassa)	**2,000**	**30,000**

Transport Costs

These vary according to the point of origin and the route. A typical route might be:

Transport from Corumana in Milange District to Milange *sede* by lorry	MK100 per 70kg bag	US$ 0.014/kg
Transport across the border by bicycle	MK20 per bag	0.003/kg
Transport by lorry to Blantyre-Limbe	MK50 per bag	0.007/kg

5.6 Southern Niassa-Malawi Border

Niassa has a 250 km border with Malawi, however some of it is blocked by the twin lakes of Chirwa and Chiuta, and the area in the north crosses into a narrow strip of land along Lake Malawi/Niassa and doesn't provide a good route for maize. The main crossing points are the combined rail and road crossing at Entre-lagos and the road crossing at Mandimba. Neither road is particularly good for bulk transport. The railway line between Cuamba and the Malawi border is still being rehabilitated and through trains are not frequent. This is a major route with potential in the future, but it is not yet significant except for 10,000 MT of institutional imports in 2002.

At Entre-lagos there is a market where Malawians come and buy maize. Small quantities are then allowed to be taken across the border, although a joint Mozambican police/agricultural staff block on the road charges MK10 per sack ($0.10)[52]. At Mandimba large scale exports (e.g. a lorry load) are subject to a 5,000 Meticais per sack charge ($0.25) which traders claim is illegal, but it was not possible to confirm this.

The production data from the Mozambican side of the border is confusing, as the trends from the official statistics differ markedly from the information obtained from Mozambican key informants. According to key informants, trends in the last three years seem to have been:

- **2000/1 crop season, 2001 marketing season** – variable production in different areas, with some very good and very high demand. Prices didn't start particularly high but rose high at the end of the season, 60-80% of production sold.

[51] To Sept 2003

[52] This may be a phyto-sanitary check but there does not seem to be much indication that any maize quality checks are being done.

- **2001/2 crop season, 2002 marketing season** – variable production in different areas ranging from poor to very good, high demand, medium to high prices. 40-80% of production sold.
- **2002/3 crop season, 2003 marketing season** – low production, low demand, low prices. 20% of production sold to September 2003.

Since the current study did not include a case study from the Malawi side of the border at either Entre-lagos or Mandimba it is difficult to estimate volumes of trade. Using the official Government of Mozambique statistics for maize production in key Districts bordering Malawi, combined with key informant information on the percentage of maize and the proportion of this that went to Malawi would produce a conservative estimate of around 15-30,000 in years when prices are favourable, and perhaps half this when prices are poor. To this should be added some maize which flows when prices are favourable from Northern Niassa, particularly Lichinga and Sanga Districts and also from the maize triangle in Nampula (although some of this probably travels via Milange as already stated). The total therefore is more likely to be around 20-40,000 MT when prices are favourable and 10-20,000 MT when prices are poor.

Table 5.6 – Production in key maize exporting Districts in Southern Niassa

District	Crop year			
	2000/1	2001/2	2002/3	**Average**
Cuamba	29,344	47,659	47,321	**41,000**
Mandimba	7,078	18,783	22,148	**16,000**
Maua	2,703	6,701	7,549	**6,000**
Mecanhelas	11,683	15,186	17,193	**15,000**
Metarica	1,925	3,026	3,742	**3,000**
Ngauma	3,881	7,364	8,853	**7,000**
Total	**56,614**	**98,719**	**106,806**	**88,000**

Source - MADER

5.7 Conclusion

Food crop exports to Malawi, and particularly maize, are major cash earners for Northern Mozambican farmers and therefore provide a major contribution to the livelihood of these farmers[53]. The Malawi export market is significantly more important to these farmers than it is for either the Zambian or Tanzanian farmers. Mozambique is also a much more important source of supply of cheap maize to those areas of Malawi where the majority of the population live than either Tanzania or Zambia.

Mozambican farmers are hurt by fluctuating demand in Malawi – which is created not only by the vagaries of the weather, but also large scale importation and subsidised selling by Malawi authorities, food distribution by aid agencies and by policies which subsidise production in Malawi (e.g. starter packs). While some of these actions may be important for the food security of the Malawian population, the impact on Mozambican farmers is also important. In addition the development of a stable maize export trade from Mozambique to Malawi may be in the best interests of both countries. Without a degree

[53] Arlindo P. & Tschirley D 2003 op. cit. estimate that the increase in value of maize production due to trade with Malawi in 1998/99 was US$3,061,000 for Zambezia Province and US$1,961,000 for Nampula Province. They also show that maize sales to Malawi are more likely to make high yielding technologies economically viable in Northern Mozambique.

of stability and profitability, Mozambican farmer s will continue to search for other cash crops to replace their dependence on maize.

It is frustrating that it continues to be extremely difficult to provide reliable estimates of the cross border flows of maize and other foodstuffs from Mozambique to Malawi. The figures in this report should be treated as rough estimates pending more detailed monitoring. Looking at the border area as a whole, it seems likely that around 200,000 - 250,000 MT of maize is likely to cross the border unrecorded in a year of reasonable production in Mozambique and high demand in Malawi (e.g. marketing year 2002). In years of low production and high demand this figure would be reduced – the degree of reduction would need to estimated by looking at the Mozambican crop forecasts. In years of low demand in Malawi, some maize is still likely to be imported from Mozambique because of the low priced production in border areas and the lack of alternative markets – however this could fall to around 70,000 MT as seems to be the case in 2003.

Recorded imports are very variable – depending on the demand of the big buyers in Malawi, but fortunately are more easy to monitor during any season, as the number of buyers is quite low.

Table 5.7b – Best estimates of Mozambique-Malawi maize trade

Crop Year	Trade Year	Source of information	Recorded Trade MT	Unrecorded Trade MT
2000/1	2001/2	Tete - Macanga-Angonia-Tsangano border	0	25,000
		Tete – Zobue-Mwanza border and environs	82,000[54]	22,000
		Zambezia (including maize from Nampula and Niassa)	54,000	70,000
		Niassa - Malawi	1,000	20,000
		Total Mozambique to Malawi	**137,000**	**137,000**
2001/2	2002/3	Tete - Macanga-Angonia-Tsangano border	0	35,000
		Tete – Zobue-Mwanza border and environs	280,000[55]	23,000
		Zambezia (including maize from Nampula and Niassa)	13,000	130,000
		Niassa - Malawi	12,000	35,000
		Total Mozambique to Malawi	**305,000**	**223,000**
2002/3	2003/4	Tete - Macanga-Angonia-Tsangano border	0	5,000
		Tete – Zobue-Mwanza border and environs	0	3,000
		Zambezia (including maize from Nampula and Niassa)	2	30,000
		Niassa - Malawi	0	10,000
		Total Mozambique to Malawi[56]	**2**	**48,000**
Future Prediction		Good Mozambique Production, High Malawi Demand	**50-100,000[57]**	**200-250,000**
Future Prediction		Poor Mozambican Production, High Mozambique Demand	**0-50,000[58]**	**50-150,000**
Future Prediction		Low Mozambican Demand	**0**	**50-100,000**

[54] Some of this came from outside of Mozambique but was imported through Tete Province
[55] As above
[56] To September 2003.
[57] Only includes maize produced in Mozambique
[58] As above

6. DISCUSSION AND ANALYSIS

6.1 Summary of import estimates

These estimates are just that – estimates. Even the data from official sources is often contradictory – three different official sources give three different results. Unfortunately it was found the import information from the Malawi NSO could not be relied on. Table 6.1 gives a 'best current estimate' of different categories of import in the two most recent marketing years.

Table 6.1 Summary estimate of maize imports

Crop Year	Trade Year	Country maize entered through /Institution	Institutional Imports	Commercial Recorded Trade MT	Unrecorded Trade MT
2000/1	2001/2	Tanzania	25,000		3,000
		Zambia	-		15,000
		Mozambique	137,000		137,000
		WFP	18,000	-	-
		NFRA	62,000[59]	-	-
		Total	**80,000**	**82,000**	**155,000**
2001/2	2002/3	Tanzania	134,000		7,000
		Zambia	9,000		16,000
		Mozambique	305,000[60]		223,000
		WFP	158,000	-	-
		NFRA	272,000[61]	-	-
		Total	**430,000**	**17,000[62]**	**246,000**

6.2 Can the market substitute for institutional imports?

It is tempting to use the experience in 2003, in which commercial maize imports, combined with institutional imports caused a surplus on the Malawi market, with the result that the Government was unable to sell its maize at a subsidised price, to argue that the market should have been left to correct the shortage. This raises a number of questions:

- Why was the market unable to prevent the very high price rises in late 2001 and early 2002?
- Would the market alone have been able to have created the less extreme prices in mid and late 2002?
- Would the market alone have brought the prices to a balanced level in 2003 - profitable for the producers and traders but manageable for the consumer?

Whether the market can plug the gap in a Malawian food shortage is a matter of supply and demand:

Meeting the shortfall in 2001/2

[59] From Jan 2002
[60] Include maize of non-Mozambican origin imported through Mozambique
[61] To December 2002
[62] This figure looks low, however it is possible, as all the formal importers were struggling to supply WFP and NFRA tenders.

Supply – was there enough surplus in neighbouring countries to meet a shortfall in Malawian production?

Estimates in preceding chapters suggest there in a average year there would be a surplus of around 300,000 MT in Tanzania, 250,000 in Mozambique and 50,000 in Zambia. Why was this not enough in 2001/2 to address the estimated 270,000 MT maize equivalent domestic deficit[63] and prevent the price rise? Probable reasons are:

- There was an export ban until late 2001 from Tanzania. Tanzanian traders had limited experience in the Malawian market and so were slower to react to the opportunity than they were in 2002 (and will probably be in future) and only provided about 20,000MT.
- Zambia had an export ban;
- Mozambique had a below trend year, but still seems to have provided nearly 200,000 MT.

However overall the there was a lack of supply and this led to the very high prices. However if the food balance and commercial/unrecorded import estimates are correct, then a well managed and carefully released SGR would have been enough to plug the supply gap and keep prices more reasonable.

Demand – the fact that prices reached such astronomical levels suggests there were some people in Malawi able to buy at these prices. However evidence suggests that many people were priced out of the market and went hungry or survived on famine foods. Some households probably also sold valuable assets to buy food and keep their families alive.

It is therefore important to recognise that although a properly managed SGR and free market might have been able to manage the supply, this doesn't mean that the more vulnerable consumers would have been able to buy sufficient to prevent hunger.

Table 6.1a – Probable simplified Food balance in 2001/2 (with benefit of hindsight!)

Item	Maize Equivalent MT (maize, rice, sorghum & cassava)
Stocks	51,000
Net production	1,981,000
Domestic availability	**2,032,000**
Total Utilization	**2,301,000**
Domestic Food Gap	(269,000)
Commercial recorded imports	82,000
Unrecorded imports	155,000
Institutional imports	80,000
Total Food balance	**48,000**

These figures should be treated with caution as they are only estimates. However it looks possible that the projected deficit of 269,000 MT was actually covered by imports of different types. However these did not arrive on time to prevent the massive price rises.

Meeting the shortfall in 2002/3

In 2002/3 the predicted shortfall in the domestic food balance was a much larger 550,000 MT maize equivalents. The shortfall seems to have been plugged by a combination of institutional, commercial recorded and unrecorded imports - prices

[63] See Food Balance Sheet in RATES 2003 – Maize market Assessment and Baseline for Malawi

stayed relatively stable throughout the season, eventually falling dramatically in March 2003.

Given the fact that the Government eventually overbought, could the 2002/3 shortfall have been better handled by the market?

Unfortunately this seems unlikely, because:

- Without the institutional imports there would have been a shortfall of around 290,000 MT.
- To address this deficit, on top of the 260,000 MT already provided by the free market, would have been difficult - requiring imports from well beyond border areas and therefore would have required considerable price differentials;
- It seems unlikely that the large number of deficit families would have been able to buy the quantity needed at free-market rates without some type of direct transfer of either food or money.

Table 6.1b - Probable simplified Food balance in 2002/3 (with benefit of hindsight!)

Item	Maize Equivalent MT (maize, rice, sorghum & cassava)
Stocks	28,000[64]
Net production	1,773,000
Domestic availability	**1,801,000**
Total Utilization	**2,352,000**
Domestic Food Gap	(552,000)
Commercial recorded imports	17,000
Institutional imports	430,000
Informal imports	244,000
Total Food balance	**141,000**

The lessons from these two years suggest a number of important points:

- Markets (Commercial recorded and unrecorded imports) can play a significant role in reducing the national food deficit in years of poor harvest, - including predictions of these imports would considerably improve the estimation of the institutional imports needed.
- Although the market in an average year can supply a domestic deficit of 200-300,000 MT without institutional assistance, there may not be the purchasing power to achieve this. This would leave the most vulnerable households without the means to buy food even when it is available. Targeted support to increase the purchasing power of vulnerable households is an important component of any market lead food security strategy.
- The institutional response to the food deficit can be characterised as 'too late and too much'[65]. If the SGR had been correctly managed, earlier (Sept-December 2002) judicious and transparent release onto the market should have prevented the very high price rise that was so damaging for the Malawian consumer.
- Institutional imports from the region are likely to reduce the quantity of commercial recorded imports - as the same traders and purchasing areas are involved. The negative correlation between institutional and commercial imports is because of competition for

[64] The previous year's food balance might suggest that real stocks were actually higher than this.
[65] This is very common in institutional and humanitarian responses to famine. Too much doesn't refer to too much response overall, but to too much emergency style response at a late date – considerable longer term preventative response is still needed.

limited trader capacity, competition over farmer's supplies and a faltering of confidence in commercial importation when institutional buying takes place. There is likely to be a similar, but less marked, impact on unrecorded imports – as there is less overlap in traders and purchasing area, and confidence is less important as the turnover in stock is quicker.

6.3 Removing barriers to informal trade

Barriers to informal trade have been reduced between Mozambique and Malawi in recent years, and much of the credit for this should go to the Mozambican Government, who recognise the importance of this trade to the Northern Mozambican farmers. However barriers still remain, and these tend to be detrimental to the consumer in Malawi and the producer in neighbouring areas of Mozambique, Zambia and Tanzania, although in the short term they may be beneficial to the consumer in the producer countries.

- **Export Bans** – these are imposed by Malawi, Zambia and Tanzania whenever there is a national deficit, Mozambique however has resisted this temptation in recent years. This is a difficult issue, as export bans can bring short term benefits to national consumers[66] by keeping prices lower, but at a cost to farmer income. Periodic export bans undermine confidence in the market, mean producers will look to other crops and traders will not invest in capacity - to the probable longer-term detriment of all.
- **Cross-border vehicle movement –** this remains expensive and means that at every major crossing point sacks are unloaded from one lorry onto another. This increases prices, although it does provide some income for the local labourers.
- **Phyto-sanitary controls** – inspection, associated paperwork and charges can be onerous – sufficient for brokers at the Tanzania-Malawi border to offer a 'phyto-sanitary documentation hire service'. While effective phyto-sanitary control to prevent the movement of diseases and pests should be supported, there are some very serious questions that should be asked first:
    (a) Do the inspections, as currently mounted, provide an effective barrier to specific pests and diseases that do not exist inside Malawi? – if not, they should either be improved or abandoned – as there is no point in the expense of something that is ineffective.
    (b) Is the quality of the grain, and whether sacks have had stones or sand added to increase their weight a matter for the phyto-sanitary inspectors or the purchaser[67]?
- **Export permits and other documentation** – although some countries have simplified the process, it is still bureaucratic and provides opportunities for rent seeking by officials. It is difficult to see what are the benefits of some of the current regulations – in terms of control or record keeping. Traders avoid the paperwork by taking maize through the border post on bicycles – but then the import information is not included in the statistics. Since there is no tax on maize, and unless there is an export ban there is no need for control, a simpler system of recording the quantity crossing would be preferable. This way, barriers would be lower and much of the maize currently entering unrecorded would become recorded.
- **Avoiding cartels** – cartels rely on a number of traders operating in unison, and typically keep the price offered to farmers low. Cartels are more likely when there are a smaller number of traders of medium to large size and of one nationality. In most

[66] And particularly the more politically sensitive urban consumer.
[67] Grain quality seems to be a major focus of some inspection.

buying environments, and across most borders, there is currently a diversity of size and nationality of trader. However there are continued attempts, at least by medium and large Mozambican traders to keep out Malawian traders and therefore reduce competition. A similar scenario could develop in Tanzania. Cartels tend to reduce the income for the farmer and increase the price for the consumer and therefore should be prevented.

- **Credit for 'informal trade'** - traders in Tanzania, Zambia and Mozambique complain that they cannot get credit for 'informal' trade because it is 'illegal'. Sometimes this seems to be due to the regulations of the credit organisation and at other times due informal trade being perceived as more risky and therefore the agency being reluctant to lend when goods or a vehicle could be impounded by the authorities and the money lost. If the documentation and licensing is simplified, so that more traders enter the recorded/formal category, this constraint might be removed.

The root cause of many of the barriers listed above is the attitude of many politicians and officials.

Attitude of politicians and officials to cross-border maize exports

Maize is still considered primarily a food crop and a strategic commodity. Many politicians and officials continue to see the maize trade as an unfortunate necessity, to be tolerated when there is a surplus that can't be sold internally, but to be discouraged when there is a need elsewhere in the country. Much more positive encouragement is given to trade in non-food cash crops. Even in Mozambique, where the central Government is supportive of the trade, local officials remain pretty ambivalent, especially the informal part, except at times of large unsold surpluses. It is rare to find an attitude in any of the three exporting countries that maize exports should be actively nurtured over time because it is good for the livelihood of farmers and good for the economy as a whole.

Attitude of Malawian politicians to cross-border maize imports

In times of shortage, everyone is thankful when one of the neighbouring countries has a surplus to export. However there is less recognition that actions that undermine the confidence of producers and traders (like the current oversupply of the Malawi market) make it less likely that there will be a surplus the next time Malawi has a shortage. There is a need to develop this broader and longer term perspective.