

*Discussion Paper, Agricultural Economic Society Annual Conference,
Nottingham, April 4–6 2005*

Southern Africa's food and humanitarian crisis of 2001–04: causes and lessons

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Acknowledgements

I have benefited greatly in the past two years from discussions with colleagues above all my co-workers at ODI Elizabeth Cromwell, Rachel Slater, Kate Bird, Paul Harvey, John Howell and James Darcy; as well as with, in the UK, Sarah Levy from Calibre; Stephen Devereux from IDS, Sussex; Frank Ellis at UEW; Andrew Dorward, Jonthan Kydd and Colin Poulton from Imperial at Wye; and in Southern Africa, Godfrey Mudimu and Reneth Mano at the University of Zimbabwe; Neil Marsland, once of SC UK; Kerry Selvester in Maputo; Dianne Stevens and George Zimbisi in Harare; the Michigan State University team in the region and in particular Duncan Boughton and Thom Jayne; Nick Maunder, UCT; Ben Roberts, Rueben Mokoena, Scott Drimie, Richard Humphries and Mike de Klerk from HSRC, Pretoria; Johan Kirsten from the University of Pretoria; and Bill Kinsey from the Free University of Amsterdam.

The opportunity to work on these issues in Southern Africa has been largely funded by the Department for International Development (DFID). The comments and pertinent questions from DFID staff, in particular from Tom Barrett, John Hansell, Tom Kelly, Harry Potter and Rachel Yates have been notable encouragements.

Neither my colleagues nor the main donor are responsible for the interpretations, and still less the errors and omissions, in this essay.

Summary

The food and humanitarian crisis that broke out in Southern Africa in 2001 at its high point in late 2002 threatened the lives and livelihoods of as many as 16 million persons in the six most-affected countries of Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe. It prompted a large-scale response from governments, NGOs and official aid donors — the last group of which has contributed well over US\$1 billion to relief and recovery efforts since 2002.

The crisis is, not surprisingly for an event that embraced six different countries and has spread over several years, complicated and our understanding of why it occurred and what the most effective and appropriate responses should have been, and still may be in terms of recovery, is incomplete. This paper explores explanations of the event, the multiple layers of overlapping crises, the corresponding policy agenda, and some points that represent important challenges for practising agricultural economists.

Analyses of the *underlying causes of the crisis* cover three complementary, but sometimes competing hypotheses: the failures of development and consequent widespread increased vulnerability for poor households; the impacts of the HIV/AIDS pandemic; and the failings of particular agricultural and food policies. Each of these might have been sufficient in itself to prompt the crisis seen, making a precise explanation of the problem difficult.

Some simple, and apparently novel, thought pieces suggest that the HIV/AIDS pandemic could not have been more than a minor contributor to the harvest failures, although it has intensified the impacts of the shock to the food economy by reducing the incomes and coping abilities of affected households. But if HIV/AIDS is not a major cause of the food crisis, it constitutes in itself a terrible crisis: an estimated 500,000 persons lost their lives to the syndrome in 2003 alone.

The influence of policy errors is more difficult to judge. That said, the implosion of the Zimbabwean commercial farm economy has been both a major contributor to the problems of 2002–03, and largely explains why the crisis has lingered on beyond the harvest of 2003

In trying to understand the nature of event, it useful to think of it as a set of *four layered crises*. At the base, there is widespread chronic poverty in Southern Africa that leaves the majority of the population on the verge of hunger, and which is cruelly revealed in a little-commented crisis of child nutrition and mortality. To the grim toll of HIV/AIDS can be added between 100,000 and 200,000 deaths of under-fives that would not occur if Southern Africa had health conditions similar to those that apply in other parts of the developing world. On top of this, the widespread harvest failures of 2001 and 2002 represent a transitory shock to the food economy that affects everyone in the countries concerned, but which has a particularly strong impact on the poor — many whom depend heavily on farming for their incomes, or who are net buyers of food. Across all of this lies the layer of the HIV/AIDS pandemic, that again has particularly strong impacts on the poor. And finally we can add the Zimbabwe political impasse to the mix of problems, affecting primarily the population of Zimbabwe, but with some knock-one effects for neighbouring countries.

From this we can identify different impacts on no less than nine distinct, if overlapping groups of people. This allows a *policy agenda* to be constructed for each group that has three dimensions in the economy and the agricultural economy in particular, in social protection, and in health, nutrition, water and sanitation.

From the long list of issues that arise, three have been selected here for discussion since they are of prime interest to agricultural economists and rural development specialists: how to get agriculture moving, since in most countries agriculture is the base of the economy; how to stabilise food prices to avoid the price shock experienced; and, how to confront the severe incidence of child malnutrition and mortality. None of these are new questions for agricultural economists, but generating better and more precise answers is critical for improved policies in the region.

Introduction

In the middle of 2002 the United Nations made a Consolidated Appeal to the international community for assistance to six countries in Southern Africa: Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe. Lives and livelihoods were at risk from a food crisis, affecting more than 10M persons. To meet this one million tonnes of food aid was needed at a cost of US\$500M, plus additional help to the value of US\$111M.

This paper outlines the crisis and responses, and examines the causes, both immediate triggers and underlying factors. Thus far the paper does little more than synthesise and summarises the many reports that have been produced about the issues. What is new in this paper is that (a) it tries to gauge the impacts of HIV/AIDS and the Zimbabwe impasse, as against the contribution of the overall failure of economic growth in the six countries. It also (b) proposes that the crisis as whole can usefully be broken down into a set of no less than four problems that are layered upon one another to produce a complicated mess. The policy agenda may be simplified and clarified if the layers are seen for the largely separate issues that they are.

Finally the paper discusses three important issues, two of them firmly in the domain of agricultural economics — getting agriculture moving, mitigating shocks to the food economy through price stabilisation, and health matters — while noting that the equally important matters of social protection and combating HIV/AIDS and its impacts are beyond the scope of this essay.

An outline of the food and humanitarian crisis in Southern Africa 2001–03¹

The immediate causes of the crisis that became clear in 2002 began the year before in 2001, when harvests of the main staple in the region, maize were disappointing owing to heavy rains in the late growing season. As Table 1 shows, the 2001 harvest² of the main food staple, maize, in most of the six countries that were the focus of the Appeal and subsequently of Emergency Operations (EMOP) by the World Food programme, was down by 13% to 37% of the average for the previous five years, with the exception of Lesotho that had an increased maize harvest. For the six EMOP countries combined, the harvest was 22% down on the average. While disappointing, this was by no means a very poor harvest: in 1992, after the crop season was hit by probably the worst drought in the 20th, maize production fell by fully 66% for the six countries.

The effects of the low maize harvest in 2001 were limited in most countries, limited. Stocks were drawn down to cope. As a result, reserves that in the Southern African Development Community (SADC) as a whole³ had been close to 3M tonnes were reduced during marketing year 2001–02⁴ to less than 400kt (000 tonnes). (Mano et al. 2003)

But in Malawi there was a more immediate effect. The national grain reserve that had been almost 100kt had been almost entirely sold off in early 2001. Government was slow to order additional imports of maize, private traders did not make up the difference, and aid donors

1 Appendix A sets out the main events in the crisis from mid 2001 to mid 2003.

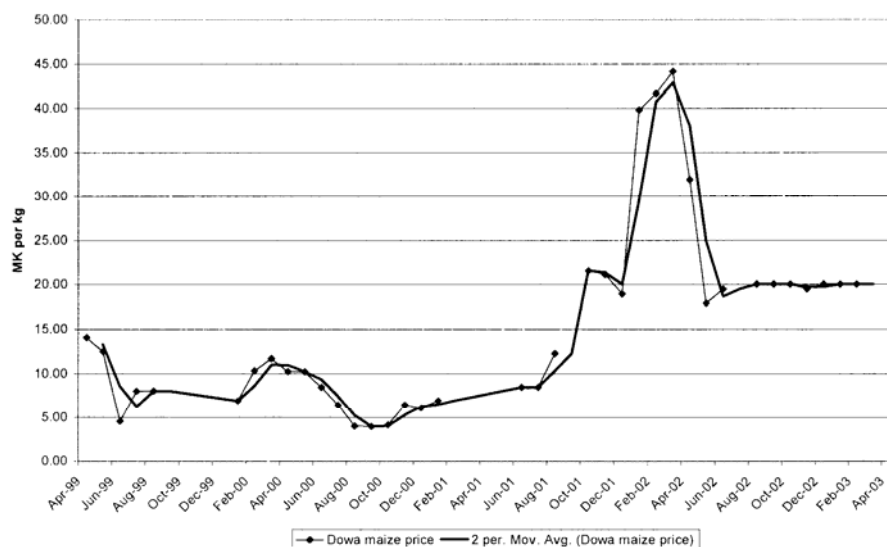
2 The main crop season in Southern Africa runs from November/December to April/May, during the summer months when the rains fall. Thus the 2001 harvest is that of the crop season 2000–01. Only a few crops are planted during the winter months, mainly for lack of rain, and very little maize is grown in the winter months. Hence the FAO reported statistics that refer to calendar years are recording almost entirely the maize crop from the summer season.

3 SADC consists of 13 countries: the six EMOP countries plus Angola, Botswana, DR Congo, Mauritius, Namibia, South Africa and Tanzania.

4 In Southern Africa the marketing (consumption) year follows the main harvest and thus runs from May to April.

were in dispute with the government over allegations of corruption and initially little inclined to bring in food aid.

Figure 1: Maize prices, Dowa, central Malawi, 1999–2003



Note: The series is broken in places owing to field staff failing to collect/report the data.
Source: FEWS (using MoAIFS price data).

Source: Levy 2004

Maize prices soared in the second half of 2001 — see Figure 1, to more than four times their levels earlier in the year. By late 2001 NGOs reported, using mainly qualitative data, severe distress in the Malawian countryside. Only when the NGOs were able to show quantitative data on nutrition in reports published in March 2002 were government and donors convinced of the scale of the problem.⁵

Reports of deaths in late 2001 and early 2002 to hunger in Malawi vary between 300–500 to 1,000–3,000 (Devereux 2002). Mercifully, these prove to be just about the only confirmed reports of death to hunger⁶ in the Southern Africa crisis.

Through much of the region the next maize crop was hit by dry spells late in the 2001–02 season. The 2002 maize harvest was down on the 1996–00 average by 10–20% in several countries, by one third or more in Swaziland and Zambia, and by fully 75% in Zimbabwe. Overall maize production was down by 34% for the six EMOP countries. But not all areas were affected: northern Mozambique had a good harvest, and so did northern parts of Zambia.⁷

In the months immediately before the harvest of 2002 it was clear, from FAO/WFP Crop and Food Supply Missions (CFSAM), that national supplies, stocks, and planned commercial

⁵ The food balance sheet for the 2001–02 marketing year overstated the availability of cassava and sweet potato, so that policy-makers were disinclined to believe that a maize crop no more than one fifth down on the recent average could be so calamitous.

⁶ I have yet to see an estimate of excess deaths to disease during the crisis.

⁷ South African production was 6% up on the five-year average, so that the maize harvest for the region made up by South Africa and the six EMOP countries was down by just 10%.

imports of food staples would not be sufficient to cover anything like normal consumption levels for the 2002–03 marketing year. In some localised areas there was distress amongst farming households that had harvested very little of their planted maize.

Thus between February and May 2002 most governments in the region declared emergencies, and by July 2002 the UN had organised the Consolidated Appeal for the six countries, that led to the WFP Emergency Operations (EMOP) 10200. This requested contributions of US\$611M in total, including US\$500M to supply 1M tonnes of food aid, the remainder being largely for health and agricultural recovery.⁸

In the subsequent crop marketing year of 2002–03 additional commercial imports of cereals amounting to almost 2M tonnes were organised, in the case of Zimbabwe and Malawi largely by government agencies, while another 700k tonnes of food aid was delivered.⁹

The maize harvest of 2003 was almost back to the 1996–00 average: of the six countries only two saw harvest failure, Swaziland and Zimbabwe, the latter seeing its third consecutive failure. Largely to meet the renewed needs in Zimbabwe, as well as to support recovery in the other countries, a second Consolidated Appeal was made in July 2003, this time for US\$533M including 752k tonnes of food aid, more than half of which was destined for Zimbabwe.

The harvests of 2004 were again close to the 1996–00 average in most countries, with the exceptions of Swaziland and Zimbabwe.¹⁰ At this point, the regional crisis was over, but the complex problems of Zimbabwe persist.

Explaining the food crisis

The triggers for crisis are easy to identify: two consecutive years of poor maize harvests with stocks in the region heavily drawn down before the 2002 harvest, leading to shortage of maize and large price rises. To account for the depth of the crisis and the distress it provoked, however, we need to examine underlying factors. Three are commonly cited in the literature:¹¹

- economic failure, rising poverty and vulnerability;
- the impact of HIV/AIDS; and
- specific food policy failures.

⁸ In addition, USAID also funded a complementary pipeline, the Consortium for Southern Africa Food Security Emergency (CSAFE) with US\$114M for the year 2002–03, including 161kt of food aid for Malawi, Zambia and Zimbabwe.

⁹ Data are inexact. This estimate draws on deliveries to December 2002 and those projected for the remainder of the marketing year 2002–03, as documented by the Regional Vulnerability Assessment Committee Report of December 2002.

¹⁰ The size of the 2004 maize harvest in Zimbabwe is contested. International observers and some groups in the country are convinced it could have been no more than 1M tonnes — as FAO reports in Table 1. But the government has claimed a ‘bumper harvest’ of more than 2M tonnes. The Parliament of Zimbabwe has openly questioned this claim.

¹¹ This draws on papers presented to the SARPN/CARE/IFAS meeting of March 2003 — summarised in Wiggins 2003 — and to the FARNPAN meeting of March 2003 [both sets of papers listed in the references section], as well as the reviews published by Drimie 2004, Mousseau 2004, IDC 2003, Mano et al. 2003, RCSA 2003, and Tschirley et al. 2004

Economic failure, rising poverty and vulnerability

The argument here is that failures of development have, at national level, deprived governments of the revenues and capacity to react to crises; while at household level, many families have seen their incomes fall, their assets decline, and their range of coping strategies reduced, thus leaving them ever more vulnerable to hazards.

In much of Southern Africa, and above all in Malawi, Zambia and Zimbabwe, poverty and vulnerability have apparently increased in the medium term, with decline beginning between the early 1970s and the early 1990s. At the most general level, economic growth has been weak, with disappointments across the main production sectors of the Southern African economies — mining, industry, and agriculture.

The *mines* of South Africa, Zambia and Zimbabwe for decades during the twentieth century drew on migrant labour from rural areas both within their own countries as well as from the surrounding countries. Areas such as southern Malawi, southern Mozambique, northern Zambia, Lesotho and Swaziland supplied large numbers of migrants and their remittances became an integral and substantial part of the rural economy in their areas of origin. The problems of Zambia began in 1974 when the copper price fell sharply, dramatically reducing foreign exchange earnings and government revenue. During the 1990s jobs were shed in the South African mines,¹² with foreign migrant workers losing their posts. For the areas that had supplied mine labour the effects were strong. Remittances that underwrote consumption back in the home areas as well as providing funds to buy seed and fertiliser, to hire farm labour and tractors, and to invest in cattle, dried up. Through the labour market this affected households that had no migrants, but whose adults were hired to work on the fields of migrant households.

Urban and industrial economies in the region have been plagued by insufficient investment to provide jobs for those entering the labour market. The cities that once enjoyed moderate prosperity and provided formal jobs have seen widespread formal unemployment as formal jobs have been lost both in manufacturing industry as liberalisation has led to imports undercutting once-protected domestic plants, and in government as the public sector has been cut back. Formal wages have tended to fall in real terms. Increasingly urban households have sought informal jobs — typically petty trading in streets and markets — but with low returns.¹³ Reduced earnings mean that remittances from the urban employed back to their families in their villages of origin have been cut back. So much so, that in some cases such as Zimbabwe, it is reported that flows may now be in the other direction, as rural households send food to support their urban cousins.

The disappointments of the mining and industrial economies has meant that most countries in Southern Africa have remained heavily dependent on ***agriculture*** to provide jobs, incomes and foreign exchange. Agricultural development, however, has not been sustained. In the 1970s and 1980s many countries adopted farm policies in which the state, through parastatals, played a major role in organising production. Government agencies typically bought produce and marketed it; supplied fertiliser, seed, chemicals, and machinery services; offered extension advice and veterinary services; while publicly-owned banks and agencies offered seasonal credit at often subsidised interest rates. Prices of inputs, credit, and outputs were often controlled; usually set uniformly for the whole country and throughout the year. Under these policies, there were some impressive increases in production. During the 1980s in Zimbabwe, for example, maize production from smallholder farms was doubled in less than a decade. Distant provinces of Zambia, such as Eastern and Northern, also saw remarkable

¹² In the mid 1980s, more than 750,000 workers were employed in the South African mines: by 1999 the number was less than 420,000. (Stats SA)

¹³ Street trading is not necessarily the lowest paid occupation: casual wage labourers may earn less. Indeed, capital is needed even for petty trading, so not all can enter this work. (Steinberg & Bowen 2003 on the case of Luanda)

increases in the amount of maize marketed in the late 1970s and early 1980s. In Malawi a 'green revolution' in smallholder maize production took place in the 1980s, as farmers adopted packages of hybrid varieties of maize and manufactured fertiliser.

But the state-led model was unsustainable, owing to the high operating costs of the parastatals and the public subsidies involved, to the inflexibility of the controls on prices and marketing, and to the monopoly status of the state agencies that allowed some to operate ineffectively and inefficiently. Moreover, the model stressed commercial farming. Often this meant support for large-scale farming. In Malawi, for example, agricultural policy was for long biased towards the interests of the large-scale estates and their burley tobacco production. In Namibia, South Africa, Zambia and Zimbabwe the large-scale commercial farms were often seen as the mainstay of agriculture and the best hope for growth. Even in countries that experimented with socialist models, such as Angola and Mozambique, large state farms were favoured over smallholdings.

But even when strategy for agricultural development recognised the potential of smallholder farming, resources were concentrated on smallholders in the more favoured agro-ecological zones, and on those farmers with the resources and means to expand production — 'master farmers', 'emergent farmers', 'small-scale commercial farmers' and the like. When small farms did increase marketed output, the bulk tended to come from a small fraction of the smallholders.¹⁴ The majority of small farmers marketed little if any produce, and indeed, many were net buyers of food, depending on farm labouring and non-farm activities to provide cash to buy food. Their poverty, and their position as net food buyers, was barely appreciated by those making agricultural policy.

The state-led approach was dismantled throughout the region in the 1980s and 1990s, under regimes of structural adjustment and market liberalisation. It was hoped that closing down, or privatising, the parastatals would not only cut the costs to government and the country as a whole, but also lead to more efficiency as private businesses competing in the market replaced the state agencies.

But the results to date have been meagre. Private traders have been reluctant to collect crops from small farmers in distant villages, and unwilling to supply fertiliser and seed in small packets to remote farms. Banks have more or less ceased to provide credit to smallholders who have consequently faced a liquidity problem at planting time. And very few small farmers have the funds or inclination to pay for extension advice, or even for veterinary services. Although the liberalisation of the 1990s has seen some successes — for example, export horticulture from Zimbabwe, large-scale cotton farming in Mozambique, and smallholder burley tobacco production in Malawi — these have been restricted once again to the better-resourced farmers in accessible farming areas with good soils and rains. Elsewhere farmers have not had the means to take advantage of any market opportunities. Indeed, in the more distant zones, such as the outlying provinces of Zambia, many farmers have turned away from producing maize for national markets, instead growing sorghum, millet, sweet potato and cassava for their own subsistence and for small-scale sales in local markets.

Economic disappointments have tended to transmit across economies and societies. Problems with mining and manufacturing industry have meant fewer urban jobs or lower wages or both, so remittances to rural areas have fallen. The failure to stimulate broad-based agricultural development has put a damper on the rural non-farm economy, since many of the businesses and services in that sector depend on direct interactions with farming or else on the demand of farmers with cash earnings to spend.

Governments have been left without the revenues to invest or to provide services and adequate social protection programmes. Foreign exchange has been at a premium, leading

¹⁴ Scoones et al. 1996 report that in the drylands of Zimbabwe as many as 40% of households may sell no crops, whilst 10% of farmers generate half the crop sales.

either to shortages or to depreciating currencies that have raised the cost of imports and tended to stoke the fires of inflation.

Most countries in the region have seen the bulk of their rural populations left largely dependent on farming, and rain-fed farming at that, barely managing to subsist at poverty levels in years with good weather. They have been left highly vulnerable to the vagaries of the weather, as well as to those arising in the economy and from government policy.

In addition, in some areas, an increasing rural population, lacking both options other than farming and the means to invest in their land, has put increasing pressure on arable land and on the grazing and woodland resources. Reports of soil fertility decline are common, exacerbated by having too few livestock to produce enough manure, and by inability to access manufactured fertiliser.

The failures and disappointments of economic development have left large fractions of the population mired in chronic poverty, see Table 2. Economic inequality is remarkably high in Southern Africa, with Gini coefficients of more than 0.50 being the norm, so that the proportion living in poverty is even higher than might be imagined from the average income a head. There is evidence that the picture is deteriorating: in the 1990s the Human Development Index regressed for four of the six EMOP countries, Malawi and Mozambique being the exceptions.

Table 2: Poverty head count, Southern Africa

	International poverty line (US\$1 – a-day)	National poverty line	Most recent estimate
Lesotho	43.1	49.2	1993
Malawi	41.7	65.3	1996
Mozambique	37.9	69.4	1998
Zambia	63.7	72.9	1998
Zimbabwe	36.0	25.8	1991
Low-income average	36.3	.	1997

Source: World Development Indicators 2003

Widespread poverty translates into vulnerability: poor households have fewer assets and restricted options to cope with shocks.

A particularly grim feature of poverty is the poor state of child malnutrition and the alarmingly high rates of mortality of children aged under five in the region. The latter constitutes in itself a crisis, one that attracts surprisingly little comment in the region. Box 1 examines just how many children a year may die for want of simple measures.

Box 1: Counting the dead from the chronic crisis of infant and child health in Southern Africa

Given the high rates of under-five mortality, the total deaths of under-fives can be estimated at 324,000 a year in the six EMOP countries, see Table 3.

If these six countries had under-five mortality rates at the average level for low income countries of 121Y, then there would have been 102,000 fewer such deaths: had their rates been that for India of 90Y, then 158,000 infant

and child deaths would have been avoided, and if the developing world average of 79Y had been achieved, then fully 178,000 deaths a year would not occur.

Table 3: Mortality of children under five in the six EMOP countries

	U5 mortality, 1,000 2002	Population, M	% Pop'n aged 0-4 years, 2000	1,000 at observed U5 mortality	Excess mortality, if U% mortality at:		
					Low-income average, 121Y	Indian average, 90Y	world average, 79Y
Lesotho	132	2	13%	6	1	2	2
Malawi	182	11	18%	72	24	36	41
Mozambique	205	18	17%	127	52	71	78
Swaziland	149	1	15%	5	1	2	2
Zambia	182	10	18%	68	23	34	38
Zimbabwe	123	13	14%	46	1	12	16
Total				324	102	158	178

Sources: UNICEF, US Census Bureau

Getting under-five mortality down from the levels seen in Southern Africa cannot be so difficult if countries such as Bangladesh and India have markedly lower rates, and it certainly does not depend on wealth: Sri Lanka runs a rate of just 17Y, and Vietnam 26Y.

The crisis of child health in Southern Africa may be less than that of HIV/AIDS — where the annual deaths for the six countries had reached almost 500,000 in 2003 — but it is not far behind.

While under-five deaths are now being influenced by HIV/AIDS, most of the problem cannot be attributed to the pandemic. Under-five mortality rates were higher in the past, long before HIV/AIDS was widespread.

The impact of HIV/AIDS

The *HIV/AIDS pandemic*¹⁵ has contributed to crisis in three ways. One, it reduces farm production and incomes. In farming, for example, labour is lost to sickness and death, as well

¹⁵ See Haan et al 2003, de Waal & Tumushabe 2003, Shumba 2003

to the time taken by those caring for the sick. Affected households plant smaller areas and use less intensive production methods. Capital to buy inputs is likely to be spent first on medicines, visits to hospitals, and eventually on funerals.

Two, it undercuts the ability of households to cope with shocks. Assets are likely to be liquidated to pay for the costs of care. Sickness and caring for the sick prevent people from migrating to find additional work.

Three, the disease has hit national economies and governments. The initial impact of HIV/AIDS affected skilled and professional labour, owing in large part to the mobility and incomes of men in these categories. Hence throughout the economy there have been costly losses of scarce, skilled staff that has undermined production, as well as the performance of the public service.

How much of the crisis can be attributed to the epidemic? Looking first at production and incomes, Zimbabwe is one of the worst affected countries, with HIV prevalence in 2003 estimated at 25% of adults between 15 and 49 years of age. If on average the disease takes 8 years to progress from initial infection to death, with the final two years as sick and invalided, and adding another year of sickness to represent initial illness on infection and recurring problems, then we may imagine that some 9% [$3/8 * 25\%$] of the adult labour force would be out of action at any one time.¹⁶ Assume that this translates into the same loss of agricultural production,¹⁷ then the epidemic causes losses of less than 10% over what might have applied. At this rate, the epidemic cannot account for more than minor proportion of the harvest losses seen. In other countries of the region, other than Swaziland, prevalence rates are lower than in Zimbabwe and so presumably are production impacts.

The impact on coping of the disease may be severe, but only for those households with sick members — again, perhaps 9% of households at any one time in the worst affected countries — and, perhaps to a lesser degree, to those households that are affected indirectly by the epidemic as they assist sick relatives and neighbours, and take in orphaned children. This fraction rises if we include not just those households currently with chronically sick, but those that had such cases and deaths in the recent past. Hence Shah et al. (2002) report for Malawi villages 22%–64% of households as having experienced chronic sickness or deaths. As many as 20–30% of households may be caring for orphans in the EMOP countries (Haan et al. 2003). Clearly a large fraction of households have been touched by the epidemic in some way or other: what is less clear is just how much the disease has undermined their coping strategies.

HIV/AIDS appears to interact with poverty strongly: hence the few surveys available¹⁸ show that the impacts of the disease can be quite modest on incomes and assets in relatively well off rural households, but severe on households that were already poor. (Haan et al. 2003)

¹⁶ This may overestimate, since some of those sick might have fallen ill to other diseases in the absence of the epidemic.

¹⁷ Would a 9% loss of labour cause a 9% cut in production? Simple production economics would suggest not by so much: labour is only one factor of production contributing at most to 50% of production. But we have not included the effect of loss of working capital — on which there are no data. Losses here may be more severe as draught oxen are sold, improved seed and fertiliser cannot be bought, hired labour cannot be engaged for critical tasks, etc. With two contrary considerations, a very broad guess would be to attribute a fall in production equivalent to labour loss.

¹⁸ Almost all surveys have had to use a proxy for HIV/AIDS, partly since cases go undiagnosed since the final illness is likely to be tuberculosis, pneumonia or the like, and partly owing to the stigma surrounding the syndrome. Proxies typically taken include the presence of chronically sick adults, recent deaths of adults in their prime, or the presence of orphans in the household.

We might thus conclude that HIV/AIDS had had only a minor contribution to income losses, but has increased the depth of vulnerability of those already vulnerable to shocks. In other words, the independent contribution of the disease to the crisis may be seen as limited: it has acted to intensify the disadvantages imposed on the poor.

But if HIV/AIDS is not a prime cause of a food crisis, it is, of course a crisis in itself, the effects of which dwarf the former. While it is reckoned that almost half a million persons lost their lives to HIV/AIDS in 2003, it is hard to find reports of deaths to hunger other than those of at most a couple of thousand in Malawi in early 2002. Not surprisingly some question why the food crisis attracted an international humanitarian appeal, while HIV/AIDS did not (Darcy et al. 2002)

Food policy failures

These may be divided into two groups: those that contributed to the crisis in the first place, and those that exacerbated the problem once it arose.

Of those that helped cause the problem, the most notable of these was the effect of Zimbabwe's fast-track resettlement programme that began in 2000. As the large-scale commercial farms were taken over and the land redistributed, the area planted fell — at one point to less than half the previously tilled area — as did the use of hybrid seed and fertiliser. At the same time, Zimbabwe re-imposed state control on maize marketing through the Grains Marketing Board (GMB): the Board set the buying price of maize, but given rapid inflation, this price was unattractive so farmers had little incentive to invest in intensified production and generate a surplus of maize.

In at least one case, that of Malawi, the low stocks held as the crisis broke can be put down to policy failure. As described, Malawi sold off almost all its public reserves of grain just as the 2001 harvest failed.

But there were also errors once the low harvests of 2001 and 2002 were apparent. A particular problem was that of governments, keen to be seen to be acting, announcing substantial imports but then failing to procure them. For example, in response to the low harvest of 2001 the government of Zambia announced it would import 200kt of maize, but only brought in 130kt and most of this late in the 2001–02 marketing year. Traders thus did not plan to import grains that season, and by the time the shortfall was clear, it was too late to make up the deficit. Prices rose steeply on the Zambian market. (Tschirley et al. 2004)

In Malawi in 2001 the National Food Reserve Agency (NFRA) was slow to order additional imports, in part since it did not have readily to hand the foreign exchange necessary. Supplies ordered were even slower in arriving, thanks in part to transport bottlenecks. The next year in Malawi, ADMARC — a public agency concerned with grain marketing — sold off grain at prices so low that private traders were squeezed out of the market.

In Zimbabwe, the GMB controlled most of the maize in the country, and allegedly rationed its supplies to areas and households that supported the government.

In Zambia, confusion over the acceptability of food aid maize containing GM varieties led to a 30kt shipment already in country being embargoed in August 2002, with some 18kt re-exported in 2003 (Schoenholtz et al. 2003).

Most of the questionable policies concern governments in the region taking highly visible measures to deal with the crisis, by trying to control food supplies and markets. Governments had to be seen to be acting: in the inland countries of Southern Africa there is a longstanding understanding in the body politic that ensuring supplies of staple foods at modest prices is prime responsibility of government. (Jayne et al. 2002) Faced by the need to act, decision-makers reverted to old habits: trying to control and direct the market for food. In addition to the measures cited, several countries imposed controls on cross-border trading of grains.

In almost all of these cases, the attempts to control were at best crude and clumsy; at worst they were counter-productive in that producers and traders were discouraged from reacting to the generalised scarcity of maize.

But how important were policy failures compared to other factors? We can test this by looking at Zimbabwe, where harvest failures were particularly large from 2002 onwards. The first eight rows of Table 4 repeat the maize production data. Row 10 then models Zimbabwe by projecting its harvests as though it had achieved the same harvest relative to the 1996/00 average as its neighbours South Africa or Zambia. To err on the side of caution, the lower of the two indices for these countries has been taken, thus taking the Zambian index for 2001 and 2002, the South African for 2003 and 2004. Historically, the Zimbabwe harvest correlates rather well with those for Zambia and South Africa, owing to similar weather patterns, so the exercise is quite realistic.¹⁹

The results show that Zimbabwe might have had a lower harvest in 2001, but from then onwards, its harvest would have been much larger: for the four years combined, the total harvest registered was 3.77 Mt: in this model it reaches 6.24 Mt, a difference of 2.74Mt.²⁰

How much of a difference does this make to the EMOP six countries? Row 8 shows total deficits on the previous five-year average of 1.4Mt, 2.1Mt, 0.80Mt, and 0.85Mt for 2001 to 2004. Had Zimbabwe performed as modelled, the corresponding figures would have been 1.6Mt, 1.4Mt, (0.42Mt surplus), 0.12Mt. The Zimbabwe effect is thus striking in two respects. The 2002 harvest deficit would have been fully one third less — and the difference in production for 2002 of nearly 0.75Mt is close to the total food aid brought into the region in 2002–03; and the food crisis would have been resolved soon after the 2003 harvest.

Zimbabwe's policy choices have clearly been both a major contributor to the crisis of 2002, as well as almost the only reason the crisis has dragged on since the crop marketing year 2002–03.

In conclusion, then, the crisis may be explained as one triggered by harvest failures that were the result of poor weather in most cases, but also in the case of Zimbabwe, the manner in which the large farms were broken up. The degree of hardship created, and the problems that government faced in reacting to the crisis, derived from the failures and disappointments of development in the region, that has left the large majority living in or close to poverty, highly vulnerable to shocks that affect either their incomes or their purchasing power or both.

HIV/AIDS has contributed to loss of incomes for a minority of households, as well as to reduced capacity at national level. For many households it has left them more vulnerable and has thus intensified hardship. The epidemic thus appears less to be primary cause of the crisis, than a factor that has aggravated and intensified it. HIV/AIDS, however, constitutes in itself a continuing crisis whose cost in lives towers above the food crisis.

Unravelling complicated emergencies: the crisis as four layers

By and large, the crisis²¹ has been treated as a whole — a single, if complicated, problem. But it can also be seen, and usefully so I think, as a set of rather different and distinct problems²² layered one on top of another. Table 5 sets these out.

¹⁹ Poulton & Dorward report correlation coefficients 0.73 and 0.53 for harvests of Zimbabwe compared to South Africa and Zambia respectively, for 1972 to 2002. Tschirley et al. 2004 similarly show corresponding coefficients of 0.67 and 0.63 for 1990 to 2003.

²⁰ The cost to Zimbabwe can readily be seen: imports of maize to replace this lost domestic production would have cost perhaps some US\$200 a ton (assuming a mix of South African and international supplies), thus making the total bill US\$548M.

One layer is the transitory shock to the food economy that drives up prices and creates some physical shortages of the main staple. This affects almost everyone, but hits the poor harder than most. It is especially problematic to poor farming households that suffer both a shock to their (real) incomes as well as to their spending.

This lies on top of a continuing crisis of chronic poverty and food insecurity that affects the poor, and especially the extremely poor. Within this is located the remarkably little commented crisis of child morbidity, mortality and malnutrition that can be seen — with estimates of more than 150,000 excess deaths a year in the six countries as a crisis in itself.

Across these problems we can see a third layer, the horrendous epidemic of HIV/AIDS that contributes to the food crisis, albeit in minor degree, but intensifies the vulnerability and poverty of those (many) households affected by the disease.

Finally, the fourth layer is the political impasse of Zimbabwe that has led to an astonishing decline in what was once one of the region's strongest economies. This has been an important factor behind the 2002 crisis and more or less the only factor that has meant the crisis dragging on past the harvest of 2003.

²¹ A separate concern is what constitutes a crisis. We have already seen that by the grim accountancy of death tolls, the food crisis comes behind that of HIV/AIDS and child mortality.

The data available influence what is registered as a crisis, as well as the nature of the calamity. In the case in question, the first statistics to hand were national food balance sheets. Not surprisingly, then, food availability was quickly seen as the main concern by governments, and some of the donors.

Only later — from August 2002 onwards did the field level reports of the country Vulnerability Assessment Committees (VAC) begin to provide the detail at sub-national levels that revealed a rich picture of the differential impacts of the crisis on different groups, and the responses of affected groups. From these reports, it was clear that access was as critical as availability. But by the time these reports are to hand, donors and governments had committed themselves to a response that emphasised shipping in food. The VAC reports were to prove useful: they allowed food aid to be directed to the most affected districts and communities, and made agencies aware of the need to target within those communities (done by using communities themselves to define the needy). But the VAC reports appeared too late to have any major impact on thinking about the crisis and the appropriate responses.

Nutrition surveys were not conducted until May 2002 at the earliest, and in several countries, not for many months after that: the analyses of the data from these were not in circulation until mid-2003. By this time awkward questions prompted by these analyses had no effect on responses: a second year's worth of aid and government action was already programmed.

Some dimensions of the events have yet to be examined, above all in matters of health.

²² It may be argued that the four dimensions have common causes — for example, that development failures have led to poverty and vulnerability, to failing harvests, to the spread of disease and indeed to the political problems of Zimbabwe. To some extent this is true: there are clear inter-relations in some of the processes that lie behind the layers. But development failures do not explain all of the processes without making some mightily unhelpful generalisations.

Indeed, arguing as the devil's advocate the converse: that the four sets of issues are largely independent of one another, may be more convincing, even if a touch naive — and is certainly more useful in terms of thinking of responses.

As Table 5 shows, the four layers lead to different effects on distinct and overlapping sets of the population. We can distinguish at least nine such groups. For each, a different, although overlapping, policy agenda can be suggested. The resulting policy agenda set out in columns 4 to 6 of Table 5 is wide-ranging, but divides into three main sets of policies: the economic, often concerned with agricultural and food economics; social protection; and health, nutrition, water and sanitation.

In the following discussion I shall draw out three particular issues from the agenda of interest to agricultural economists and rural development specialists: getting agriculture moving; dealing with shocks to the food economy; and health matters. This omits the major issues of social protection and how to respond to the HIV/AIDS pandemic, since these topics, vitally important as they are, are too large to approach in this paper.

Getting agriculture moving

Economic growth has to be revived in Southern Africa. But which sectors have the potential to create jobs and incomes on the scale needed? And which are most likely to have the strongest effect on poverty?²³

Agriculture is clearly a leading candidate: the land-person ratio is high throughout much of the region, the majority of the population live in rural areas, and most households have experience of farming. Farm production can potentially be sold both domestically and in export markets. Success in producing food crops holds the promise of lower food costs, with widespread benefits for the economy and above all for poor households that are net buyers of food. Multipliers from farming to the non-farm sector are likely to be strong — largely through consumption linkages. In sum, it is difficult to see economic growth in most of the six countries that does not have a dynamic agriculture as a central element.²⁴

But how do we go about ‘getting agriculture moving’, to use Arthur Mosher’s phrase from 1966? During the last forty years or more various approaches have been tried, most notably state-directed smallholder production, and liberalised markets, as outlined above, but none have produced sustained and sustainable growth. Looking at the record of disappointments, it seems that specialists have never been less confident in their recommendations, never more divided in their debates.

Opinions are divided over:

- How far liberalised agricultural markets can work to build the supply chains necessary for competitive agriculture. Strong arguments can be heard that market failures are widespread and damaging, so that the state simply has to intervene to correct failures and purposively create the institutions needed to underpin the markets (Poulton et al. 2004). But others urge caution, fearing a retreat to the inefficiencies and distortions of pervasive statism: they argue that liberalisation has not been fully applied, that private investors have been deterred by the penchant of governments to intervene in food markets at the slightest sign of trouble (Jayne et al. 2002). In similar vein, others argue that institutional innovation will be forthcoming by private initiative, so long as there are clear, profitable opportunities at stake (Lipton 2004);
- Choice of crops. Debate embraces the macro choices of cash versus food crops, as well as the issues of which food crops — maize versus minor grains versus cassava and sweet potato — where riskiness is the main issue. Closely linked are choices of

²³ See Poulton & Dorward 2003 for a more detailed consideration of the economic potential of different sectors.

²⁴ Lesotho may well be an exception: manufacturing industry, provision of water and other environmental services to South Africa, and tourism may be more central to the economy.

techniques: how much farming should rely on external inputs, and in particular, how much manufactured fertiliser should be used? This leads to questions of the type of maize to be promoted: hybrid or open-pollinated varieties.

- Scale of enterprise: can agriculture be developed on very small holdings, or do we need to focus on the slightly-larger-than-average smallholdings, or is it better to direct efforts towards larger ‘commercial’ farms and estates?
- Agro-ecological zones and remoteness: what can be done, if anything about areas of low potential, or areas that are distant from markets, and often both these things? Is it necessary to concentrate scarce resources on developing the more accessible lands with medium to high potential, before thinking about less promising circumstances? And if so, what happens to the population of the less-favoured lands in the meantime?²⁵ And,
- The seriousness of environmental deterioration and the extent to which conservation should have precedence over production objectives.

It’s a long list, and there is little consensus.²⁶

Mitigating shocks to the food economy through price stabilisation

Despite the deeper and wider roots of the crisis, had the initial shock to food markets — in reduced supply and soaring prices — been prevented or mitigated, much hardship could have been avoided. This raises an old question: how to stabilise prices of staple foods against shocks, effectively and efficiently.

The two main options are to hold stocks of domestically-produced crops accumulated during years of good harvests to release when harvests fail, or to rely on imports. But both options are expensive: storage for an average of two to three years can at least double the real cost of the stored grains; import parity prices in inland Southern Africa are double or more the local cost of production and delivery, since imports for the most part have to be brought in from South Africa or the international market.²⁷ Preliminary calculations, by the way, suggest that imports are usually a cheaper option than domestic storage.²⁸

²⁵ Some recent writings by authors as diverse as Michael Lipton and Frances Sandiford have questioned whether the passing fashions of donor agencies have led to ‘mission creep’ in agricultural research, and the setting of an impossibly wide and perfectionist agenda that distracts and prevents us taking steps forward on problems that are tractable.

²⁶ One personal take on this is that we have spent too long analysing difficult cases in Africa, and hence have too little sense of what success might look like. Funds for research into the livelihoods of the very poor in difficult circumstances are easy to come by: try getting a grant to look at how Thailand became the tropical New Zealand. A quick literature search of the academic journals will throw up dozens of articles about dryland Africa: next to nothing about (small-scale) commercial farming in Thailand (or New Zealand for that matter).

²⁷ The scope for accessing supplies from neighbour countries, although not yet fully exploited, is limited by the high co-variance in the yields of neighbours — those for South Africa, Zambia and Zimbabwe correlate; so do those for Malawi, Mozambique, and Tanzania. Hence when harvests fail, close neighbour countries are likely also to have suffered losses. Even when there are some surpluses from neighbours, the scale of these is often less than is needed to replace serious harvest failures in the neighbour country.

²⁸ For a discussion of the costs of storage and imports, and on how imports might be financed — using an offshore interest-bearing account, see section 3.3 of Wiggins et al. 2004.

Thus using either of these devices, either through private operations in the market, or as public operations charged at full cost, would lead to food prices in the marketing year following a major harvest failure of the kind seen in 2002 rising by 100% or more. This cannot be acceptable, economically — the uncertainty effect of massive expenditure switching in economies where large shares of household budgets are spent on food is costly; socially — the many (extreme) poor are likely not to be able to buy in sufficient food, or have to engage in risky coping strategies; or politically — governments have a long historical compact to ensure food is available at dependable prices close to domestic production costs.

Hence if we are to hold prices within a modest band, within a ceiling of, say, 50% above the medium-term average, we have to think about subsidising either storage or import costs, financed out of general taxation or specific taxes on foods. In an era of liberalised markets, this is not a message that many (international) policy advisors want to hear.²⁹

But we lack the detailed data and analysis on which to design such policies with confidence. It is surprising how little we yet understand about the food economy of the region. As Tschirley et al. (2004) point out, we need more information on quantities of food traded, including minor crops, on prices, household budget allocations to food and other expenditures, cross-price elasticities for different foods, etc.

An intriguing possibility here is modelling: is there scope to model the regional food economy sufficiently well to allow policy-makers to predict with reasonable accuracy the consequences of shocks to domestic supplies and prices, and to subsequent flows or imports and exports, within the context of different possible policies? A good working model would be useful to help convince politicians of the dangers of knee-jerk reactions to try and control food trading and markets when shocks occur.

Health matters

Within Southern Africa, studies by health specialists, health economists and nutritionists seem to take place in a silo insulated from wider debates. Internationally arguments for attention to reducing child mortality, morbidity and improving child nutrition are strong and impassioned: if the studies are to be believed, benefit:cost ratios to simple interventions in these areas are very high (Behrman et al. 2004). If so, the case for interventions in Southern Africa where child malnutrition is rife and levels of child mortality must also, *a fortiori*, be strong. Are we under-investing in child health and nutrition in the region? On the scant evidence we have, the answer must be a qualified 'yes'.

But we know too little about the specific interactions and processes involved: ill-health and malnutrition map rather poorly onto income measures of poverty. This applies whether we make cross-country comparisons,³⁰ or whether we compare groups within countries (see Kinsey 2002 for graphic evidence from Zimbabwe). We need to know more about the factors that cause the outcomes in sufficient detail to allow for the design of policies and programmes.

And even when we do know what might be done, the 'how' question of implementation remains critical and unanswered. We thus also need to understand more about the modalities of interventions, and their sequencing, that are feasible within particular circumstances. A

²⁹ Most of these have never seen the price of their basic staple double in six months. Just imagine, for example, the reaction in the UK or the USA were petrol prices to double at the pump.

³⁰ Cross-country regressions typically can explain about half the variation in child malnutrition using income, and a little more if some measure of income inequality is introduced. At very least, some 40% of the variation is unexplained, and corresponds to non-economic factors.

search of both social (IBSS) and medical science (PubMed) journals reveals little research being carried out on these issues in the region.

Concluding comments

The food and humanitarian crisis that broke out in Southern Africa in 2001 prompted an international response that had cost well in excess of US\$1 billion over the next three years or so, in addition to heavy spending by the governments of the affected countries. Our understanding of the event and the policy issues it raises is still incomplete.

This paper contributes to the debate by making the following (what are believed to be) novel interpretations. First, the importance of HIV/AIDS as a cause of the crisis is assessed, albeit roughly. The epidemic cannot be seen as a cause of the harvest failures, but by increasing the vulnerability of those directly affected, it has intensified the crisis. Second, the role of the political impasse in Zimbabwe can be seen as having had a substantial effect on the 2002 crisis, and is the major and perhaps sole reason that the crisis been prolonged beyond mid 2003. Third, the analysis here breaks down a complicated crisis into four layers of problems — a transitory shock to the food economy, a chronic crisis of poverty and vulnerability including within this a severe crisis of child mortality, the HIV/AIDS pandemic, and the political impasse in Zimbabwe. No less than nine distinct, if overlapping groups can be identified as suffering from the effects of these, and for each there is a policy agenda — distinct, if overlapping, with actions in the three main spheres of economic (mainly agricultural) development, social protection, and health, nutrition, water and sanitation.

Several of the most important issues are very much in the domain of agricultural and food economists — strategies for agricultural development, food price stabilisation, and understanding the determinants of child malnutrition. None of these is new: indeed, the questions and possible answers look distinctly old-fashioned. But getting more precise answers would be valuable to policy-makers struggling to cope with the aftermath of this crisis, and, one hopes, to be prepared for the next time that there are widespread harvest failures across Southern Africa.

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<i>Author</i>	<i>Paper (or presentation, in italics)</i>
<i>Dubois, Philippe</i>	<i>Commentary on the regional crisis</i>
Frankenburger, Timothy, Kristina Luther, Karyn Fox and John Mazzeo	Livelihood erosion through time: macro and micro factors that influenced livelihood trends in Malawi over the last thirty years
Hugon, Philippe	Food insecurity and famine in southern Africa. An economic debate: lack of availabilities, market failures, inequities of rights, effects of shocks or systemic risks?
<i>Marsland, Neil</i>	<i>Vulnerability assessments in southern Africa: concepts, findings, strengths, challenges and future developments</i>
Mbaya, Sue	The Southern African food security crisis. Causes and responses. A regional overview
McEwan, Margaret	Literature review. Macro and micro factors influencing livelihood trends in Zambia over the last thirty years
Modiselle, Salome &	Pilot study on methods to monitor household-level food

Mike Aliber	security
Mphale, M M	HIV/AIDS and food insecurity in Lesotho
<i>Mudimu, Godfrey</i>	<i>The case of Zimbabwe</i>
<i>Roberts, Ben</i>	<i>Perspectives and Alternatives: HIV/AIDS and the Food Crisis (Lesotho)</i>
Samatebele, Helen	Overview on the current food security crisis in Zambia
Sawdon, Gary	Moving beyond food aid. Incorporating livelihoods analysis into vulnerability assessments in Swaziland
Steinberg, Douglas & Nina Bowen	Food security challenges in post-conflict Angola
<i>Sylvester, Kerry</i>	<i>The case of Mozambique</i>
Watkinson, Eric	Overview of the current food security crisis in South Africa
<i>Also tabled:</i> Southern African Development Community, Food, Agriculture and Natural Resources Vulnerability Assessment Committee	Regional emergency Food Security Assessment Report, December 2002

Papers and presentations to Regional Dialogue on Agricultural Recovery, Food Security and Trade Policies in Southern Africa, 26–27 March 2003, Gaborone, Botswana, Organised by: FANRPAN, with support from CTA, IFPRI and USAID

<i>Author</i>	<i>Topic</i>
<i>Plenary presentations</i>	
Mellor, John (Abt Consultants)	Southern Africa food security – regionalization and the short run; Globalization and the long run
Isaacson, Bruce (FEWSNET)	Current food security situation and prospects for Southern Africa
Mano, Reneth (U. Zim.), Bruce Isaacson (FEWSNET) & Philippe Dardel (SADC Hub)	Policy determinants of food security response and recovery in the SADC region: the case of the 2002 food emergency
Amani, Haidari (ESRF, Dar es Salaam)	Agricultural trade policies and strategies for the SADC region
Babu, Suresh (IFPRI)	International perspectives on agricultural recovery and long-term food policy
Wiggins, Steve (ODI)	Lessons from the current food crisis in Southern Africa
Mkomba, Ben (SADC)	SADC initiatives for addressing long-term food security

FANR)	
Marsland, Neil (SCF UK)	The double burden of HIV/AIDS and food security
<i>Presentations to working groups</i>	
<i>Group I</i>	
Webster, Jocelyn (AfricaBio)	Biotechnology Policy Framework
Goverah, Jones, et al. (MSU)	Agricultural Input Policies, Rural Productivity and Long-Term Food Security. Food Security Research Project Findings from Zambia and Mozambique
Rohrbach, David & Mary Mgonja (ICRISAT)	Seed Policy Debates and Options
<i>Paper apparently not given?</i>	<i>Agricultural diversification and value-added commodities</i>
<i>Group II</i>	
Arlindo, Pedro (MADER, Moz.) & David Tschirley (MSU)	The Effects of Regional Trade of Agricultural Commodities on National Producers and Consumers. The Case of Maize Between Northern Mozambique and Malawi
Goggin, Ian (ZIMACE)	Commodity exchanges in southern africa. Zimace—its formation and role in the 'liberalised market' (a regional perspective)
Gravelet-Blondin, Rob (SAFEX)	The Use of Futures Markets as a Food Security Insurance
Mwiinga et al. (MSU)	Policies and Practices to Ensure Broad Availability of Low-Cost Food Staples. Food Security Research Projects of Zambia and Mozambique
<i>Group III</i>	
Nijhoff, Jan & David Tschirley (MSU)	Coordination for Long-Term Food Security by Government, Private Sector, and Donors: Issues and Challenges From Insights in Zambia and Mozambique
McNabb, Michelle (FEWSNET)	Meeting information requirements for food security decision-making
Engle, John (ACDI/VOCA)	Achieving Long-Term Food Security through private sector partnerships
Potter, Harry (DFID) — paper tabled	The Malawi Experience 2001–3 (From sell-off, through shortages and suffering, to shared agendas and strategy for security and surplus)
Hartmann, P. (IITA)	Food security's future in Southern Africa

Table 1: Maize production in Southern Africa, 2001–03

	Production, tonnes					Production as % of average of 1996–2000			
	1996–2000 average	2001	2002	2003	2004	2001	2002	2003	2004
Lesotho	146,371	158,190	107,800	150,000	150,000	108%	74%	102%	102%
Malawi	1,954,610	1,589,440	1,556,975	1,983,440	1,733,125	81%	80%	101%	89%
Mozambique	1,075,627	933,968	1,235,657	1,248,000	1,248,000	87%	115%	116%	116%
Swaziland	116,226	74,403	76,200	70,000	70,000	64%	66%	60%	60%
Zambia	949,046	601,606	602,000	1,161,000	1,161,000	63%	63%	122%	122%
Zimbabwe	1,969,368	1,466,750	498,540	802,664	1,000,000	74%	25%	41%	51%
EMOP Six	6,211,248	4,824,357	4,077,172	5,415,104	5,362,125	78%	66%	87%	86%
<i>South Africa</i>	<i>9,480,200</i>	<i>7,772,000</i>	<i>10,076,000</i>	<i>9,705,000</i>	<i>8,311,000</i>	<i>82%</i>	<i>106%</i>	<i>102%</i>	<i>88%</i>
EMOP 6 + RSA	15,691,448	12,596,357	14,153,172	15,120,104	13,673,125	80%	90%	96%	87%

Source: FAOSTAT, March 2005

Table 4: The Zimbabwe effect

	Production, tonnes					Production as % of 1996/00 average			
	2001	2002	2003	2004	1996/00	2001	2002	2003	2004
Lesotho	158,190	107,800	150,000	150,000	146,371	108%	74%	102%	102%
Malawi	1,589,440	1,556,975	1,983,440	1,733,125	1,954,610	81%	80%	101%	89%
Mozambique	933,968	1,235,657	1,248,000	1,248,000	1,075,627	87%	115%	116%	116%
Swaziland	74,403	76,200	70,000	70,000	116,226	64%	66%	60%	60%
Zambia	601,606	602,000	1,161,000	1,161,000	949,046	63%	63%	122%	122%
Zimbabwe	1,466,750	498,540	802,664	1,000,000	1,969,368	74%	25%	41%	51%
EMOP Six	4,824,357	4,077,172	5,415,104	5,362,125	6,211,248	78%	66%	87%	86%
EMOP Six: deficit on 1996/00	- 1,386,891	- 2,134,076	-796,144	-849,123					
Model: Zimbabwe as if									
RSA/Zambia	1,248,394	1,249,212	2,016,067	1,726,484		63%	63%	102%	88%
Adj. EMOP Six	4,606,001	4,827,844	6,628,507	6,088,609		74%	78%	107%	98%
Adj. EMOP Six: deficit on 1996/00	- 1,605,247	- 1,383,404	417,259	-122,639					
Memo: South Africa	7,772,000	10,076,000	9,705,000	8,311,000	9,480,200	82%	106%	102%	88%

Table 5: The dimensions of food insecurity and malnutrition in Southern Africa

Crisis	Who is affected [Population in the 6 EMOP countries: 57.5M]	Consequences	Policy agenda		
			Economics, esp. agricultural	Social protection: transfers	Health, nutrition, wat/san
Temporary: harvest failure leads to higher prices for food staples	Households, neither poor nor farmers [10.2M]	Hit by higher food prices. Likely to reduce spending on all but the essentials Political costs for governments	Prevent sharp price rises after harvest failures, through, for example:		
	Poor households who are not farmers [7.5M?]	Ditto, but may have to reduce meals to cope and go hungry. Young children and other physically vulnerable may become malnourished	<ul style="list-style-type: none"> • Facilitation of cross-border trade, • Subsidies on costs of imports, • Public storage (costly). 	Measures to restore entitlements:	
	Farming households (and those in closely linked occupations, such as farm labourers, some food processors and traders) [39.8M]	Suffer a double blow: loss of real income from harvest failure, plus rise in food prices. Cope by sale of assets, extra gathering, children taken out of school, reduced meals, distress migration — poor are at risk of destitution Young children and other physically vulnerable likely to become malnourished	<ul style="list-style-type: none"> • Reduce susceptibility to harvest failures — irrigation, drought-tolerant crops, winter season cropping 	<ul style="list-style-type: none"> • public works programmes, • (grain) loans, • waivers on school fees, health charges 	Special measures may be needed for young children — including take-home food rations, or even wet feeding

Chronic poverty and food insecurity	Working poor, without the assets, skills or opportunities to escape poverty [Not known: total extreme poor: 24.6M]	Unable to acquire enough food for a healthy diet. Problems may be severe in hungry season before the harvest when poor farming households run out of their own food supplies and food prices are highest.	Economic growth that creates jobs and benefits the poor This includes measures to boost agricultural production, that potentially can create incomes, reduce costs of food, and limit the impacts of drought and other bad weather.	Measures to ease difficulties of the hungry season: • public works programmes, • grain loans Targeted (stamps, ration cards) food subsidies	
	Non-working poor, unable to work owing to age, illness, disability [Not known: total extreme poor: 24.6M]	Ditto Reliant on support from family and friends		Transfers: grants, waivers on fees for education and health, (non-contrib.) old-age pensions, disability allowances, unemployment benefit, child allowances Benefits to full-time carers	
	Young children living in poverty [3.9M in extreme poverty]	Ditto But also suffer from poor health conditions that contribute to malnutrition with consequences for their growth and survival. Alarming high rates of child mortality		Targeted (stamps, ration cards) food subsidies Child allowances	Growth monitoring and infant feeding programmes Public health: clean water, sanitation, Primary health: immunisation, malaria control

HIV/AIDS	<p>Direct effect on:</p> <ul style="list-style-type: none"> • Adults in prime years, • Young children <p>[4.7M adults HIV+; 0.4M children HIV+]</p>	<p>Illness and early death, particularly of women</p> <p>Costs of care in time and funds to affected households</p> <p>For the poor, coping mechanisms often overwhelmed, households at high risk of destitution</p>	<p>Additional food supplies, of improved type and quality, to those sero-positive</p>	<p>Transfers to households most affected by the disease — grants, waivers on fees for education and health, (non-contrib.) old-age pensions, disability allowances, unemployment benefit, child allowances</p>	<p>Health measures to prevent the spread of the epidemic, and to treat those infected</p>
	<p>Indirect effect on households that are affected by the epidemic, having suffered a death, inherited an orphan, or offered support to a directly-affected household</p> <p>[say 25% of the population = 14.4M]</p>	<p>Costs of care in money and time</p> <p>Care of children orphaned</p> <p>Reduced ability to cope with shocks</p> <p>[Costs throughout society and economy]</p>		<p>Ditto +</p> <p>Benefits to full-time carers</p>	

Political impasse in Zimbabwe	Population of Zimbabwe [12.9M]	Decline of the economy: economic contraction since 1998, v high inflation, unemployment, falling incomes Heavy loss of production in former commercial farms Exodus of skilled and professional staff Increased poverty and vulnerability for most Zimbabweans Loss of government capacity to maintain health and social welfare programmes	Resolution of the political impasse, but how?	Immediate issues of protracted relief for the hardest hit within the population	
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Note: the estimates of the numbers affected in the second column have been derived from 2003 statistics on population and agricultural population from FAOSTAT, estimates of extreme poverty in the 1990s defined as US\$1 a day or less from the World Bank; HIV/AIDS data from UNAIDS.

Appendix A: Timeline of events in the 2001–03 food and humanitarian crisis in Southern Africa

	Harvest year 2000/01		2001/02		2002/03
	Jan–Jun 2001	Jul–Dec 2001	Jan–Jun 2002	Jul–Dec 2002	Jan–June 2003
Region	WFP reports 500kt of food aid needed for Southern Africa owing to flooding — mostly for Angola, DRC and refugees in Tanzania, Namibia, Zambia	FAO estimates a 23% fall in regional maize production — lowest production 6 years (July) South African maize prices up 50% on previous year.	UN working group set up in Roma (Mar.) to assess ‘food crisis’ WFP set up Jo’burg regional unit (May 02)	EMOP launched for 992kt of food for 10.3M persons, and for US\$507M. (July) C–SAFE formed (Oct) RVAC: 14M in need, 1Mt cereals needed	
Malawi	Harvest hit by flood and dry spells. GoM appealed for flood assistance. WFP mounted a \$3.2M EMOP for 208k persons. Final estimates show harvest 32% on (good) 99/00 harvest. FEWSNET predicts a 438kt food surplus on basis of high root crop production. ADMARC reserves low, intention to buy up 120kt to stock the SGR — but could not find a surplus to buy.	GoM says NFRA to buy in 220kt maize; announces distribution of 60kt of free maize to food insecure households Only 27kt of maize imported, from RSA. Market prices of maize up 340% on Jan 01. SCF–UK reports stress in two Districts, with GAM of 12% in Mchinji. TIP to 1M households. Most bilateral donors freeze regular aid to Malawi on account of corruption.	ADMARC tries to distribute grain with a 25kg quota, but later cut to 10kg. National emergency declared in Feb 02. BBC reports famine deaths. Prices peak at MK43/kg in some areas. GAM of 19% seen in Salima. GoM sets up task force. WFP mounts EMOP to cover 300k persons. Imports arrive slowly: 92kt of maize by April 02. Harvest estimates revised won to 1.6Mt after 3–week dry spell. FAO forecasts a maize deficit of 600kt.		Inquiry set up into sale of SGR. Flooding hits 82k households. Public stocks replenished. Donors support decision to sell off 500kt of imported maize.

Zambia	Harvest hit by dry spells in south by excessive rains in north. Maize prices still low in mid 2001.	Estimates of 1.7M affected by bad weather or civil strife: 1.3M persons in 23 Ds need relief. Some maize imports from RSA. Maize exports banned. Some donor support.	Only 26kt of imports received by Jan 02, 86kt by March. Dry spells hit south Livestock sales in E, S & W Ps. Heavy rains in Apr 02. WFP report 1.7Mt of relief food needed for 2.3M persons.	60% of rural households run out of food: rural food prices rise. GoZ refuses GM maize (Oct). Poor rains delay planting of 02/03 crops.	WFP donates 80kt of GM food aid.
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Zimbabwe	40% fall in planted area of maize. Deficit of 460kt predicted. GMB given sole charge of trading in maize. GoZ plans import of 544kt.	WFP reckon 706k need food aid. GoZ: food imports of 544kt needed 13.6k farm workers displaced.	GoZ presses ahead with fast-track resettlement. EU and US impose sanctions (Feb) Pres. Mugabe re-elected (Mar) National drought disaster declared (Apr)	6M hit by food shortage (Sep) Farm allocations: cronyism, failure to make inputs available.	Cereal deficit of 1Mt predicted to 03/04
Mozambique	Floods in centre displace 380kt., cause loss of 42k ha of crops.	Harvest reckoned to cover 87% of national needs. 100kt maize exported to Malawi.	Low rains in south. GoM distributes 10k kits of seed in drought-hit areas.	600k in need of relief.	Poor harvest predicted for centre and S.
Lesotho	15% of population estimated to need food aid.	Rains delay planting	7k households hit by flooding. Frost hits late season (Mar) GoL declares state of famine, appeals for help (Apr 02)		650k in need of food aid until March 03.
Swaziland	GoS appeals for 23kt of maize for flood victims.	143kt of food deficit. Imports can only cover 65% of needs.	Heavy rains and flooding. Drought hits harvest	WFP estimates 144k need food relief Donors freeze aid in protest over buying of luxury jet for king.	Only 20-40% of cropland reported cultivated.
	Jan-Jun 2001	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-June 2003

Sources: See IDC 2003, Nathan Assoc 2003 — based mainly on reports from FEWSNET