

**Forum for Food Security**



**in Southern Africa**

## **The Role of Market Based Economic Development in Strengthening Food Security**

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## **EXECUTIVE SUMMARY**

This paper is intended to stimulate debate about (a) potential roles for market based economic development in strengthening food security and (b) means for promoting such development in southern Africa. It provides a theoretical and international review of these topics, examining the potential of economic growth in different sectors to stimulate and sustain wider growth, poverty reduction and increased food security, and then difficulties in achieving pro-poor growth. It focuses on issues not addressed primarily by other theme papers.

### **Processes for economic growth, food security and poverty reduction**

Market based economic growth is a critical element in medium to long term poverty reduction and food security. In a poor economy this involves two closely related processes: the development of markets, and economic growth through those markets. However, market based approaches to food security and poverty reduction do not work if markets are not functioning effectively (as the current crisis has demonstrated in many areas of Southern Africa), and short/medium term policy then has to work within the constraints imposed by current poverty and lack of market development, and it must provide alternative, non-market mechanisms to promote secure and low cost food availability and access. Market based economic development then needs sectors and activities which meet three conditions: growth must have significant poverty reduction and/or food security benefits; there must be potential market demand (for goods and services produced) to support such growth; and there must be potential capabilities for growth in supply in response to market opportunities.

Different sectors' and activities' potential to deliver pro-poor and food security enhancing growth is evaluated in terms of their characteristics as 'growth drivers' and 'growth supporters' in the rural economies in which most of the Forum countries' poor people obtain their livelihoods. Both 'drivers' and 'supporters' are needed, as each is ineffective without the other: balanced pro-poor growth must match the complementary benefits and opportunities that these types of growth provide each other. Similarly, to achieve food security, both food availability and food entitlements are needed, at household level and at higher levels (local communities and national economies).

Diversity between and within the five Forum countries makes it difficult to identify specific activities or sectors with the greatest potential for poverty reducing and food security enhancing growth, but some broad principles emerge. Where supply constraints can be overcome in medium and high potential areas (with development of technologies and of input, output and finance markets and appropriate extension services), then smallholder crop production (cereals, root crops and export crops) provides the greatest opportunity for driving critical pro-poor, food security improving rural growth. Non-farm activities also have a critical role to play as growth supporters, to sustain and spread (to poorer households) the benefits of such growth within the local economy.

### **Policies for Economic Growth**

For a sector to deliver pro-poor growth or food security, it must not only have both high potential contributions to growth or food security and sufficient opportunities for market expansion, it must also be able to expand supply in response to these market opportunities. The structural adjustment and market liberalisation policies of the last two decades have largely attempted to address structural problems affecting market opportunities and demand and prices for goods and services: these policies have not, however, paid sufficient attention to the very serious problems that often inhibit producers' capacities to respond to and take advantage of market opportunities and increased

demand and prices delivered by these policies. Attention to supply constraints is an urgent priority for economic growth, and the paper examines, for different sectors, constraints and options for addressing these constraints - although the bulk of attention is directed to smallholder agriculture, and in particular smallholder food crop production, where the constraints are particularly problematic but the pay-offs to their solution potentially very high.

Growing businesses require market opportunities, access to resources to invest, a reasonable expected return from investments, and acceptable risks. Business opportunities that meet these requirements are generally thinly distributed and not widely accessible in poorer, stagnant economies. The lack of business opportunities across and within different sectors in a poor economy can reinforce each other in the web of relationships necessary for market based economic growth, resulting in a 'low level equilibrium trap', with particular but easily forgotten problems of economic coordination risks and risks of opportunism.

Sound and stable macro-economic conditions are a basic pre-requisite for growth in all sectors of the economy together with good infrastructure and clear and enforceable rules and procedures for property rights and contracts. Progress on these fronts, however, will not by themselves be enough to stimulate the business investments needed for rapid and widespread growth in smallholder food crop production, where the low level equilibrium problems of poor communications, remoteness, seasonality, small production units, and poverty are particularly severe.

The record of both market intervention and liberalisation policies in addressing these problems shows that both approaches have often failed to deliver up to expectations, but it also demonstrates the need for substantial central non-market coordination and investment to kick-start growth in poor rural areas. This is not an argument for a return to the African parastatals of the past: what is needed are new institutional arrangements for transparent coordination and investment. These should involve a greater role for, contribution by, and protection of the interests of rural people, farmer organisations, private businesses, NGOs, and donors, and must avoid the old problems of patronage, political interference and inefficiency. There are other major challenges too, notably in the development of lower cost (and lower external input) and less risky but more productive food crop technologies, managing access to and the distribution of land and, most tellingly, in the debilitating effects of HIV/AIDS on households, communities and economic activity.

Investment in smallholder agricultural development, however, needs to be judged and justified not just in narrow economic and financial terms against alternative investments: the 'without investment' scenarios used in policy analysis must allow for the likely economic stagnation of these areas without such investment, for the consequent economic and social costs of safety net and welfare services, and for the dependency they encourage. Options for agricultural development need to be considered together with those for social protection, not just to ensure protection for those that are unable to participate in economic growth, but also to ensure that social protection mechanisms support the processes of wider economic growth

Rural non-farm activities on the whole face a different set of problems from smallholder agriculture. The key problem with many of these activities is limited demand for non-tradeable goods and services unless the economy, and consumer incomes, are growing. However, difficulties in accessing financial capital, information, skills, and business networks also prevent poorer households from engaging in these activities. Micro-finance and business development services can successfully address some of these problems.

Many larger scale, formal urban and industrial enterprises are also affected by problems associated with the low level equilibrium trap, and again improved macro-economic management, property rights, infrastructure and governance need to be accompanied by some central coordination to address these problems.

### **Ensuring Stable Food Supplies: Markets and State Interventions**

The paper examines food import and storage strategies as options for improving the stability of national food supplies and prices, detailing major difficulties facing reliance on either private sector or state action in each of these areas. Strategies coordinating importation and storage are needed, without which the incentives for large scale private sector involvement will be very weak: the state has a key role to play in providing both strategic direction and critical finance. This presents a paradox, as state intervention itself often also weakens incentives for private sector involvement. Nevertheless, there remains a case for a degree of state intervention in staple food markets that goes beyond the minimal contingency stock to protect against delays in private importation. This conclusion is not uncontroversial and faces important practical and historical objections which need further investigation. However, this must recognise the urgent need for rapid and widespread stabilisation in food availability and prices, and the current lack of alternative policy approaches to address the critical need for rapid and effective improvements in this area.

### **Conclusions**

The paper outlines critical elements needed in (particularly) poor rural areas. These include

- non-market coordination and investment mechanisms addressing low level equilibrium traps and food security problems in the absence of effective markets ;
- robust and transparent institutions protecting investors against opportunism and rent seeking;
- attractive business opportunities, especially in smallholder agriculture, which generally offers the best prospects for *driving* broad based growth (although it faces significant institutional and technological challenges and rural non-farm activities are critical in *supporting* rural growth);
- stable and transparent macro-economic and (in critical markets) intervention policies; and
- improved communications infrastructure.

A number of principles are suggested to guide the search for and design and implementation of development strategies to take this agenda forward. We pick out here two critical challenges:

- *Central coordination and investment to address market failures* needs to be given much greater attention. There are strong *a priori* reasons for only slow and narrow progress in critical areas of economic growth in very poor and stagnant economies if the market is largely left to fend for itself. Despite examples of dire failure, the historical record of central coordination and investment includes dramatic instances of success, whereas reliance on uncoordinated market development in poor rural economies has few, if any, significant success stories to its name. Given the serious governance issues facing many of the forum countries, a major challenge is to develop new models for central coordination and risk bearing investment to kick start markets.

- *HIV/AIDS is a major economic problem*, apart from all its other dimensions, and must be addressed as such. We have not addressed them sufficiently in this paper, but the impacts of HIV/AIDS must be built into all policy analysis and action.

## 1 Introduction

This paper is intended to stimulate debate about (a) potential roles for market based economic development in strengthening food security and (b) means for promoting such development in southern Africa. We begin with a theoretical and international review of these topics. In this we examine the potential of economic growth in different sectors as regards their ability to stimulate and sustain wider growth and to contribute to increased food security and poverty reduction. We also consider difficulties in and conditions for achieving pro-poor growth.. This provides a context against which to examine experience across the five countries. We finish with some conclusions and questions about the means and potential for promoting these processes as mechanisms for promoting growth, poverty reduction and improved food security.

## 2 Possible processes for economic growth, food security and poverty reduction:

### 2.1 Introduction

In order to examine the potential for market based economic growth to contribute to food security in Southern Africa, we need to consider the relations between food security and other closely related objectives of poverty reduction and of economic growth itself. This then needs to be related to the potential for growth in different sectors to contribute to these wider policy objectives, and to the means by which growth may be encouraged in these sectors. In this section of the paper we develop conceptual frameworks to aid discussion of each of these issues

#### 2.1.1 Food security, poverty reduction, economic growth and market development

A key distinction at the root of our analysis is that market based economic growth in a poor economy involves two processes: the development of markets, and economic growth through those markets. This involves basic presumptions about the importance of economic growth in livelihood development, poverty reduction, and improved food security, and of the importance of markets (and of the private sector) in pro-poor economic growth. While the rest of the paper will explore different aspects of the relations between these processes and aims, we make here five observations underpinning our analysis<sup>1,2</sup>:

- first that economic growth is critical for expanding people's opportunities to improve their livelihoods (in terms of incomes, assets and security, for example) and for governments' ability to afford welfare service provision (for example health, education and safety nets);
- second the livelihoods and livelihood opportunities of most poor people are directly (but not solely) dependent on their involvement in a range of markets as private

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<sup>1</sup> See Dorward *et al.* 2003

<sup>2</sup> We believe that these observations are consistent with an understanding of poverty that is multi-dimensional - encompassing vulnerability, (lack of) human development and empowerment, and not just incomes. For example, as suggested in the related paper on Vulnerability by Ellis, food insecurity may helpfully be seen as a form of vulnerability and we argue in section 2.1.3 that, particularly where markets function imperfectly, entitlements to food depend on much more than incomes alone. However, given our theme of market-based development, we do focus primarily on income generation, touching on human development and empowerment only insofar as they contribute to increased income generation opportunities.

agents or as employees (and are indirectly dependent on the wider economy for the demand and supply of goods and services);

- third that most major current and historical poverty reduction processes have depended on equitable private sector economic growth (but we also note the importance of actions by other stakeholders – such as CBOs and the state – in market development);
- fourth that poor people themselves often identify problems with markets as critical to their livelihoods (but these problems may concern both the absence of markets and the effects of markets);
- and fifth that in supporting economic growth, markets can provide a highly efficient mechanism for exchange, coordination and allocation of many resources, goods and services, *but they often fail*.

Recognition of both the successes and failures of markets to serve the interests of the poor is critical to the arguments of this paper. We examine some of the reasons for these failures and argue that conventional promotion of liberalised competitive markets is currently misplaced in some sectors in Southern Africa given their current state of market development. We stress that although improved market access can and should be a critical driver of sustained and broad based poverty reducing development, it is neither a magic bullet nor a sufficient condition for such development: other social, political and technical processes of change are also vital.

Table 2.1, from Dorward and Kydd 2003 sets out a broad framework describing the requirements for food security, poverty reduction and economic growth to be achieved in the short/medium term and in the medium/long term in the context of the difficulties that many of the poor face in accessing important markets in Southern Africa. Recognising that market based approaches to food security and poverty reduction do not work in areas where markets are not functioning effectively (as the current crisis has demonstrated in many areas of Southern Africa), short/medium term policy has to work within the constraints imposed by current poverty and lack of market development in rural areas and provide alternative, non-market mechanisms promoting secure and low cost availability of and access to food. These policies must, however, be designed to promote rather than undermine development of markets and wider rural growth. Two further, general points emerge from this: first the need for consistency and coordination of policies across different policy goals and time periods, and second the need for policies to take account of and address the context in which they must operate – not only the lack of market development in the rural economy, as discussed above, but also the historical context (affecting institutions and people's expectations and behaviour) and opportunities and constraints arising from governance, resources, infrastructure, health and education services and status, HIV/AIDS, gender relations, the environment and current activities in the rural economy.

**Table 2.1: Policies and Their Requirements**

Policy Goals	Requirements for Short/Medium Term Achievement (Policy purpose)	Requirements for Medium/Long Term Achievement (Policy purpose)
<i>Food security</i> : Secure & affordable access to food	Increased food self-sufficiency (household & national) with <b>food delivery</b> &/or <b>productivity enhancing</b> safety nets & humanitarian response	Increased household & national food market access (low & stable cost, secure, timely) through wider entitlements with (mainly) <b>market based</b> safety nets & humanitarian response
<i>Poverty reduction</i> : Real incomes of the poor increased & more secure, through low food costs, higher returns to labour, & safety nets.	Safety nets to increase/ secure real incomes & develop/ protect assets (see above)	Broad based growth with opportunities & wages for unskilled rural labour, low food prices, and safety net & humanitarian response as above
<i>Rural economic growth</i> : Increased levels of local economic activity, with stable income opportunities supporting poverty reduction & food security	N/A	Macro economic stability & low interest rates; growth in agric. & non agric. sectors tightening labour markets and raising real incomes with stable / affordable food prices.

With these caveats regarding the roles of market based economic development in promoting food security, we now consider in more detail types of economic activity that can drive and support poverty reducing and food security enhancing economic growth.

### 2.1.2 Characteristics of poverty reducing growth opportunities

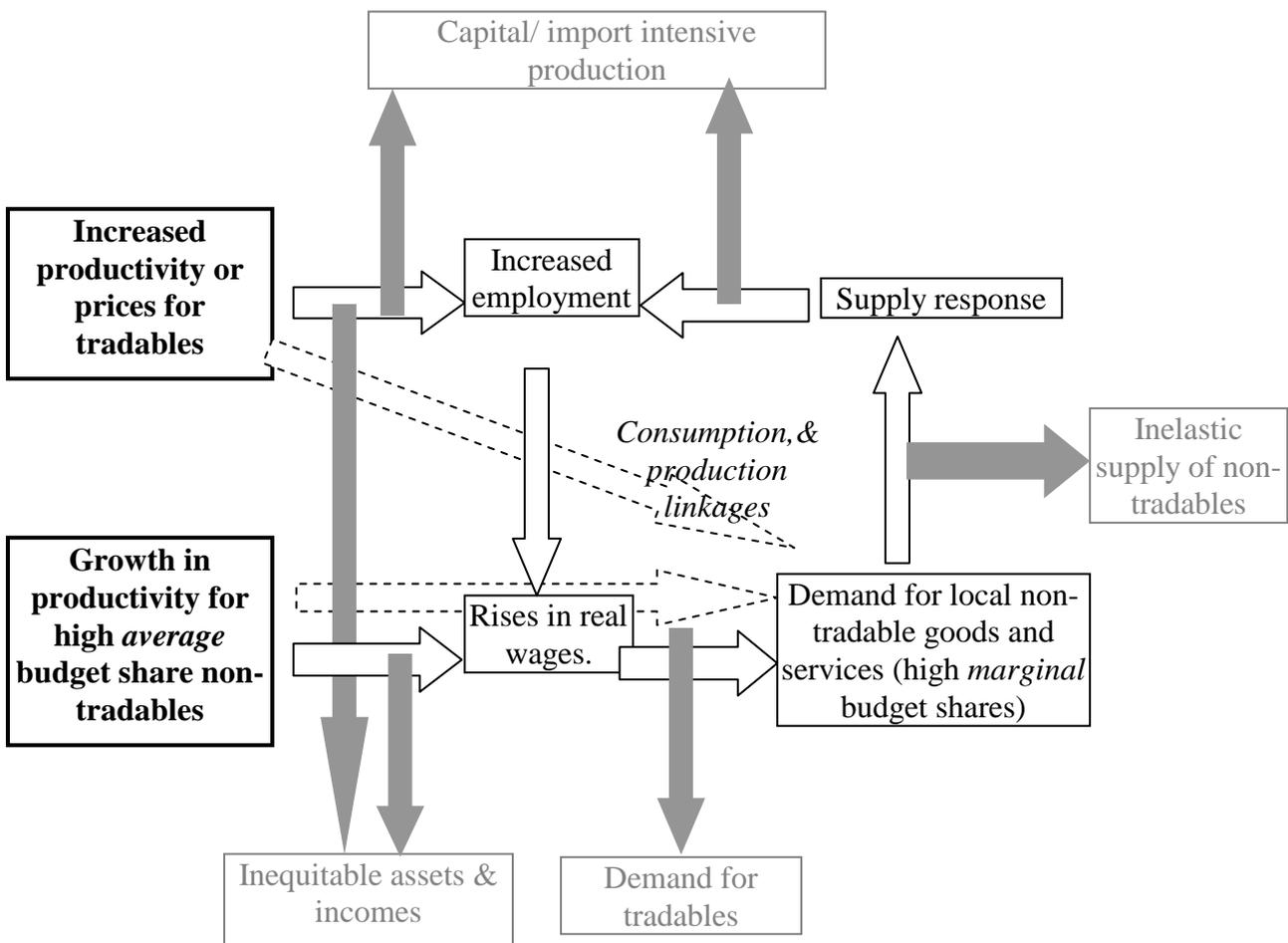
In looking for wider economic growth that (first) promotes poverty reduction (we examine growth and food security later, in section 2.1.3), we need to identify particular types or characteristics of economic activities that will drive or support such growth. This is the subject of a long-standing theoretical and empirical literature on growth processes, which we summarise using figure 2.1 (for recent more detailed reviews see Delgado *et al.* 1998; Dorward *et al.* 2001). A key concept is that some activities have the potential to provide stimuli to a local economy that will in turn generate strong second-round growth effects, known as multipliers. Below we term the activities with the potential to provide initial stimuli “*growth drivers*” and the activities at the centre of the second-round growth effects “*growth supporters*”.

Beginning at the left hand side of Figure 2.1, exogenous change in policies, technologies, markets, infrastructure and capital (including human and social capital) may set off changes in prices and productivity in an economy (a region, country, or particular area or community within a country). Tradable goods and services (those that may be imported or exported to or from the economy, like primary commodities such as cash crops or minerals, manufactured goods, and migrant labour) are distinguished from non-tradables (where there is no external market, like local vegetable production, tailoring or brick making where there are no external markets importing or exporting these)<sup>3</sup>. Productivity

<sup>3</sup> In practice the distinction between tradables and non-tradables is often not distinct, varying with (a) the scale or the boundaries of an area (the larger the area the greater the proportion of non-tradables), (b) its accessibility (the less accessible the greater the proportion of non-tradables) and (c) the comparative production costs inside and outside the area. These factors together determine the relationship between local costs on the one hand and the spread between

increases in non-tradable activities normally lead to a price fall, as local demand will be constrained by local incomes. If the good or service accounts for a large share in households' average expenditure (a high *average* budget share, as is the case for food, and particularly staple foods, for poor households) then this price fall will lead to an increase in consumers' real incomes. A consumption (or expenditure) linkage or 'multiplier' may then kick in as increased real incomes lead to increased demand for local (non-tradable) goods and services and this expanded demand generates local employment opportunities. This further raises incomes, contributing to a virtuous circle multiplying the benefits from the original gains in real consumer incomes. A tradable price reduction has similar effects.

**Figure 2.1. Growth Linkages and leakages in a local economy<sup>4</sup>**



These gains, however, are limited by 'leakages', also shown in Figure 2.1. If local consumers use their extra income to buy tradables then this reduces the local demand stimulus. Even with increased demand, if local producers cannot respond to this (due to resource constraints, poor markets or high transaction costs), inflationary pressure on prices will reduce (in real terms) consumers' increased nominal incomes. Finally, if a local supply response is achieved from capital or import intensive processes that provide

'import' and 'export' parity prices on the other. Although these terms are often associated with international trade, they are equally applicable to *intranational* trade between different districts or between rural and urban areas.

<sup>4</sup> Grey arrows indicate leakages out of the system.

returns to only limited numbers of local people, then there will be reduced gains from increased local employment and earnings.

The effects on producers of increases in non-tradable productivity also need to be examined and are more mixed. Lower prices may largely off-set producers' gains from higher productivity, unless demand is relatively elastic or cost reductions or changes in technology are sufficient to allow significant expansion of supply with expanded labour demands and/or entry of new (perhaps poorer) producers into the market. Lower prices for tradables harm existing net producers of these tradables, with associated losses of producer income imposing a drag on the positive consumption linkages that may arise from lower consumer prices and increased consumer real incomes. Higher prices for tradables have opposite positive effects on producer incomes, similar to the positive effects of increased productivity in tradable activities. The latter, however, does not have the same negative effects on consumers as do price increases.

Finally, savings and investment linkages may arise where increased real incomes allow increased savings and investment in capital, reducing vulnerability and increasing both the productivity of local activities and the potential elasticity of supply responses crucial to consumption linkages. 'Leakages' arise if the returns to local savings and investment are very low, due to lack of secure investment opportunities or of local financial markets linking savers with investment opportunities. They may also arise if there are effective financial markets linking the local economy with other economies, so that either local activities are already able to access outside sources of capital or locally generated capital is invested outside the area.

Two further types of linkage associated with economies of scope<sup>5</sup> may arise from growth in production of tradables (Govereh *et al.* 1999). First, increasing trade flows may lead to improvements in a range of services, particularly in communications (telecommunications and transport services for example) with both investment in improved infrastructure and greater demand for and frequency of services, with greater volumes allowing lower unit costs<sup>6</sup>. These linkages may be described as economies of scope within the local economy. There may also be economies of scope within livelihoods, such as the purchase of farm equipment for production of tradables also being used in the production of non-tradables.

The effects of particular changes on a rural economy and on poor people within it therefore depend crucially upon the characteristics of goods and services subject to the initial price or productivity change. This allows us to distinguish between '*growth drivers*' and '*growth supporters*' in an economy (see table 2.2), where the '*growth drivers*' are those processes that provide an initial stimulus increasing the flow of income in figure 2.1. The main 'pro-poor growth drivers' are

- (a) price or productivity increases in tradable products with a high labour input by the poor. Examples here might include higher prices for cotton, tobacco or textiles, through greater production, transport or market efficiency or improved quality in production;
- (b) productivity increases in non-tradable products (or falls in price for tradable products) which have a high *average* budget share in the poor's expenditure. An

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<sup>5</sup> Economies of scope occur where fixed investment costs are shared across more than one economic activity.

<sup>6</sup> These greater trade and information flows will also increase the proportion of tradables in the economy, increasing consumption leakages and reducing linkages. They may also cause producers of non-tradables (for example traditional goods) to lose market share to imports. These negative effects should be offset by gains to consumers from cheaper or better goods and perhaps by new opportunities for expanded tradable production.

example here might be adoption of improved varieties of maize, sorghum or millet varieties by producers;

- (c) changes in technology or reduced barriers to entry allowing the poor to produce non-tradables with high *average* budget shares or tradables, which they could not produce on a competitive basis before. Examples here might include the technical assistance programmes and investment in micro-irrigation that have allowed smallholder production of horticultural products to increase dramatically in some forum countries over the past decade, or expansion of micro-credit programmes that allow small-scale enterprises to compete in areas previously controlled by a few large suppliers;

or

- (d) gains (through mechanisms such as in (a) or (b) above) to significant numbers of *non-poor* expanding demand for goods and services produced by the poor.

Productivity and price changes may arise in a variety of ways: productivity may be affected not only through technical change but also by, for example, improvements in health, education, development of and access to capital, and skills and information; prices may be affected by infrastructure and marketing systems as well as market supply and demand changes, and non-price considerations and incentives should also be taken into account – for example production and price risks, and social norms.

**Table 2.2 Tradable and on-Tradable Characteristics for Driving or Supporting Growth**

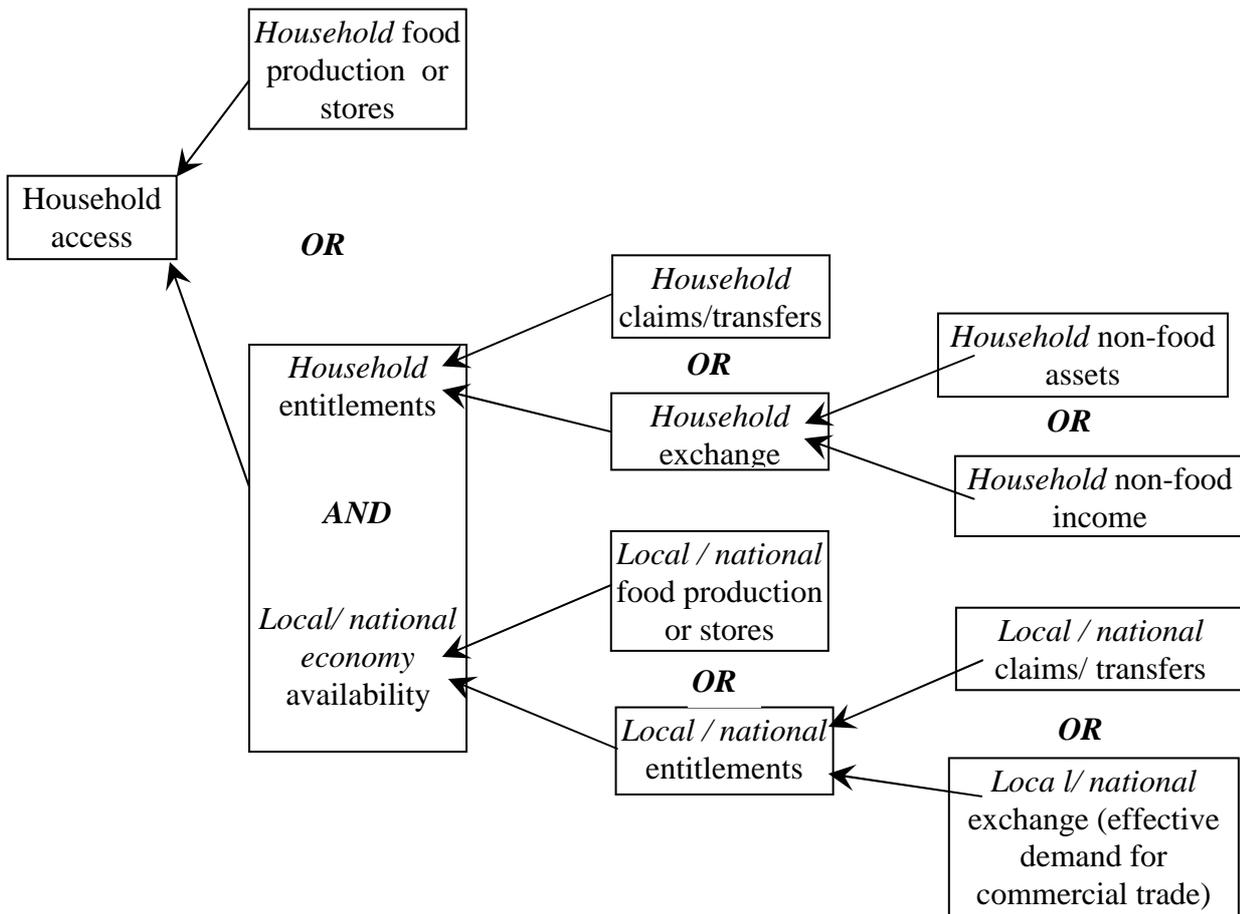
	Tradables	Non-tradables
Characteristics <i>driving</i> growth	<p>Price falls in external markets for high <i>average</i> local budget share goods and services lead to gains in consumer real income outweighing losses to producers</p> <p>Prices increases in external markets or local technical or institutional change lead to gains in producer incomes</p>	<p>Increase in productivity for high <i>average</i> budget share goods and services so low prices increase consumer incomes.</p> <p>High <i>average</i> budget share goods and services affected by technical or institutional change that reduces barriers to entry for the poor and/or increases unskilled labour demands in production.</p>
Characteristics <i>supporting</i> growth	<p>Affected consumers or producers have high <i>marginal</i> budget shares for non-tradables.</p> <p>Affected production has high non-tradable input &amp; local labour demands.</p> <p>Increased trade flows improve communications and other local services.</p> <p>Affected consumers or producers invest income gains into local activities.</p> <p>Economies of scope in livelihoods and local services</p>	<p>High <i>marginal</i> budget share goods &amp; services have low barriers to entry and high labour demands in production.</p>

‘Growth supporters’, on the other hand, are those processes which increase linkages and reduce leakages, thus increasing multiplier effects to give wider and more sustained

growth impacts from growth drivers. 'Growth supporters' generally involve consumption linkages through non-tradables on which people spend a large share of extra income (a high *marginal* budget share) provided that production has a high labour content and low barriers to entry (allowing an elastic supply response providing employment for the poor). 'Growth drivers' are essential to get economic growth going, but growth supporters are also essential to get greater, more sustained, and more widely distributed (and hence pro-poor) benefits from initial growth increases. Significant and sustained poverty reducing growth therefore requires the presence of both growth drivers and growth supporters.

### 2.1.3 Characteristics of growth opportunities that enhance food security

We examine economic growth characteristics needed to improve food security by breaking down the components of household food security and relating these to incomes and markets as shown in figure 2.2. Drawing on Swift 1989, figure 2.2 sets out alternative strategies by which households may achieve food security (defined as secure access to sufficient food), and the necessary conditions for those for strategies to succeed. Different households of course use different mixes of these strategies at any one time, depending on their status and activities, and the effectiveness and stability of each strategy in delivering secure food access. They often try to retain flexibility to vary these strategic mixes to match changing conditions.



**Figure 2.2 Determinants of Household Food Security**

Although it over-simplifies some important interactions between different elements of food security, figure 2.2 stresses the need for considering and addressing households' access to food in terms of both availability and entitlement (the ability to obtain food from others)

at both household and different (local and national) levels of the economy. Entitlements at these different levels may then involve claims (social, moral or political demands on other parties able to provide transfers of food or of other resources with which to obtain food) and/or exchange of assets or income held by the household or (in aggregate) by the community and sufficient to purchase (or exchange with) food. This helps us to consider how different aspects and types of market based economic growth may impact on food security. Thus the development of markets themselves will have far reaching impacts on a number of elements in food security strategies through their impacts on household food production; on options for (and prices in) household exchange; on local food production; on the ability of food markets to meet demand; and on wealth (income and stores) required to import food into the area. The food security impacts of growth in different types of economic activity will tend to be limited to more specific elements in figure 2.2: different activities may affect differently, for example, food production, non-food income, or accumulation of non-food stores in a specific set of households or in a locality or community. This analysis raises questions about the roles of markets in promoting food security in economies with different degrees of market development.

In the next sections of the paper we examine different sectors as regards (a) the potential value of their contributions to growth or food security and (b) opportunities for market expansion. Before this Table 2.3 gives a sense of the contributions of agriculture and various forms of industrial activity to overall GDP in the forum countries, in both 1990 and 2000. We note the particular importance of agriculture in Malawi and Mozambique, although the share fell between 1990 and 2000 in both countries, and also the fact that the contribution of industry (manufacturing and other sectors such as mining) fell in proportionate terms over the period 1990-2000 in Malawi, Zambia and Zimbabwe.

**Table 2.3: Relative Contribution of Different Sectors to GDP, 1990 and 2000**

Share of GDP to:	Agriculture		Industry		Manufacturing		Aid	
	1990	2000	1990	2000	1990	2000	1990	2000
Lesotho	21.4	17.4	33.7	41.3	14.3	16.6	13.8	4.0
Mozambique	39.4	29.1	20.1	24.2	9.7	12.2	42.8	24.9
Malawi	45.5	38.5	27.9	18.7	18.6	13.9	26.6	25.9
Zambia	19.8	24.2	51.6	26.2	35.7	12.6	18.6	20.4
Zimbabwe	15.6	19.9	35.2	24.3	25.2	16.3	4.0	4.0
South Africa	4.9	3.4	39.7	31.2	23.3	18.9	.	0.4
Rest of SADC	18.4	19.1	33.1	34.1	13.8	14.4	7.5	4.6

Source: World Development Indicators 2002

## **2.2 Small scale agriculture**

The experience of the forum countries with regard to smallholder agricultural production over past 20 years or so has been mixed. In Zambia, despite enormous potential, per capita production has been on a gradual decline for most of this period. In Zimbabwe optimism in the 1980s was replaced by stagnation in the 1990s, whilst in Malawi dramatic increases in maize production in the late 80s and very early 90s were rapidly lost in the mid-90s, and neither growth in smallholder burley tobacco nor in root crop production have averted the slide crisis in the early 2000s. In Mozambique, post-war reconstruction

has generated a more positive story, but growth has been from a low base and the country faces many of the same challenges in achieving sustained agricultural growth as the other countries just mentioned. With a very different socio-economic and agro-ecological context, smallholder agriculture in Lesotho has not been able to respond to the extra demands made of it with the collapse of migrant labour opportunities in South Africa.

The challenges to achieving sustained agricultural growth are dealt with in section 3. Here, we document the potential for smallholder agricultural growth, if it happens, to contribute to broader rural growth and food security. Before looking at different crop categories in turn, we note the findings of Bautista and Thomas 1999, who conducted CGE analysis for Zimbabwe (based on a 1991 SAM) and calculated GDP multipliers<sup>7</sup> for four different loci of growth. They found that increased income for smallholder farms was associated with a GDP multiplier of 1.92, whereas for export agriculture (predominantly the preserve of commercial farms, the subsequent expansion of smallholder cotton production notwithstanding) they estimated a multiplier of 1.5 - 1.6. Even this was higher than the highest multiplier associated with a non-agricultural activity, which was that for labour-intensive light manufacturing (1.49). Bautista and Thomas report that the key component of the multipliers they calculated were consumption linkages, with smallholders exhibiting much higher expenditure on locally produced non-tradables than either commercial farm households or urban workers<sup>8</sup>. However, they also note that two poor groups within the country – workers on commercial farms and low income urban households<sup>9</sup> - benefit less from smallholder agricultural growth than from any of the other growth paths that they simulated.

## 2.2.1 Staples

### 2.2.1.1 *Cereals*

The contribution of cereal production to both rural growth and food security has often been considered self-evident and many would argue that this has led to an uncritical and perhaps unhelpful preoccupation with increasing cereal (and particularly maize) production within national agricultural policies. Although the Asian Green Revolution experience is that cereal-based intensification can be a powerful driver for rural growth, experience with efforts to intensify smallholder maize production in Malawi, Zambia and Zimbabwe in the 1980s showed that it was a small proportion of (often wealthier) households in higher potential and/or more accessible areas that produced most of the resulting marketed surplus. They thus reaped the direct benefits from attractive producer prices and improved access to inputs and credit, whilst the majority of rural households (including most of the poorest) were faced with higher consumer prices for maize<sup>10</sup>. The

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<sup>7</sup> These are the total increases in GDP that are stimulated by a given increase in income accruing to households or enterprises in a given production sector. Thus a multiplier of 1.92 indicates that a 1% (or \$1) increase in income accruing to a particular sector leads to an additional 0.92% (or \$0.92) increase in GDP over and above the original stimulus.

<sup>8</sup> There is some debate as to whether or not their interpretation of available consumption data overstates the crucial difference in expenditure patterns.

<sup>9</sup> Through the 1990s there were around 300,000 farm workers employed on commercial farms in Zimbabwe. According to the 1992 census, around 3.3 million people (31% of the total population) resided in urban areas. The proportion of urban residents classed as poor rose rapidly in the first half of the 1990s, reaching around 40% in 1995-6. By contrast, over 5.3 million people resided in communal areas in 1992. Around 80% of these were classed as poor in 1995-6 (Nkum 1998).

<sup>10</sup> There were a number of reasons why the intensification push was accompanied by higher consumer prices. In both Zimbabwe and Malawi, producer prices were deliberately set so as to give a remunerative return to producers who invested in the full package of production inputs, including credit. Meanwhile, in Zimbabwe and Zambia the centralised marketing system necessary to achieve credit repayment fed into a high-cost, capital-intensive, urban-based milling industry that produced highly refined flour. Given the choice at liberalisation, poor consumers opted for coarser but

indirect benefits to poorer households of this expansion in maize production (increased demand for agricultural labour, consumption multipliers, greater local maize availability – at least in the immediate production areas) were clearly not negligible. However, in the short term at least<sup>11</sup>, it still seems likely that as many households lost from the drive for intensive maize production as gained from it.

The lesson from this is not that intensified maize production is a bad thing. Rather, there needs to be a search for:

- production technologies that permit higher yields and returns at existing producer prices (for example mixing organic and inorganic soil improvement methods, with lower use of costly inorganic fertilisers)
- mechanisms for recovering credit that do not tie production activities into high-cost marketing structures.
- protection for groups who may be disadvantaged by the higher prices needed to stimulate initial adoption of more intensive, costly and risky cereal production technologies

We examine these issues in more detail in section 3.

Meanwhile, in lower potential areas, the focus of research and extension should be on assisting households to reduce their food deficits (by sustaining or raising yields of maize or other food crops in the face of population pressure), so as to reduce their dependence on underdeveloped maize markets. The focus is thus likely to be on improved soil and water conservation, drought tolerance, crops that respond to very low levels of external inputs etc. The “without intervention” scenario is a bleak one of declining soil fertility, increasing food deficits and, certainly for households without access to significant non-farm income streams, increasing food insecurity.

Turning to cereals markets, high transport costs, combined with Western protectionism, preclude profitable international exports from Forum countries (even South Africa struggles to be price competitive). However, high transport costs should work to the advantage of “neighbouring” producers in the southern African regional market. The regional slide into “net grain deficit” status presents opportunities for any country that can turn itself around to generate regular surpluses, particularly if initiatives under SADC and/or COMESA lead to freer regional trade (see section 4). In Zimbabwe the immediate impact of land redistribution has been to dramatically reduce maize production capacity. In due course we may expect many of the newly resettled households to become significant maize surplus producers. However, based on the 1980s resettlement experience, this may well only happen after 5-10 years (depending on the speed with which support services can be provided).

Finally, sorghums and millets, as well as being more drought tolerant than maize, can have high marginal budget shares amongst poor rural households, so may function as useful supporters of growth. There are also some market opportunities related to brewing (both traditional – see recent work by Bryceson - and industrial) and to livestock feed, which would tend to increase the tradability of small grains. Whilst some higher yielding

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cheaper hammer-milled flour, whilst rural consumers were able to buy their maize (grain) direct from neighbouring producers, rather than from shops supplied by the urban industrial millers.

<sup>11</sup> Note that, in Green Revolution Asia, benefits also took time to diffuse through the population, starting with better-off producers, then spreading to smaller producers in the same areas and gradually also to labourers and consumers. As time went on, new technologies were adapted for (higher potential) rainfed areas. Work on technologies appropriate for semi-arid areas has proceeded with a further lag. By contrast, it should be remembered that the cereal-based intensification experiences in southern Africa only lasted 5-10 years.

varieties have been developed, making these available to producers is a major challenge (Tripp 2000).

### 2.2.1.2 *Root crops*

These, especially cassava, are increasingly important in the forum countries. However, with the possible exception of drought years, they remain more important for own consumption than for sale. For households with low labour availability (due to age, absenteeism or the impacts of HIV/AIDS), root crops have the major benefit of requiring low labour input. Their production is also less seasonal than that of grains. Whilst supplying high quality planting material is a challenge, as are post harvest and marketing issues associated with storage, processing and transport, they are less demanding than cereals in terms of their requirements for other inputs, credit and extension support.

### 2.2.2 Cash crops

There is a longstanding debate over the relationship between food and cash crop production (Maxwell and Fernando 1989, Govereh, *et al.* 1999). Whilst acknowledging in particular that there can often be undesirable gender impacts to expanded cash cropping activities, the current authors see significant potential for expanded cash crop production to contribute both to rural growth (through consumption multipliers, expanded labour demand, and economies of scope mentioned earlier in section 2.1.2) and to household food security (through generating cash with which to buy food or inputs, improving household access to fertiliser and animal traction etc).

As with intensifying maize production, expanding cash cropping activity will often bring most direct benefits to middling and wealthier smallholder households. Benefits to poorer households are more likely to be indirect (through multiplier effects). However, ongoing household modelling work for Zimbabwe by Poulton (using 1996 prices) suggests that, whereas the benefits of higher maize prices to producers were generally offset by the accompanying higher prices for poor consumers, increases across all commodity prices (including groundnuts, sunflower, market horticulture and cotton):

- Led to significantly higher demand for hired labour than raising maize prices alone
- Compensated many households for the impacts of higher maize prices
- Led to a decline in estimated income poverty figures, compared with a rise when maize prices alone were raised<sup>12</sup>.

Dorward 2003 reports similar findings in Malawi. This suggests that smallholder cash crops can be significant drivers of growth provided that there are sufficiently large international markets ready to buy smallholder produce at competitive prices, and that smallholders can gain an increasing share of those prices through better infrastructure and access to more efficient marketing systems. These requirements are explored in more detail in what follows.

#### 2.2.2.1 *Traditional cash crops*

Cotton is the most important smallholder cash crop in the forum countries taken as a whole. Over the past decade production has expanded significantly in Mozambique,

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<sup>12</sup> The poverty estimates primarily capture the direct impacts of changed cropping activities within different household types. Second order impacts, through labour markets and consumption multipliers are not allowed for in these results, but are likely to lead to greater poverty reduction impacts.

Zambia and Zimbabwe (including in parts of semi-arid NR4), despite the current problems of depressed international markets as a result of chronic over-supply. (These are due largely to protectionism in the US, China and a few other countries). By contrast, the cotton sector in Malawi is in decline. If international prices do not remain depressed for too long, the cotton sectors in Zimbabwe and Zambia are well run and capable of continued expansion. Indeed, cotton is likely to be adopted by many of Zimbabwe's recently resettled households, particularly if prices begin to recover. The Mozambique sector faces greater challenges, related mainly to sector organisation.

Burley tobacco is the major smallholder cash crop in Malawi. Although the worst de-regulation fears have not been realised - of generally depressed prices due to a collapse in quality when the market was opened up to smallholders – the burley tobacco market in Malawi faces many challenges regarding quality, prices, market structures, and the capacity of the market to absorb expanded production given US regulations on use of imported tobacco.

#### 2.2.2.2 *Non-traditional cash crops*

The difficulties for smallholders of accessing international horticultural supply chains are increasingly widely recognised. However, domestic opportunities are available for smallholders with reliable water supply and well served by roads in both Zambia and Zimbabwe. Like root crops, fruit trees would appear to hold potential for labour-scarce households (such as those affected by HIV/AIDS), if they can afford the initial establishment cost and take a sufficiently long-term investment view<sup>13</sup>. In Zimbabwe, the ousting of most commercial farmers could present opportunities for smallholder horticultural producers in NR1-3, as well as for producers of soyabean and sunflower, industrial demand for which has been met largely by commercial producers up to now.

A major threat to smallholder access to domestic horticultural markets may be the growing market share and importance of large supermarket chains in the Southern Africa, particularly as they target poor urban consumers. With demands for regular and high specification deliveries, these generally prefer to source their supplies from highly organised large scale producers or tightly organised smallholder producer groups with whom they develop a close relationship (Weatherspoon and Reardon 2003).

Interest has been created by the export of legumes to India (see Jones *et al.* 2002 for example on pigeon peas from Malawi and Mozambique), and these have soil fertility and nutritional, as well as cash generating, benefits for the households concerned. It remains to be seen, however, how far private marketing structures can be encouraged that also provide ongoing support services to the fledgling producer base, and there are also fears of over reliance on the Indian market and hence vulnerability to protectionist action by Indian producers. Production and exports of paprika and birds eye chillies have grown rapidly in Malawi and Zambia. Valuable though these developments are, there are likely to be market limits to the extent to which they can expand, and it is important to consider how to avoid boom and bust prices, as experienced in the past with soyabean prices in Malawi, for example.

#### 2.2.3 Livestock

There is considerable diversity across forum countries with regard to the importance of smallholder livestock keeping in rural livelihoods. In Zimbabwe there is broad consensus that investment in livestock is central both to the path out of poverty for many smallholder

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<sup>13</sup> The other side of low labour requirements, however, is that multiplier benefits from labour hire are also low.

households (e.g. Jackson and Collier 1991) and to food security strategies. However, whilst most households keep some small stock and a disputed proportion (25% to 50%) keep some cattle, the importance of livestock keeping lies not so much in its contribution to income generation as in:

- its contribution to direct household nutrition (supply of milk and meat) and to crop production activities (the contribution particularly of cattle through draft power and manure)
- the reliance on livestock as a savings mechanism and as an insurance policy to be cashed in during a drought<sup>14</sup>.

A recent study on the control of foot and mouth disease in Zimbabwe estimated that only 2% of smallholder households – mostly in Matabeleland South province and mostly wealthy - rear cattle for sale on a regular (commercial) basis. Thus, despite expanding export opportunities to the Democratic Republic of Congo<sup>15</sup> (also open to livestock keepers in western Zambia), smallholder livestock keeping does not constitute a significant direct driver for growth. On the other hand, a much larger proportion of livestock keeping households do make unplanned (sometimes distress) sales of single animals, often to local buyers, and would benefit from generally expanding market opportunities. This ties in with evidence from Eastern Zambia (Hazell and Hojjati 1995) that livestock (and horticulture) have high marginal budget shares in local consumption patterns. Smallholder livestock production may thus represent an effective supporter (rather than driver) of growth.

At the other end of the scale, in Malawi the importance of livestock (especially cattle) to rural livelihoods has declined over time, the victim of increasing population pressure and thus diminishing grazing land, as well as increased insecurity. This presents a grim picture of the effects of increasing population pressures in the absence of wider economic growth and increased agricultural productivity, with increasing competition rather than complementary between livestock and crops.

### **2.3 Rural non-farm economy**

The growing recognition in recent years of the diversity of rural livelihood portfolios (Reardon 1997; Ellis 2000, Barrett 2001) has highlighted the importance of the wide range of activities that fall under the general heading of the rural non-farm economy. Given the diversity of activities that this term encompasses, it is perhaps not surprising that there is less agreement about their potential contribution to future rural growth than there is about their current importance to livelihood strategies and food security. Key issues here include:

- Whether people are currently engaging in non-farm activities because these represent attractive income earning opportunities in their own right or because the agriculturally-based activities on which they have traditionally depended are in decline (see, for example, Bryceson 2000)
- The extent of barriers to entry into more remunerative non-farm activities, excluding poor households and determining how many rural households can respond to new non-farm opportunities (Reardon 1998)
- The volume of employment generated by rural non-farm enterprises

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<sup>14</sup> ... the fact that livestock prices can fall precipitately when many households try to sell at once notwithstanding.

<sup>15</sup> By contrast, smallholders are unlikely to be able to replace commercial livestock exports to the EU market, where quality standards are extremely high.

- The extent to which demand for the goods and services produced within the rural non-farm economy is independent of the fortunes of the agricultural sector.

### 2.3.1 Tradables

In the view of the current authors, a question that has received much less attention than it should have done in recent literature is the extent to which the rural non-farm economy produces tradable goods and services and so has the potential to act as an independent driver of rural growth<sup>16</sup>.

Considering the forum countries, the main internationally traded good or service that may be said to fall within the rural non-farm economy is (eco-)tourism. Here we note the following:

- As is the case with minerals (see below), the basic resource endowment on which rural tourism depends is largely a gift of God. (People can develop or destroy an attraction, but not create one). This endowment is not equally distributed across areas, but the focus countries are all generally well endowed.
- However, even eco-tourism requires a fairly well developed basic infrastructure (to get close to the sites without major delay or discomfort), even if part of the experience of the attraction itself is then its undeveloped or “unspoilt” nature. This basic infrastructure is lacking in many of the rural areas of the focus countries.
- The tourism business as a whole is also critically dependent on political and economic stability. Thus, in the last couple of years there has been a major decline in arrivals to Zimbabwe. There is also the question of whether the global terrorist threat will spread to Southern Africa, having already impacted countries in East Africa.

The international tourism business as a whole is also renowned for its high “leakages”, with many tourists expecting to be served with similar goods during their travels as they are accustomed to back home. The eco-tourist movement has attempted to promote greater local linkages (within a more framework of generally more responsible tourism) and, within the forum countries, the CAMPFIRE programme provides an example of how to channel benefits directly to communities. The proportion of tourist attractions that have the potential to distribute large benefits to local communities in this way is, however, limited.

Beyond tourism, it is hard to think of many other internationally tradable products: Amarula, or carbon trading permits? Perhaps more importantly, more research needs to be done into the current status of, and potential for, goods and services to be sold in major urban centres. Fisheries, construction materials and fuelwood / charcoal are obvious examples, but where their harvest is not sustainable, their medium-long term contribution to growth and poverty reduction is questionable. This highlights the importance of effective management of common property resources.

A key question given the general lack of production of non-farm tradables concerns how they may be promoted. In parts of Asia textile producers have taken advantage of low rural labour costs and good rural infrastructure (roads and power) to invest in production

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<sup>16</sup> A notable exception to this is Haggblade et.al. (2002), who, in common with this paper, see identification of “key engines of rural growth” as the starting point for a rural poverty alleviation strategy. They observe that the rural non-farm economy (RNFE) produces largely non-tradable products and comment that, “... the local demand for the goods and services produced by the RNFE is conditioned by the level of output and income generated by the tradables sector (or economic base) of a region’s economy. ... In rural areas of the Third World [sic], agriculture typically forms the core of the rural tradables sector.” (p62-63)

units in rural areas. Rural areas in Southern Africa generally lack the necessary infrastructure and, as discussed below, light industry faces severe challenges even in urban areas. Nevertheless, this is an issue that needs continued attention.

### 2.3.2 Non-tradables

The perception of the current authors is that much rural non-farm activity produces non-tradable goods and services, where supply (for example petty trading of agricultural products) and demand are dependent on the fortunes of the agricultural sector (this is discussed in a little more detail in section 2.6 below). If this perception is correct, then these activities are largely supporters of, rather than drivers of, growth.

An area of rural activity that has been largely ignored until recently is the exploitation of environmental goods (see for example Cavendish 2000 and Shackleton *et al.* 2000). In his work in Shindi ward in southern Zimbabwe (in 1993/4 and 1996/7), Cavendish found that: “roughly 35% of average total income came from freely-provided environmental goods” (p16). With the exception of gold panning (see below), almost all of these goods were apparently non-tradables and/or intermediate inputs into own agricultural or livestock production activities (e.g. termitaria as fertilisers, livestock fodder). The share of total income derived from environmental goods was highest for the poorest households, showing the importance of these activities to food security (entitlements), but in absolute terms the income derived from environmental goods was highest for better off households. Nevertheless, Cavendish comments that: “... it is clear that the process of enrichment in Shindi involves shifting into much more lucrative economic activities. The counterpart to the declining environmental cash income share is the rising share of cash derived from remittances and, less significantly, high value crops and large livestock.” (p14)

## **2.4 Commercial agriculture**

The multipliers calculated by Bautista and Thomas 1999 show that commercial agriculture does have some potential as a driver for overall economic growth. Whilst generally not as labour intensive as smallholder agricultural production, certain high value activities (e.g. floriculture) can be very labour demanding. Moreover, commercial producers can access lucrative international markets that smallholders find very difficult to break into. Where effective links can be developed between core commercial estates and surrounding smallholder outgrowers (a model that was belatedly being explored in Zimbabwe just before the redistribution programme was accelerated in 2000), the potential for more broad-based rural growth is high.

Commercial agricultural production may also have a role to play in the opening up and development of previously under-exploited areas or districts, providing an initial volume of tradable goods production to justify upgrading of local infrastructure, and a boost to local employment, on the basis of which the provision of other services can develop. This highlights the question of land availability, another area where there is considerable variation within the focus countries. In Zimbabwe, commercial farms have traditionally made unjustifiably extensive use of the bulk of the highest potential land, much of which would have been better reallocated to smallholders (Weiner *et al.* 1985). By contrast, in parts of Mozambique and Zambia, good quality land is currently underutilised and the case for encouragement of commercial farm activity may be much stronger (see for example Duncan *et al.* 2003).

## **2.5 Industrial and Urban activities**

Although our prime focus in this paper is on rural growth (as the bulk of poor households will continue to live in rural areas in most, if not all, forum countries, for the foreseeable future), it is important to recognise the general interdependence of rural and urban activities and, more specifically:

- the importance of urban centers as markets for rural (especially agricultural) products
- the importance of wage employment and remittance flows from urban residents to the livelihoods of many thousands of rural households.
- the importance of the some industrial sectors in producing tradables and earning foreign exchange that (if not out of balance to the rest of the economy and causing ‘Dutch disease’) can enhance economic growth and food security by financing food imports and/or imports of agricultural inputs, and in .

An overwhelming finding of studies of rural livelihoods and poverty (e.g. Cavendish 2000, Jackson and Collier 1991, Nkum 1998) is that non-poor households are first and foremost those with wage or remittance income. Such income can be used to fund consumption (food, clothing, medical expenses etc) and also investment. In high potential agricultural areas, it appears that this money is often invested in the purchase of animal traction or inputs (Jayne 1994)<sup>17</sup>, whereas this is less likely in lower potential areas. (In Matabeleland, remittances from South Africa in the 1990s have apparently encouraged investment in solar paneling amongst wealthier households!). By contrast, in Malawi, where urbanization is low (and migrant labour opportunities to South Africa’s mines dried up several years ago), few farm households have access to remittances and struggle to find any means of acquiring cash to purchase inputs. Some (e.g. Barrett 2001, Orr and Orr 2002) now argue that, in areas of particularly high population density, such that most farms are too small to generate surpluses even for their own intensification, increasing access to non-farm employment is the key to stimulating agricultural and rural growth.

### **2.5.1 Minerals**

Mineral wealth is unequally distributed across the forum countries, but it does exist (primarily Zimbabwe, Zambia, Mozambique). If managed badly, such wealth can be a curse. There is a danger that profitable extraction of minerals might encourage conflict (Angola, Democratic Republic of Congo) and/or rent-seeking and generally bad governance (Nigeria) as rulers do not feel the need to go to the general populace to raise much in the way of tax revenues. Large mineral exports are also often associated with overvalued exchange rates. Within the forum countries, the copper story in Zambia is one of negative trends for most of the past 30 years – is this the curse of dependence on a “national asset”?

On the other hand, if well managed, minerals can provide the basis for a national growth strategy (as in Botswana). Whilst the linkages from large-scale mineral extraction to rural growth are almost certainly lower than those from agriculture, tax revenue from mineral extraction can fund rural services and foreign exchange earnings can finance imports of

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<sup>17</sup> Some observers argue that much of the investment in high yielding maize technology in Zimbabwe, even in the 1980s, came from remittances and not as a result of AFC credit, as is claimed by others. Available data suggest that, at its peak in the mid-1980s was lending to around 77,000 communal farmers (representing c9% of all communal households) as well as to 13,000 to resettlement farmers. This is probably as many as were producing significant maize surpluses. However, maize production then rose to a new peak in mid-1990s, despite the absence of credit (Durevall and Mabugu 2000). It seems plausible that, even if credit played an important role in encouraging the initial technology adoption, remittances were an important part of the story of continued production expansion in the mid-1990s.

food and agricultural investment, whilst the wage and remittance contribution to rural livelihoods can also be important. On a much smaller scale, Cavendish 2000 found that gold panning accounted for around a quarter of the “environmental income” in his surveys in Shindi. Again, however, it is only certain areas that have access to the necessary resources.

### 2.5.2 Industrial growth

According to Fafchamps M *et al.* 2001, rapid and sustained growth in national GDP is only possible when the manufacturing sector is growing strongly: “This is because the rates of growth achievable in manufacturing and modern services are much higher than the rate of growth achievable in agriculture and mining. The historical record shows that industry can easily grow at 10-20% a year for extended periods of time, while achieving 4% long-term growth in agriculture is extremely difficult.” (p8). However, there are important debates as to whether such manufacturing growth can be achieved without prior growth in agriculture. Fafchamps M, Teal *et al.* 2001 clearly believe that it can, citing the example of Mauritius. Others (e.g. Mellor 2000) argue that the more common historical record is one of prior agricultural growth providing the preconditions for industrial take-off: food supplies to feed urban workers at low cost, foreign exchange for importation of capital goods, demand for local manufactured products.

Unfortunately, the recent history in forum countries is one of industrial contraction, rather than of industry acting as a driver for growth. It has been argued (e.g. by Davies and Rattso 1996) that trade liberalisation in the 1990s was carried out too rapidly, causing inefficient, import substituting industries to go out of business, rather than giving them chance to prepare themselves to face new foreign competition. The resulting decline in formal employment in Zimbabwe in the early 1990s was an important contributor to the rise in poverty in both urban areas (Central Statistical Office 1998) and in rural areas, through the reduction in remittance flows (Campbell and Mukamuri 1998). Similar problems were also experienced in Malawi, although here accentuated competition from Zimbabwean goods is seen as part of the problem.

Looking forward, we note that, even with several years of strong agricultural growth, domestic markets in individual forum countries are unlikely to provide sufficient demand to stimulate rapid industrial growth. Therefore, industrial growth will have to be built either on international exports or on regional trade. Unfortunately, there is little chance of establishing international export industries in landlocked African countries (Fafchamps M, Teal *et al.* 2001). This is primarily a question of transport cost. Within our focus countries, therefore, the only possibilities lie in Mozambique.

However, poor infrastructure, whilst bad for international export prospects, could offer some protection for regional marketing efforts, if SADC trade liberalization efforts do achieve a significantly more open regional market. The key issue in regionally-focused industrial development is: how many countries will gain? A common expectation with regional trade liberalization is that most industrial and financial investments will gravitate to one or two countries that offer the best operating environment (and location?) (Fafchamps M, Teal *et al.* 2001). Therefore, regionally-focused industrial development is likely to be good for poverty reduction in some countries, but not in others. This fear has in the past caused many African politicians to back away from regional trade agreements. Will SADC liberalisation efforts eventually overcome this or will it still cause current efforts to stall?

### 2.5.3 Migration and Remittances from within the Region

In southern Africa there is a long history of intra-regional labour migration, which has been an important determinant of livelihood strategies for numerous rural households. However, many of these opportunities are now either past or under threat.

Given its size and economic strength (and the presence of its mining industry) South Africa has historically been the focus for most labour migration. Whilst its importance for Malawians (mining labour) was already declining by the early 1980s, migration remains central to many livelihood strategies in Lesotho. The same is true for many households in southern Zimbabwe. Informal (largely illegal?) migration from Matabeleland increased rapidly after 1994, but was then curbed by the South African authorities towards the end of decade. It has probably increased again since the political and economic troubles in Zimbabwe intensified in 2000. However, such “distress” migration – overwhelming the capacity of South African immigration authorities to control it - is probably not a sustainable driver for rural growth.

At the same time, there is the threat of the mass repatriation to Malawi of up to 300,000 Malawian commercial farm workers and their families currently living in Zimbabwe, but affected by the land redistribution programme. It is not clear how the stretched Malawian economy could re-absorb them, forcing President Muluzi to become more active in seeking dialogue with President Mugabe.

On a more positive note, there appears to be a steady flow of migrants (or returning refugees) from Malawi to Mozambique, and in general this is welcomed northern Mozambique (Whiteside 1998). A large-scale exodus (involving hundreds of thousands of people) would be needed to take some of the pressure off the land in rural Malawi, allowing holding sizes to expand and making intensification of production more plausible. One of the key issues appear to be access to services in Mozambique as compared with Malawi, but greater understanding is needed of the reasons why people decide to move or stay, and of the impacts of migration on recipient communities, on recipient economies, and on the sustainability of current agricultural practices and systems (Whiteside 1998).

## **2.6 Conclusions**

In this section of the paper we have examined different sectors as regards (a) the potential value of their growth in contributing to wider growth or food security and (b) opportunities for market expansion. This is summarised in table 2.4. The ‘grading’ is necessarily broad and subjective, using criteria discussed in sections 2.1.2 and 2.1.3. Food security impacts are graded in terms of likely numbers of people affected and the security of access provided (income from non-tradables is generally considered less secure than income from tradables, as non-tradable prices are more likely to fall during times of general food shortage). It must be stressed that table 2.4 shows impacts of *growth* in different sectors, it does not assess the *current importance* of these sectors in the economy and in supporting food security. The current importance of each sector will be largely determined by its scale and share in household incomes and livelihood strategies and in the economy (determining drivers’ importance in underpinning the economy and supporters’ importance in spreading linkages).

An immediate conclusion suggested by the discussion of this section and by an initial examination of table 2.4 is that smallholder agriculture has the best linkages for pro-poor growth, the best food security impacts, and among the most hopeful market expansion opportunities. Two objections, however, may be made to this conclusion: first that

agriculture often accounts for only around 50% of incomes in African rural economies and livelihoods <sup>18</sup> (and that therefore non-farm activities are critical for growth in rural Africa, where most of the poor live), and second that large investments in smallholder agriculture have already been tried, in the 1980s, and they failed to deliver sustained growth. We briefly consider the first of these issues below, and leave to section 3 a more detailed examination of the difficulties facing smallholder agriculture (and other sectors).

As noted above, there is increasing evidence of the importance of non-farm income in African rural economies and in the livelihoods of poor households (see also Barrett 2001). However, while higher income households often have access to higher return non-farm activities, diversification out of agriculture may be due as much to declining opportunities within agriculture as to increasing opportunities in non-farm opportunities (a process of 'push' into low return, crowded non-farm activities rather than 'pull' into high return non-farm activities, Bryceson 2000). Dorward and Kydd 2003 describe complex farm / non-farm interactions both within different household livelihood strategies and (more importantly) within the rural economy in Malawi, as these affect supply and demand (and hence prices) for non-farm goods and services and for labour and grain (whose prices are critical for the livelihoods and food security of the poor). Dorward 2003 estimates that smallholder agriculture in Malawi may account for 60 to 70% or more of growth drivers in the informal rural economy, even though it may account for only 30 to 40% of net income. Ongoing work by Poulton yields similar conclusions for Zimbabwe. However, smallholder agriculture often benefits from non-farm activities (which may be an important source of capital for on-farm investment). More fundamentally, while farm activities are critical in *driving* growth, non-tradable rural non-farm activities are largely responsible for *supporting* growth (although livestock and vegetables have an important role here too), supporting linkages and reducing leakages to increase and spread benefits from growth drivers. Complementary growth in both farm and non-farm activities is needed therefore, and the dichotomy between policy emphasis on farm and non-farm growth is not helpful. However, without smallholder agriculture driving rural growth, expansion in the rural non-farm economy has very limited scope for promoting pro-poor growth and food security on its own.

For a sector to deliver pro-poor growth or food security, therefore, it must satisfy three necessary conditions: it must have a high potential contribution to growth or food security, together with sufficient opportunities for market expansion, and it must also be able to expand supply in response to these market opportunities. It can be argued that the

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<sup>18</sup> Reardon 1998 summarising results from a large number of case studies in the 1970s to 90s finds average non farm income shares of 42% in Africa (45% in East and Southern Africa, and 36% in West Africa), although this may mask wide variation in the importance of non-farm income between households with different incomes and livelihood strategies in the same area, and between households in different areas (Barrett *et al.* 2000). Bryceson 1999 finds even higher non-farm income shares of 55 to 80% across a range of case studies in sub Saharan Africa, with evidence that non-farm income shares have increased dramatically in many areas in the late 1980s and in the 1990s. Unfortunately different authors' definitions of non-farm and off-farm income are not always consistent. Whereas farm income generally refers to income from a household's own farming activities, and non-farm income refers to income that is not gained from direct engagement in agricultural activities, the status of agricultural wage employment is often ambiguous.

structural adjustment and market liberalisation policies which have dominated Sub Saharan Africa in the last two decades have largely attempted to address structural problems affecting market opportunities and demand and prices for goods and services: these policies have not, however, paid sufficient attention to the very serious problems that often inhibit producers' capacities to respond to and take advantage of market opportunities and increased demand and prices. It is to these problems that we now turn.

**Table 2.3 Pro-poor Growth and Food Security Impacts of Expansion in Different Sectors**

SECTOR		Linkage Effects					Food Security Impacts				Market Opportunities		
		Growth Drivers/Supporters	Consumption linkages	Unskilled Labour Demand	Food Prices	Household food sources		Economy/community food sources		International	Regional	Domestic	
						Own production	Exchange	Own production	Exchange				
Smallholder Agriculture	Cereals	Driver (semi-tradable staples)	***	**	**	**	***	***	***	-	**	**	
	Cash crops	Driver (tradables)	***	***	-	-	***	-	***	*	**	-	
		Supporter (non-tradables)	***	***	-	-	**	-	**	-	-	?	
	Livestock	Largely non-tradable supporter	**	*	-	**	***	*	**	-	-	?	
Rural Non-Farm Activities	Tradables	Driver	**	**	-	-	**	-	**	*	-	-	
	Non-tradables	Supporter if high marginal budget share	**	**	-	-	*	-	*	-	-	?	
Commercial Agriculture	Cereals	Driver (semi-tradable staples)	*	*	**	-	**	***	***		**	**	
	Other	Driver (tradables)	*	**	**	-	**	-	***	**	**	-	
		Supporter (non-tradables)	*	**	-	-	*	-	**	-	-	?	
Minerals		Driver (tradable)	*	-	-	R	R	-	R/***	***	-		
Industrial	Driver (tradable)		*	-	-	R	R	-	R/***	*	*		
	Supporter (non-tradable)		*	-	-	R	R		R	-	-		

KEY: \*\*\* Very strong / very good; \*\* Strong / good; \* Moderate; - Very small; ? If economy growing; R remittances.

Note: The table shows linkage and food security impacts of growth in different sectors, not current impacts, which will be largely determined by sectors' current scale. Impacts of growth in supporters assumes wider processes of growth stimulated by drivers.

### **3 Policies for Economic Growth**

#### **3.1 Conditions required for market based economic growth**

We now examine factors that inhibit firm or household businesses' responses to market opportunities. We examine these first in terms of general requirements for businesses to grow, and then consider issues specific to different sectors.

Growing businesses require market opportunities, access to resources to invest, a reasonable expected return from such investment (taking account of expected sales revenues, costs of inputs and other investments), and acceptable risks. Although there are some highly profitable business opportunities in most economies, and people able to take advantage of them, business opportunities that meet the four requirements outlined above are generally thinly distributed and not widely accessible in poorer, stagnant economies: market opportunities are limited by the lack of economic activities and the limited flow of incomes and expenditures in the economy, and the lack of business activity itself not only limits demand for final and intermediate outputs, it also constrains input supply and raises input costs (as low volumes lead to high unit costs and missing markets), raising costs and lowering returns. These constraints affect all sectors to a greater or lesser extent – transport, primary industries, business and consumer services – and reinforce each other in the web of relationships necessary for market based economic growth. The result is a 'low level equilibrium trap' (Rosenstein-Rodan 1943).

The low level equilibrium problems relate particularly to problems of risk. Following Dorward and Kydd 2002 we identify four basic categories of risk that businesses face: production risks (from natural shocks, mechanical failures, etc); market price risks (from general changes in supply and demand affecting input or output prices); economic coordination risks; and risks of opportunism. The first two risk categories are widely recognised as being particularly problematic in poor economies which are highly dependent on natural resources with limited protective capital investment and thin markets. Coordination risks and risks of opportunism are, however, less widely understood but are a particular feature in situations of low economic activity and poorly developed and/or thin markets. They describe respectively the risk of failure of a businesses' investment due to the absence of necessary suppliers or buyers when needed, and the risk of a supplier or buyer who is present taking advantage of their effectively monopolistic or monopsonistic position to drive a very hard bargain that in the end makes the business unattractive. Dorward and Kydd describe in more detail these types of risk and the problems that they pose, with a particular focus on rural areas and smallholder agriculture, but these risks are found in other sectors, wherever markets are thin – even if that thinness only affects one critical resource in the supply chain. Risks of opportunism also arise where businesses are subject to uncertain controls and 'taxes' (from bureaucratic regulations, corruption, licensing requirements, and protection rackets).

What then are the critical changes and policies needed to allow businesses to respond to market opportunities and to contribute to pro-poor growth and food security as discussed above? We consider first issues common to all sectors, and then specific issues with regard to agriculture, the rural non-farm sector, and urban and industrial growth.

#### **3.2 Macroeconomic and general policies for market based economic growth**

It is widely recognised that sound and stable macro-economic conditions are a basic pre-requisite for growth in all sectors of the economy. Key elements of this are low and stable interest rates, low inflation, and stable and realistic exchange rates. Low interest rates

allow cheap and accessible access to finance and hence promote equity investments and access to production inputs, while low inflation is important for financial markets and businesses' financial management and ability and confidence to predict opportunities and difficulties. Realistic foreign exchange rates, and access to foreign exchange, are essential for access to input and output markets and to foreign investment, and to the attractiveness of investments in tradables – seen earlier as critical drivers for growth. Stability in each of these is necessary for business confidence and reduction in market, coordination and opportunistic risk.

Such conditions are, unfortunately, notable for their absence in most of the Forum countries, which have experienced high interest and inflation rates, with large devaluations, despite nearly twenty years of structural adjustment rhetoric and, to a lesser extent, policies. Current high interest rates in Malawi, for example are widely recognised to be a major cause of economic decline. These are the direct result of the government's large budget deficit, which is financed by treasury bills yielding 40% or more: very few business opportunities can provide a risk free return of 40% to match that, so firms and smallholder farmers are crippled by lack of access to affordable finance.

Achieving macro-economic stability is not easy. Although unnecessary government expenditures may be rife and easy to identify as a major cause of unsustainable budget deficits, there are very severe challenges to reducing fiscal deficits, with regard to governance and to (related) economic difficulties faced in poor economies. Governance issues are considered in detail in Theme Paper 1, and we do not consider them further here. Economically, governments face very large demands to provide services and to invest in infrastructure, with a very weak tax base and limited capacity and efficiency in tax collection, service provision and expenditure. Attempts to increase the tax base are likely to bear heavily on businesses and undermine investment incentives (with decentralization these may be particular problems for poorer districts). There are therefore very heavy pressures for large budget deficits, which encourage inflation and/or high interest rates. Reliance on donor financing has its own difficulties. There are related difficulties with foreign exchange earnings.

In addition to sound and stable macro-economic policies, the need for a favourable business environment is widely recognised. This requires good infrastructure (roads and railways, tele-communications, power, water) to reduce general business costs, and clear and enforceable rules and procedures as regards property rights and contracts, to reduce risks of opportunism. Petty but onerous business regulations and poor services pose a serious and widespread problem, raising both costs and risks (Fafchamps M, Teal *et al.* 2001). While the need for improvements in these areas is generally accepted, they are difficult and costly to achieve, and often involve challenging entrenched and powerful private and political interests. Infrastructure, once built at very high cost (for example US\$250,000 per km of new paved road) must be maintained, so greater attention must be paid to types and locations of infrastructure (for example lower cost rural feeder roads) and to the institutions and mechanisms for financing, constructing, operating and maintaining them. Promising examples here include privatization in the telecommunications sector, with the growth of mobile phone networks, and local involvement in rural road construction and operation. Property rights are equally problematic to develop, requiring effective change in formal and informal institutions, the development of a strong financial and banking system, and clearly defined, transparent and trusted judiciary and government roles in regulation and in economic management. These interact with each other: the strong banking sector in Zimbabwe, for example, has been unable to perform its developmental role because of the wider economic crisis.

### 3.3 Sectoral policies for market based economic growth

#### 3.3.1 Agriculture

Smallholder farming activities, and particularly those carried out by poor people in poor areas, experience to a greater extent than most other sectors problems discussed earlier that lead to a low level equilibrium trap. Poor physical transport and communications, remoteness, dependence on an uncertain and seasonal environment and production processes, small production units, and poverty all lead to thin markets with associated high costs and coordination and opportunistic risks, not just for farmers but also for providers of agricultural services to farmers. These problems are particularly important when purchased inputs are required to raise agricultural productivity, since this increases farmers' investment risks in agricultural production, while at the same time demanding greater coordination along the supply chain (involving input suppliers and input finance, as well as output traders).<sup>19</sup>

#### *Past Experience*

Many African countries set up monopolistic marketing parastatals in the immediate pre- or post- independence period, partly as a mechanism to address these problems: private sector involvement in smallholder agriculture was weak (as regards access to capital and human resources, and in organisational capacity) and the poor market and infrastructural development in rural areas presented highly risky and unattractive investment opportunities, as discussed above. There was also implicit recognition of the major coordination challenges facing private investors in smallholder agriculture. State intervention, was seen as a means of addressing all these problems, in that it could provide a coordination mechanism across trading, infrastructural, research and extension investments and activities; it could access official finance sources; it could coordinate with farmers; and it could invest in the organisational and human resource development necessary to develop working systems.<sup>20</sup> At the same time government policies to fix exchange rates and to control agricultural markets allowed price stabilisation and price setting to reduce price risk to farmers and to set finance, input and output prices to give risk adjusted returns high enough to attract investments in intensified crop production, at least by better off smallholders. Pan territorial pricing allowed these benefits to extend even to remote rural areas. At its height this approach led to the integrated rural development projects of the 1970s and 80s, attempting to extend coordination into health, education, and roads as well as agricultural research and extension, input supply, crop marketing, and seasonal finance.

The parastatal system can therefore be seen as a specific 'institutional fix' (Kydd *et al.* 2001b) that enabled governments to address the low level equilibrium trap problems discussed earlier, of low returns and high natural, market, coordination and opportunistic risks. By committing themselves to coordinating and making investments themselves and to controlling and stabilising prices, governments took on the risks involved in developing and delivering financial and input and output marketing services, encouraged coordinated commitment by farmers, and took over price risks from farmers. Coordination across

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<sup>19</sup> These problems are reduced when agricultural production can be expanded by increasing extensive production (increasing area and labour inputs), and where there is strong external demand for crop outputs. This appears to have been the case in northern Mozambique in supplying maize into Malawi. It is not, however, a situation that predominates in other Forum countries, except in Zambia: 'sustainable intensification' (Reardon *et al.* 1999) is needed in most areas, and will become increasingly important in areas which are currently able to engage in more extensive production.

<sup>20</sup> In addition to these very practical problems facing private sector led agricultural development, there were other wider political motives which were very important for the development of parastatals (Dorward and Kydd 2002).

credit provision and recovery, input supplies and crop marketing also allowed the development of mechanisms to reduce incentives for farmers to default on loans, and thus reduce risks of opportunism. This was the basis for the very high loan repayments rates achieved in Malawi although the political economy in Zambia and in Zimbabwe did not take advantage of this feature of the system.

As is well known, these parastatals had a mixed record. They supported, at different times, large increases in maize production in more favoured maize growing areas, a growth dynamic in some rural areas, and national (though not household) food security. These gains were, however, achieved at considerable cost. The parastatals were often inefficient, ineffective monopolies and state organs of patronage. In Malawi ADMARC operated for a number of years with commendable efficiency, and the Smallholder Agricultural Credit Authority maintained for many years an outstanding repayment record on farmer lending. However, cross subsidisation from cash crops to maize depressed smallholder cash crop production and earnings and became increasingly difficult to finance, and this led to steady decline in its effectiveness. Progressive partial privatisation of maize markets further undermined the system, and then the combination of the aftermath of the 1991/92 drought with the advent of multiparty politics in the early to mid 1990s dealt the final blow and the system collapsed. In Zambia, and especially Zimbabwe, the parastatal systems supported large increases in maize production, but the burden of subsidies, loan defaults and price controls led to unsustainable drains on government fiscal resources, and, with increasing cash flow problems, inability to deliver effective services. Direct benefits tended to accrue to better off farmers in more favoured areas (favoured as regards lower land pressure and more reliable climate) and by-passed more challenged rural areas where large numbers of the rural poor are located – in Zimbabwe Natural Regions IV and V were largely excluded from the benefits of the maize revolution (Poulton *et al.* 2002). There was also a tendency to rely on state and party power to command top down coordinated action rather than on positive incentives rooted in players' perceived self interests.

However, these problems should not mask the institutional problems that the parastatals addressed, nor the successes that they sometimes achieved in addressing these problems. In particular their record needs to be judged against the achievements of the liberalised markets that succeeded them.

There is an extensive literature describing the different processes of liberalisation in Southern Africa (see for example Jayne and Jones 1997; Kherallah and Govindan 1999; Jayne *et al.* 2002; Chilowa 1998; Deininger and Olinto 2000). There continues to be considerable debate about the effects of liberalisation, largely due to difficulties (a) in establishing counterfactuals as regards the effects of alternative policies to liberalisation, (b) in agreeing how far liberalisation has been achieved, and whether continuing problems with market development are the result of too little or too much liberalisation, and (c) in separating out the effects of different elements of liberalisation and of other simultaneous changes, in, for example, national governance and international markets (for example Kherallah *et al.* 2000; Jayne, Govereh *et al.* 2001; Dorward *et al.* 2002; Orr and Mwale 2001). It is, however, generally agreed that by the late 1980s the parastatal system was unsustainable, as it was becoming increasingly inefficient and ineffective, and imposed growing fiscal demands on government. By pulling back the state from commitments to carry investment, price and exchange risk, liberalisation solved some problems, removing the price distortions and operational inefficiency of state managed systems, reducing fiscal strain, and reducing scope for rent seeking. Positive developments noted include benefits for maize consumers from competition in maize processing, with expansion of local hammer mills and reduced transport and processing costs (Jayne and Jones 1997),

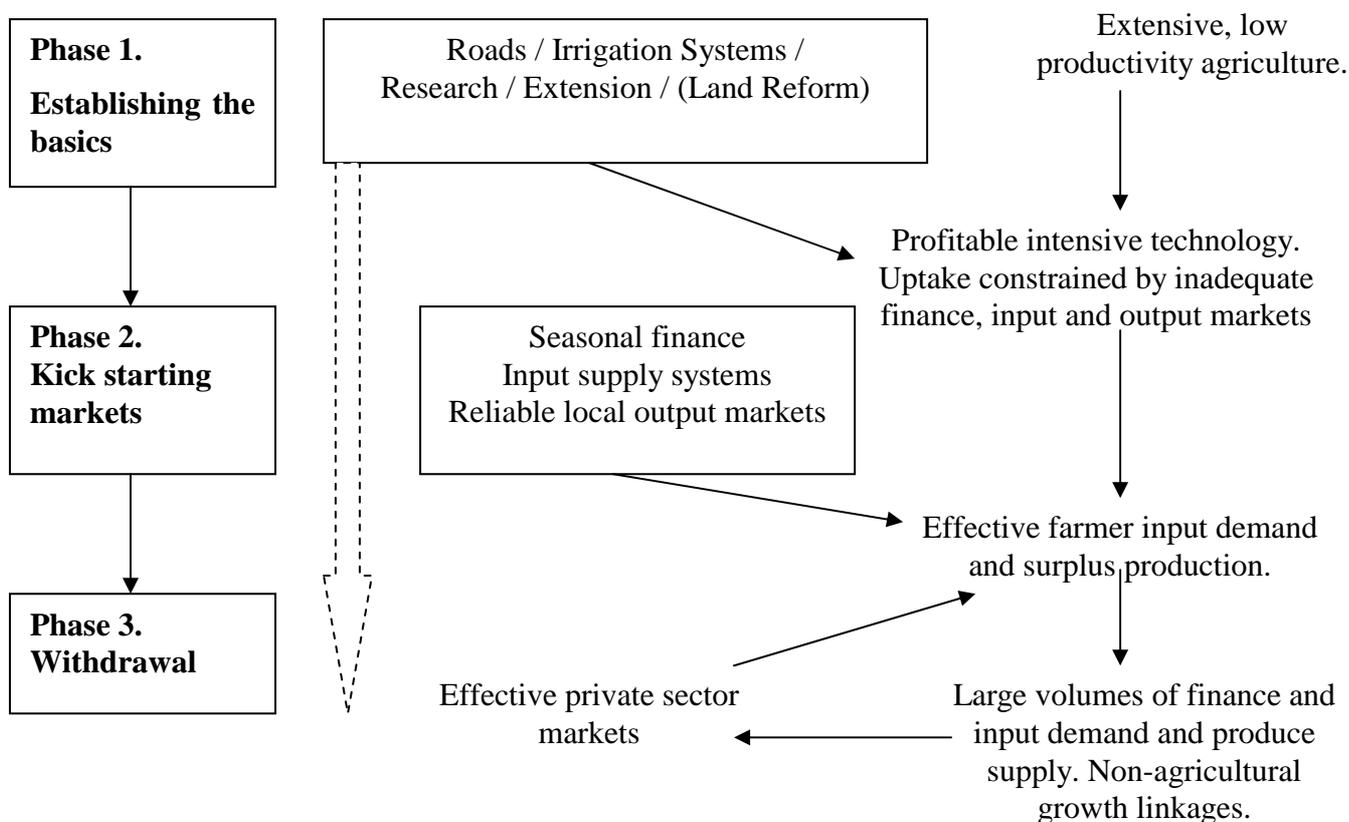
increased smallholder opportunities in growing some previously regulated cash crops (burley tobacco in Malawi), and the development of successful private institutional arrangements supporting smallholder production of certain cash crops (for example cotton, Gordon and Goodland 2000). Generally building on these cash cropping opportunities, a new breed of farmer organisations have also achieved some successes in developing coordination across farmers' investments and input, output, financial and extension services (for example NASFAM in Malawi, CLUSA in Mozambique). There have also been a (small) number of examples of private buyers of cash crops (for example legumes, sorghum) entering into contractual agreements with (generally larger scale) smallholder farmers, and providing inputs, seasonal finance, technical advice and guaranteed end of season prices in return for guaranteed supply of produce (Rusike *et al.* 2000; Jones, Freeman *et al.* 2002). Important and significant though these initiatives are in expanding the opportunities for and volumes in smallholder cash crop production in the last 10 years, it is often not clear how their achievements and costs compare with those of the parastatal systems at their peak.

As regards maize crop production, liberalisation appears to have solved the problems of parastatals' high cost and patchy service delivery largely by removing these services. Investment in financial and input service delivery, in produce trading, and in farm production has withered away, as private sector investment has not replaced the parastatal system that aspired to support rural investment in maize production. Not unexpectedly, rural economies are now caught in a low equilibrium trap with systemic investment risks, and farmers face an absence of financial services and large uncertainty about maize prices and hence risks as regards profitability of investments in maize production. Rural financiers face problems of widespread borrower opportunism and strategic default, with limited investment opportunities for borrowers, against very high interest rates. Input traders face low demand and output traders face low and uncertain supply. Consumers also face very uncertain maize prices, making it dangerous to diversify out of maize production into other more profitable farm or non-farm activities. All investors also face high degrees of uncertainty from macro-economic instability (with rapidly changing exchange rates and inflation, and high interest rates), and from often erratic government and donor policies and interventions affecting food and other markets.

The critique that liberalisation policies have failed to address key low level equilibrium trap and coordination problems in poor rural areas is supported by experience elsewhere in the world. Dorward, Kydd *et al.* 2002 examine irrigated and non-irrigated agricultural transformations in the 20<sup>th</sup> century and put forward evidence that external (government) action played an active role in market coordination in almost every case, with the establishment of specific institutional arrangements for finance, input and produce markets, not a reliance on liberalised competitive markets. They postulate a set of phases through which development proceeded. In Phase 1 (starting from a poor pre-transformation agriculture and economy) basic interventions were made to establish technological, infrastructural and institutional conditions for productive intensive cereal technologies (see Figure 3.1). Once these were in place, uptake was limited to a very small number of farmers with access to seasonal finance and markets. Agricultural transformation was then 'kick started' (in Phase 2) by government interventions which enabled more farmers (but still a privileged minority) to access seasonal finance and seasonal input and output markets at low cost and low risk. Subsidies were required primarily to cover transaction costs, in the sense that the technologies would have been basically profitable if farm gate prices were not affected by very high transaction costs and

hence marketing margins<sup>21</sup>. Once farmers became used to the new technologies and when volumes of credit and input demand and of produce supply built up, transaction costs per unit fell, and were also reduced by growing volumes of non-farm activity arising from growth linkages. Governments could (and should) have then withdrawn from these market activities and let the private sector take over (in Phase 3), transferring their attention to supporting conditions to promote development of the non-farm rural economy. Difficulties arose in managing these interventions effectively and efficiently, and from political pressures to include price subsidies with transaction cost subsidies and to continue with these market interventions and subsidies when they were no longer necessary (and were indeed harmful).

**Figure 3.1: Policy Phases for Agricultural Transformation in Favoured Areas of**



from Dorward et al, 2002

### Asia

Fan *et al.* 2003, testing this hypothesis, find high agricultural growth and poverty reduction payoffs from government investments in India in the 1960s to investments in fertiliser subsidies, in roads, in agricultural research on HYVs, in power subsidies and in credit subsidies (in order of descending returns). Returns to all of these decline over the three succeeding decades, to the extent that they become non-significant or negative. Roads

<sup>21</sup> An alternative way of addressing the drag from high transaction costs is to provide agribusinesses with direct support in the form of low cost access to financial and other services while they are building up the volume of their business. Although this is a potentially very valuable approach, we question whether on its own it can stimulate business activity on the scale and schedule required to address Southern Africa's need for agricultural development.

are the exception to this, showing consistently high (indeed the highest returns) in the later decades, while returns to educational investments rise from initially low levels (see Annex 1).

Dorward, Kydd *et al.* 2002 also consider reasons for the widespread failure of this development model in Africa and explain it in terms of more difficult agro-climatic conditions, lower population densities (although there are also high population density areas and these are often too crowded and poor to support processes of intensification), lower human capital, and poor communications infrastructure. Varied and complex agro-eco systems - with a high proportion of cultivated land subject to soil fertility constraints, and lack of irrigated land and of land with 'drought proofing' irrigation - demand a wider range of more challenging technological solutions. These in turn suggest higher unit costs (per hectare and per capita) of agricultural research, information and other services and greater risks and lower returns to investment (Kydd *et al.* 2001a). Further difficulties have arisen from the small size of most African economies (affecting their capacity for independent action), from failure to make sufficient progress before processes of patronage and inefficiency became entrenched in and undermined the parastatal system (Sachs concept of 'premature greying' or ageing of state organisations is pertinent here), and perhaps also from lack of recognition of the importance of women in African agriculture, and consequent difficulties in developing effective research, extension and other institutions recognizing this (Gladwin).

Today's poor rural areas not only carry forward these difficulties from the past, they also face a number of new difficulties, as a result of changes in global economic and policy conditions (Dorward, Kydd *et al.* 2002). Thus world prices for primary agricultural commodities have fallen steadily since the 1960s, and the globalisation of markets within the world economy (as semi-tradables become tradables and local prices fall towards world market prices) has further reduced the terms of trade for poor farmers and may weaken local demand for non-tradables and its positive effects on consumption linkages and growth. It is not clear what the overall relative balance will be for poor rural households between the direct benefits of low food prices and the (indirect) effects of low product prices on employment and growth in the agricultural sector, although recent modelling results in Malawi suggest that higher prices accompanied by compensating welfare transfers to the poor may offer positive long term growth and poverty reduction opportunities (Dorward 2003). Smallholder agriculture also faces threats from increasingly high specifications in global (and even local) supply chains (Weatherspoon and Reardon 2003; Kaplinsky 2000; Kydd and Poulton 2000) and from the likelihood of exclusion from the bio-technology revolution (Pingali 2001; Kydd *et al.* 2000). Finally, and critically, the spread of HIV/AIDS threatens and undermines the fabric of national and rural society and economic activity, drastically increasing the dependency ratio, undermining savings and services, and attacking the social, human and financial capital of the rural poor and of the organisations that might support their welfare and economic development (de Waal 2002).

### *Future Options*

What then are the options for overcoming the low level equilibrium trap in smallholder agriculture in Southern Africa today when faced with historical failure of government led coordination in the region and current failures of liberalised market coordination? It seems clear that some non-market coordination is needed in the development and delivery of a range of services, to reduce risks and engender confidence and coordinated investment. These services should include research and extension (which should be enabling rather than prescriptive, recognising diversity and encouraging and supporting experimentation,

adaptation and fine tuning), input supply, credit, secure output markets, and, where livestock are important, veterinary services. Where credit is being provided for the purchase of inputs in rainfed agriculture, then some explicit or implicit insurance should also cover loan repayment in the event of crop failure as a result of drought. Some degree of price support may also be necessary – in terms of producer subsidies for seasonal credit, inputs, or outputs – in order to raise producers' expected returns to make risky investments sufficiently attractive<sup>22</sup>.

Although the need for these services may be clear, their financing and coordination presents a major challenge. For cash crops there may be commercial incentives for buyers and processors to take on the risks of coordinating and delivering these services, for the food/cash crop system as a whole. Dorward *et al.* 1998 discuss the conditions which are likely to promote or undermine such 'interlocking' arrangements, and farmer organisations can play a key role in developing these conditions, provided that broader institutional, economic, agro-ecological and commercial/ market conditions are supportive. The challenges are much greater in providing coordinated services to food crop producers – and in coordinating these with welfare services and national and household food security systems.

In medium/high potential areas the experience of the 1980s suggests that more intensive production is possible. However, progress is needed with both technological and institutional development. Technologies that were more productive with lower risks and lower costs, would both increase incentives for farmers' investments and reduce the reliance on coordinated supply chains, and hence the need for more effective coordinating institutions (which we discuss below). Some progress has been made with agronomic practices that involve greater use of organic fertilisers produced on-farm, to supplement and limit dependence on timely purchases of costly inorganic fertilisers, but more progress is needed<sup>23</sup>. In the meantime we urgently need but do not have, to our knowledge, sustainable institutional models that can deliver to farmers the coordinated services required to support increased food crop productivity on a large scale with existing technologies. Our analysis does, however, suggest some pointers:

- the old parastatal system is flawed, but central government resources are needed to take on some of the costs and risks inherent in the system, and some central authority is necessary to define and regulate the necessary market structures;
- the private sector cannot be expected to develop and operate such systems on its own (the costs and risks are too high, the private returns too low, while the balance of power, risks and benefits between farmers and service providers must be finely balanced) but private sector capital, expertise and discipline needs to be encouraged and tapped;
- farmer organisations are likely to play a key role in local coordination, but they are delicate institutions which tend to fail if they are made to carry too many activities and expectations or if they are scaled up too fast;

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<sup>22</sup> We emphasise again that these proposals are consistent with experience in successful agricultural transformations in Asia, discussed above, but recognise that there are very serious questions about (a) how these services should be delivered, (b) how they should be financed, and (c) how poor consumer welfare and food security should be protected where grain prices are raised to encourage producer investments. We address these issues in the remainder of this section, and in section 4 but argue that the importance of these issues means that recognition of these practical difficulties should not preclude a search for their resolution.

<sup>23</sup> Our view is that, in most areas of moderate agro-ecological potential and above within the forum countries, there is a need both for greater use of organic soil fertility enhancement technologies and greater use of inorganic fertiliser.

- there is no doubt a role for NGOs as advocates, facilitators and service providers, although again realistic roles and expectations need to be defined and their performance watched carefully;
- and finally, donors can play an important role supporting in many different ways these players in their search for effective, transparent and balanced institutional mechanisms for coordinated service delivery.

The development of successful models therefore needs a willingness of different parties to cooperate and invest in imaginative 'institutional innovations', recognising complementary strengths and weaknesses. It also needs active processes which encourage diversity, seek out examples of different models that have been tried in the field, are open to and share lessons from success and failure, and keep adapting and responding to emerging lessons and changing conditions. These are complex issues, involving issues of broader economic policy, agronomy, and, crucially, the governance of complex and controversial systems with the potential for inefficient, ineffective and dysfunctional performance from manipulation by particular interest groups seeking large-scale private gains.

Another factor to be considered here include the relationship between increasing decentralisation in many Southern Africa countries and the coordination challenge presented above. It is possible to see different effects of decentralisation on the development of coordinated service delivery: supporting it through, for example, increased roles for local knowledge, commitment or control<sup>24</sup>; or inhibiting it through, for example, lack of resources, discipline, or wider coordination. We suggest another key issue is the current weakness of Ministries of Agriculture in many Forum countries. These have been affected by a particularly marked reduction in resources, power and roles in the last 20 years, beyond the more general difficulties facing the Civil Service as whole. A revitalised smallholder agriculture needs a much clearer definition of the role(s) of Ministries of Agriculture, and the development of the necessary financial and human resources to fulfil these roles. Again, this is not to argue for a return to large scale Ministry of Agriculture extension and investment projects, but for them to recognise and deliver core coordination and regulation functions in smallholder agriculture, even if this mainly involves coordination of other service providers. This may require a major review of the core roles, structures and activities of Ministries of Agriculture, and of the human and other resources they need to fulfil these roles.

In low potential areas we suggest that there are currently no technologies for significant intensification of food crop production and, as suggested earlier in section 2, research and extension should focus on assisting households to raise food crop yields and reduce their food deficits through low cost, low external input technologies. A further difficulty for these areas is that they if they are food deficit areas without the potential to significantly expand food production, then they will suffer from policies that raise grain prices to promote agricultural development in high and medium potential areas. This is a problem shared with poor food deficit households within high and medium potential areas, and in urban areas. In India this was addressed using 'fair price shops', providing low priced grain to affected households. Recent modelling work in Malawi suggests that higher maize prices together with compensatory support to poor food deficit households can be effective in promoting economic growth, poverty reduction and food security (Dorward, 2003).

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<sup>24</sup> It is possible to imagine, in a situation where decentralization did lead to more accountable government, that there may be a role for local government development planners in encouraging coordination amongst diverse service providers (commercial, state, NGO) within their areas of jurisdiction.

We conclude that in both medium and low potential areas, but to a much a greater extent in the latter, smallholder agricultural development must be seen as a costly, long term and risky undertaking, with no guarantee of a viable and sustainable agricultural economy at the end of it<sup>25</sup>. However, the costs of not investing will be that the natural resource base on which current livelihoods depend will become even more depleted for future generations, resulting in even greater poverty and food insecurity. We also note that, if smallholder agriculture is to continue to perform a basic food security function in such areas, there is the same (possibly greater) need for the long term subsidised supports to coordinated services and prices that were necessary even in the more favourable conditions that supported the Asian agricultural transformations. This is an unpalatable conclusion in an era that emphasises market liberalisation and free trade, but, we argue, is soundly based on historical experience and on broader theoretical understanding of development processes (Dorward et al, 2002).

Investment in smallholder agricultural development needs to be judged and justified not just in narrow economic and financial terms against alternative investments. Rather, the 'without investment' scenario used in such analysis must take account of the likely economic stagnation of these areas without such investment, and of consequent costs of safety net and welfare services, and of the dependency they engender. The costs of investment in smallholder agricultural development outlined above may be high, but they will often be lower than the costs of relief<sup>26</sup>. In addition, they provide some wider stimulus to economic growth (through the linkages and multipliers discussed earlier), as well as greater freedom and dignity for rural people. They can also be designed to promote, rather than undermine, the development of markets. This suggests that options for agricultural development need to be considered together with those for social protection, not just to ensure protection for those that are left out of or unable to participate in economic growth, but also to ensure that social protection mechanisms support the processes of wider economic growth<sup>27</sup>.

To conclude our discussion of critical production issues in smallholder agriculture we recognise the importance of smallholder access to land, particularly in Malawi and Zimbabwe. A critical issue in Zimbabwe is how to get services to people in resettlement areas. An important opportunity here may be the retention and/or recovery of "core" estates as a way of getting lower cost and lower risk services to surrounding smallholders. This may go beyond traditional food and cash crops and allow links into high value, often international, markets. Where core estates do not exist then if resettled farmers are given freehold rights it might be possible to buy out a limited number of them on favourable terms, so as to recreate "core" land holdings for commercial production. In Malawi there is much less potential for redistribution of under-utilised to land to poor households. A key question here concerns the minimum scale of holding necessary for viable agricultural intensification. While this is an important long term consideration, it is essential that any who relinquish access to land do so on favourable terms that allow them to establish a viable and food secure livelihood without access to any land. This does not seem to be possible in the short to medium term, given the current lack of growth in the non-farm

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<sup>25</sup> It is risky partly because of the nature of smallholder agriculture in these areas, partly because of the coordination and opportunistic risks inherent in a low level equilibrium economy, and partly because we do not have proven institutional models for implementing such development.

<sup>26</sup> For example, Clay et.al. (2003) report the cost of the 1991-2 drought in southern Africa as US\$500 million in logistical costs of importing cereals into the affected countries, on top of the US\$1 billion in actual cereal losses. "There were also severe wider GDP and agricultural sector impacts over 12 months of at least double this magnitude." (pviii).

<sup>27</sup> For example public works schemes being developed in Malawi promote 'inputs for work', where households constructing roads or schools may opt to receive payments in cash or agricultural inputs – and these systems can be designed to support private markets in food, inputs and even seasonal borrowing.

economy and the variability of maize prices (which makes own production of maize a critical part of most households' food security strategies). For areas in Zambia and Mozambique with large tracts of under-utilised land, we mentioned earlier the potential for smallholders to benefit or lose from the growth of large scale commercial estates, which on the one hand may deprive people of land and put increasing pressure on fragile natural resource, but on the other hand offer employment, skills and access to a variety of productive and welfare services and opportunities: these issues need proper attention and careful handling.

Finally, it is important to recognise the potential for increased irrigation in many areas. In Zambia there is large untapped potential for large scale irrigation, although the past record of the difficulties and dangers of large schemes is not encouraging. There is much more widespread potential for small scale irrigation to allow dry season cultivation in valley bottoms, and using small dams. The latter have been very successful in Zimbabwe.

### 3.3.2 Rural Non-farm

Rural non-farm activities on the whole face a different set of problems from the smallholder agricultural problems discussed above, although there are more similarities with small scale income generation from local sales of horticultural and livestock products. The key problem with many of these activities, recognised in section 2, is limited demand for non-tradeable goods and services unless the economy, and consumer incomes, are growing. However, there are also constraints preventing households from engaging in these activities: principally access to financial capital, information, skills, and access to business networks (a form of social capital). Micro-finance services can successfully address some of these problems, particularly if accompanied by wider business development services that address the other constraints. In the absence of such services there is a tendency for these constraints to be effective barriers preventing entry of poorer households to higher return activities (Reardon *et al.* 2000), and under such circumstances there tends to be crowding in of these households to low barrier to entry activities, depressing the prices and returns they achieve.

### 3.3.3 Urban / Industrial

Many larger scale, formal urban and industrial enterprises are affected by problems associated with the low level equilibrium trap and with macro-economic instability, as discussed in sections 3.1 and 3.2. Macro-economic, political and economic stability are all important for attracting and retaining investment, as is improved infrastructure – some of which is improving with privatised utilities, although the record may be mixed. It is helpful to consider competing (but not incompatible) explanations for the limited industrial growth in Africa. Wood argues that Africa's basic factor endowment favours primary commodity production and hence Africa has very limited comparative advantage in industrial development. Fafchamps *et al.* 2001 place greater emphasis on high high costs for utilities and basic services, together with a heavy burden of regulatory and bureaucratic costs. Possible solutions proposed to these problems are liberalization and, implicitly addressing low level equilibrium problems, the development of industrial enclaves so that packages of services can be developed and delivered in one place.

## **4 Ensuring Stable Food Supplies: Markets and State Interventions**

This section is first and foremost about options for ensuring national availability of staple foods in the five forum countries. However, it is also recognised that:

- The choice of strategy for ensuring national availability of food influences the range of instruments that are available for distributing that food to (poor) consumers within the country;
- The questions of availability of food and the price at which that food is available cannot be entirely separated, and price stabilisation is itself an important objective: as already seen, the price at which staple foods are available to poor consumers is critical to their food security, and food producers are also negatively affected by high price volatility between seasons;
- Village level grain banks can ensure food availability and a fair degree of price stability at local level without reliance on state agencies (which can be problematic!)<sup>28</sup>. However, there remains the challenge of scaling-up what works in one area to ensure more generalised coverage.

At national level, food can be obtained either from domestic production or from imports. The challenges of raising domestic food production were addressed in section 3. Ensuring food availability where a significant proportion of food is produced in-country requires measures to allow for the effects of climatic variability on production (see figures A2.1 and A2.2 in Annex 2). This can be addressed in three ways: increased diversification of national food production (to reduce annual variability in food production), importation (to make up varying annual deficits), and/or inter-year storage of own production. In this section we examine large scale (national and regional) food import and storage systems<sup>29</sup>. Each of these can be pursued by reliance on markets and/or by state intervention, the latter involving some combination of state regulation of markets, state financing of market interventions, and implementation of market interventions by public agencies.

#### **4.1 Food import systems**

We consider first the difficulties and options for importing maize. A number of factors combine to make the business of importing food particularly challenging. We consider in turn difficulties associated with

- (a) the location of the forum countries in Africa (with consequent effects of high transport costs on price variability);
- (b) the strong regional preference for white maize;
- (c) correlation in annual maize production across countries within the region; and
- (d) national policies promoting food self sufficiency.

First, four of the five forum countries are landlocked (only Mozambique has a coastline). This means that grain imported from the world market has to travel long distances to reach consumers. These long distances are compounded by poor basic road and rail infrastructure, meaning that there can be delays in importation and also that transport costs tend to be extremely high. Thus Coulter and Poulton 2001 present figures showing that the cost of importing maize from the US into Zambia can be more than the basic cost

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<sup>28</sup> This point was made in the e-discussion based around the earlier version of this paper.

<sup>29</sup> We do not address in this paper the large debate in some countries about diversification out of heavy reliance on maize, beyond linking it to the wider issues of agricultural growth development discussed earlier in sections 2 and 3, and noting producers' and consumers' strong emphasis on maize, an emphasis which is often appropriate to the circumstance and will not be easily or rapidly changed. This is not to deny that there is scope for greater diversity in staple food production and consumption, and an important technical, institutional and economic agenda here, but to recognise the likely continued dominance of maize in food security for the foreseeable future.

of the maize itself. Whilst imports from within the region can be considerably cheaper than imports from the world market, the transport cost element can still be large. Even transporting maize from Gauteng zone in South Africa to Lusaka can cost more than the basic cost of the maize in Gauteng. We do note, however, that informal trade over shorter distances – for example, from northern Mozambique into Malawi – may not incur such high costs<sup>30</sup>.

High transport costs mean that there is a wide differential between import and export parity prices within most of the forum countries (in Mozambique they mean that the north and south of the country should really be treated as two separate entities for food policy purposes). Thus, without some form of price intervention, domestic prices can fluctuate widely both within seasons and between years of good and bad harvest – as demonstrated dramatically by recent events. This has major consequences for the incentives facing producers of staple foods. Price uncertainty tends to reduce the incentive to produce surplus for market (and the region desperately needs more surplus producers). At the same time, it increases the incentive for households to devote some – often a large proportion – of their own resources to producing staple foods for own consumption. If this effort comes at the expense of activities with higher mean returns, then price instability carries a high inefficiency cost, reducing the chances that households will be able to lift themselves out of poverty. At the same time, large price variability can be bad for poor consumers, especially if their coping strategy at times of price spikes involves selling off assets that they have struggled for years to accumulate.

There are also a number of other problems associated with relying on imports of staple foods (especially white maize) within the forum countries. Firstly, white maize is not widely traded on the world market. Hence, not only can availability be a problem (Maasdorp 1998), but it carries a price premium over the more common yellow maize<sup>31</sup>.

Within the southern African region, there are questions about the availability of white maize when it is most urgently needed. An important consideration here is the extent to which inter-seasonal production variation is correlated across the different countries. If all countries experience bad harvests, then this limits the extent to which regional trade can be relied upon to guarantee national food availability in bad years. This is a debated area and we are not able to give a definitive judgement here. However, Table A2.1 and Figures A2.1 and A2.2 shed some light on the subject.

From Table A2.1 we see that maize production in some countries is closely correlated. The strength of correlation across South Africa, Zimbabwe and Zambia is particularly noteworthy<sup>32</sup>. By contrast, there are no significant negative correlations within the table. However, we do note that production in Tanzania shows very little relationship to that in South Africa, Zimbabwe or Zambia, indicating that trade between these countries and Tanzania has some potential to smooth inter-seasonal availability within them. Moreover, there may be important regional differences within countries. For example, production in north-eastern Zambia is much less susceptible to drought than that in the south of the country (Maasdorp 1998)<sup>33</sup>.

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<sup>30</sup> On the other hand, it may be discouraged by official government policy. We return to this below.

<sup>31</sup> With increasing US production of white maize, these problems (the price premium and thin market for white maize) may be declining.

<sup>32</sup> Similar findings are reported by Maasdorp (1998) and Jayne et.al. (1994).

<sup>33</sup> The question of transport costs does, however, become critically important when considering trade between southern Tanzania or north-eastern Zambia on the one hand and Zimbabwe, Lesotho or southern Mozambique on the other hand.

Figure A2.1 plots production in the five forum countries, plus the two central African countries over the same 30 year period (1972-2002). The huge variability in production in Zimbabwe throughout this period is clearly seen. Meanwhile, variability appears to have been increasing in Malawi, Tanzania and, to a lesser extent, Zambia. In Mozambique, recovery from war appears to have dominated the impact of climate. The critical point to note, however, is that, in times of recent severe drought (1991-2, 1995-6), all the southern African countries have experienced major production declines, irrespective of their experience at other times. An additional dimension to the problem comes when we consider per capita production trends, rather than total production. As noted in the country reports, these have been on a downward trend for a decade or more in most of the countries considered (the clear exception being Mozambique). Thus, within the southern African region, South Africa is probably now the only country that is a reliable net surplus producer (across the climatic cycle). However, as Figure A2.2 shows, South African production is strongly correlated with the combined production totals of the other countries. Thus, its ability to provide food to the region when it is most needed may be limited.

Equally importantly, given what was said earlier about the additional cost of importing grain from the world market, rather than from within the region, there is a major jump in the cost of ensuring national food availability when the region as a whole switches from being a net maize surplus area to a net maize deficit area. Arguably, this has now happened (or is very close to happening). This indicates that national food availability strategies cannot be considered entirely in isolation from each other. The region needs some of its countries to be net food surplus producers, but how can net food deficit countries “pay” net food surplus producers to encourage them to sustain production?

This brings us to another issue of regional policy coordination. Given the difficulties of relying on trade (international or intra-regional) to guarantee national food availability, most countries in the regional have fallen back on national food self-sufficiency strategies that have severely restricted private trade within the region (through administrative restrictions and simple bureaucratic delays in granting import/export permits) or just failed to create conditions – e.g. availability of market information – that would encourage private trade<sup>34</sup>. Although there is some sign of movement through SADC and COMESA negotiations and commitments, there is still a way to go before free private trade in staple foods is a reality and the progress to date could yet stall or be reversed. Maasdorp (1998) notes that agricultural trade liberalisation has lagged behind liberalisation of trade in other sectors in almost all regional trade agreements around the world. The coordination challenge comes in because the benefits of intra-regional trade are most likely to be felt if all countries jump at once. This is particularly true for small countries. One of the possible dynamic benefits of regional liberalisation is that it might encourage entry and investment by large, multinational grain trading companies, whose scale of operations could significantly reduce the costs associated with storing and transporting grain. However, such companies are unlikely to be interested in investing in a country such as Malawi alone. Rather, they might set up operations there if they could be confident that, in years of surplus, they could move grain out of Malawi and, in years of deficit, they could source it from neighbouring countries and bring it in. The private investment response to

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<sup>34</sup> Recent experience with maize exports from northern Mozambique to Malawi illustrate some of these difficulties, with Mozambiquan maize producers adversely affected by the wide fluctuations in Malawian maize prices, which may themselves have declined in the late 90s and in 2000 due to the starter pack initiative in Malawi (distributing substantial quantities of free inputs for maize production). There are important questions here about the impacts of Malawian policy both upon the welfare of Mozambiquan maize producers and upon the incentives for them to supply food into Malawi.

domestic policy reform could, therefore, rest partly on what is simultaneously happening in neighbouring countries.

There are therefore current serious difficulties with reliance on maize imports to address inter-year variation in regional and national maize deficits. As a result of the basic geography, these are likely to remain significant problems even if regional transport systems are improved and white maize loses its price premium and is more widely traded in world markets<sup>35</sup>. Given these difficulties, we need to carefully consider possible roles for markets and for governments in importation. Although it is rightly argued that government and donor interventions often contribute to the problems and risks faced by the private sector, we would argue first that it is unrealistic to expect good governments to abrogate all responsibility for involvement in food supply systems, and second that even if governments and donors were to completely withdraw from these markets, the costs, risks and potential returns for private actors in supporting large scale and intermittent (but timely) regional maize imports largely preclude rapid private sector development of the much thicker markets needed to deliver these imports. Furthermore, due to the large differences between import and export parity prices, this would not eliminate large price fluctuations between years (unless the region as a whole was a consistent importer of maize, not a scenario we should currently be working towards). Recent events in Southern Africa would seem to support these arguments.

If we cannot (and should not) look to reliance on markets and the private sector alone for delivering intermittent regional imports of maize, this does not mean that governments should not look for new ways of working with the private sector in their pursuit of more effective and lower cost means of facilitating food imports to stabilise national supplies and prices. The rapid growth and development of SAFEX, with futures and options markets, and the capital and expertise of large, multinational grain trading companies mentioned earlier both present potential opportunities which need to be explored, taking account of different options for government intervention mentioned at the start of this section: regulation, financing of market interventions, and implementation of market interventions. We suggest that some state financing of imports and of coordinated import systems is unavoidable and indeed desirable, but that there are very significant challenges in developing systems for this.

#### **4.2 Food storage systems**

We now turn to consider the possible role for and means of using inter-year storage to address inter-year variability in national and regional food production. We do not suggest that this is a strategy that is likely to be pursued on its own - it relates closely to national food production and to food imports. Again, we face market and state options, with possible private sector storage by households, small firms, and large grain trading companies, and state options involving regulation of private sector storage activities, financing of storage activities by other players, and direct involvement in storage activities itself.

Although the private sector is heavily involved in storage within each year, the large intra-year price fluctuations show that there are large costs involved in grain storage and trade, and there is significant scope for reducing these. There is, however, very little inter-year storage, and following the discussion of regional and national maize markets in section 4.1, it is difficult to see how large scale inter-year storage by could become attractive

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<sup>35</sup> Possible impacts of trade liberalisation on grain and white maize markets could also compound importation difficulties.

enough to attract large scale private sector investment, without substantial financial incentives from the state. We therefore consider now the options facing states when deciding how far to support inter-year food storage to guarantee national food availability and price stability. The choice has to take into account technical (e.g. transport and logistics), economic and political considerations. Our discussion considers the relationship between policy objectives, storage volumes, and their financial demands on the state. We are not assuming any particular institutional mechanisms by which the policy may be implemented (for example, although in the past state interventions have involved direct action by parastatals, we envisage that storage policies would be implemented better by private sector agents acting under transparent long term contracts immune to short term political interference). Our discussion also considers the relationship between storage and imports, and recognises the impacts of these upon returns and coordination risks in domestic production and trade.

We distinguish three basic levels of state involvement and address them in ascending order of interventionism.

The first level is for the state simply to keep a minimum quantity of basic stocks, to tide the country over in case of delays in importation in response to national or local shortages. Essentially, however, there is a free private trading regime for grain import and export. The level of stocks should, therefore, be small enough to send clear signals to the private sector that they can invest in storage and importation without fear of state intervention in the market. Private sector confidence would also be assisted by a transparent policy with respect to stock turnover and what would trigger the release of stocks onto the market, the aim being to minimise opportunistic political interference in such decisions, so as to maintain private sector confidence in the trading regime. Whilst the assumption is generally that a public or contracted agency, typically a strategic grain reserve (SGR), will store the stocks on behalf of the state, this may not be necessary where a working system of transferable warehouse receipts is established. In theory, these could allow the SGR to be reduced to little more than a single office comprising a couple of analysts, plus the managerial and budgetary capability to buy and sell warehouse receipts for grain stored in private warehouses! However, this assumes that the private sector – commercial or NGOs - can then handle distribution when stocks are released.

The problems with this approach should be readily apparent from our earlier discussion of problems with heavy reliance on private sector imports: difficulties in achieving regional consensus on pursuing a free market approach to national food availability, the questions over regional correlation of harvests, the political risks for politicians if they are seen to leave the main responsibility for providing grain in the hands of traders whose main interest is private profit. At root, this approach leaves the state with little influence over the extent of price fluctuation that will occur. If, in a bad year, the price approaches import parity (and the imports have to be brought in from the international market), the most needy consumers may not be able to afford it. (This is particularly likely if they depend for their entitlements, either directly or indirectly, on agricultural production activity).

Once we assume the need to subsidise food prices in some way in the worst years, then it is possible to conceive of an economically optimal holding of stocks. On the one hand, if the level of stocks held is small, the costs of holding these stocks (direct storage costs, plus opportunity cost of capital bound up in storage) are also small. On the other hand, in bad years the costs of subsidising maize prices will be higher, as more will have to be

imported at a price above the domestic consumer price<sup>36</sup>. In other words, there is a cost to not holding stocks, as well as a cost to holding them. Critical determinants of the optimal stock size then become:

- Whether or not food can be reliably imported from within the region (might more expensive world market supplies have to be relied upon?)
- The prevailing interest rate, which affects the opportunity cost of storage
- To what extent donors will assist in subsidising food prices in bad years.

This leads us to our second level of state intervention: price stabilisation. As well as limiting the level to which consumer prices can soar in bad years, intervention can also serve to reduce the fluctuations (both intra- and inter-seasonal) in prices received by producers wanting to sell their maize. Unfortunately, the considerations surrounding interventions for price stabilisation are more than just economic. Most obviously, the governance requirements for the intervention agency, in order to maintain private sector confidence for investment in the food trading system, are even more critical here than they are in the case of more limited intervention discussed above. The agency should be governed by a transparent policy setting out the upper and lower price boundaries that intervention will seek to defend. In order to prevent an enormous fiscal drain, there also needs to be a mechanism to adjust the price band in response to medium-long term trends in world market prices. These conditions have never existed in any of the five forum countries, where politicians apparently cannot resist manipulating SGRs for short-term patronage ends.

The “ideal” governance structure for an SGR with official price stabilisation objectives may be for it to operate as an independent agency, accountable to politicians and the public only for its performance in keeping prices within an agreed band. This is analogous to the independent Bank of England’s accountability for meeting the inflation target that the UK government has set it. However, can civil society or donors persuade national politicians to agree to the establishment of independent agencies along the lines of this model?

The third level of intervention goes beyond price stabilisation to influencing the mean level of food prices within the country over time. The level could be influenced in one (or both) of two ways:

- Subsidising consumer prices
- Raising producer prices.

In India state intervention has aimed for both of these, with targeted consumer subsidies delivered through state shops in poor (particularly urban) areas, and recent modelling of Malawian rural livelihoods suggests that this is one of the more effective policy packages promoting growth and poverty reduction (Dorward 2003). However, similar efforts in forum countries (for example, in Zambia and Zimbabwe in the 1980s) proved fiscally unsustainable or, if raising prices without complementary support to poor consumers (as in Malawi), led to adverse food security and welfare impacts. How far the practice of the intervention (e.g. how prices were set, the associated stock holding policy, managerial inefficiency within the system) made it unsustainable in these cases, how far the problem stemmed from high interest rates due to general macroeconomic instability or whether such intervention is inherently unaffordable is an unexplored issue. Current conventional wisdom is that government attempts to intervene in grain markets in Africa were a very expensive and ineffective part of the state systems that needed major reform as part of

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<sup>36</sup> This assumes limited private storage within the country even under the liberal trading environment.

the structural adjustment and liberalisation processes initiated in the 1980s<sup>37</sup>. However, as with our (related) discussion in section 3.2 of the problems of agricultural parastatals, we should not let the difficulties encountered in their management hide the very real problems that they tried to address. Rather, we should look to learn from both their achievements and their failures (and look to Asian experience here as well), and we need to compare their record with the liberalised systems that have followed.

### **4.3 Ensuring Stable Food Supplies: Conclusions**

In this section we have examined food import and storage strategies as options for improving the stability of national food supplies and prices. We describe major difficulties facing reliance on either private sector or state action in each of these areas, and suggest that strategies coordinating importation and storage are needed, and that the state has a key role to play in this, providing both the strategic direction and critical finance. We argue that there is a case to be made for a degree of state intervention in staple food markets that goes beyond the minimal contingency stock to protect against delays in private importation.

This conclusion is not uncontroversial and we consider below five related objections to it:

*The historical record:* As noted above, there is a high degree of scepticism regarding the achievements of such policies in the past.

*Concerns about governance:* where governments intervene in markets, it is very difficult to guard these interventions from abuse by opportunistic politicians, so that they do indeed contribute to policy food security objectives, rather than becoming a costly mechanism for extending patronage. Arguably, the willingness of politicians to create institutional arrangements that protect a strategic grain reserve from their arbitrary interference is the key determinant of whether such a reserve is likely to deliver benefits to the majority of the poor and food insecure.

*Concerns about state capacity:* government interventions to coordinate and finance food storage and imports require information and analytical resources which are scarce and costly

*Financing:* the costs of such interventions can be very high, particularly if the governance and capacity problems described above are not addressed. Forum countries have very tight budgets, and the costs of such programmes in the past often contributed to large fiscal deficits

*Opportunity costs:* tight government budget constraints mean that investments in strategic grain reserves, even if they are effective, will reduce resources available for other investments, such as roads, which may gradually reduce the underlying problems of price instability, as well as having broader economic benefits. (However, note also our earlier point about the opportunity costs of *not* holding stocks when bad years come).

These are important issues. However, while the historical record of state interventions in Africa was often bad, it was not universally bad, and one can also question the record and potential of systems where the state does not play a role in coordinating and financing private sector action to stabilise food supplies and prices. Over-reliance on states and over-reliance on markets both have a poor record, and in low level equilibrium trap situations where rapid and large-scale change is needed, the record of attempted state

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<sup>37</sup> However, a preliminary examination of the accounts for ADMARC in Malawi in the 1970s and early 1980s suggests that its maize price stabilisation activities were not a major drain on its budget, as it was able to offset the holding and occasional disposal costs of inter-year storage from profits made on intra-year storage, despite reducing the intra-year variation between immediate post harvest prices (when it made most of its purchases) and later sales. Important factor in keeping costs down were strong management and prices that did not lead to consistent oversupply, problems faced by Zimbabwe in the 1980s and, more recently, by Ethiopia.

withdrawal may be worse. This is an empirical question, which needs to be addressed. Irrespective of its answer, however, there is an urgent need to build on past experience to develop new systems that coordinate and finance more stable national food supplies and prices.

## 5 Conclusions, issues and questions

The recent crisis in Southern Africa has drawn stark attention to the failures of development policies over the last 40 years to create wealth and develop a robust economy or the markets on which such an economy must depend. Market intervention and market liberalisation policies have both failed, in different ways, to address fundamental coordination problems in market development. These failures can be attributed, in part at least, to a certain degree of naivety about the weaknesses of government and of markets. Looking forward we now have a better understanding of these weaknesses, and of ways in which they may be addressed. However, the task is in other ways more difficult than it was twenty or thirty years ago, as there is more pressure on limited natural resources, the global environment is perhaps more difficult now than it was, and there are severe challenges from the impacts of HIV/AIDS. These difficulties should not, however, be an excuse for inaction: the crisis must be a stimulus to concerted and committed action to learn from the lessons of the past and to develop and implement consistent policies that will support development of the fundamentals of a working economy. This will require, *inter alia*, long-term investment in institution building, and a willingness to radically rethink current market liberalisation policies and consider costly interventions and investments.

We conclude by suggesting some broad principles regarding the critical elements needed to promote productive investments and wealth creation in (particularly) poor rural areas. Our analysis suggests that the following are needed for economic development and wealth creation in poor rural areas:

1. Non-market coordination mechanisms to reduce economic coordination risks in thin markets, to reduce investors' vulnerability to and risks from price shocks, and to reduce consumers' vulnerability to and risks from food price shocks. As noted in section 3.3.1, non-market coordination may be encouraged at different levels (national, district, local) and may be facilitated by different actors (central or local government, NGOs, farmer organisations, donor interventions). There is no blueprint for how it should be achieved; appropriate solutions will be location specific and depend on the organisations involved and their capabilities. Examples of such coordination mechanisms include: (on the investment side) start-up programmes to link rural retail enterprises with appropriate wholesalers (e.g. the Care Agent programme for agricultural input stockists in Zimbabwe), or the Malawian "starter pack" programme (as originally conceived<sup>38</sup>), which aimed, *inter alia*, to boost effective demand for agricultural inputs in Malawi; and (on the consumer side) interventions to provide a degree of maize price stabilisation at either national or village level. As with many other development interventions, whilst it may be possible to achieve effective coordination at local level, it may then be difficult to devise the institutional mechanisms for scaling such coordination up. This takes us into broader questions of governance and accountability and the reform of state

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<sup>38</sup> In the e-discussion based around the first version of this paper, it was argued that the original objectives of the "starter pack" programme were lost when donors took control of it, moving it from a pro-market intervention to a much larger-scale welfare programme.

institutions, without which many private rural markets are likely to remain stuck in their low level equilibrium traps.

2. Stable and robust institutions that reduce investors' vulnerability to, and risks from, opportunism by other actors in the supply chain and by the state and politically powerful rent seekers. Here again, we can consider institutional arrangements at different levels. At micro level, examples could include the adoption of recognised grades and standards in both input and output markets, or the promulgation of good / best practice in the awarding of licences and contracts. At national level, state agencies need to bind themselves to codes of good practice in how they intervene in markets (e.g. publicising intentions regarding official food imports to minimise adverse impacts on private storage activity) or create institutions that limit their influence (e.g. an independent strategic grain reserve with clearly laid down responsibilities for price stabilisation). Farmers' associations can contribute to reducing the vulnerability of their members' investments both at local level, by negotiating with traders on behalf of the whole group, and at national level, through representation in appropriate policy fora. However, as noted in section 3.3.1, this in turn requires that farmers' associations reach a degree of maturity and internal accountability that few have yet reached.
3. Business opportunities that offer significant expected returns to investors. We have argued that agriculture generally offers the best prospects for driving broad-based, poverty reducing growth, but there are significant institutional and technological difficulties in raising agricultural productivity (particularly in lower rainfall/ lower potential areas) and rural non-farm activities have a critical role in supporting rural growth.
4. Stable and transparent policies governing macro-economic management. A major problem in several forum countries (e.g. Malawi, Zambia and now Zimbabwe) has been the high level of interest rates, as a result, *inter alia*, of fiscal indiscipline. This is crippling for the agricultural sector, where capital is often only turned over through a season of 6-9 months (or more). High interest rates render borrowing for seasonal inputs unprofitable and mean that otherwise desirable strategic grain stocks can place an enormous burden on national finances.
5. Improved communications infrastructure in terms of roads and telecommunications linking rural areas to markets

This is a long 'shopping list', but we suggest that these are all necessary elements for broad based poverty reducing growth. It is striking that, with the exception of limited cash crop business opportunities in some areas, these elements are absent from many rural areas in the Forum countries.

How can this agenda be taken forward? There are no simple answers to this, but we put forward the following principles (drawing partly from Dorward and Kydd 2002) to guide the search for and design and implementation of effective development strategies:

*The fiscal costs of rural development must be set against the human, economic and financial costs of development failure, either continuing poverty and sporadic relief (with unacceptable human costs that are particularly apparent in the current crisis) or indefinite safety nets. Increased donor investments should promote appropriate roles for state and other stakeholder action to develop market based economic growth and food security, while taking account of current market failings.*

*Institutional innovation is needed to develop more imaginative solutions that reduce risk and promote coordination, sustainable investment, confidence and market development, addressing the*

twin problems of state and market failure that have each bedevilled in different ways both the market intervention and the market liberalisation approaches to development.

*Policies and interventions should be designed to be flexible* and to address and match the varied and changing opportunities and constraints of different areas, with different balances of emphasis between wealth creation and safety nets and between different opportunities and different institutional mechanisms in different areas. This will involve recognition of diversity between and within countries, districts, communities and households, and an opportunistic approach seizing opportunities as they arise and prepared to move forward fast in areas where the way forward is clearer, while acting more cautiously where problems are more intractable.

*Policies and interventions should also be mutually consistent and long term*, so that different players have time to learn how to operate in a stable economic and institutional environment, so that they have confidence that investments will yield returns in the short, medium and long term, and so that policies and interventions in different sectors and different areas do not work against each other. A particularly important issue here is that short and medium term interventions focusing on relief and poverty alleviation should recognise market failures (and not rely on markets where markets do not exit) but should then support rather than undermine longer term policies and processes of market and wealth creation.

*Central coordination and investment to address market failures* needs much greater attention. This is critical for rapid and widespread progress in smallholder food crop production, in urban and industrial development, and in the stabilization of food availability and prices. In each of these cases there are strong *a priori* reasons for only slow and narrow progress in poor and stagnant rural economies if the market is largely left to fend for itself, even if large investments are made in improved infrastructure and institutional development according to current conventional policy thinking. However, the historical record of central coordination and investment, despite many examples of dire failure, includes dramatic instances of success, albeit in more inherently favourable conditions than those faced in many parts of the Forum countries. On the other hand market development in poor rural economies, without some form of central coordination and risk bearing investment, has few, if any, significant success stories to its name. Given the serious governance issues facing many of the forum countries, one of the major challenges we now face is to develop new models for central coordination and risk bearing investment to kick start markets.

*HIV/AIDS is a major economic problem, apart from all its other dimensions, and must be addressed as such.* The pervasive impacts of HIV/AIDS presents a new and frightening set of problems that are continuing to emerge. We have not addressed them sufficiently in this paper, but the impacts of HIV/AIDS on peoples' capacities and incentives to engage in economic activities (and on the capacities and incentives of state and other stakeholders) must be built into all policy analysis and action.

## Annex 1: Phased Returns to Investment in Agricultural Development in India

Returns in Agricultural GDP (Rps per Rps Spending) by investment and period

	1960s	1970s	1980s	1990s
Roads	3.07	3.48	2.92	4.29
Education	1.20	1.49	0.95	1.26
Irrigation Investment	0.51	1.06	1.02	0.07
Irrigation Subsidies	0.69	1.20	-1.18	0.24
Fertiliser Subsidies	4.51	1.26	0.88	-0.65
Power Subsidies	2.26	1.29	0.30	0.07
Credit Subsidies	2.05	0.62	0.08	-0.20
HYV Agric. R&D	3.11	1.89	0.39	n.s.

Number of poor reduced per Million Rps spending by investment and period

	1960s	1970s	1980s	1990s
Roads	229	722	717	474
Education	13	130	168	154
Irrigation Investment	42	125	116	6
Irrigation Subsidies	57	142	n.s	24
Fertiliser Subsidies	368	150	100	n.s
Power Subsidies	184	153	34	7
Credit Subsidies	168	73	9	n.s
HYV Agric. R&D	254	224	44	n.s

Cost per poor person lifted above the poverty line (UK£) by investment and period  
(Exchange rate: 75 Rp / UK£)

	1960s	1970s	1980s	1990s
Roads	58	18	19	28
Education	1,026	103	79	87
Irrigation Investment	317	107	115	2,222
Irrigation Subsidies	234	94	n.s	556
Fertiliser Subsidies	36	89	133	n.s
Power Subsidies	72	87	392	1,905
Credit Subsidies	79	183	1,481	n.s
HYV Agric. R&D	52	60	303	n.s

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## Annex 2: National Maize Production

**Table A2.1: Correlations Between Maize Harvests Across Forum and Other Selected Southern and Central African Countries**

		Correlations							
		Congo, Dem Republic of	LESOTHO	MALAWI	Mozambique	South Africa	Tanzania, United Rep of	ZAMBIA	ZIMBABWE
Congo, Dem Republic of	Pearson Correlation	1	.217	.420*	.517**	.060	.820**	-.138	-.008
	Sig. (2-tailed)	.	.241	.019	.003	.750	.000	.460	.965
	N	31	31	31	31	31	31	31	31
LESOTHO	Pearson Correlation	.217	1	.364*	.517**	.409*	.172	.104	.139
	Sig. (2-tailed)	.241	.	.044	.003	.022	.354	.578	.456
	N	31	31	31	31	31	31	31	31
MALAWI	Pearson Correlation	.420*	.364*	1	.685**	.134	.381*	.065	.107
	Sig. (2-tailed)	.019	.044	.	.000	.473	.034	.729	.567
	N	31	31	31	31	31	31	31	31
Mozambique	Pearson Correlation	.517**	.517**	.685**	1	.067	.363*	-.199	.012
	Sig. (2-tailed)	.003	.003	.000	.	.722	.045	.283	.949
	N	31	31	31	31	31	31	31	31
South Africa	Pearson Correlation	.060	.409*	.134	.067	1	.083	.400*	.733**
	Sig. (2-tailed)	.750	.022	.473	.722	.	.656	.026	.000
	N	31	31	31	31	31	31	31	31
Tanzania, United Rep of	Pearson Correlation	.820**	.172	.381*	.363*	.083	1	-.022	-.002
	Sig. (2-tailed)	.000	.354	.034	.045	.656	.	.906	.989
	N	31	31	31	31	31	31	31	31
ZAMBIA	Pearson Correlation	-.138	.104	.065	-.199	.400*	-.022	1	.526**
	Sig. (2-tailed)	.460	.578	.729	.283	.026	.906	.	.002
	N	31	31	31	31	31	31	31	31
ZIMBABWE	Pearson Correlation	-.008	.139	.107	.012	.733**	-.002	.526**	1
	Sig. (2-tailed)	.965	.456	.567	.949	.000	.989	.002	.
	N	31	31	31	31	31	31	31	31

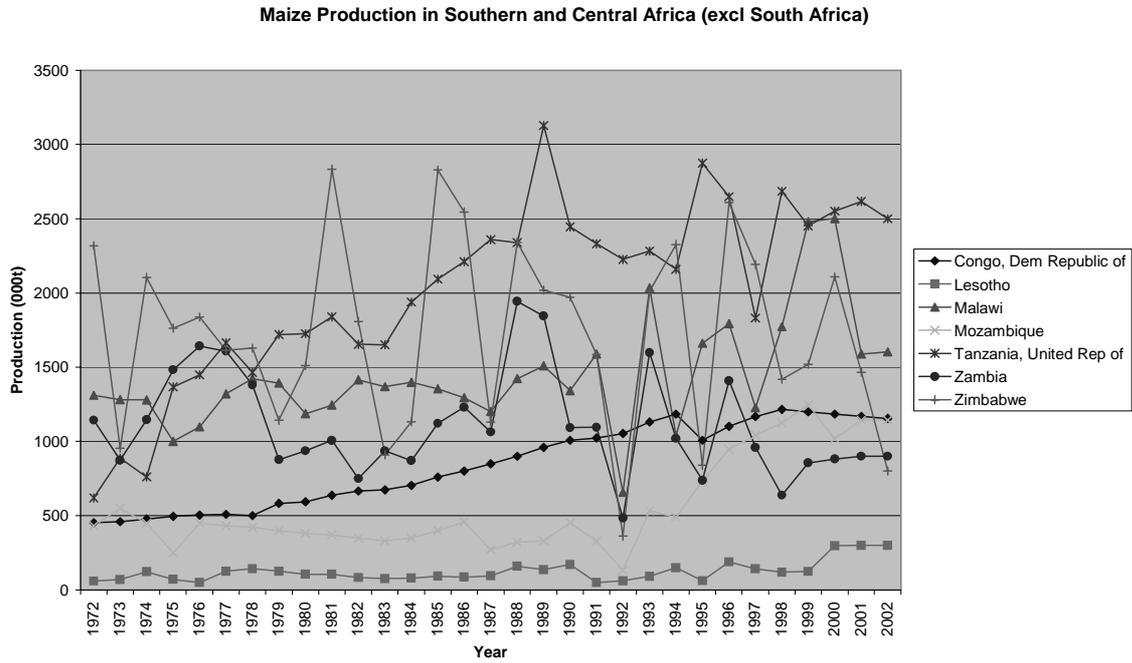
\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

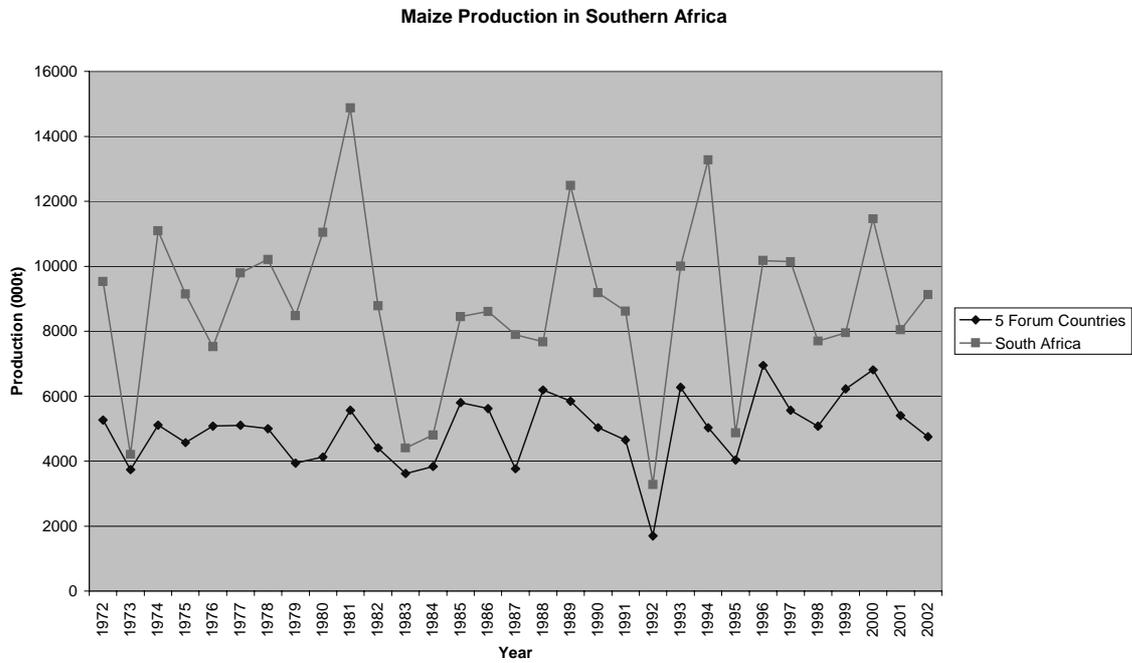
### Notes:

- 1) Based on FAOSTAT annual data covering the period 1972-2002.
- 2) These figures show correlations between total national production levels in the respective countries, not per capita production levels, which may give a better indication of the capacity to export. As noted in the main text, when per capita production is considered, the main additional consideration is that this has been on a downward trend for a decade or more in most of the countries considered. Therefore, the total surplus available for export at any one time is reduced.

**Figure A2.1:**



**Figure A2.2:**



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