

FOOD SECURITY, SOCIAL PROTECTION, GROWTH AND POVERTY REDUCTION SYNERGIES: THE STARTER PACK PROGRAMME IN MALAWI

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There is growing evidence that in some countries, acute food crisis takes place against a backdrop of increasingly entrenched chronic food insecurity. Malawi, with its high population density, diminishing farm size, decreasing soil fertility, high cost of imported inputs such as fertiliser, weak service delivery systems and weak governance, is one such country. In settings such as these, the policy options are limited. This paper analyses the performance of a highly innovative intervention in Malawi – the Starter Pack programme – which provided free of charge small packs of improved maize and other seed together with appropriate fertiliser. The paper discusses how the objectives of this programme evolved (but remain complex), its cost-effectiveness, and complementary policy objectives that might be pursued. It considers the different expectations raised by Starter Pack with regard to agricultural growth, poverty reduction, social protection and food security. The paper argues that Starter Pack's main strength is as a tool for combating chronic food insecurity, but there are also important synergies with social protection, growth and poverty reduction.

Policy conclusions

- High-yielding improved seed and fertiliser are needed to boost the yields of maize, Malawi's dominant staple food crop, which is grown mainly by smallholders.
- Exchange rate depreciation over the past ten years has made fertiliser unaffordable for two-thirds of smallholder farmers, who were also disadvantaged by the ending of input price subsidies and credit schemes and the closure of parastatals under economic reform programmes of the mid-1990s.
- From 1998–9, Starter Pack distributed tiny packs of free seed and fertiliser to smallholders, aiming to kick-start agricultural growth by showing them how to grow maize at a profit.
- The 'starter' concept was flawed in the Malawi context, as relative price changes meant that by 2003, commercial maize farming was no longer a promising strategy for smallholders without large-scale, expensive price subsidies.
- In future, livelihood development should rely more on alternative crops, increased livestock farming and off-farm enterprise and employment.
- However, free inputs programmes remain an effective and efficient way of boosting maize output and combating chronic food insecurity – they work by reducing demand pressure during the hungry period and keeping food prices low from one harvest to the next; potentially, they also reduce the need for large buffer stocks held by strategic grain reserves.
- Because their food security impact operates through markets and prices, free inputs programmes must run at sufficient geographical scale to be effective.
- Attempts to scale down Starter Pack by targeting it on the poorest failed in Malawi, causing major social resentment and disproportionately reducing food security gains.
- Universal or near-universal free inputs programmes contribute to social protection and poverty reduction by reducing the risk of food crises which damage livelihoods and agricultural growth, disproportionately affecting the poor and vulnerable; and by slowing the decline of traditional support systems within rural communities.
- Universal Starter Pack is not fiscally self-sustaining, and its potential contribution to 'sustainable agriculture' needs to be further explored, but it should nevertheless be a spending priority for Malawi – as part of a medium-term expenditure framework which contains a complementary rural development programme.
- The cost of not implementing Starter Pack in Malawi is much higher than the cost of implementing it, both in terms of the direct cost of the alternative interventions that would be necessary in its absence, and in terms of indirect costs such as the severe damage to macroeconomic stability caused by food crises.
- Other countries facing similar patterns of food insecurity as Malawi, and a similarly restricted range of alternative options, may also find free input schemes relevant.

Introduction

For the past six years, the Government of Malawi, with the support of international donors, has implemented a free inputs programme for smallholder farmers in the main agricultural season. The programme provides a tiny pack of free inputs containing roughly 0.1 ha-worth of fertiliser, maize seed and legume seed. Originally, the programme was known as Starter Pack and it provided universal coverage, as nearly three million packs were distributed – enough for the whole smallholder population – in 1998–9 and 1999–2000. In the 2000–1 and 2001–2 seasons, however, it was scaled down and efforts were made to target the inputs to the poorest smallholders. To reflect this change, it became known as the Targeted Inputs Programme (TIP). In 2002–3 and the following year, as a response to a serious food crisis in early 2002, the programme was expanded to near-universal coverage.

This paper assesses the original rationale for the free inputs programme. It considers the different expectations that the programme has raised, and how these have evolved over time. Is Starter Pack an intervention which will jump-start growth in the agriculture sector? A food security initiative? A safety net? A poverty reduction programme? The paper attempts to answer these questions by discussing the evidence from the large-scale M&E programme funded by DFID over a period of four years from 1999 to 2003.

What is Starter Pack?

Starter Pack (the version of the programme with universal coverage of smallholder farmers) is a *broadly targeted subsidy* for maize production. Unlike a subsidy on the price of fertiliser, it does not benefit Malawi's 36,000 estates which range from the huge farms of the elite to the small farms of 'graduated smallholders' (Mann, 1998).

Different stakeholders have different expectations of free inputs programmes: for agricultural economists they should boost agricultural growth and reduce poverty in the medium term; social protection specialists see them as part of a safety net for the most vulnerable; and politicians hope they will eliminate food insecurity, thereby boosting their popularity with voters. This paper argues that Starter Pack is not sufficient to achieve any of these things on its own, but is a key component of all of them.

The food security contribution of Starter Pack is its greatest strength: at a sufficiently large scale, the programme is an effective and efficient tool for combating chronic food insecurity. And, as the designers of the free inputs programme pointed out six years ago:

'Without securing the food supply, all other efforts at poverty alleviation – job creation, education reform, expanded health services – will come to naught. This is not a programme for recovering from drought. It is a programme to lay a solid foundation for long-term growth' (Blackie et al, 1998).

The idea of a 'starter' pack

Maize is the dominant staple food crop in Malawi. The Starter Pack/TIP M&E surveys run over the past four years have consistently found that virtually all smallholder farmers grow maize. Maize is the preferred food in most parts of the country and is also important in the culture of rural communities (Van Donge et al, 2001). The other main food crops are cassava, sweet potatoes, rice, sorghum and bananas (Box 1).

Until the mid-1990s, smallholder farmers enjoyed subsidies on fertiliser and hybrid maize seed, which – combined with a strong currency and a system of farmer credit clubs – meant that these inputs were affordable for larger smallholders. With 'democratisation' and the election of President Muluzi in 1994, agricultural liberalisation – begun a few years before under Life President Banda – was accelerated. By 1996, fertiliser and hybrid maize seed subsidies had been removed and agricultural markets had been liberalised. The exchange rate depreciated sharply after 1994, making imported fertiliser much more expensive (see Figure 1). This had serious consequences for maize production because by the mid-1990s, with soil fertility declining, smallholders were heavily dependent on fertiliser and improved maize seed technologies to boost maize yields.

In 1998, the designers of Starter Pack pointed out that Malawi was facing a problem of *chronic* food insecurity because of a reduction in the country's maize-producing capacity. Although organic approaches to restoring soil fertility together with some food crop diversification might help in the medium term, these initiatives could not provide a short-term response to food shortages, and are in any case extremely labour-demanding. They argued that high-yielding maize seed and fertiliser technology would be essential to the survival of most Malawians into the foreseeable future (Blackie et al, 1998).

Box 1 Regional variations in staple food crops

Maize is grown by almost all smallholder farmers – although slightly fewer than 100% in Karonga, Nkhatabay and Nkhotakota districts. In addition, over 70% of smallholders interviewed in Chitipa, Karonga, Rumphu, Mzimba, Dowa, Ntchisi, Mchinji, Dedza, Ntcheu, Balaka and Zomba were growing sweet potatoes. Cassava was grown by all respondents in Nkhatabay, and by over two-thirds in Chitipa, Karonga, Nkhotakota, Likoma and Mzimba. Rice is an important crop in Karonga, Nkhotakota, Salima, Machinga and Balaka. Over 60% of interviewees in Chikwawa, Chiradzulu, Mulanje, Nsanje and Phalombe were growing sorghum. Bananas were grown by 74% of respondents in Ntchisi and 62% in Dowa.

Source: 2003 TIP survey.

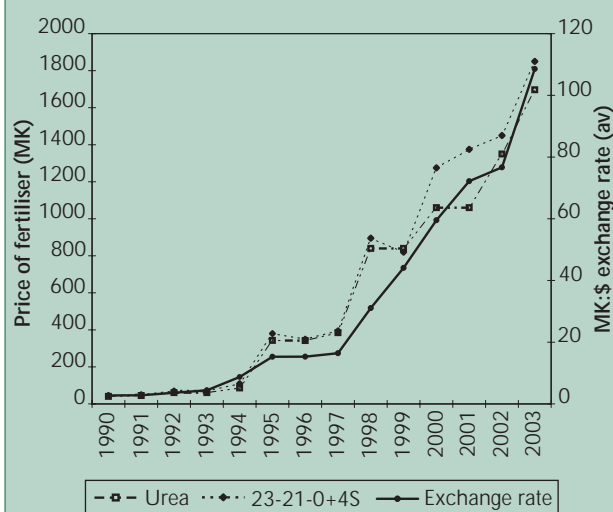
They were also optimistic that the programme, by allowing more smallholders to make profits as commercial maize farmers, would help to kick-start economic growth in the agricultural sector. Thus, the programme would only be needed as a 'starter', after which farmers would be able to purchase essential inputs on their own.

With hindsight, we can see that the 'starter' concept was flawed. At mid-1990s prices, it was possible to think in terms of a substantial proportion of the smallholder sector – particularly the larger farmers – growing maize for sale. For instance, with the prices of fertilisers at their 1997 levels, maize produced with the high-yielding seed and fertiliser technology could be sold at a profit with market prices as low as MK7/kg. It was reasonable to think of providing farmers with free inputs for two or three years, demonstrating that they could increase yields so that they would be able to feed their families and produce a saleable surplus, and then phasing out the free inputs when they were in a position to buy them. But by 2003, the increase in the price of fertiliser meant that virtually no farmer was able to make a profit from selling maize at MK7/kg.

Smallholder farmers' expectations and behaviour have changed over the past ten years. By contrast with the pre-liberalisation period, when it was reported that around one third of the rural population had surplus maize to sell (Blackie et al, 1998), the TIP surveys found that only 14% of smallholder farmers sold any maize in the 2001–2 season, and 10% in the 2002–3 season. A sociological study for the TIP M&E programme in the 2000–1 reported that maize was seldom grown for sale and it was rare to hear a farmer reason in terms of price signals or profit margins (Van Donge et al, 2001).

In the present-day context, therefore, commercial maize farming is an unlikely strategy for smallholders, unless supported by fertiliser price subsidies and credit schemes on a much larger scale and higher cost to government than in the Banda era. Potentially more promising avenues for agricultural growth and rural livelihood development are promotion of cash crops, increased livestock farming and the pursuit of off-farm activities such as small business and employment opportunities. If such avenues were to replace the Malawi Government's continuing emphasis on commercial maize farming, this would avoid conflict with its food security objective, which requires low maize prices.

Figure 1 The exchange rate and the price of fertiliser in Malawi



Sources: Levy (ed.) (forthcoming) using data from IFDC (International Centre for Soil Fertility and Agricultural Development), IMF and Reserve Bank of Malawi.

Food production and security

Although Malawi's smallholder farmers produce around 90% of the country's maize, they face serious land, labour and input constraints. The Starter Pack/TIP M&E programme found that smallholders' maize production decisions are about maximising output given these constraints because shortfalls in maize produced on-farm mean having to buy maize or other foods, which may be unobtainable – or only obtainable at unaffordable prices. Any intervention which relaxes one of these constraints is likely to raise production.

The land constraint is particularly severe in the southern region, where around three-quarters of households cultivated two acres (0.8 ha) or less in the 2002–3 main agricultural season. Labour is a problem for certain types of household, in particular households made up predominantly of women, the elderly and young children. Both constraints are difficult to tackle via policy interventions, at least in the short to medium term. However, for most households the binding constraint in the main season is that of inputs, particularly fertiliser. Surveys run by the TIP M&E teams in 2001, 2002 and 2003 consistently found that only one-third of smallholder households could afford to buy fertiliser, and only the wealthiest of those who buy fertiliser could afford more than one 50kg bag.

As the input constraint is binding for most households, the free provision of a tiny pack of fertiliser and maize seed has a substantial impact on production. Because of a lack of reliable data on population and on production of non-maize staple food crops, it is difficult to know how much maize Malawi would need to produce in order to be food secure. But it is clear that a harvest of two million tonnes of maize is enough, and 1.3–1.5 million tonnes (the experience of recent years in the absence of Starter Pack) is too small.

The evidence from the M&E of Starter Pack/TIP shows that a pack containing fertiliser and maize seed for only 0.1 ha raises maize production by some 125–150kg per household on average. Thus, with a universal Starter Pack distribution (estimated at around 2.8 million packs), the programme provides at least 350,000 tonnes of additional maize; with near-universal Starter Pack (providing packs to 80% of smallholders), the programme provides at least 275,000 tonnes of additional maize.

The mechanism by which the extra maize production ensures food security is not straightforward. Smallholders in Malawi are often thought of as subsistence farmers, and policymakers generally talk about solving food insecurity by promoting household food self-sufficiency. However, the Starter Pack/TIP research shows that very few rural households are or could be self-sufficient subsistence farmers in present-day conditions. Most have a strong relationship with markets, but their predominant relationship with the maize markets is as buyers rather than sellers – as deficit rather than surplus producers. In particular, the Starter Pack/TIP research (Levy, 2003) shows that most households run out of maize well before the next harvest, and other foods are not necessarily available during this 'hungry period'.

In bad years such as 2001–2, better-off households join the competition for the small amounts of maize available, prices rise sharply and poorer households are driven out of the market. The situation in 2001–2 was worst in those parts of the country where food sources are least diversified. Figure 2 shows that the strongest demand pressure was in districts which rely on maize only. Districts with significant non-maize staple food crops (in the northern region, along the lakeshore and in the Shire River valley) experienced less demand pressure and lower food prices.

Ensuring food security means recognising the need for access to food in local markets at affordable prices. But this begs the question: what are affordable prices? This is an

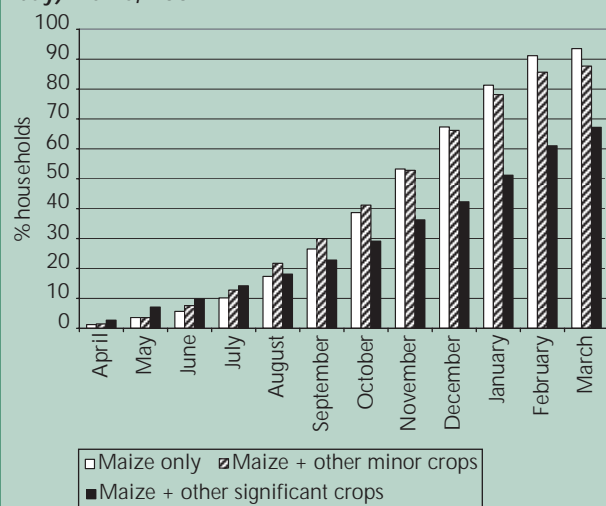
impossible question to answer accurately because of a lack of reliable data on rural incomes. However, the food security outcomes in recent years suggest that prices of around MK5–10/kg – as in the 1999–2000 and 2000–1 seasons – are affordable for most rural households. As the maize price rises above MK15/kg, as it did in September–October 2001, observers in the field begin to report increases in food insecurity among the rural poor, and at MK30 or more, as in January–March 2002, there is likely to be a food crisis.

The key to the success of free inputs programmes is that they increase the supply of maize and simultaneously reduce demand pressure, keeping prices low during the hungry period. Importing food in times of shortage would have a similar impact on supply, but would not reduce demand pressure in the way that 'growing your own' does. An intervention (like importing maize) that relies solely on increasing supply would need to be of a much larger magnitude to have the same impact on maize prices than one (like a free inputs programme) that simultaneously increases supply and reduces demand. Moreover, a strategy which relies on increasing supply through imports would have to include a subsidy for the consumer price of the imported maize in order to have an impact on food security. Imports (unless subsidised) are sold at import parity price plus a margin, which in early 2002 would have implied MK20–30/kg of maize – an unaffordable price for most of the rural population.

A related issue is that of Strategic Grain Reserves (SGRs). With chronic underproduction of maize frequently threatening to become acute, SGRs would need to hold buffer stocks on a large scale. However, such an approach is expensive, as it involves procuring, storing and distributing (either free or at subsidised prices) large quantities of maize. It is also highly susceptible to mismanagement and corruption. By boosting maize production and helping to keep prices low, free inputs programmes reduce the need for large-scale buffer stocks.

A final point about the food security impact of free inputs programmes is that because they operate through markets and prices, *geographical scale is important*. When Starter Pack has been run on a large scale, reaching most smallholder farmers in all villages, even in the remotest parts of the country, it has been shown to be an effective tool for achieving national food security. When it was scaled down to reach only a half or a third of smallholders in the 2000–1 and 2001–2 TIPs, the impact was disproportionately reduced.

Figure 2 Proportion of households buying (or trying to buy) maize, 2001–2



Source: Levy (ed.) (forthcoming) using data from the 2001 and 2002 TIP surveys.

Social protection

Malawi's free inputs programme has often been thought of as a safety net for the poorest and most vulnerable people in rural society, particularly after Starter Pack became TIP. However, thinking on social protection is evolving rapidly, beyond the limited concepts of social welfare or assistance, and synergies with food security and agricultural growth are being identified (Devereux, 2003; Farrington et al, 2004). This section suggests that attempts to make Starter Pack purely a safety net were unworkable, and ignored the real potential it offered for social protection.

Safety nets

During the period of the Starter Pack/TIP M&E programme, the focus of the Malawi Government's social protection approach was safety net interventions. The main components of the National Safety Net Strategy (NSNS) were conceived as welfare transfers, public works programmes, child nutrition and free inputs for smallholder farmers. These were to be provided by the state to the poorest and most vulnerable members of society, particularly in rural areas. The 'target group' was estimated at 20–30% of the population (NEC, 2000). A common theme of all components of the NSNS was to be poverty/vulnerability targeting, and this fed into the decision to scale down Starter Pack in the 2000–1 and 2001–2 seasons and to try to use community targeting to select the poorest and most vulnerable to receive packs.

Attempts to target free inputs in 2000–1 and 2001–2 failed. The surveys and PRA studies run by the M&E programme consistently found that targeting was not working. There was almost no difference between the poverty profiles of beneficiaries and non-beneficiaries, and only slightly more beneficiaries than non-beneficiaries belonged to 'vulnerable' categories. The reasons for this included strong resistance to targeting by the communities involved, combined with implementation problems (Box 2).

The emphasis on poverty/vulnerability targeting as part

Box 2 Community targeting in practice

The 'Consultations with the Poor on Safety Nets' study used PRA methods to find out whether community targeting was feasible. The study found that participants have little difficulty in deciding on selection criteria, which are usually associated with vulnerable groups (e.g. the elderly, disabled, orphans) and extreme poverty. However, the concept of targeting is alien to most communities in rural Malawi. A major consideration among the participants was the implications of community targeting for social harmony. They felt that it would strain social relations because everyone would like to benefit from such schemes as most villagers are poor. They pointed out that the targeting discussions often evoked fear of witchcraft and bitter quarrels. The resistance to targeting was greatest in the central and southern regions, where poverty is most intense. The study team concluded that in some areas it would have been virtually impossible to conduct the beneficiary selection exercises for real. In one site, the participants agreed to 'play the game' but said that the selected beneficiaries would just act as channels to receive the benefits, which would be shared. In another, a participant depicted the research as a mockery of the villagers' poverty: 'You educated people just get money without really struggling. How can you experiment such things on poor people? After all, is there any poor soul who can choose another poor soul as a beneficiary of such things?'

The attempt to simulate beneficiary selection for TIP also came up against a practical problem. Once the quota of the 'very poor' and 'very vulnerable' households was exhausted, and the participants had to choose among members of the 'poor' group, it was much more difficult to decide. As nobody in this group appeared to qualify much more than anybody else, the tendency of some participants was to select themselves or their relatives. Source: Blessings Chinsinga, adapted from Chinsinga et al (2001).

of the safety net focus provided a justification for scaling down Starter Pack. In the 2001–2 season, only one million packs were distributed – enough for roughly one-third of smallholders, and generating only 40,000 tonnes of maize. This 'narrow' targeting was consistent with the safety net approach, but it undermined the maize production and food security potential of the programme.

Synergies

It soon became clear that the strongest impact that free inputs can provide to social protection is via their wider food security role. A broadly targeted programme, providing free inputs to at least 80% of smallholder farmers, is an effective way of combating chronic food insecurity. In the absence of such a programme – or more expensive alternatives – Malawi suffers repeated food production shortages. Malawi's 2001–2 food crisis was more man-made than the result of unfavourable weather patterns. It was in large part due to the combination of rising fertiliser prices and the scaling down of the free inputs programme (packs were also delivered very late under the first TIP). The situation was aggravated by the government's mismanagement of the Strategic Grain Reserve. The 2001–2 food crisis was costly for the government and donors, but even more so for farmers. Many had to sell assets to survive, while some of the most vulnerable – such as the elderly and those already weakened by HIV/AIDS – did not survive the 2002 hungry season.

How does a universal or near-universal Starter Pack contribute to social protection in the broad sense of reducing risk and vulnerability?

- it reduces the risk of food crises, which disproportionately affect the poor and vulnerable, providing a more stable foundation for such households to invest in agricultural growth (cash crops, livestock and off-farm activities);
- it strengthens traditional support systems within rural communities by increasing food availability (see Box 3).

Some additional advantages of the programme in comparison with other social protection interventions which have been implemented or piloted in Malawi are that:

- it provides support even in the remotest communities which are often not reached by other initiatives;
- it is less costly than most welfare transfer programmes and has lower requirements in terms of management;
- it is broadly poverty-targeted and gender-neutral, unlike most public works programmes which (though not by design) tend to discourage participation by the poorest members of the community, particularly unaccompanied women.

Safety nets for the poorest and most vulnerable households will continue to be needed in Malawi, even with universal or near-universal Starter Pack – but on a smaller scale. Where safety nets provide beneficiaries with food, a related issue is how this should be sourced. The National Food Reserve Agency (NFRA), which manages Malawi's Strategic Grain

Box 3 Community support systems

People in rural Malawi are aware of a breakdown in traditional support systems. Some talk of the emergence of a 'table culture': whereas people would in the past eat communally under an open shelter, nowadays people eat inside their houses seated at a table. Shortage of food is the main reason for this decline. If there is not enough food to go around, people try to protect themselves by guarding what they have.

One support system which is perceived to be on the increase is based on agricultural *ganyu* (piecework): the rich often create labour opportunities as a way of helping the poor, particularly those seeking work in exchange for food during the hungry period. But when food is short, the rich have fewer resources to pay for *ganyu*.

Source: Blessings Chinsinga, adapted from Chinsinga et al (2001).

Reserve, is currently proposing that the reserve be kept at a low level – around 30,000 tonnes – in order to supply maize for safety net interventions.

Poverty reduction

The Starter Pack/TIP research found that for rural communities' in Malawi, the concept of poverty reduction was strongly associated with having enough food. The Van Donge et al (2001) study found that lack of food was seen by interviewees as the hallmark of poverty.

In our view, food security contributes to alleviating poverty in the Malawi context but it does not reduce poverty. Nevertheless, it is a necessary pre-condition for poverty reduction. The 2001–2 crisis showed yet again how much development efforts – whether in agriculture or social investment – can be set back by a food security shock. As we have argued, post-liberalisation rural Malawi is extremely vulnerable to such shocks, because it is chronically under-producing its main staple food. Starter Pack has proven to be an effective way of dealing with this problem. Now the Malawi Government needs to add the missing component: a meaningful agriculture and rural development strategy designed to reduce poverty.

Sustainability

An important question that is often asked about Starter Pack is: is the programme sustainable? In our view, there are two angles to this question – the question of agricultural sustainability and the question of fiscal sustainability.

Agricultural sustainability

Starter Pack can contribute to sustainable agriculture in Malawi through two important channels, both of which depend on getting the content of the pack right (something which the programme has not always achieved). First, it can disseminate high quality open-pollinated variety maize seed which farmers can recycle for three years without loss of yield potential. This is important in a country like Malawi in which hybrid seed has been repeatedly recycled and the maize germplasm pool is degraded. Because the programme reaches all parts of the country, even the remotest villages, this could – over a period of time – help to restore the quality of the seed used by smallholders. In addition, the programme can promote crop diversification as a strategy to reduce the risk of over-reliance on maize. This has been achieved in part with the inclusion of legume seed, but further efforts are needed to maximise the contribution to diversification. On the negative side, the main criticism that has been levelled at Starter Pack is that it undermines sustainability by promoting the use of inorganic fertiliser. Supporters of Starter Pack argue that the use of organic fertiliser to restore soil fertility cannot provide a 'quick fix' solution for the whole country (Blackie et al, 1998). However, since 2000 the Malawi Government has been promoting the use of organic fertiliser as a long-term strategy in parallel with Starter Pack.

Fiscal sustainability

It is not helpful to ask whether Starter Pack is 'sustainable' in the fiscal sense. It is not self-sustaining in the way – for instance – that a road project funded by user taxes might be. It is more meaningful to compare spending on Starter Pack with social expenditures such as education and health, which are funded out of general taxation or foreign grants. In this sense, the appropriate question is not 'is the programme sustainable?' but 'is it worthwhile enough to be a spending priority?' This paper has argued that it is worth financing – on the grounds of its contribution to food security, and the importance of food security for the success of social

protection, poverty reduction and growth.

Another way of looking at the question of whether Starter Pack should be a spending priority is to compare the cost of implementing the programme with the cost of the alternative policy options. Recent research on this issue (Levy ed., forthcoming) finds that Starter Pack – costing some US\$20m annually for a universal programme reaching 2.8 million beneficiaries – compares extremely well on cost with alternative food crisis prevention measures such as general fertiliser price subsidies, as well as with relief interventions such as subsidised commercial food imports and food aid.

A related question is one of the cost of not implementing Starter Pack, or 'what is the impact of chronic food insecurity on macroeconomic stability?' Levy (ed.) (forthcoming) shows that in 2001–2 and 2002–3, food crises and the Malawi Government's responses to them produced serious fiscal damage as well as undermining foreign reserves, the exchange rate, price stability and private sector growth.

We conclude that Starter Pack should be financed as part of a medium-term expenditure framework. At the moment, funding decisions for Starter Pack are taken on a yearly basis, making it difficult to plan ahead or to adapt the programme over time to enhance its contribution to sustainable agriculture. If a three- to five-year time frame were to operate, policymakers could in principle design a complementary medium-term rural development programme which would, if successful, eventually make Starter Pack redundant. Criteria and indicators would be needed in order to judge when free inputs could be phased out.

In the Malawi context, analysis beyond the scope of the present research may be needed to establish whether agricultural production is likely to be free of subsidy even over a 5–10 year period. Such a study would have to ask whether the range of alternative enterprises or employment opportunities available in rural areas is sufficient to generate livelihoods for more than a few, and, more fundamentally, whether the levels of population density and resource degradation mean that agricultural production is bound to fluctuate around a low-level equilibrium incapable of supporting the national population.

Relevance of Starter Pack in other contexts

Is Starter Pack relevant in other contexts, particularly for other countries in Africa? This depends on the specific conditions existing in these countries as well as the alternative policy options available. While the discussion of the alternative policy options available in other contexts is outside the scope of this paper, Levy (ed.) (forthcoming) suggests some of the conditions in which Starter Pack may be relevant to other countries:

- poor soil fertility and low yields leading to chronic underproduction of food;
- serious and widespread rural poverty, in particular lack of purchasing power;
- high input prices, e.g. because of liberalisation and depreciation of local currency;
- the input constraint is binding before land or labour constraints;
- producing food locally (via free inputs) is cheaper than importing it;
- capacity for managing large-scale inputs distribution exists.

Conclusion

Malawi's Starter Pack programme did not meet all of the expectations that it originally raised. In particular, it failed to kick-start agricultural growth because, after agricultural liberalisation in the mid-1990s, conditions in the agriculture sector were no longer propitious for a strategy based on

commercial maize farming. However, the programme proved successful in overcoming the severe input constraint facing the country's smallholder maize farmers. The M&E studies found that universal distribution of free inputs leads to a significant increase in maize output, reducing the country's production deficit by around 350,000 tonnes. At sufficient geographical scale, Starter Pack is an effective way of combating chronic food insecurity: by enabling poor farmers to grow their own food, the intervention reduces demand pressure in the market and keeps food prices low during the hungry season.

Starter Pack, by reducing the incidence of food crises, also contributes significantly to social protection and provides a solid foundation for poverty reduction and growth. Moreover, when compared with alternatives for food crisis prevention or relief such as general fertiliser price subsidies, subsidised commercial food imports and food aid, free inputs programmes are the least expensive option. This paper concludes that Starter Pack, together with a meaningful agriculture and rural development strategy designed to reduce poverty, should be a spending priority for Malawi. It is also an option worth considering for other developing countries.

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* These papers are available on the following CD-Rom: 'The Monitoring and Evaluation Archive of the Starter Pack and TIP Programmes 1999–2003'. Copies are available from Carlos Barahona (email: c.e.barahona@reading.ac.uk) at the Statistical Services Centre, The University of Reading, UK (www.ssc.rdg.ac.uk).

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