

Starter Packs and Hunger Crises A Briefing for Policymakers on Food Security in Malawi

by Sarah Levy¹, September 2003

This briefing presents some key findings of the Starter Pack/Targeted Inputs Programme (TIP) evaluations carried out in the 1999-2000, 2000-01, 2001-02 and 2002-03 main agricultural seasons. The evaluations comprise a large body of research using surveys, participatory approaches and case studies. They were designed as a series of modules covering different topics. A full description, together with reports, data and documentation from the field can be consulted on CD-ROM, available from DFID-Malawi (Livelihoods Adviser) or the evaluation managers: c.e.barahona@reading.ac.uk and s.b.levy@reading.ac.uk

The 'hard data' presented in this briefing comes from the Starter Pack (SP)/TIP evaluation surveys and from the Ministry of Agriculture, Irrigation and Food Security (MoAIFS), through the Famine Early Warning System (FEWS). We are certain that the SP/TIP evaluation data is reliable, as it has been subjected to strict quality controls. Although the MoAIFS data is not of the same standard, we are confident that it can be relied upon for trends and orders of magnitude.

Rural population and livelihoods

Nobody knows the size of the rural population in Malawi. The 1998 census put it at 8.5 million, but this was almost certainly a serious undercount (Wingfield Digby, 2000). The number of people in rural areas is thought to be increasing slightly each year, but the number of households almost certainly contracts in some years and expands in others, according to the food security situation². The lack of reliable information about numbers of people and households in rural areas makes planning difficult both for food crises and for rural development.

While the size of the rural population is unknown, we have some good data on rural households livelihoods:

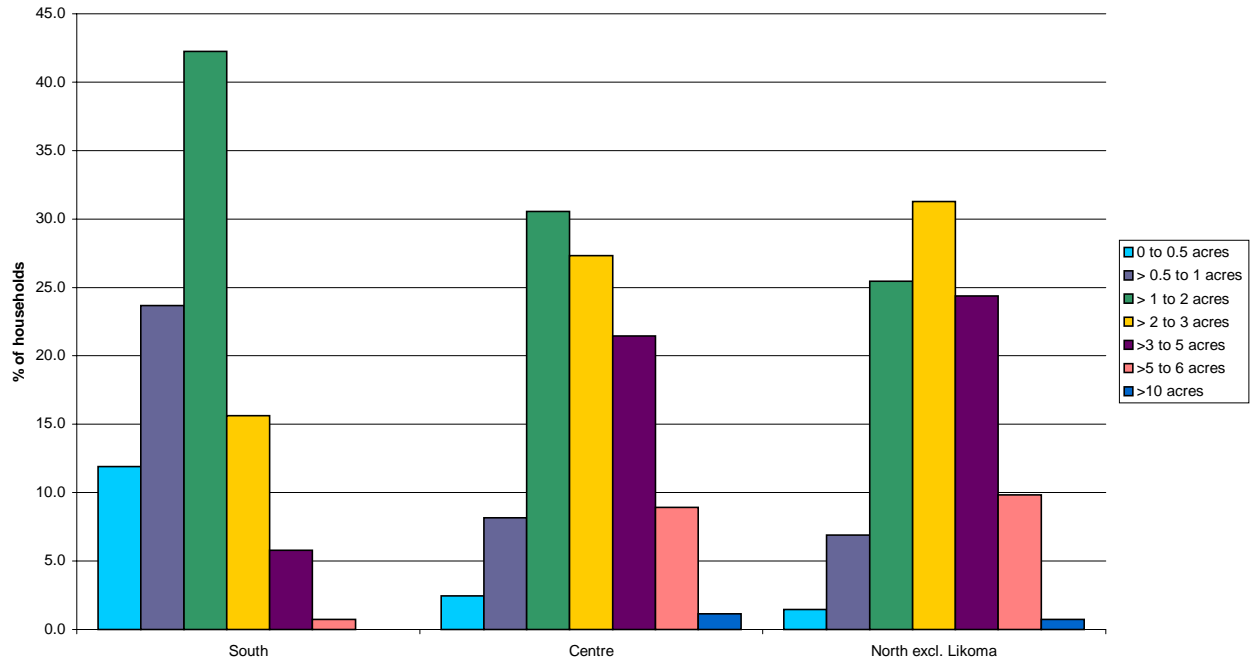
- Land is very scarce in the southern region, with around three-quarters of households cultivating 2 acres or less in the 2002-03 main agricultural season (**Figure 1**). Land is less scarce in the central and northern regions. In the north, one-third of households cultivated 2 acres or less in the 2002-03 main season.
- Crops sales are an important source of income for smallholder farmers (**Figure 2**). Off-farm activities such as *ganyu* labour – especially for poorer farmers – and small business – for wealthier farmers – are also important income sources. Nyirongo *et al* (2003b) shows how income sources vary for poor/wealthy farmers.
- Maize sales are not an important income source. All smallholder farmers grow maize (**Figure 3**), but most of them grow it for food, not for sale. This is clear from **Figure 4**. Maize and other 'food crops' appear on the right-hand-side, while 'cash crops' appear on the left-hand-side. In 2002-03 only some 10% of smallholder farmers sold any maize, compared with 14% in 2001-02.

¹ Sarah Levy is a consultant who has been part of the team co-ordinating the DFID-funded evaluations of Starter Pack and the TIP since 1999-2000. She is also a Visiting Research Fellow at the International and Rural Development Department (IRDD) of The University of Reading (UK). The views expressed in this article are her own views, not those of DFID.

² Households merge to cope with severe food shortages and split into independent units again when the food situation improves.

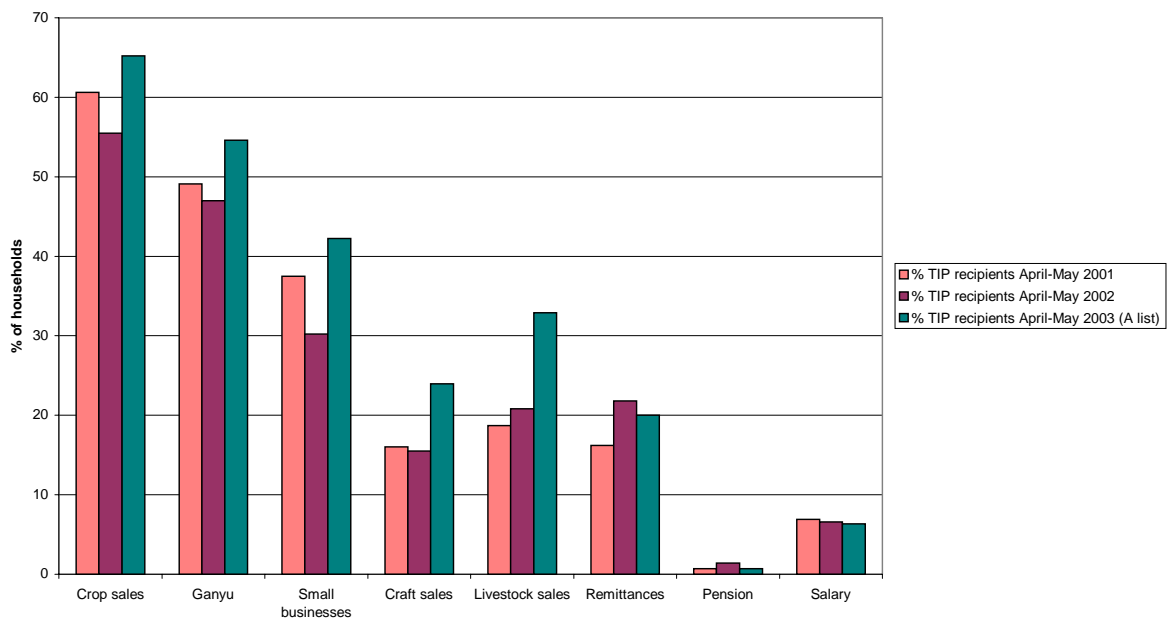
- In 2000-01, 2001-02 and 2002-03 only around one-third of smallholder farmers bought any fertiliser (**Figure 5**), and those that did buy bought small amounts. Farmers need fertiliser as soils are poor, but they cannot afford to buy it due to a combination of price increases in recent years and weak purchasing power.

Figure 1: Area cultivated by List A³ households, 2002-03



Source: 2003 TIP evaluation survey.

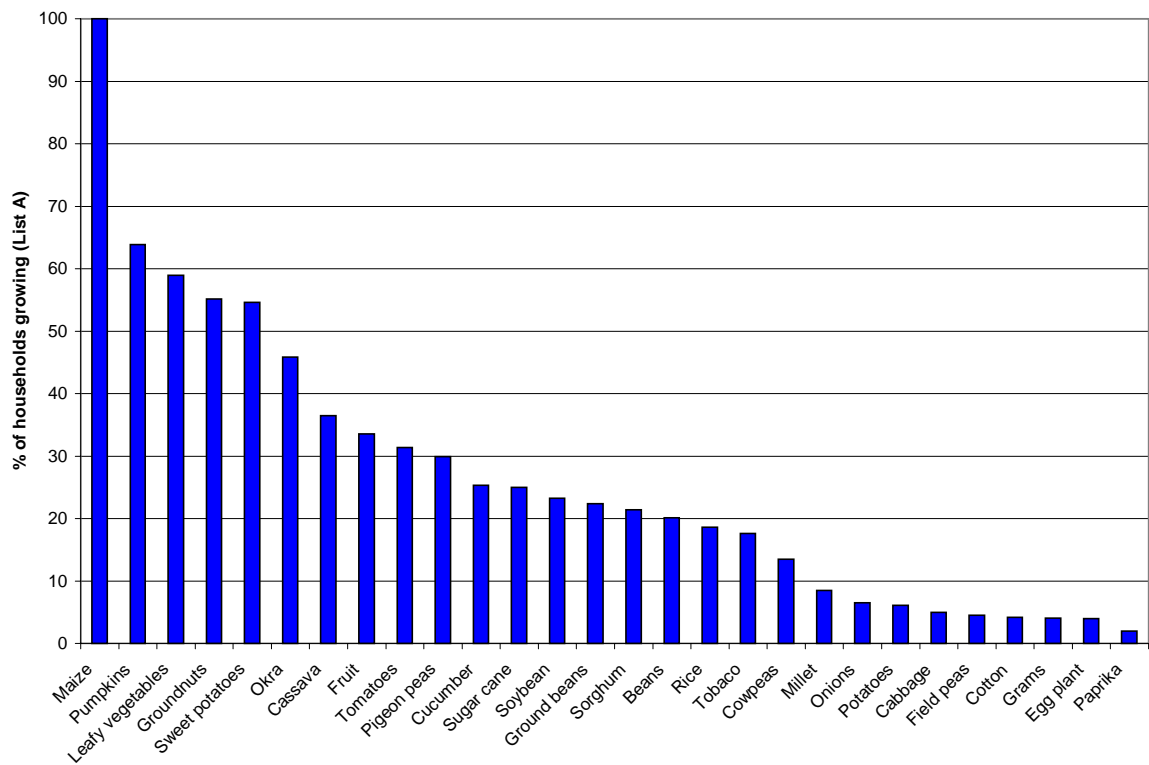
Figure 2: Sources of income for smallholder households



Source: 2001, 2002 and 2003 TIP evaluation surveys.

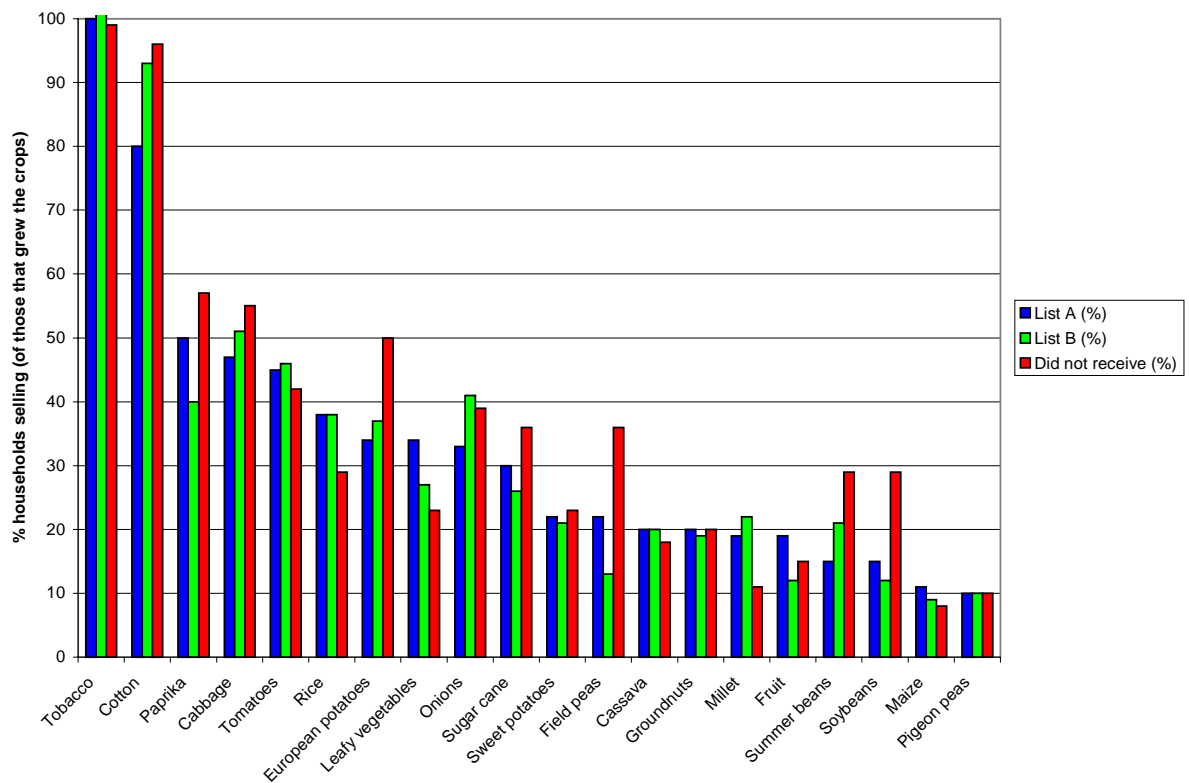
³ For the 2002-03 season, the evaluation survey sampled List A and List B TIP beneficiaries and non-beneficiaries separately. List A beneficiaries were those who received packs in the first round of distribution, while List B beneficiaries received in the second round. Where the results are similar for all three samples, we only show the findings for List A beneficiaries.

Figure 3: Most commonly grown crops⁴, 2002-03



Source: 2003 TIP evaluation survey.

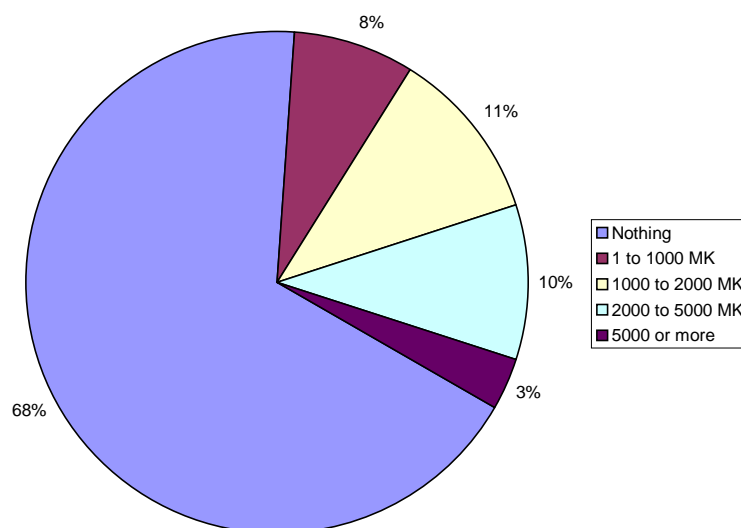
Figure 4: Proportion of households selling crops, 2002-03



Source: 2003 TIP evaluation survey.

⁴ Bananas are omitted from Figures 3 and 4 because of an omission in the questionnaire.

Figure 5: Spending on fertiliser, 2002-03 (% List A households)



Source: 2003 TIP evaluation survey.

SP, TIP and the 2001-02 hunger crisis

According to the MoAIFS, smallholder main season maize production has fluctuated between 1.3 million and 2.2 million tonnes over the last six years (**Figure 6**). In the absence of reliable population figures or estimates of production of other food crops⁵, it is impossible to calculate how much maize Malawi needs to achieve food security. But it is clear – from the food security outcomes – that the 1999 and 2000 harvests of over 2 million tonnes of maize were large enough, and that the 2001 and 2002 harvests of under 1.5 million tonnes were too small.

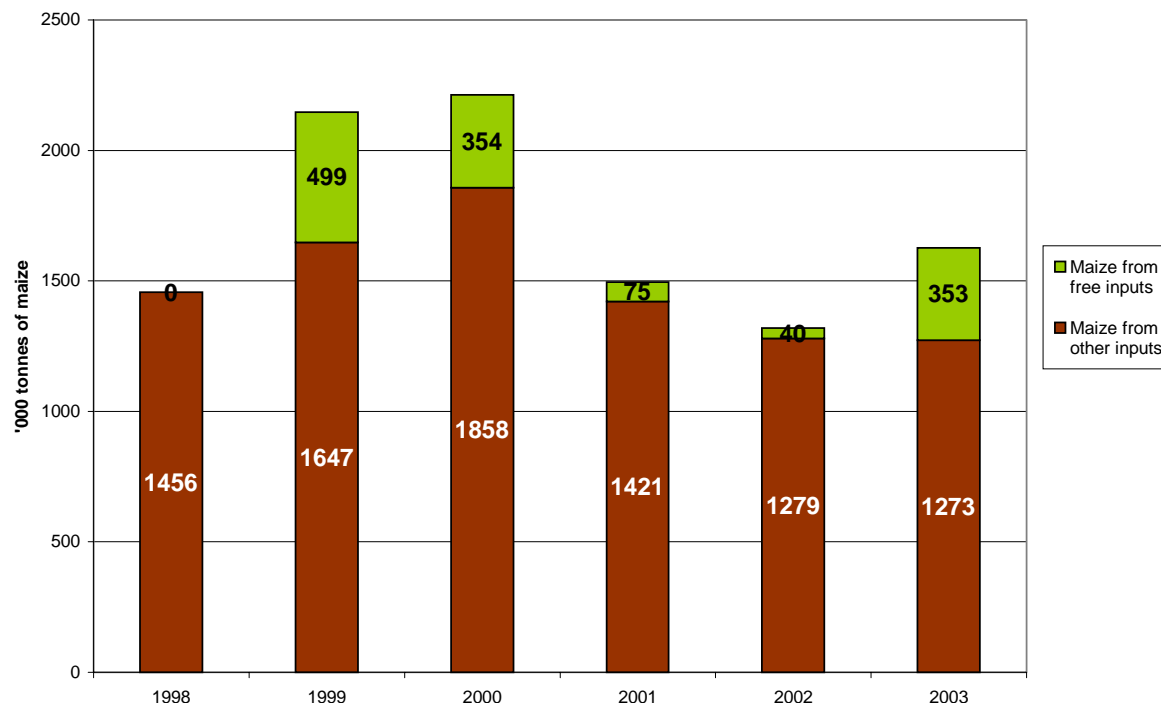
Starter Pack was first introduced in the 1998-99 season as a response to insufficient maize production and food insecurity. The 'universal' SP programmes of 1998-99 and 1999-2000 provided free packs containing 15 kg of fertiliser, 2 kg of improved maize seed and 1 kg of legume seed for 2.8 million rural households. After two good harvests, to which universal SP made a substantial contribution (**Figure 6**), the government and donors agreed to scale down the programme and to try to target the packs to the poorest smallholders. In the 2000-01 TIP, only 1.5 million free packs were distributed, the fertiliser was reduced to 10 kg and the packs were delivered late. In 2001-02, coverage was reduced to 1 million beneficiaries.

The contribution of TIP to household and national maize production was much less than that of universal SP, and poverty targeting was unsuccessful (Levy and Barahona, 2002). With the country once again facing a food crisis in 2001-02, the TIP was scaled up to 2.8 million beneficiaries for the 2002-03 season, becoming the Extended TIP (ETIP). In the 2003 harvest, the ETIP contributed on average 159 kg of additional maize for households that received the packs on time, while those that

⁵ Estimates of production of cassava, sweet potatoes and bananas are a particular problem. No reliable production estimates have been produced in recent years.

received late produced an extra 87 kg. In terms of national maize production, the 2002-03 ETIP contributed an estimated 353,000 tonnes of maize.

Figure 6: Smallholder maize production (main season)



Sources: MoAIFS crop estimate survey data, from FEWS. Estimates of maize produced with free inputs (SP/TIP contribution) are from the evaluation surveys.

Food production and self-sufficiency

Maize is an important part of most Malawians' diets. However, most rural households are not self-sufficient in maize from one harvest to the next. By three months before the harvest, which takes place in April-June, some three-quarters of households are without their own maize supplies even in a good year like 2000-01 (**Table 1**). The pre-harvest months are known as the 'hungry period'.

Table 1: Months of maize deficit – smallholder farmers

	2000-01 (% of farmers)	2001-02 (% of farmers)	2002-03* (% of farmers)
9 months or more	10	17	22
6 months or more	32	52	50
3 months or more	72	87	82
No deficit	5	3	6

*List A farmers only. Deficits were slightly higher for List B and non-beneficiaries.

Source: 2001, 2002 and 2003 TIP evaluation surveys.

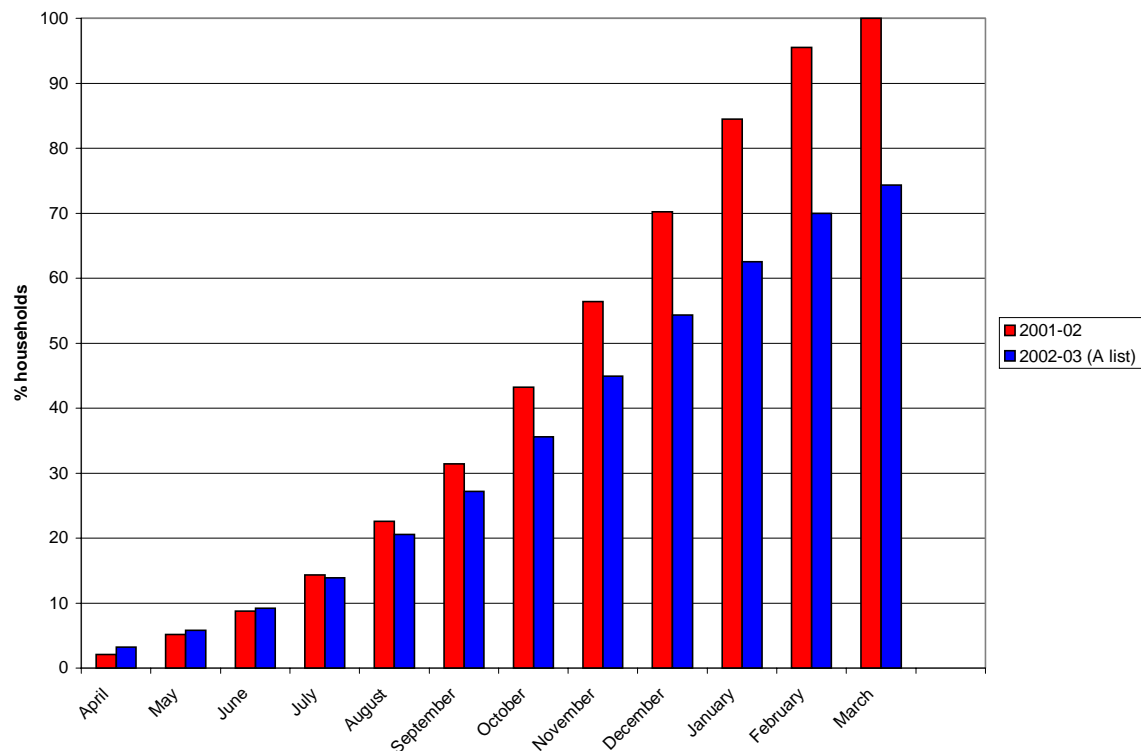
The evaluation survey data show that the degree of maize self-sufficiency varies each year, but the seasonal pattern is the same. In 2002-03, over 40% of the rural population had run out of own maize stocks by September, rising to 90% by February (Nyirongo *et al*, 2003b).

As households run out of maize, they may consume other home-grown foods. The problem with this is that other foods are not necessarily available when maize supplies run short (Nyirongo *et al*, 2003a). The only major staples with production patterns allowing food stocks to be maintained throughout the year are cassava and bananas, but less than one-quarter of households have access to these food sources during the hungry period (Nyirongo *et al*, 2003a).

Markets and prices

As own food sources run out, households turn to the market. The evidence suggests that a large part of the problem in the 2001-02 season was increased demand pressure in the market from smallholders looking to buy food. What evidence do we have about this? The evaluation surveys of 2002 and 2003 – which were carried out in April-May – asked smallholder households if they had bought any staple foods since the previous year’s harvest, and if so, in which month they began buying maize and other staple foods⁶. From the answers to these questions, we can construct **Figure 7**, which shows the proportion of households buying maize in each month of the year during the 2001-02 and 2002-03 seasons.

Figure 7: Proportion of households buying (or trying to buy) maize



Source: 2002 and 2003 TIP evaluation surveys.

The proportion of households buying – or trying to buy – maize is relatively low in the harvest and post-harvest months but rises sharply as the season progresses towards the next harvest. The 2001-02 season was worse than usual. By February 2002, 96% of households had run out of maize from their own production and were trying to buy maize in the market. We can infer that the ‘additional’ households that ran out of own food before the 2002 harvest were better off than the rest: unlike the poorer households, they would not have run out in a moderate/good year. As households with relatively strong purchasing power came into the market, this bid up

⁶ Nyirongo *et al*, 2003b – Appendix 4.

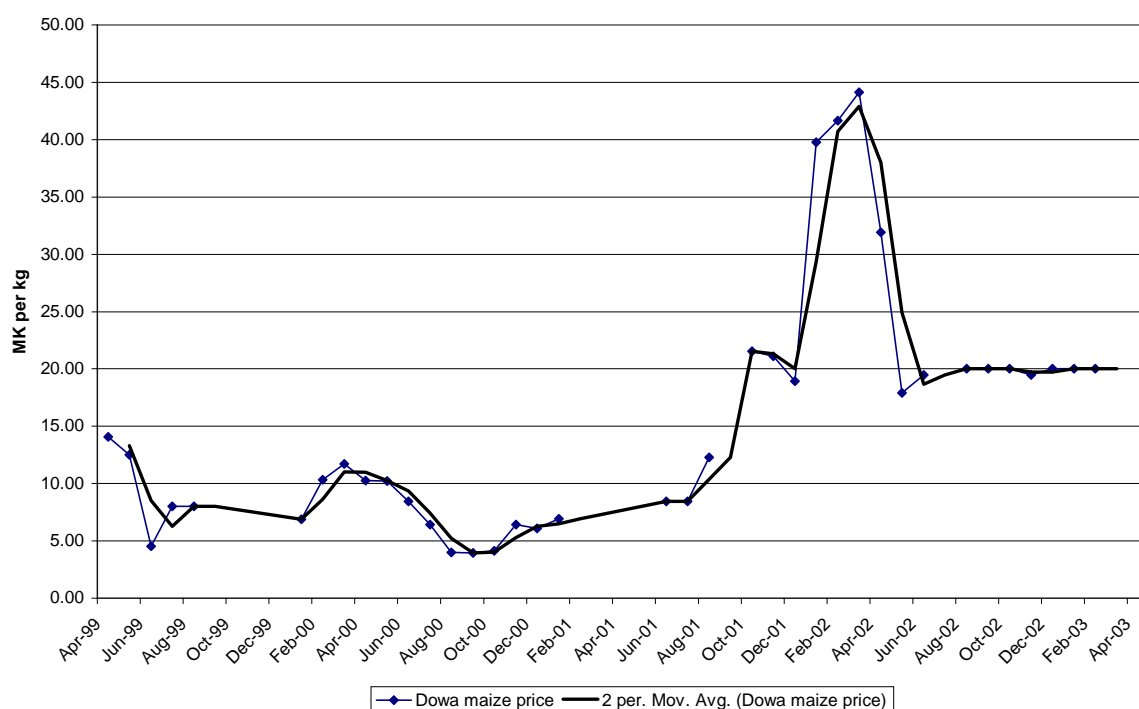
the price of what little food was available, driving the poorer households out of the market. The worst affected part of Malawi was the central region. For instance, in January 2002 the cost of maize reached over MK40 per kg in Dowa, compared with MK6-7 per kg in January 2001 (**Figure 8**).

The result, shown in **Figure 9**, was a severe – though short-lived – food crisis. In February-March 2002, nearly half of all rural households were using extreme coping strategies (**Box 1**) in the face of hunger.

- Box 1: Extreme coping strategies**

 - Eating *nsima* from maize cobs
 - Eating only wild roots and tubers (no *nsima*)
 - Eating only wild fruit, mushrooms, etc (no *nsima*)
 - Eating nothing for the whole day

Figure 8: Dowa maize price, April 1999 to April 2003

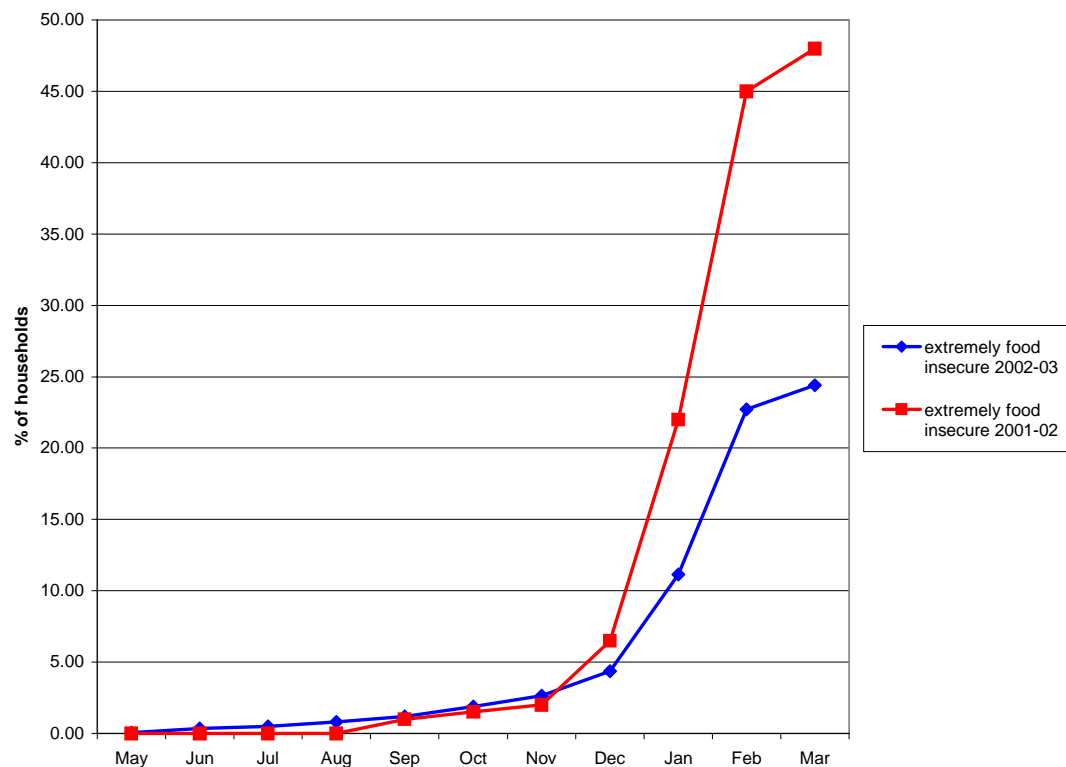


Note: The series is broken in places owing to field staff failing to collect/report the data.
Source: FEWS (using MoAIFS price data).

Food security

The question in Malawi is not “Can we make poor, rural households food self-sufficient?” This would be extremely costly and difficult to achieve. The real question is “Can we make poor, rural households food secure?” Food security is not only about growing your own food. A household that does not grow food, or grows very little, may still be food secure if food is available to buy at affordable prices. This is the key to the success of SP/ETIP. Free inputs programmes increase supply and reduce demand pressure sufficiently to keep prices in check. Thus, poor families are able to buy food in the market during the hungry period. An essential condition for this to work is the *scale of the intervention* (see below).

Figure 9: Extreme food insecurity in 2001-02 and 2002-03



Source: 2002 and 2003 TIP evaluation surveys.

Imports and food aid

Malawi continues to be a chronic under-producer of maize and other foods in relation to its population. But does the country need to grow more food (e.g. with SP/ETIP), or could it rely on imports and food aid? In 2002-03, the government and donors managed to cut in half the number of people affected by extreme food security compared with 2001-02, although the 2002 harvest was slightly worse than the 2001 harvest. The WFP led a massive food aid distribution exercise. The government imported maize commercially and agreed with the IMF on a consumer price subsidy which allowed it to fix the price of maize at around MK17 per kg. The food aid effort helped reduce demand pressure in the maize market, while maize imports added to supplies. Food prices remained moderate throughout the 'hungry period'.

However, imports and food aid were expensive. The cost of imported maize was \$220 per tonne, while food aid cost \$450 per tonne. This compares with between \$43 and \$48 per tonne for producing maize with ETIP in 2002-03. For the future, a key problem is that most rural consumers do not have the purchasing power to buy maize imported at such high cost, unless the government continues to provide price subsidies. This would make a big hole in public finances, as it did in 2002-03.

Medium-term strategy: food security and rural development

At present, rural Malawi is caught in a trap. Poverty is so extreme and widespread and food security so precarious that any shock is enough to cause a crisis. The government and donors spend resources on social welfare and development programmes, which are then undermined by food crises. Farmers may build up assets and try to invest in a better future, but then they are hit by another food crisis which absorbs all their resources and puts them back where they started.

In order to break out of this trap, a two-pronged strategy is required:

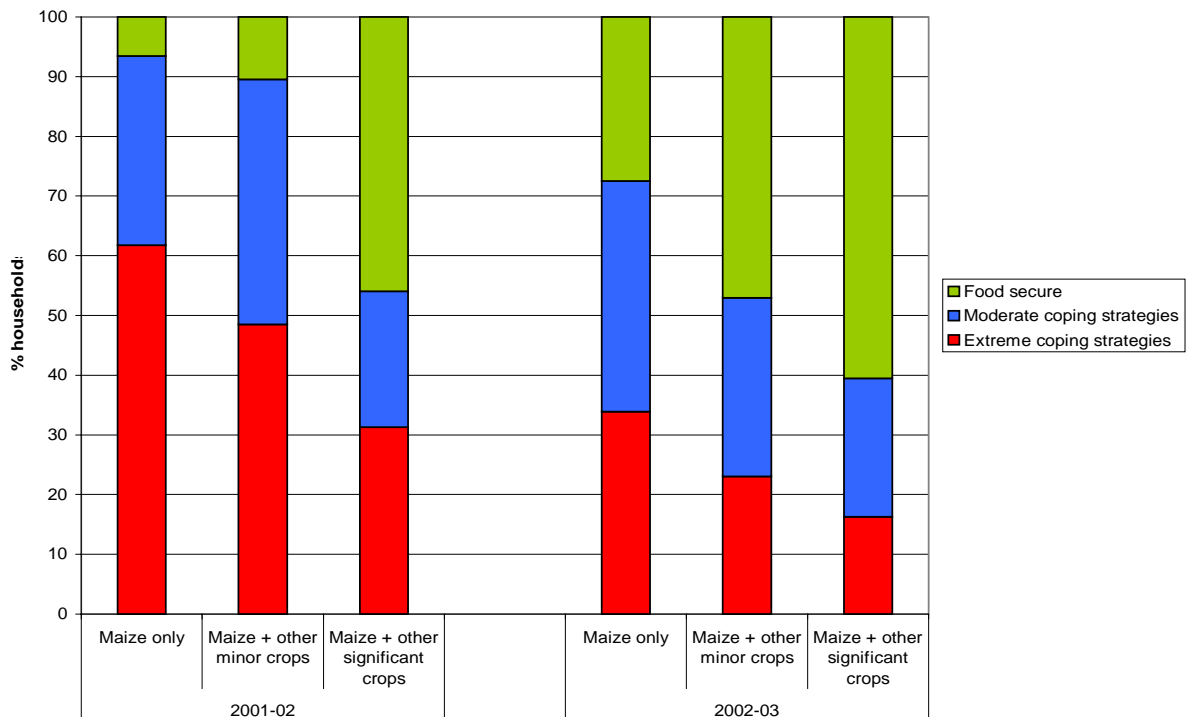
- On the one hand, Malawi needs to produce enough food. SP/ETIP has proven to be an efficient way of doing this. The programme needs to be of sufficiently large scale (universal or near-universal) to achieve the impact on maize markets that is required to keep prices in check and ensure food security.
- On the other hand, there is a need to develop smallholder farmers' livelihoods. This means increasing opportunities for *ganyu* and other off-farm activities, promoting cash crops that smallholders can grow without displacing food crops (e.g. by inter-cropping), and boosting livestock ownership.

Is there a way out of SP/ETIP?

Unless we are prepared to risk another food crisis, and the accompanying set-backs in education, health, poverty reduction and development programmes, it will not be possible to abandon (or scale down) SP/ETIP in the short term. In the medium term, four factors should allow us to assess the possibility of 'exit' – and indicators should be developed to monitor their progress:

1. Increase in smallholder purchasing power, such that more farmers can afford to buy the inputs they need to increase maize yields on poor soils.
2. Development of markets for seed and fertiliser. Seed availability was a serious problem in 2002-03. Fertiliser is available in most parts of Malawi, but not always in the small quantities (10 kg bags) that most farmers want.
3. Diversification of food crops in maize-dependent districts. The parts of Malawi where farmers' only food crop is maize suffer much worse food insecurity than the areas which have diversified food sources (**Figure 10**).
4. Increases in maize imports by private traders. If barriers to cross-border trade are reduced, traders may be able to bring in more maize from neighbouring countries at prices which are affordable for rural consumers.

Figure 10: Food security and diversity of food crops grown



Note: To produce this graph, districts were grouped by diversity of food crops grown.
Source: 2002 and 2003 TIP evaluation surveys.

Are there any alternatives?

SP/ETIP is not the only alternative that has been proposed for tackling food insecurity in Malawi. However, it is one that has proven to be effective and efficient. Before replacing SP/ETIP with any new intervention, policymakers and donors should assess whether it has the following important characteristics:

1. Is it of sufficient scale to have a strong, positive impact on food security via the maize markets and prices? To achieve this, it needs to reach a large number of beneficiaries each year throughout Malawi – with the possible exception of the far north, parts of the lakeshore and the Nsanje Valley. Providing inputs in larger packs to a smaller number of beneficiaries than SP/ETIP would not have the same impact on national food security. It would merely increase household food self-sufficiency for those who receive the inputs.
2. Is it efficient and low-cost? None of the alternatives that have been proposed, from 'inputs for work' to subsidies for fertiliser, credit and consumer prices cost as little as SP/ETIP if implemented on a similar scale.
3. Does it promote diversification of food and cash crops? This implies providing other seeds in addition to maize and/or promotion of local nurseries for roots and tubers (Levy and Barahona, 2002). The legumes provided by SP, TIP and ETIP have made an important contribution to food crop diversification in Malawi, and this role should be enhanced in future.
4. Does it avoid distorting the inputs markets or 'crowding out' the private sector? The evaluation data from 2000-01, 2001-02 and 2002-03 show that free packs with 10 kg of fertiliser are too small to affect farmers' fertiliser purchases.
5. Is it poverty-targeted, or at least 'poverty-neutral' within the target group of poor farmers? We know from the SP/TIP evaluations that attempts to target the poorest households with agricultural inputs are unlikely to succeed except in small-scale programmes. But at least SP/ETIP spreads the benefits beyond the village elite to poor households. The small size of the pack even allows the 'landless poor' (those with tiny plots of land around their houses) to benefit.

The evidence collected over the past four years shows that SP/ETIP has a strong, positive impact on food security. It is relatively low-cost; it promotes food crop diversification; it does not distort inputs markets; and it is 'poverty neutral'. In the absence of any alternative with proven capacity to perform better, we would recommend that SP/ETIP continue to play a role in Malawi's medium term food security strategy. 'Exit' from food security interventions will only be advisable when there is an improvement in rural livelihoods, markets and food sources, and indicators should be designed to track progress towards these goals.

References:

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