

IDS Working Paper 215

**International trade, livelihoods and food security in
developing countries**

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Summary

Changes to multilateral trade policy should take account of their food security implications, but often this does not happen because trade negotiators and food security planners talk a different language and do not have access to appropriate data. This Working Paper explains the links between trade reform and food security, identifies the factors that need to be taken into account, and proposes an action plan for countries to establish appropriate data collection.

Since the 1980s the concept of food security has shifted away from the national to the household level, and from the production of food towards access to food. Sen's entitlement approach, which has been associated with this shift, also provides a useful framework for assessing the effects on *individual* food security of *national and multilateral* trade policy change. But whereas food security analysts look to the production, trade, labour and transfer routes to food security, the concept at the multilateral level is much narrower, relating only to availability of imported food for net food-importing developing countries (NFIDCs). The inadequacy of the multilateral definition is illustrated by the very limited overlap between the NFIDC category and other, objective indicators of food insecurity (such as low calorie availability).

Trade negotiators should receive training in applying the livelihoods framework, in combination with the entitlements approach, to the analysis of the food security impacts of trade liberalisation at a disaggregated sub-national level. Identifying the effects of trade policy change on household food security requires both a *situation analysis* and a *scenario analysis*: the former describes the base situation before trade policy change while the latter projects the potential impact of change. But to do this data are required to identify the extent to which the entitlements of the most food insecure individuals/groups in a country are affected by the relative prices of those tradables that might be altered by trade negotiations.

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1 The communication problem

It is important to ensure that multilateral trade policy reforms take account of their food security implications and that food security planners are aware of the changes to circumstances that might arise from the multilateral negotiations. But often the communication required to ensure this does not occur (and even when it does, it is frequently not an informed dialogue). This is largely because trade negotiators and food security planners talk a different language and the types of data needed to predict and monitor the effects of planned or actual policy change are often not available.

A first step, therefore, in linking multilateral trade negotiations with food security planning is to develop communication channels and identify the types of data that need to be collected on a systematic basis in order to inform both activities. The following three sub-sections describe current thinking on food security, explain how the term is used in a very much narrower sense in the World Trade Organization (WTO), and identify a framework for linking the two types of discourse.

1.1 Current thinking on food security

For food security planners and analysts, the concept of food security has evolved substantially in recent decades. Food security was initially equated with national production self-sufficiency, and achieving independence from international food markets was an explicit goal of many governments. In pursuit of this objective, these governments introduced a range of interventionist policies – including heavy and ultimately unsustainable subsidisation of agricultural production and marketing – which distorted cropping patterns, repressed domestic trade and altered consumer preferences.¹ In its most extreme form, the equation of national food security with self-sufficiency sometimes led to tragic consequences – both China’s ‘Great Leap Forward’ famine of 1958–62, and the recent food crisis in North Korea can be partly attributed to autarkic policies of self-reliance and disengagement from the world economy.

Since the 1980s, the concept of food security has shifted away from the national to the household level, and from the production of food towards access to food. Sen’s entitlement approach provided a useful analytical framework, in which production was recognised as one of four possible sources of food, the others being trade, labour and transfers (Sen 1981). At the national level, the “trade-based” and “transfer-based” entitlement categories correspond to commercial and concessional food imports. While many countries retain a degree of scepticism about international commodity markets, it is now widely accepted that the various sources of food and income should be seen as additional and complementary, rather than stark policy choices between one or the other. It is entirely possible and economically rational for a country – or an individual farmer, for that matter – to achieve food security by growing high-value crops instead of staple grains, and importing some proportion of the food it requires with revenues earned from export crop sales.

¹ For example, the extent to which the promotion of white maize in southern African countries such as Malawi and Zambia displaced “traditional” crops became apparent only recently, when maize subsidies and marketing infrastructure were removed and cassava rapidly re-emerged as a dominant food staple.

Although a more balanced view now dominates the food security literature, many national policymakers remain committed to the self-sufficiency goal. In Botswana, for example – a middle-income but chronically food deficit country with little arable land – the National Food Security Strategy only recently abandoned the objective of “self-sufficiency” and replaced this with “self-reliance”, thereby officially endorsing the essential contribution that food imports have made to national food security in Botswana for decades.

This shift in perspective – from “self-sufficiency” to “self-reliance” – has become more established in the literature on household food security than national food security. The growing literature on “sustainable livelihoods” and livelihood diversification recognises that poor households choose to diversify their income sources as a way of increasing total income or consumption, and of spreading risk (Ellis 2000). When a farmer’s harvest fails because of drought, for instance, it is vital that alternative (non-covariate) sources of food are available. A sustainable livelihood strategy invariably includes trade- and labour-based entitlements to food, in addition to (even instead of) production-based entitlements.²

The “security” component of food security also resonates with a renewed recognition in recent years of the importance of livelihood *insecurity* or uncertainty as central to the experience of living in poverty (see Narayan *et al.* 2000 and World Bank 2000). Whereas poverty is typically analysed in static or comparative static terms, food security is a dynamic concept that implies stability and reliability of access to food over time. At the level of international trade, one reason why developing country governments might resist deepening their “dependence” on global markets for staple food needs is anxiety about supply or demand volatility in those markets (variable supplies and prices of food, volatile demand for export crops).

An analogous logic applies in the domestic economic environment. Where access to markets is constrained and prices are highly seasonal or uncertain, poor households might choose agricultural risk over market risk. Processes of “agricultural involution” have been observed in countries where trade liberalisation has included reducing the role of agricultural parastatals in input delivery, output purchase and marketing, and private traders have either neglected or exploited small farmers exposed by this institutional vacuum. Some analysts argue that trade liberalisation may be regressive for this reason, because the main beneficiaries of a “free trade” policy environment – both domestic and international – are more likely to be large-scale commercial producers and traders than smallholders who face restricted access to inputs and weak bargaining power in the marketplace. It is in this context that household food security has re-emerged as a significant policy concern in its own right.

1.2 “Food security” in the multilateral context

In the WTO the term “food security” is used in a much narrower sense than described above. Moreover, the institutional arrangements within the WTO to deal with food security issues are weak. Part of any

² For an elaboration of an entitlements-based framework for analysing the relationship between food security and trade policy, see Stevens *et al.* (2000).

proposal to improve institutional communication must be measures to address this weakness either within the WTO or by other means.

In WTO terms, “food security” concerns primarily the availability of imported food for net food importing countries if world prices rise and/or the supply of concessional food declines as a consequence of trade liberalisation. The extent of the differences resulting from this definition compared with those used by food security specialists may be gauged from the country classifications that result. Some WTO members are classified as NFIDCs.³ Yet only one of the 24 developing (i.e. not least developed) states (Kenya) falls among the world’s 30 lowest-calorie-availability countries (UNDP 2000: Table 23), and some least developed perform better than non-NFIDC developing countries on some indicators (see Stevens 2002). Daily *per capita* calorie availability by country is a fairly robust proxy for national (and by extension, household and individual) food insecurity.

The almost-complete mismatch between the WTO category of NFIDC and the states normally considered to be food insecure has not had any operational significance so far. This is because the NFIDC category does not confer either special obligations or entitlements, there are no established criteria for membership, and even if there were, no institutional structure currently exists to adjudicate on whether or not a particular country meets them.

To the extent that the food security implications of multilateral reforms have been identified, the texts agreed in the WTO do not provide any direct operational measures to deal with the consequences. The Marrakech Agreement includes, for example, a *Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries* which, *inter alia*, commits the signatory Ministers ‘to establish appropriate mechanisms to ensure that the implementation of the results of the Uruguay Round on trade in agriculture does not adversely affect the availability of food aid’ (WTO 1995). The Ministers further agreed ‘to ensure that any agreement relating to agricultural export credits makes appropriate provision for differential treatment in favour of least-developed and net food-importing developing countries’ (*ibid.*).

But these commitments fall into the category of what are known as “best endeavours”. Any action has to be taken outside the WTO. And if any least developed country or NFIDC is dissatisfied with the adequacy of what is done, it has no recourse to action in the WTO. A perceived failure to deliver on these promises, for example, does not permit a state to revise the actions it has promised to take under the Agreement on Agriculture (AoA).

³ All least developed and some developing countries are NFIDCs. To be a member of the NFIDC group a developing (not least developed) state must:

- be a developing country;
- have been a net importer of basic foodstuffs in *any* three years of the most recent five-year period for which data are available;
- notify the WTO Committee on Agriculture of its wish to be so classified.

Twenty-four countries are currently (WTO 2003a) classified as NFIDCs: Barbados, Botswana, Côte d’Ivoire, Cuba, Dominica, Dominican Republic, Egypt, Honduras, Jamaica, Jordan, Kenya, Mauritius, Morocco, Namibia, Pakistan, Peru, Senegal, Sri Lanka, St Kitts and Nevis, St Lucia, St Vincent, Trinidad and Tobago, Tunisia, and Venezuela.

Resolving this problem is important for both food security and multilateral trade policy. A significant part of the acrimony that arose between Doha and Cancún stemmed from dissatisfaction over the unenforceability of “best endeavour” commitments and industrialised country unwillingness to address such issues except in the context of further negotiations in which all parties would be required to give as well as take. And, as became very clear at Cancún, without developing country support the Doha Round, including the current negotiations on agriculture, cannot be brought to a conclusion.

The task is complicated. As indicated in Section 2 (on the relationship of trade liberalisation to food security), the link between the two areas is diffuse. Plotting the ways in which changes negotiated in Geneva might affect people on the ground in, say, Salima District, Malawi is complicated because WTO texts relate to *national* policy (and are negotiated between states), whereas food security applies to *individuals*. A framework is required within which a dialogue can be created.

1.3 A framework for dialogue

Understanding the likely food security impacts of a change in trade policy must be grounded in an understanding of domestic livelihood systems and, in particular, on a disaggregated analysis of who will be affected by the policy change. This sub-section introduces a framework for this kind of analysis, which is based on the livelihoods framework.⁴

The main components of a livelihoods analysis include the following:

- 1 *livelihood activities and strategies* – a *livelihood activity* is any economic activity that generates food or income, and a *livelihood strategy* is a basket of economic activities that together generate food and income for the individual or household;
- 2 *livelihood resources* – natural resources, physical assets, human capital, financial capital, and social capital (this analysis includes an assessment of the domestic resource base, and what bundles of resources are needed to undertake specific livelihood activities);
- 3 *institutions and organisations* – focusing on formal and informal institutions that mediate access to livelihood opportunities and resources (e.g. sociocultural norms that restrict women’s access to certain economic activities, land tenure systems that favour the rights of certain groups over others, or laws that permit some land uses but outlaw others);
- 4 *livelihood contexts* – including the macroeconomic environment, livelihood shocks and trends over time, and the domestic and international policy regimes.

International trade liberalisation enters the analysis of domestic livelihoods primarily as a change in the institutional or policy context – the “rules of the game” will be modified, making engagement in international commodity markets more (or less) difficult for local producers. The consequences are likely

⁴ The livelihoods framework is also known as the “sustainable livelihoods”, or “sustainable rural livelihoods” approach (see Carney 1998; Scoones 1998; Ellis 2000). For present purposes the “sustainability” and “rural” aspects seem to narrow the analysis unnecessarily, so a generic livelihoods approach is preferred.

to be felt as a change in the absolute or relative returns to specific production- or trade-based livelihood activities, which will induce producers to shift away from certain commodities towards others, or perhaps to diversify out of commodity production altogether. For example, an erosion of preferential access to European Union (EU) markets – accompanied by intensified competition from other producing countries – might reduce exports by volume and/or value, thereby reducing incomes earned by domestic producers and employment levels in that sector.

Trade liberalisation is not expected directly to change either the available resource base or the resources required to pursue alternative livelihood options. On the other hand, indirect effects on domestic resource costs – and hence on the profitability of economic activities – can be significant. Anything that is not 100 per cent domestic in content – i.e. anything that incorporates any imported or potentially exported element (which usually means anything involving road transport) – may experience altered costs and supplies.

However, trade liberalisation often goes hand in hand with broader packages of change, for example on domestic agricultural marketing, exchange rate policy, and other critical economic variables. If too rapid or poorly sequenced, such packages of domestic and international policy change can have devastating effects on national and household food security.

1.3.1 The Malawi case

A case in point is Malawi in the late 1990s, when the combined effects of changes in the exchange rate and the dismantling of domestic subsidies produced a large cumulative increase in the price of fertiliser to farmers. The average fertiliser price rose from approximately Malawi Kwacha (MK) 220 per 50 kg bag in 1995 to c. MK 1,275 by 2000 (Agricultural Policy Research Unit 2000). This six-fold increase compares with a rise in the consumer price index over the same period of 365 per cent. Hence fertiliser prices rose by some 160 per cent relative to the general price level (and maybe more at the farm gate). Only a part of this increase reflected the devaluation of the kwacha, since the US dollar equivalent also rose by some 50 per cent.

As a consequence, the application of fertiliser to maize switched from being profitable to unprofitable,⁵ and smallholder purchases of fertiliser slumped. There are profound questions to be asked (but for which answers are largely lacking because of inadequate data) following the reversal in profitability of maize. What stopped domestic prices rising if, as is asserted, the cost of imports is much higher than domestic production? Had domestic production become too dependent upon imported fertilisers? Did the subsidies to fertiliser (direct and indirect via the exchange rate) cause a shift in production out of crops that can be grown competitively (such as cassava) and, if so, were there social or other reasons to favour such a substitution? Until such questions are answered it is not certain that a shift out of maize into other

⁵ Whiteside (1998: 49) neatly summarises the calculation facing Malawian farmers: ‘while in 1992 it took ten kilogrammes of maize to pay for one kilogramme of nitrogen (N), in 1996 it took 22 kilogrammes. Since the typical response to N under smallholder conditions is 15 to 20 kilogrammes extra maize per kilogramme N used, it is no longer profitable to use fertiliser on maize’.

crops would have been retrograde. Whilst the desirability of the shift is uncertain, it is easier to give a clear response to the question: ‘did the change occur without disruption?’. Here the answer is an emphatic ‘No’. The changes happened so fast and on such a wide front that there was no way farmers, consumers or traders could adjust in time. According to Harrigan (2001:298): ‘This declining profitability of maize production contributed to the collapse in the smallholder growth rate [and] emerging food crisis’.

The Fertiliser Subsidy Removal Programme (FSRP) exposed the vulnerability that had steadily built up in the rural economy, through Dr Banda’s agricultural policies in the 1970s and 1980s. The two-pronged strategy was based on promoting estate production of export crops to generate foreign exchange, and promoting smallholder production of white maize to achieve self-reliance. The combined effect of biased input and output pricing policies, parastatal marketing monopolies, and Ministry of Agriculture research and extension services was to narrow smallholder production towards mono-cropping white maize. When the artificial supports for that strategy were removed, the distortionary effects of these interventions were immediately revealed. Smallholders could no longer produce maize profitably, but alternative food crops such as cassava, millet and sorghum had effectively disappeared from farmers’ planting options, since these crops were not supported by the Ministry of Agriculture and were not preferred by Malawian consumers, whose tastes had shifted decisively to maize-meal as the dominant staple food.

By the late 1990s, the Government of Malawi and its donor partners were urgently engaged in designing a ‘National Safety Net Strategy’ for 40 per cent of the population – 4 million Malawians – for up to 20 years ahead. Some components of the strategy were conventional social protection measures: public works programmes, targeted transfers to vulnerable groups such as AIDS orphans and people with disabilities. Ironically, though, these interventions were complemented by free distributions of agricultural inputs (seeds plus fertilisers) to smallholders throughout Malawi, whose livelihoods had been undermined by the removal of import subsidies provided by an artificially overvalued exchange rate that made inputs unaffordable for poor farmers in a context of thin or missing markets. The conventional wisdom is that an overvalued exchange rate hurts domestic producers by making imports artificially cheap, so that a devaluation will be to their benefit. But in the Malawi case the adverse effect on production of a rise in the domestic price of an input, fertiliser, outweighed any gain through an increase in the price of the imported final product. Such subtleties must not be overlooked when planning trade reform.

At first, the negative effect on input prices was offset by donor-funded subsidies. In 1998/99, the ‘Starter Pack’ programme was credited with adding 25 per cent to total smallholder maize production. But this “100 per cent subsidy” was unpopular among certain donors, who argued that it was inhibiting the emergence of private traders in the sector. In 2000/01, a scaled-down ‘Targeted Inputs Programme’ contributed just 5 per cent to a much reduced (-40 per cent) maize harvest, caused by a combination of erratic weather and constrained access to inputs.⁶ At the time of writing, in the aftermath of Malawi’s first famine since 1949, the food security problems created by poorly managed agricultural reform in Malawi

⁶ Carlos Barahona and Sarah Levy, pers. comm.

have not yet been satisfactorily addressed, and the policy dilemma of balancing public interventions to protect food security, while simultaneously promoting private sector actors, remains an unresolved challenge.

Recent events in Malawi provide a salutary reminder of how disaggregated, timely data (*inter alia* covering international and domestic trade) are vital for forecasting food crises, and how important is an efficient system of international trade and domestic marketing for offsetting the effects of localised production shortfalls. In Malawi's case, the data were so badly lacking that not only was the 2001/02 crisis not foreseen or dealt with promptly, but also the task of working out *ex post* exactly what went wrong (in order to avoid a repetition) is fraught with difficulty.

1.3.1.1 The evolution of the famine

Explanations for the food crisis of 2001/2 fall into two categories: the “technical” and the “political”. It followed a sequence of adverse events: harvest failure, bad information, a depleted grain reserve, import bottlenecks, and unaffordably high food prices.

A food production shock, triggered by localised flooding in the central and southern regions during February and March 2001, reduced maize production from 2.5 million tonnes in 1999/00 to 1.7 million tonnes in 2000/01, and created a national maize deficit of 273,000 tonnes. However, the magnitude of the food gap was underestimated by the government and donors because of exaggerated forecasts of roots and tubers production. Owing to methodological errors the crop was estimated at a level which should have compensated for the maize gap. Some government and donor officials even blamed the “inflexible food habits” (white maize preference) of Malawians for their “failure” to switch to cassava and sweet potato instead of maize. This misguided belief – that Malawi had a “maize deficit” but not an overall “food deficit” – persisted until early 2002, and probably slowed the public response.

During 2001, the Strategic Grain Reserve (SGR) was sold on the advice of the International Monetary Fund (IMF) – partly to recycle old stock, partly to repay a debt of MK1 billion incurred by the National Food Reserve Agency (NFRA) when it was set up as a quasi-independent agency, and partly to reduce the SGR from an “unsustainable” 165,000 tonnes to 60,000 tonnes. The IMF advice was based on what turned out to be over-optimistic first-round production forecasts from the Ministry of Agriculture. Private traders and people close to the government profited from the sale of the SGR, buying maize cheaply and hoarding it until prices rose before reselling it for exorbitant profits. Moreover, donor–government relations were strained at this crucial time, because of concerns about SGR profiteering and various governance issues. As a consequence of all these problems, the government was unable to implement food distribution programmes and the donor response was delayed until civil society brought the food crisis to international attention.

Following the final-round crop production estimates in June 2001, which projected the maize deficit of 273,000 tonnes, the government announced that it would cover some of the shortfall by buying and reselling 220,000 tonnes of maize. The plan was that 70,000 tonnes would be bought locally, and 150,000 tonnes would be imported.

But the local purchase programme did not work well. ADMARC entered the market late and found few sellers at its initial purchase price of MK3/kg, or even when it raised its price to MK6/kg, then MK12/kg.

In August 2001 the NFRA borrowed US\$33 million at 4 per cent interest from ABSA, a South African bank, and ordered 150,000 tonnes of white maize from South Africa after the Cabinet Committee on the Economy directed it to import maize. The government acted as guarantor for this loan. However, instead of buying 150,000 tonnes, the NFRA eventually purchased 134,000 tonnes of maize at an average price of US\$245/tonne, because of delays in the import programme, price rises and adverse exchange rate movements. Prices started at US\$220 but rose as high as US\$265/tonne, as other food deficit countries in the region (like Zambia and Zimbabwe) also turned to South Africa to import maize.

The maize purchased from South Africa should all have been delivered between October and December, at a rate of 50,000 tonnes/month, but this forecast proved to be over-optimistic. If the maize had arrived by December 2001 the crisis might have been averted, but because of logistical problems there were fatal delays. The imports arrived only at an average rate of 15,000 tonnes/month. Actual arrivals totalled 94,000 tonnes by April 2002 (UK NGO Group on Southern Africa 2002) and 111,000 tonnes as of 6 May.

The imports were hampered by logistical constraints, as the floods that caused the food production shock also disrupted the food import and distribution programmes. The floods washed away roads, bridges, culverts and railway lines, both in Mozambique and inside Malawi,⁷ creating transport problems on routes into Malawi by road, rail and sea.

In an effort to protect household food security, the government attempted to increase the role of public distribution channels relative to the private sector. Firstly, a pan-territorial price of MK17/kg was imposed on maize purchased (for MK15/kg) from the NFRA. The problem was that this “disincentivised” traders from supplying remote rural areas, where transport costs were much higher. The government also accused traders of “unfair business practices” – profiteering by buying NFRA maize at MK15/kg and reselling it for much more than MK17/kg.

In December 2001, the Cabinet Committee on the Economy banned private traders from purchasing maize altogether from the NFRA, and made ADMARC the sole purchaser of NFRA maize. However, traders subverted this ban by paying consumers to buy maize from ADMARC for them, which they stockpiled and subsequently resold at much higher prices. It is also alleged that privately contracted transporters found ways to cheat the system. ADMARC was selling maize at MK850/bag. Although truckers who failed to deliver all the bags they had loaded from ADMARC depots were charged for each missing bag, the ADMARC price of MK850 was lower than the free market price (of, say, MK1,500), so the truckers pocketed the difference.

⁷ Most of the public import and distribution of maize concentrated on southern Malawi and urban centres. Northern districts met their food needs through commercial imports from surplus maize-producing regions of southern Tanzania, but little of this imported food reached southern Malawi because of logistical constraints, poverty and market failures.

Table 1.1 Malawian maize production, 1988–2002

Year	Maize production	
	tonnes ^a	per head (kg) ^b
1988	1,423,848	165
1989	1,509,513	166
1990	1,342,809	142
1991	1,589,377	165
1992	657,000	67
1993	2,033,957	207
1994	1,040,000	105
1995	1,661,457	166
1996	1,793,461	176
1997	1,226,478	117
1998	1,772,392	165
1999	2,479,406	225
2000	2,501,311	221
2001	1,589,440	137
2002	1,603,271	n/a

Source: FAO FAOSTAT Agricultural Data (<http://apps.fao.org/page/collections?subset=agriculture>).

Finally – against the wishes of several donors – the government subsidised ADMARC to open hundreds of rural markets. The aim was to ensure that food supplies reached vulnerable communities at MK17/kg.

In February–March 2002, recognising the severity of the food crisis and the lengthy delays in import deliveries, the NFRA started sourcing maize from Tanzania, with which transport links are better. Traders were already importing maize informally from Tanzania to meet the needs of Malawi's Northern Region. Up to 30,000 tonnes of maize were to be purchased.

1.3.1.2 The role of domestic and international trade

Whilst it is clear that the road to this disaster was paved with many errors, two fundamental questions remain unanswered. One is why an apparently relatively small production shock resulted in such a severe food crisis. Another is why so few imports arrived in Malawi.

Food and Agricultural Organization of the United Nations (FAO) maize production data for Malawi for the period 1988 to 2002 (Table 1.1) put the 2001 harvest into perspective. (Cassava production figures are also available, but their accuracy has been so discredited as to raise serious doubts as to whether they provide any useful guidance.) They suggest that the actual maize harvest in 2001 was only a little less than the harvest in 1998 (the year before the two bumper harvests) and actually higher than (or the same as) the harvest in seven of the 13 previous years.

Part of the explanation is Malawi's increased consumption needs (following population growth, etc.). This is plotted in Table 1.1, column 3. Whilst *per caput* maize production in 2001 was lower than in much of the 1990s, it was not startlingly lower. Indeed, *per caput* production was higher than in three years over the period since 1988, including 1997.

Given that aggregate production was low but not catastrophically (and followed two bumper harvests), there is the possibility that the food was around but could not be moved because of the collapse of market institutions or infrastructure. Clearly there was a deterioration in ADMARC's capacity, but to go further requires a detailed, month-by-month review of ADMARC's capabilities, which appears not to exist.

The big puzzle on imports is that of Sherlock Holmes's non-barking dog. It is not so much a question as to why the imports did not arrive at the predicted speed; it is why so few were ordered in the first place during 2001. Even if the full 150,000 tonnes ordered had arrived that year, it would have represented a relatively modest level of maize imports.

Table 1.2 provides figures on regional imports of maize for the period 1988 to 2002. It is quite common for Malawi's maize imports to run into several hundreds of thousands of tonnes. In 1998, when production was apparently slightly higher than in 2001 and 2002, imports of maize totalled 324,583 tonnes. Yet the government announced its intention of importing only 150,000 tonnes. The FAO figure for 2001 suggest that actual imports in that year were a paltry 51,000 tonnes, lower than in any of the years covered in Table 1.2 other than that of the bumper harvest, 2000. FAO data for 2002 are not yet available, but we have compiled figures for Malawi alone from the Famine Early Warning System Network (FEWS NET). These confirm the chronicle of events above – that maize imports began to arrive in significant quantities only in 2002.

From the FAO figures for imports into other countries of the region, there is no evidence that the failure of Malawi to import in 2001 was due to greater-than-normal demands by other countries. Nor does the evidence from regional maize prices suggest that such regional demand is the explanation. The absence of widespread and reliable price data for neighbouring countries is a major weakness in the current information system. But information is available for South Africa, the most developed white maize market in the region. The South African figures are suggestive, though of course a surplus in South Africa does not rule out the possibility of shortages elsewhere in the region due to infrastructure or institutional weaknesses in the regional market.

Table 1.2 Southern African maize imports, 1988–2002 (tonnes)

Year	Malawi	Mozambique	Tanzania	Zambia	Zimbabwe	South Africa	Total
1988	119,500	380,700	9,000	140,000	-	33,108	682,308
1989	149,000	297,000	80	90,000	-	2,377	538,457
1990	116,500	250,000	2,208	100,000	58	3,438	472,204
1991	150,000	350,000	1,651	42,000	340	150,393	694,384
1992	347,344	750,000	44,000	680,000	1,208,060	3,594,870	6,624,274
1993	490,000	376,000	49,000	316,000	492,000	830,242	2,553,242
1994	389,000	273,600	193,000	13,461	1,409	29,760	900,230
1995	235,000	205,000	43,917	84,811	2,266	750,177	1,321,171
1996	83,000	115,000	50,575	40,000	126,867	506,760	922,202
1997	54,140	121,000	12,989	70,000	44,350	252,704	555,183
1998	324,583	110,000	269,615	415,000	152,742	128,682	1,400,622
1999	28,163	150,000	35,585	14,410	183,000	376,681	787,839
2000	7,879	125,000	49,453	5,481	11,211	251,012	450,036
2001	51,000	300,000	31,045	10,334	1,804	109,285	503,468
2002	340,000 ^a						

Note:

(a) To mid-January 2003.

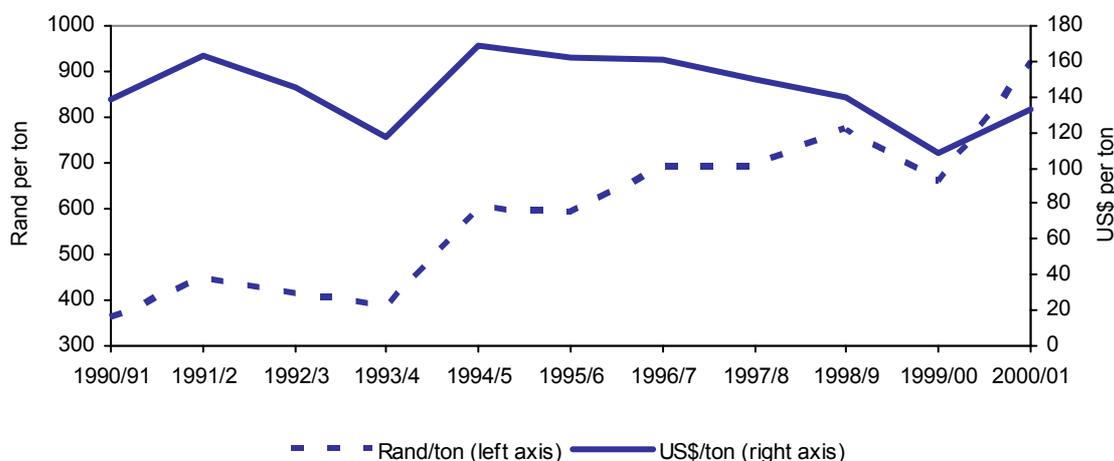
Source: 1988–2001, FAO FAOSTAT Agricultural Data (<http://apps.fao.org/page/collections?subset=agriculture>); 2002, FEWS NET, *Malawi Monthly Report*, various issues 9.1.2002–14.2.2003.

Figure 1.1 gives average South African domestic white maize prices for the period 1990/1 to 2000/01. Whilst the Rand price has risen steadily, the US dollar price was actually lower in 2000/01 than in 1990–92. The table does not include the most recent period, and it might be the case that availability fell sharply after 2000/01. Moreover, the Rand consumer price of white maize increased sharply at the end of 2001 in South Africa. This appears to give credence to the notion that the market tightened markedly.

However, a large part of the South African price increase appears to have been a function of the depreciation of the Rand. The import parity price of white maize in South Africa rose from Rand 1,560/ton in 2001 to Rand 2,001 in 2002. But in US dollar terms this represented a fall from \$185 to \$172.

There *may* have been a financing problem in Malawi. The foreign exchange available to import may have been lower than in earlier years (or the supply of concessional imports may have been lower). But there does not appear to have been an absolute shortage on the world market, nor an associated increase in world price.

Figure 1.1 South African domestic white maize prices, 1990/91–2000/01



Source: Derived from Ernst Janovsky, 'Maize Industry Outlook', http://www.proagri.co.za/uitgawe_35/35-14_FNB.htm.

2 Trade liberalisation and food security

Given the very messy picture painted in Section 1, made much worse by the unavailability and partial availability of reliable data on key points, it is vital that the ways in which trade policy change might affect food security are clearly understood. Only then is it likely that adequate data monitoring will be put in place in advance of the event. A key lesson from Malawi seems to be of ignorance – those who advised and took decisions were unaware of the true state of affairs and, consequently, took wrong decisions.

2.1 Types of liberalisation

What are the key conditions under which liberalisation can give rise to improved food security? It is important to bear in mind that this Working Paper is primarily about the effects of *international trade* liberalisation. The impact of liberalising a country's international trade policy on food security is likely to be much smaller than that of liberalising its *domestic* trade policy as well. But the effects of the former are difficult to disentangle from those of the latter for at least three different types of reason:

- liberalisation normally occurs at the same time as other changes which may push in the same or a different direction (for example, in the case of Zambia, the collapse of the copper industry which had funded a substantial subsidisation of agriculture);
- the impact of liberalisation on any particular group will be mediated in several different ways, most of which may be affected by ancillary government policies or the actions of economic operators;
- governments rarely act in an entirely consistent manner, and so it may often be difficult to decide how much liberalisation has actually occurred.

It is not only the effects of liberalisation that are hard to disentangle: there is a plethora of often inter-related factors affecting food security. It is important, therefore, to be clear analytically how the effects of international trade policy are mediated, what types of impact could be expected from any particular type of change, and what evidence would be needed to check whether or not this has occurred. Although the link is not always clear in practice (because food security is primarily an individual or household affair, whilst international trade policy is formulated by states), analytical thinking can show how individuals might be affected by national and international policy change. This will highlight the indicators required to show how far these effects are occurring.

2.2 Effects of liberalisation

International trade policy is just one of a very broad range of factors influencing the sustainability of livelihoods. Its impact is primarily through the effect it has on the relative prices of things people buy and sell. In particular it will alter the relative price on the national market of:

- domestic production and imports;
- some imports *vis-à-vis* others.

Changes to trade policy can make some activities less and others more feasible, with differential effects between countries and social/gender groups that may affect their food security.

Structural adjustment programmes (SAPs) often include the unilateral liberalisation of international trade policy (which will have similar effects to multilaterally agreed liberalisation under the WTO), but the package also usually includes a range of other elements. These include other policy reforms that affect the prices of things people buy and sell. Typical examples of these are domestically oriented trade-related policies (such as on price controls, parastatal policy, etc.), non-trade international policies (such as on the exchange rate and foreign exchange convertibility), and the creation/destruction of institutional infrastructure. In addition, of course, altered government policies may affect the availability of physical infrastructure and supply of transport.

For example, if Kenya reduces its agricultural import tariffs by 10 per cent (as a result of a WTO agreement or a SAP) but also devalues by 10 per cent, the price of imports in Kenyan Shillings will remain unchanged. An analyst looking just at the tariff change would expect the exchange entitlements of farmers to improve absolutely but those of non-farmers to deteriorate. But this will not happen. Rather, because the devaluation has pushed up the price of *all* imports, the exchange entitlements of non-agricultural producers will rise absolutely, while those of farmers will be static (since the tariff cut offsets the devaluation). This will lead to a *relative* decline in the exchange entitlements of farmers compared with those of non-farmers.

Even if trade policy change results in increased incentives on paper for farmers, this will lead to increased production only if other supports are present. If infrastructure and marketing collapse (as was the case in Zambia), then the anticipated increase in supply will not occur.

The most widely accepted definition of food security is ‘secure access by all people at all times to enough food for a healthy, active life’ (World Bank 1986). This incorporates the requirements both of adequate supplies and of guaranteed access. Changes to government policy on international trade, whether decided nationally (for example as structural adjustment) or multilaterally (through the WTO) will affect individual food security if they influence either supply or the certainty of access.

This section of the Working Paper reviews analytically the potential effects of liberalisation (broadly defined) on food security. It then notes the extent to which, in practice, SAPs on the one hand and multilateral trade policy on the other are likely to produce these effects.

2.2.1 Differential effects

The *direct* effects of a shift from a less liberal to a more liberal international trade regime will be to alter relative prices, principally between:

- tradables and non-tradables;
- sectors (those in which policy has changed most vis-à-vis the others);
- products within sectors (for example, between goods that are for export and those that compete with imports on the domestic market).

These effects will arise from the liberalisation of any sector, not just the agricultural one. By the same token, food security can be affected by the current WTO negotiations on services and possible future ones on manufactures just as they can by those on agricultural trade.

These direct shifts will produce *indirect* geographical and social changes. Some social/gender groups will be affected more than others (positively or negatively) if they are more associated with one group of products than with others. There will be similar differential effects on geographical regions (both within and between countries).

When assessing the impact of liberalisation it is also important to distinguish between two types of differential effect:

- *absolute gains and absolute losses*: those in which some people gain while others lose from the same measure – e.g. a rise in food prices *should* benefit producers (provided that it is not offset in some way, for example by increased production costs or other negative ancillary features such as increased volatility) but hurt consumers (if it is not associated with a rise in income);
- *absolute gains and relative losses*: those in which only some of the *potential* beneficiaries are able to take advantage of the change, often resulting in a widening of income disparities – e.g. if only some producers can increase their marketable surplus, those unable to do so will fail to benefit from a food price rise.

Whether or not any of these anticipated effects are borne out in practice is something that must be determined empirically, but even if they are it is clear that assessing the implications requires a degree of

judgement. The food security impact of a measure that produces absolute gains for some and losses for others will depend on the analyst's judgement on which of the two groups is the more food insecure. In cases of absolute gain/relative loss a further judgement is required on the importance of the relative effect compared with the absolute one. And since many changes will produce several effects, of both varieties, any attempt to produce an aggregate conclusion – that the change had an overall positive/negative effect on food security – is almost bound to require political as well as technical judgements.

Less controversial is the formulation of ancillary measures to deal with the anticipated effects of trade policy change. It is important to recognise that there will be adjustment costs as a result of the first type of differential effect which could be negative for some groups for an extended period of time. Individuals will be affected during the adjustment period by changes that alter their income and expenditure, and many will be subject to multiple, possibly offsetting, shifts. The balance – for an individual, a group, or an economy – will be determined at any one point in time by the relative size of these offsetting changes.

The second type of differential effect is particularly difficult to deal with and very likely to occur. It is likely to be closely linked to poverty, which is partly about a lack of assets. In countries where wealth is closely tied to land, disadvantaged households are typically land-poor or landless, and they lack access to other productive assets such as capital, technology, and water. They also tend to be concentrated in areas which are ecologically degraded and geographically remote, with limited access to markets. It follows that, in the absence of wider redistributive measures, the opportunities that reform may create, for example by increasing returns to export crop production, will have limited benefits for the poor.

2.2.2 Domestic and foreign liberalisation

The food security of an individual or social group will be affected both by what their national government does and by the consequences of changes introduced by other countries. As a rule of thumb, the impact of SAPs is often most evident in the changes they produce to the domestic policy of the adjusting government, while the impact of the WTO negotiations is felt mainly through the actions of other countries. This is particularly the case for sub-Saharan Africa (SSA). It is the policy changes made by foreign governments as a result of the AoA that will have the greatest effect on the price of goods people in SSA buy and sell. One implication is that SSA governments cannot avoid these effects simply by not participating in the WTO talks.

2.2.2.1 Domestic trade policy

The changes agreed in the AoA are summarised in Box 2.1. Both SAPs and the AoA have involved tariffication and a general reduction in tariff levels. But while SAPs may well have had an impact on food security (by reducing trade barriers and hence making imported food cheaper relative to domestic production), it is unlikely that the tariff provisions of the Uruguay Round have had any significant effect in this way. The reasons for this are explained in Box 2.1.

Box 2.1 The provisions of the Uruguay Round Agreement on Agriculture

The Uruguay Round covered both tropical agriculture (coffee, cocoa, tea, sisal, palm oil, etc.) and temperate agriculture (wheat, sugar beet, milk, grapes, etc.). All of the earlier Rounds of tariff cutting included tropical agriculture, but a host of limitations and exceptions had allowed formidable protectionist barriers to be erected to trade in temperate products. The big – and controversial – innovation of the Uruguay Round was to extend coverage to temperate agriculture.

What has been agreed on temperate agriculture is a compromise that will introduce normal market mechanisms into production and trade – but slowly. The main achievement of the Round was to begin the task of applying to agricultural trade the same sorts of multilateral disciplines as have applied to manufactures for many years. Action was taken in three principal areas (with changes summarised in the table below):

- domestic subsidies to agriculture (which have been classified into various categories of differing long-term legitimacy and subject to some reductions);
- market access (with most barriers converted into tariffs);
- export subsidies (which have been limited in relation both to the value of the subsidies given and to the volume of exports that are subsidised).

Type of country	Agreed cuts in:			
	<i>domestic subsidies</i>	<i>tariffs</i>	<i>value of export subsidies</i>	<i>volume of subsidised exports</i>
Developed	20% over 6 years	36% over 6 years	36% over 6 years	21% over 6 years
Developing	13.3% over 10 years	24% over 10 years	24% over 10 years	14% over 10 years
Least developed	None	None	None	None

Tariffs

Few developing countries have reduced tariffs because many, including most of SSA, 'bound' them at levels much higher than those currently applied. This means that the 'bound rate', which is recorded by the WTO and must not normally be exceeded, is higher than the rate that the countries have actually been applying as a result of their autonomous decisions (often taken in the context of structural adjustment).

For the present, therefore, many governments retain considerable leeway to raise tariffs without breaching their WTO obligations. But any further cuts to bound tariffs as a result of the current negotiations could have a real impact on practice. Unless alternative revenue sources are in place in good time, government expenditure *inter alia* on food security programmes could be hit.

Subsidies

Most developing countries also need only make small changes to comply with the subsidy cuts already agreed. Not all subsidies need to be cut. The AoA classified subsidies into groups to determine whether or not they needed to be reduced and whether action could be taken against them under the WTO's dispute settlement mechanism. They are:

- The Green Box: supports to agriculture which are deemed to be non-, or minimally, trade distorting. They do not need to be reduced under the Round.
- The Special and Differential Box: exempts from reduction investment and agricultural input subsidies

generally available to developing country agriculture and low-income farmers, as well as anti-narcotic diversification incentives.

- The Blue Box: direct payments under 'production limiting' programmes need not be cut but may be actionable by other WTO members.
- *De minimis* provisions: exempt from reduction supports which are less than 15 per cent (10 per cent for developing countries) of production value.

Under the so-called Peace Clause (Article XIII), WTO members are limited in the action they can take against subsidies falling into these categories (such as the imposition of countervailing duties).

Eighty-three of the 95 tariff and subsidy schedules lodged by developing countries contain no commitment to reduce the level of domestic support. This is because the countries concerned claim that their domestic agricultural support is fully covered by one of the three exempt boxes and/or by the *de minimis* provisions.

Food security policies that involve direct government subsidies (such as input credits and food price stabilisation) can be pegged on these exemptions. The direct impact on feeding programmes of cuts in the subsidised exports of (mainly) developed countries has been small, but since it has occurred in the context of sharp falls in food aid the pain may have been greater than would appear from the aggregate figures.

The current AoA negotiations could have a bigger impact on food security (see Section 2.3).

2.2.2.2 Domestic macroeconomic policy

The most important macroeconomic policy for the international dimension of food security is the exchange rate. This is exclusively a SAP matter: there is no WTO provision on exchange rates. Countries that have introduced effective devaluations (i.e. a change in the nominal exchange rate that is not offset by subsequent inflation) will have altered the relative price of internationally traded goods and domestically traded/non-traded products. Since this will affect all traded goods, it should not have differential product effects. But it will tend to have favoured producers over consumers (and, hence, will have differential social effects).

2.2.2.3 Domestic agricultural subsidies

The issue most likely to link SAPs/WTO and agricultural development (and, to that extent, food security) is that of subsidies to agriculture. Either as a result of deliberate policy or simply as a consequence of reduced government expenditure, SAPs have often resulted in lower government subsidies to agriculture. The AoA also has provisions on subsidies (see Box 2.1). While it is unlikely that these are biting, the current multilateral trade negotiations could impinge more strongly on developing country freedom of manoeuvre.

2.2.2.4 International liberalisation and imports

To the extent that the Uruguay Round has had an effect on food security, it is more likely to have been mediated through changes in policy by other countries. Broadly speaking, these will have affected the agricultural products that developing countries import, those that they export, and world price stability.

The food security of some vulnerable groups will almost certainly have been affected in the past by Northern agricultural subsidies. These have depressed the world price of various temperate agricultural goods, of which cereals are probably the most important. In a static sense, this has made it easier to supply food-deficit countries with imported cereals. Whether this static “gain” has been offset by a dynamic “loss” (because it has dulled incentives for domestic agricultural growth) is a moot point. But, to the extent that they exist, both static and dynamic effects will change if Northern agriculture is liberalised. The initial effect is expected to be an increase in world prices, especially for cereals.

2.2.2.5 International liberalisation and exports

Multilateral liberalisation will affect the price of some developing country exports, but the impact will vary considerably according to the product and the market. The broad effect is that a reduction of import tariffs by developed countries should increase their demand for imports, including those from developing countries. But how this affects particular developing countries, and therefore food security, depends both upon the current trade regime for the products they export and their capacity to alter supply in response to increased demand.

Paradoxically, many developing country exports will not benefit initially from liberalisation and, indeed, may suffer. This is partly because traditional agricultural exports (such as beverages) already face very low tariffs worldwide and so will be unaffected one way or the other. In addition, those agricultural exports that do face heavy protectionism (such as sugar, tobacco and horticulture) have preferential access to the European market, which absorbs the great bulk of exports. To the extent that the EU liberalises, it will adversely affect exporters from countries receiving heavy preferences either by increasing competition from less favoured suppliers or by reducing prices in the protected export market.

This reasoning applies most strongly to SSA, which is highly preferred in its main market, the EU. It does not apply to South Asia or to parts of Latin America (such as Mercosur), which receive no such preferences in the EU. Moreover, if SSA states could increase their output sufficiently to take advantage of liberalisation in non-EU industrialised country markets (as, for example, the Andean countries – which also receive deep preferences – have done) where the Uruguay Round and its successors will genuinely improve their access, then they, too, could benefit.

2.2.2.6 International liberalisation and price volatility

We could expect an increase in world price volatility to affect adversely food security on the assumption that the vulnerable are less able to deal with shocks. Unfortunately, it is very difficult to say what effect global liberalisation will have, at least in the short to medium term, on price instability. In principle, full liberalisation should reduce instability (by increasing the number of producers and consumers who adjust to supply shocks). But the world’s progress towards liberalisation will be very crab-like. In the short term it may well be the case that changes likely to increase volatility will exceed those likely to reduce it.

This is because Northern policy changes that reduce the size of stockpiles are likely to come on stream before those that open up markets. By reducing publicly held stocks, the world’s capacity to supply

food insecure countries with subsidised exports or food aid is reduced. The opening up of markets would tend to operate in the opposite direction, by giving incentives to a larger number of countries to increase their production (thus reducing the world's reliance on a small number of sources). But it is unlikely that there will be sufficient liberalisation in the short to medium term to justify any substantial increases in production among, for example, the Cairns Group countries.

2.3 Food security and the WTO agenda

The AoA negotiated in the Uruguay Round has probably had only a very limited effect on food security, but the outcome of the current negotiations could be more substantial. A summary of the current Doha negotiations is given in Section 2.3.2, but first it is important to identify the ways in which WTO change might produce an effect. Once this has been done, the more difficult task of compiling the data needed to forecast the scale of the impact can begin.

2.3.1 Transmission of effects

WTO change may impinge on food security either:

- directly, by establishing new rules on food security policies currently in place or recommended in vulnerable developing countries; or
- indirectly, by altering absolute and relative agricultural prices which will, in turn, change entitlements.

Not all of the government policies that support food security will be affected directly by every, or even necessarily any, item likely to be on the agenda of the current Round of multilateral agricultural trade negotiations. But most will be potentially affected to some extent. The relationship is sketched in Table 2.1. The right-hand column provides a broad-brush indication of the ways in which many food security policies might be affected by changes to multilateral trade agreements.

In cases where a policy depends upon government expenditure the reduction of tariffs is likely to have an impact, at least during an adjustment period (which could be quite lengthy) before the introduction of alternative sources of government revenue. In addition, policies that require government to spend directly in the agricultural sector could be affected by future changes both on the allowable areas of domestic subsidy and on the total permitted volume of subsidy. Those policies that involve providing the vulnerable with subsidised food will often be supported by concessional imports. These may be affected in turn by the outcome of the next round of negotiations on export subsidies (particularly if this goes beyond dealing with direct subsidies to cover cross-subsidy from the protected domestic market).

Not all of these food security policies are widely accepted as desirable, and even some that are supported in principle are not feasible financially or politically. The broad order of feasibility/desirability is indicated in the table by the order in which they are presented within each cell. The policy numbered (1) has the highest priority.

Table 2.1 Food security policies and international trade policy

Policy by category	Policy	Potentially affected by trade policy on:
Food production (production entitlements)	<ol style="list-style-type: none"> 1. Input credit 2. Subsidised or free inputs 3. Research and extension 4. Capital expenditure and investment promotion 5. Land reform 	<p>Domestic subsidies</p> <p>Domestic subsidies</p> <p>Tariffs (revenue)</p> <p>Domestic subsidies</p> <p>—</p>
Marketing (trade entitlements)	<ol style="list-style-type: none"> 1. Market development and regulation 2. Parastatal reform 3. Food price stabilisation (buffer stocks) 4. Food price stabilisation (buffer funds) 	<p>—</p> <p>State trading enterprises</p> <p>Domestic subsidies (including Green Box conditions on buffer stocks/funds) Export regulation</p> <p>Tariffs, Green Box conditions on buffer stocks/funds</p>
Labour (labour entitlements)	<ol style="list-style-type: none"> 1. High-value export crops 2. Small- and medium-enterprise development 3. Micro-finance 4. Minimum wages 	<p>Developed country market access Domestic subsidies</p> <p>—</p> <p>—</p> <p>Process criteria</p>
Transfers and safety nets (transfer entitlements)	<ol style="list-style-type: none"> 1. Labour-intensive public works programmes 2. Targeted feeding programmes 3. Food stamps 4. Food price subsidies 	<p>Export subsidies</p> <p>Export subsidies</p> <p>Export subsidies</p> <p>Domestic subsidies</p>

The scale of any indirect effect (via changing world prices for the commodities poor people and countries buy and sell) will depend on the extent to which trade is liberalised. It is a question for economic modellers to answer. There have been many partial and general equilibrium analyses that simulate the effects on world production, consumption and prices of liberalising trade in one or more agricultural commodities. As the AoA negotiations progress these will need to be re-run with up-to-date data and the “best guess” of the liberalisation that is likely to be agreed.

2.3.2 The Doha negotiations

Unfortunately, this process cannot get under way in any serious fashion at the time of writing since there is so little agreement among the WTO negotiators. Under the Doha timetable major decisions should have been taken at Cancún (in September 2003), but events were already running way behind schedule. The ‘Mexico draft’ (WTO 2003b) – the communiqué that was not adopted because talks collapsed, but would otherwise have formed the basis for the final session – is couched in terms that should have been agreed a year before. It is concerned primarily with, in the jargon, the “negotiating modalities” – the form that any liberalisation should take and the quantitative targets for market opening/subsidy reduction. Appendix 1 contains an extract from the Mexico draft showing its proposals on market access, to demonstrate that WTO members had not got as far as to allow any quantitative targets (or even ranges) to be included!

IDS research on the precursor to the proposals in Appendix 1, the so-called ‘Harbinson draft’, indicates that OECD agriculture would have remained heavily protected after the Doha Round. For example, OECD tariff peaks of over 50 per cent would remain:

- in the EU for beef, dairy products, bananas, prepared meat, sugar and grape juice;
- in Japan for meat, dairy products, cereals, sugar, coffee/tea essences and silk;
- in the USA for peanuts and tobacco.

But Harbinson was too radical for some and was not accepted – hence the arrival in Cancún without agreement even on the structure of change, let alone its extent.

3 Assisting developing country negotiators

As argued above, there is a fundamental difference in the way that food security is conceptualised by people who adopt a micro-level livelihoods focus, and those who are concerned with international trade negotiations. Whereas trade negotiators tend to equate food security simply with agricultural import capacity at the national level, livelihood analysts see food security in terms of reliable access to nutritionally adequate and culturally appropriate food for all individuals within the country at all times. The implications of these different perspectives need to be understood by both sides. Clearly, the likely consequence of trade liberalisation for the country’s import capacity is an important consideration, but it is not sufficient to conclude that food security has deteriorated (or improved) following a trade reform simply by reference to changes in this single variable. Instead, the impacts of the liberalisation on specific categories of individuals or households (demographically comparable, occupationally related or geographically contiguous) need to be carefully analysed.

In our view, trade negotiators should receive training in applying the livelihoods framework, in combination with the entitlement approach, to the analysis of the food security impacts of trade liberalisation at a disaggregated sub-national level. Taken together, the livelihoods plus entitlement approaches provide a comprehensive set of analytical tools for developing country negotiators to draw on. The literature on the livelihoods of poor households in developing countries reveals that the poor pursue

distinct livelihood strategies – in rural areas, these include agricultural *intensification* or extensification, livelihood *diversification*, and temporary (e.g. seasonal) *migration* in search of work. Policy changes will impact differentially on different households according to which livelihood strategy they are pursuing, and this fact highlights the need for policy analyses to be disaggregated by livelihood system.

Because poverty is associated with insecurity (Narayan *et al.* 2000), the poor typically favour diversifying their sources of income, in order to spread risk and enhance food security (Ellis 2000). In the jargon of ‘entitlements’, household food security usually derives from a combination of production-, labour-, trade- and/or transfer-based entitlements to food, rather than exclusively from a single source. Trade negotiators do not necessarily recognise the prevalence of this diversification strategy at the household level, nor its corollary, that policy changes can impact on livelihoods in multiple, inter-related ways.

A livelihoods approach also reveals that the implications of a trade liberalisation are not always intuitively obvious. For example, the hypothetical case of ‘Harambeland’ (see Section 4) reveals that the removal of preferential access to EU markets for high-value export crops might reduce profits, export volumes and hence wage rates and/or employment levels in that sub-sector. However, lower prices might also increase demand and *raise* employment opportunities in the sub-sector. This example illustrates the importance of considering the secondary effects on local livelihoods of a trade liberalisation. A shift in terms of trade caused by liberalisation will directly affect *trade*-based entitlements to food, but it will also influence *production* decisions and, therefore, employment (or *labour*-based entitlements) for other individuals who depend on agricultural labour for their food security. It is essential that trade negotiators have the capacity to undertake this kind of analysis, and that methodologies are developed that will enable them to do so.

As a contribution towards the development of relevant analytical tools, this Working Paper suggests that working through the effects of a change in trade policy that impinges on livelihood activities and household food security requires both a *situation analysis* and a *scenario analysis*. The situation analysis describes the *status quo ex ante* – before the trade policy change – while the scenario analysis projects the impacts of the trade policy change. For this purpose, aggregate impacts can be thought of in terms of *distributional shifts* (“winners and losers” among population groups), and the micro-level impacts in terms of *entitlement shifts* (production-based, trade-based, labour- (or employment), and transfer-based entitlements). The following checklist indicates the types of information required for the analysis of policy change impacts.

Situation analysis	Scenario analysis	Data required
<i>Livelihood activities and strategies</i>		
<ul style="list-style-type: none"> • What are the main livelihood activities pursued by food insecure groups in this country – especially those who are likely to be directly or indirectly affected by a trade liberalisation? • How many people are engaged in each of these livelihood activities? • What proportion of total household income is provided by each activity? (This is a measure of dependence on various sources of livelihood.) 	<ul style="list-style-type: none"> • Is trade liberalisation likely to reduce – or increase – the number of livelihood opportunities available to food insecure groups in specific sectors, or returns to those livelihood activities? • What are the direct <i>income</i> effects of a trade liberalisation? • What are the indirect <i>employment and price</i> effects of a trade liberalisation? • What are the <i>distributional</i> impacts (who will gain and who will lose) of a change in the trade policy regime? • Is there likely to be an offsetting shift in terms of livelihood opportunities from one sub-sector to another? • In terms of national and household food security terms, is this shift likely to be beneficial, neutral, or negative overall? 	<p>Employment and income levels by sector and sub-sector, disaggregated to specific food insecure groups of people.</p> <p>Composition of livelihoods by specific vulnerable groups, in terms of Sen's categories of entitlement to food:</p> <ul style="list-style-type: none"> • production-based; • trade-based; • labour-based; • transfer-based. <p><i>Sources:</i></p> <p>National Household Income and Expenditure Surveys; reanalysed Census data.</p>
<i>Livelihood resources</i>		
<ul style="list-style-type: none"> • What resources are needed to engage in this livelihood activity? • What resources are available to the food insecure to engage in this activity? 	<ul style="list-style-type: none"> • Will the trade policy change affect the availability of livelihood resources? • How will a trade liberalisation affect access to productive livelihood resources for the food insecure 	<p>Resource endowments:</p> <ul style="list-style-type: none"> • natural (land, etc.) • human (education) • financial (credit) • etc. <p>Distribution of endowments among population groups.</p>
<i>Institutions and organisations</i>		
<ul style="list-style-type: none"> • What institutions and organisations (both formal and informal, including social relations) mediate access to livelihood opportunities and productive resources for the food insecure? 	<ul style="list-style-type: none"> • How will changes in international or domestic institutions or organisations (e.g. WTO, Common Agricultural Policy, etc.) impinge on livelihood opportunities and returns to livelihood resources? 	<p>Policy documents</p>

4 Lesson learning

A great deal can be learned from close examination of specific real world or hypothetical case studies. Box 4.1 below outlines a scenario based on a food insecure African country whose preferential access to EU markets for its agricultural exports is threatened by trade liberalisation measures. Although the consequences might be expected to be disastrous for national and household food security – because of lost export revenues and contracting employment opportunities – a more careful analysis reveals that a complex range of outcomes is possible, including one scenario where household food security actually *improves*.

Box 4.1 Hypothetical example: Harambeland

Harambeland is a predominantly rural country in southern Africa, where agricultural production is divided into communal and commercial sub-sectors. Communal smallholders grow white maize, the staple food, mainly for home consumption. Harambeland is also a globally competitive sugar producer. However, the communal areas face low average outputs and variable yields for a number of reasons – unreliable rainfall, land pressure, declining soil fertility and restricted access to inputs – which causes chronic household food insecurity. In response, smallholders pursue diversified livelihood strategies to raise their incomes and spread risk. Even in years of good rainfall, most do not achieve self-sufficiency and depend on agricultural labour on commercial sugar plantations. In years of bad rainfall (droughts or floods), they receive food aid provided mainly by the World Food Programme.

The food insecure population of Harambeland can be divided into four broad categories:

- smallholder farmers (60 per cent of the population) whose livelihood derives from crop farming plus casual labouring on commercial farms;
- agro-pastoralists (15 per cent) whose livelihood derives from crop farming plus livestock;
- the urban poor (15 per cent) who depend on informal sector activities for their incomes and on the market for their food;
- “vulnerable groups” (5 per cent), especially AIDS orphans, who survive on welfare transfers from the state and NGOs.

Clearly, the biggest risk to household food security in Harambeland will come from a threat to either communal foodcrop production or employment opportunities on commercial farms. Since Harambeland has a history of successful drought relief interventions, an effective early warning system and good relationships with the major donors, future food production shocks will probably be adequately addressed by a standard combination of free food distribution plus public works projects. It is less clear how communal farmers – and other casual or full-time agricultural labourers – would cope with threats to employment on commercial farms.

Assume that at present the commercial farmers enjoy preferential access to EU markets for their sugar at guaranteed prices, but that this preferential access will shortly be phased out under trade liberalisation measures. This liberalisation will cut profits on each tonne of sugar exported, but it will allow many more tonnes to be exported. The net impact on local livelihoods is impossible to predict with certainty. One possible outcome is that commercial farmers will face reduced export demand and/or lower prices as other foreign competitors enter the EU market, so agricultural labourers on these farms will lose their employment or will be forced to accept wage cuts. Another possibility is that Harambeland’s competitiveness with respect to other sugar exporters into the EU will increase demand and lead to

increased employment, though possibly at lower wages. A third scenario is that commercial farmers respond to the reduced profitability of sugar by switching out of export crops altogether, and producing food crops for domestic markets instead. This would bring down local food prices, which is good for market dependent consumers, but bad for other domestic food producers. In any event, the aggregate impact of this trade liberalisation on household food security could be good, bad, or mixed, while the disaggregated impact will most likely be good for some groups and bad for others.

The case of “Harambeland” is not very far from the reality currently facing several African countries, including Zimbabwe before the current problems relating to land reform. Smallholder communal farmers, engaged in subsistence production of staple commodities, are generally identified as one of the most impoverished groups in Zimbabwe. However, given their limited participation in the marketing of export commodities, it can be asserted that these farmers are not directly vulnerable to changes in the international trading environment. The downside to this is that any potential benefits from trade liberalisation will not be realised. Given their location in low-rainfall areas, they are also highly vulnerable to drought. Small-scale commercial farmers, in contrast, are highly vulnerable to the international trading environment: in terms of exchange rate volatility, world commodity prices, interest rates, and border charges applied on inputs. But they are in a better position to shift production to exportable crops, provided there is access to irrigation.

Table 4.1 provides a summary of the differential impacts that could have been expected from trade liberalisation on the vulnerable groups in Zimbabwe before the onset of the present crisis.

Trade liberalisation could have been expected to have affected positively some commercial farm workers in terms of increased employment (especially women in the horticulture sector); resettled and communal farmers who had shifted production into tobacco and horticulture; cross-border traders (mostly women involved in handicraft and textiles); also small-scale commercial farmers who had become involved in high-value export crops. Young unskilled people would have been among the most negatively affected groups, as they do not have sources of income or access to national social security. Households short of labour or equipment to engage in agriculture are also at risk.

This example illustrates the importance of analysing the impacts of trade policy change by specific categories of households and individuals, disaggregated by livelihood system. Not only is the aggregate impact of policy change more complex than it at first appears, but there will be “winners and losers” from every policy change. From a food security perspective, understanding who is positively and negatively affected by trade policy reform is critical.

Table 4.1 Summary of trade liberalisation impacts on vulnerable groups in Zimbabwe

Vulnerable group	Characteristics	Effects of past liberalisation	Possible effects of future liberalisation
Communal households	Poor quality land and low rainfall, vulnerable to drought. Basic cultivation equipment. No title deeds. Constrained by access to capital, inputs and markets.	Benefited from deregulation of cotton (CMB) and maize (GMB). No benefit from access to inputs under OGIL.	
Resettled households	Better quality land (NRs II and III). Those with irrigation are less vulnerable to drought. Some production of tobacco and horticulture.	Benefited from deregulation of cotton (CMB) and maize (GMB), and opportunity to shift production into high-value export crops.	
Small-scale commercial households	Better quality land and irrigation. Declining maize production. Increased production of tobacco and horticulture. Vulnerable to rising input costs, interest rates, exchange rates and commodity prices.	Benefited from deregulation of CMB and GMB, plus opportunity to shift into high-value crops. Benefited from OGIL access to inputs. Negatively impacted by recent anti-liberalisation: tobacco levy and increased import duties on inputs.	Likely to be negatively impacted by declining preferential access into EU for tobacco and horticulture.
Female-headed households	No title deeds. High incidence of poverty. Preferred as farm labour. Survival strategies: cross-border trading; informal activities.		
Commercial farm workers	Low/uncertain income, high incidence of child malnutrition and food insecurity. Increasingly casual labour.	Increased employment due to growth of horticulture industry but mixed evidence on quality of living.	Recent talk of reduction in employment due to macro-environment. Likely to be vulnerable to changes in competitiveness of tobacco and horticulture.
Unskilled/households short of labour	Unable to take advantage of production of high-value crops and informal sector opportunities.		
<i>Source: Oxfam-IDS (1999).</i>			

5 Practical measures of support

5.1 Preserving good policies

The existing distortions of world agricultural trade have had profound effects on global supply and demand. Hence liberalisation is likely to affect the food security status of many people and groups. In addition, the ways in which new trade rules are framed may alter the feasibility of the policies currently employed or recommended to promote or protect individual food security.

The summary information in Table 2.1 suggests that the key food security policy concerns in the current agricultural trade Round are:

- Ensuring that tariff cuts do not occur in such a manner as to reduce government revenue required for recurrent and capital support to domestic production (especially for small farmers), and the provision of transfers and safety nets (which largely means ensuring that there is an adequate transition period and appropriate technical and capital assistance to enable alternative sources of government revenue to be obtained).
- Ensuring that the regime on domestic agricultural subsidies is framed in such a way as to avoid undermining agricultural development policies that involve government support that is production-related (and needs to be so if it is to bolster food security, e.g. because it aims to increase either the production or trade entitlements of poor farmers). At present, expenditure on agriculture is often lower than is desirable and the availability of finance is likely to remain a key constraint on any increase. But it is important to avoid a situation in which (whether by accident or design) additional hurdles are put in place that make it even harder to provide the agricultural sector with the recurrent and investment support that it requires.
- Ensuring that if policies on subsidised exports are tightened substantially adjustment measures are put in place (through the provision of either food or financial aid) to enable countries that have food-based safety nets to continue to operate them until alternative, equally effective, food security policies have been established.

Not all existing policies that purport to support food security are effective, and not all are vulnerable to WTO changes. The next step, therefore, is for each state (with donor support) to prepare an inventory of current policies that identifies clearly how they might be affected by:

- tariff cuts (i.e. what proportion of government revenue is currently derived from tariffs on agricultural products, what alternative sources are available now – or could become available over the next 13 years (assuming a ten-year AoA implementation period starting in 2005));
- changes in the permitted level or type of government subsidies not exempted from reduction for developmental reasons in the current AoA;
- changes in the availability of food aid or concessional imports.

5.2 Planning for a changed global environment

These measures will help developing countries avoid reforms that could make current policies WTO-illegal, but they will not deal with changes to world prices for the goods and services that contribute to food security. The first major problem is to identify, on a country-by-country basis, the extent to which the entitlements of the most food insecure individuals/ groups are affected by the relative price of tradables that might be altered by the WTO negotiations (both on agriculture and in other sectors). If, for example, the world price of the cereals currently imported into an SSA state goes up and the price of that state's horticultural exports goes down, this will tend to reduce the profitability of horticultural as compared with cereal production. This will alter the exchange entitlements of horticulturalists relative to cereal growers, as well as between cereal growers and consumers. Which groups do the food insecure fall into?

Once this basic information is available, a range of policy options becomes available. It may be possible, for example, to identify a more useful category of food insecure states than is offered by the NFIDC group and, on the basis of this, to identify both a set of supportive measures for them and an institutional arrangement to give them effect. Within countries, it will be possible to amend food security support plans to accommodate the anticipated changes.

5.3 Institutionalising a disaggregated livelihoods analysis of policy impacts

All too often, the impacts of changes in macroeconomic policy such as trade liberalisation are analysed only at the "macro" level, as though national and international policy regimes only affect the national economy. This Working Paper has emphasised the importance of considering in detail the micro-level impacts of macro-level policy changes. Three questions need to be asked even more urgently than: "What is the likely impact on the national economy of a change in trade policy?"

- Who will gain and who will lose from the trade policy change?
- What will the damage be in terms of local livelihoods and household food security?
- What measures can be put in place to protect the 'losers' from policy change and to minimise any threats to individual, household and national food security?

Effectively addressing these questions requires two things.

- First, policy-makers and advisors whose expertise and experience lies at either the macro (trade) or the micro (livelihoods) level of analysis need to be better informed of each other's policy concerns and priorities, and they need to acquire a rudimentary understanding of each other's theoretical frameworks and empirical techniques.
- Second, the analysis of policy change needs to be conducted at a disaggregated sub-national level – at the level of specific livelihood systems – even if this requires data collection and analysis by "food economy zone" or employment category.

These two arguments apply to all policy arenas, but perhaps most urgently in the context of trade reforms, since trade liberalisation impacts on all levels of the economy and affects distinct livelihood systems in very different ways. If the poor and food insecure are to be protected and assisted by trade liberalisation, rather than being left even more vulnerable than before, *more dialogue between “macro” and “micro” specialists and a disaggregated analytical approach are essential*. Failures of dialogue and failures to disaggregate the analysis of policy change have resulted in too much unnecessary hardship in recent decades.

Appendix 1: Extract from the 'Mexico Draft' Proposals on Market Access

- 2.2 For the tariff lines that exceed a maximum of [...]%, developed-country participants shall either reduce them to that maximum, or ensure effective additional market access in these or other areas through a request–offer process that could include TRQs. [Within this category, participants shall have additional flexibility under conditions to be determined for a very limited number of [] products to be designated on the basis of non-trade concerns that would only be subject to the provisions of paragraph 2.1 above.]
- 2.3 The issue of tariff escalation will be addressed by applying a factor of [...] to the tariff reduction of the processed product in case its tariff is higher than the tariff for the product in its primary form.
- 2.4 In-quota tariffs shall be reduced by [...]%. Terms and conditions of any TRQ expansion/opening remain under negotiation.
- 2.5 The use and duration of the special agricultural safeguard (SSG) remain under negotiation.

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