

Food Policy Old and New

*Simon Maxwell and Rachel Slater**

The character of the food system and the nature of food policy are both changing, as urbanisation, technical change and the industrialisation of the food system transform the way food is produced, marketed and consumed in developing countries. This overview presents an evaluation framework and explores new policy options. Some issues feature more prominently in richer, more urbanised, more industrialised developing countries, but the new food policy agenda is relevant in all countries – and it is in the poorest countries where challenges are set to emerge most rapidly. The agenda is more one of ‘food policy’ than ‘food security’: developing countries need both, but particularly a greater engagement with the new food policy.

Remember ‘food policy’? It is what some of us used to do before we discovered ‘food security’. The very term ‘food policy’ induces nostalgia for the 1970s and early 1980s: the first meetings of the World Food Council (following the World Food Conference in 1974), the establishment of the International Food Policy Research Institute (in 1975), and of the journal *Food Policy* (1976), the World Bank Staff Working Paper by Clay and others (1981), the path-breaking book by Timmer, Falcon and Pearson (1981).¹

The emphasis on food policy in developing countries was necessary. It was not just that the world food crisis of 1972-4 had triggered new interest in the availability of and access to food, especially at global and national levels. It was also that policy-makers had begun to appreciate the interdependence between supply- and demand-side issues, and the value of applying especially economic analysis to the links. Thus, Timmer and his colleagues dealt separately with the production, marketing and consumption of food, but then in a more holistic manner with what they termed ‘macro food policy’. Those concerned with nutrition had already become familiar with integrated planning (Joy, 1973). Timmer, Falcon and Pearson reminded us that

where the food system is headed, of course, is the key question. Developing an intuitive understanding of the critical pressures on the system at any particular time is the artistic part of analysis, but having a framework of how issues are connected is the starting point for the craft (1981: 262) ... [However] no country has put the pieces together. (ibid: 269)

* Respectively Director and Research Officer, Overseas Development Institute, London. Our thanks to the contributors, and to David Sunderland for assistance. Responsibility is ours.

1. By contrast, the well-known reader edited by J. Price Gittinger and others came somewhat later (Gittinger et al., 1987). For a chronology of food-related initiatives, particularly relating to Africa, see Maxwell (2001a: 22-3).

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It was not long before the ‘putting together’ began, stimulated, for example, by the European Union’s 1981 Plan of Action to Combat Hunger in the World and by its pilot programme of food strategies in Kenya, Zambia, Rwanda and Mali.

The ‘food policy’ discourse was short-lived, however. Amartya Sen (1981) is usually credited with shifting the discourse towards entitlement and access. In fact, similar ideas, perhaps less elegantly expressed, could be found in the nutrition literature (for example, Berg, 1973; Levinson, 1974; Kielman et al., 1977), and, indeed, in the contributions in food policy to the debate about safety nets (see for example, Timmer et al., 1981: 269ff). Whatever the source, the primary concern of the international discourse did shift quite rapidly, from food supply to food demand. Entitlement, vulnerability and risk became the new watchwords: this was the emergent language of food security.

The idea of ‘food security’ has predominated since the early 1980s.² From Sen, it was a short step to Reutlinger (1985), to Reutlinger and van Holst Pellekaan (World Bank, 1986), and eventually to Drèze and Sen (1989). Donors developed an enthusiasm for national food security planning (Maxwell, 1990), partly as a ‘proxy for poverty planning’ during the darkest years of structural adjustment (Hindle, 1990). The International Conference on Nutrition (1992), the World Food Summit (1996) and WFS-five years later (2002) cemented the consensus. A reduction in under-nutrition even made it into the Millennium Development Goals.³ The core concept of food security evolved over time, but was commonly taken to include both supply and access, also safety, and, in some cases, cultural suitability (Box 1). These ideas were also reflected in the debate about the right to food (for example, Eide, 1996).

Box 1: Definitions of food security

‘A basket of food, nutritionally adequate, culturally acceptable, procured in keeping with human dignity and enduring over time’ (Oshaug, 1985).

‘Access by all people at all times to enough food for an active, healthy life’ (World Bank, 1986).

‘A country and people are food secure when their food system operates efficiently in such a way as to remove the fear that there will not be enough to eat’ (Maxwell, 1988).

‘Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (FAO, 1996).

Meanwhile, however, other issues began to infiltrate. They included a concern for the commercialisation and industrialisation of food systems, a stronger focus on the institutional actors in food trade, including supermarkets (see Reardon and Berdegue, 2002; Weatherspoon and Reardon, 2003), warnings about the environmental consequences of new technologies (including salinisation, pesticides, and the risk of

2. For a history, see Maxwell (1996, 2001a).

3. See www.undp.org/mdg/goalsandindicators.html

mono-cropping, as well as more recent worries about GMOs), and issues to do with health, including problems of food safety and the growth of nutrition-related illnesses, especially heart disease and diabetes. Often, these issues were picked up outside the mainstream (Lappé and Collins, 1977; Tudge, 1977; Bernstein et al., 1990; Hewitt de Alcantara, 1993; Tansey and Worsley, 1995), or mainly in developed countries (Leather, 1996; Riches, 1997; Dowler et al., 2001; Dowler and Jones Finer, 2002; Schlosser, 2001; Nestle, 2002). Perhaps, to those primarily concerned with famine and severe under-nutrition in the very poorest countries, they seemed superfluous.

Not so. The core message of this volume is that what we term the ‘new food policy’ cannot be ignored, even by the poorest countries.⁴ The world food system, described only a few years ago, by Gaull and Goldberg (1993), as ‘emerging’, is no longer quite the chrysalis it once was. The pace of change is accelerating.⁵ The challenges are daunting. They are immediate. And they need to be on the agenda of policy-makers throughout the developing world. A preoccupation with food security is no longer sufficient. It is necessary to rediscover food policy.

In the pages that follow, we explore why this should be so. With the aid of our contributors, we track the changes, ask why they matter, and begin to map what might be done. We conclude that developing countries need both ‘food security’ and ‘food policy’ – including a more vigorous engagement than has so far been the case with the new agenda.

What are the issues?

The changing character of the food system, and the changing nature of food policy, are summarised in schematic form in Table 1.⁶ Few countries, if any, will conform exactly to the ‘old’ or ‘new’ characterisations: most are in between, but are also moving along a continuum from old to new. The changes have many causes. The articles in this volume identify drivers in many sectors: urbanisation, technical change, income growth, lifestyle changes, mass media and advertising, and changes in relative prices. There are three main sets of issues: (i) the character of the food system; (ii) the effects on the human population; and (iii) the actors and agendas of food policy.

The food system

The collected papers offer a vivid picture of a global food system undergoing transformation – as Lang observes, ‘a revolution in the nature of the food supply chain ... characterised by unprecedented changes in how food is produced, distributed, consumed and controlled’. We should not judge the transformation, at least not yet; but we should certainly observe.

The transformation has many features. In Table 1, we point particularly to the industrialisation and globalisation of the food system. The food system can no longer be

4. Critics will say that we should have reached this conclusion long ago. Probably. Indeed, many of the contributors to this volume did so.

5. As Popkin (in this volume) demonstrates, for example, with reference to the nutrition transition.

6. An earlier version of this table appeared in *EC Courier* No. 197, March-April 2003.

Table 1: Food policy old and new

		Food policy 'old'	Food policy 'new'
1	Population	Mostly rural	Mostly urban
2	Rural jobs	Mostly agricultural	Mostly non-agricultural
3	Employment in the food sector	Mostly in food production and primary marketing	Mostly in food manufacturing and retail
4	Actors in food marketing	Grain traders	Food companies
5	Supply chains	Short – small number of food miles	Long – large number of food miles
6	Typical food preparation	Mostly food cooked at home	High proportion of pre-prepared meals, food eaten out
7	Typical food	Basic staples, unbranded	Processed food, branded products More animal products in the diet
8	Packaging	Low	High
9	Purchased food bought in	Local stalls or shops, open markets	Supermarkets
10	Food safety issues	Pesticide poisoning of field workers Toxins associated with poor storage	Pesticide residues in food Adulteration Bio-safety issues in processed foods (salmonella, listeriosis)
11	Nutrition problems	Under-nutrition	Chronic dietary diseases (obesity, heart disease, diabetes)
12	Nutrient issues	Micronutrients	Fat Sugar
13	Food-insecure	'Peasants'	Urban and rural poor
14	Main sources of national food shocks	Poor rainfall and other production shocks	International price and other trade problems
15	Main sources of household food shocks	Poor rainfall and other production shocks	Income shocks causing food poverty
16	Remedies for household food shortage	Safety nets, food-based relief	Social protection, income transfers
17	Fora for food policy	Ministries of agriculture, relief/rehabilitation, health	Ministries of trade and industry, consumer affairs Food activist groups, NGOs
18	Focus of food policy	Agricultural technology, parastatal reform, supplementary feeding, food for work	Competition and rent-seeking in the value chain, industrial structure in the retail sector, futures markets, waste management, advertising, health education, food safety
19	Key international institutions	FAO, WFP, UNICEF, WHO, CGIAR	FAO, UNIDO, ILO, WHO, WTO

understood simply as a way of moving basic commodities from farm to (often local) plate. Today, food is increasingly produced by commercial growers, feeding long and sophisticated supply chains which market often processed and branded products to mainly urban consumers. Many people work in the food industry, but few of them are farmers or farm workers: in developed countries, as few as one in ten (Tansey and Worsley, 1995).

The papers document the transformation, in both developed and developing countries. Lang, in particular, lists thirteen changes, ranging from how food is grown and animals reared, to the mass marketing of food brands and the concentration of power in food manufacturing and marketing. The top ten food manufacturers in the world, he tells us, have a combined turnover of around \$225 billion; the top thirty retailers a combined turnover of \$930 billion. Concentration, he believes

is strongly linked to power, and the concentration of power over the food system is now remarkable, whether one looks nationally, regionally or globally. A web of contractual relationships turns the farmer into a contractor, providing the labour and often some capital, but never owning the product as it moves through the supply chain.

Lang's description of the food chain will be familiar to those who have tackled the ideas in *Fast Food Nation* (Schlosser, 2001). They find an echo here in the articles by Gibbon and Deshingkar et al., who describe the operation of horticultural value chains in Africa and India respectively. What Gibbon describes as 'the central reference point' for work in this area is the study by Dolan and Humphrey (2001) on horticulture in Kenya, but there is now much other research on the growth of contractual arrangements between supermarkets and growers, often through intermediary 'category managers' and specialised importers.⁷

Supermarkets play a key role, and not just as purchasers of exotic products for export to the North. Pioneering work by Reardon and others, some of it published in this journal, documents the growing importance of supermarkets in developing countries: in Latin America, for example, supermarkets controlled 50-60% of food marketing in 2000 (Reardon and Berdegué, 2002: 371; Reardon et al., 2002, 2003). The share is smaller in Africa, but is growing: in South Africa, supermarkets control 55% of food retailing (Weatherspoon and Reardon, 2003). The same pattern is found in India: Deshingkar and her colleagues describe the growth of the FoodWorld chain, and the future plans of large business houses like Tata. Many supermarket chains in developing countries are now multinational: for example, the South African chain, Shoprite, has 64 outlets in 13 countries outside South Africa itself (Weatherspoon and Reardon, 2003). Wherever supermarkets enter the market, the supply chain is greatly changed, driven by issues like quality standards and traceability, as well as by the need to deliver large quantities to tight schedules.

Supermarkets are inevitably involved in the business of 'selling' food, part of what Dowler describes here as a 'dominant policy framework for food [favouring] consumer and individual choice rather than public health and citizenship'. There has been much debate about the proliferation of new food products and the role of advertising: Marion Nestle's recent book, for example, reports that 11,037 new food products were brought

7. For example, see the articles in Gereffi and Kaplinsky (2001).

to market in the US in 1998 (Nestle, 2002). Advertising plays a big part in shaping food preferences, as Dowler and Lang both observe.

We should note that the food system is changing, even for those who do not shop in supermarkets. Urbanisation has a lot to do with this. As Haddad observes

The urban environment is ... marked by a greater physical distance between places of work and of residence, and by smaller household sizes. In this environment, where time is scarcer, at least for those gainfully employed, and where the fixed costs of food preparation are higher in smaller families, more food tends to be purchased outside the home, even for poor households.

The data support this conclusion. Haddad cites data showing that rich and poor households acquire significant shares of calories outside the home, often in the form of 'street foods', with the share often being higher for the poor. Thus, Dan Maxwell established in Accra that the poorest quintile acquired 31% of calorie intake away from home; Tinker has similar findings in Bangladesh and the Philippines (both cited in Haddad).

Finally, it is important to note that globalisation and changing food preferences, especially the growing demand for livestock products, have a large impact on food trade. De Haen and his colleagues make this point: they note that the main growth in production in developing countries will be of livestock products, oilseeds and livestock feed; nevertheless, the current agricultural trade surpluses of developing countries will shrink and turn into substantial deficits. This will have political as well as economic repercussions (Brown and Kane, 1994).

Diet and social impacts

People are not unaffected by the changes in the food system. Many are very directly affected by changes on the production side: Gibbon, Deshingkar et al. and Page and Slater all discuss the impact on small producers, who generally face a much more difficult trading environment as a result of higher standards and the scale, quality, traceability and timeliness requirements of commercial supply chains. Retailers are also affected: in Argentina, 64,198 small shops went out of business from 1984 to 1993; in Chile, 5240 small shops closed from 1991 to 1995 (Reardon and Berdegue, 2002: 374). At the same time, some benefit: street foods can provide a good source of employment, especially for women, and can be useful for the poor who lack the facilities to cook (FAO, 2002a). Similarly, freeing up women's reproductive labour in the home enables them to spend more time on remunerative activities.

Large numbers are affected by changes in diet associated with higher income, changing lifestyles and the pressures of living with a market-driven retail sector. Popkin has famously described this as the 'nutrition transition', and it is a major theme of the papers here. Popkin's thesis is that

Modern societies seem to be converging on a diet high in saturated fats, sugar and refined foods and low in fibre – often termed the 'Western diet' – and on lifestyles characterised by lower levels of activity. These changes are reflected in nutritional outcomes, such as changes in average stature, body composition and morbidity.

Popkin's own article provides a definitive account of dietary shifts and resultant health problems. The key changes are increases in the consumption of edible oil, caloric sweeteners (mainly sugar), and animal source foods. In China, for example, overall per capita consumption of cereals fell by about a fifth during the 1990s, with a particularly marked fall in consumption of coarse grains like millet and sorghum. Meanwhile, the consumption of animal products rose sharply, among the poor as well as the rich (though more for the rich). And the share of energy from fat, mainly vegetable oil, rose by nearly 50%.

These changes are occurring throughout the world, and at progressively lower levels of income. They have serious health implications, for the poor as well as the rich. Popkin assembles data on obesity, diabetes and heart disease, all of which are increasing rapidly in developing countries. He shows that overweight in countries as diverse as Mexico, Egypt and South Africa is equal to or greater than in the US, and points out that the rate of increase in Asia, North Africa and Latin America is two to five times greater than in the US. Obesity is frequently a marker of poverty and is associated with a poor quality diet. The health costs are substantial. The cost of diet-related non-communicable diseases will soon equal or exceed the costs of under-nutrition in developing countries: by 2025 in the cases of China and India.

Other papers provide corroborating evidence. Lang reviews the health costs of changes in diet, and makes the important point that the costs are leading insurance industries and Finance Ministries to take an unaccustomed interest in issues like obesity. Dowler makes similar points. She cites data suggesting that the UK National Health Service could save £30 billion a year by 2022 if 'the population ate better, was less obese, smoked less, and took more physical activity'.

Dowler extends the argument by emphasising the social costs of the new food economy. Writing about the UK, she focuses particularly on the social exclusion associated with not being able to buy the foods that are advertised and available in supermarkets, particularly for families with children:

For those who live on tight budgets, there is continual anxiety over whether or not their children can or will exhibit the sophistication required to resist the persuasiveness of advertisements, and the need to ensure that their children are not victimised because they do not eat the latest 'fashionable' food.

Finally, it is important to note the issue of food safety. This is not a 'new' issue in itself, and there have always been problems with adulteration and food quality. However, new problems arise in the rapidly growing cities of developing countries: in Ghana, Tomlins and his colleagues found that street-food vendors had limited access to clean potable water, that 69% of them handled food with their bare hands, and that only about 41% washed their hands before or after handling food (Tomlins et al., 2001).

More generally, there are many food safety problems associated with the industrialised food system. As the FAO argues, the

public generally perceives agricultural residues, pesticides and veterinary drugs as the major sources of health risks, but they are not. In Europe, for example, they account for just 0.5 per cent of food-borne illnesses. More common, and possibly increasing in frequency, is contamination by bacteria, protozoa, parasites, viruses and fungi or their toxins, introduced during food handling. (FAO, 2002b)

In industrialised countries, up to 30% of people suffer from food-borne illnesses every year (see Lang, this volume). The incidence of food-borne disease may be 300 to 350 times higher than the number of reported cases worldwide. An estimated 70% of the approximately 1.5 million annual cases of diarrhoea in the world are caused by biological contamination in foods (FAO, 2002b).

As Lang notes, referring, *inter alia*, to mad cow disease, concerns over food safety have become an important driver of reform of food policy.

Food policy

The new global food system requires a new food policy, and there is progress towards this, albeit uneven. Many of the papers in this volume document new initiatives, ranging from community nutrition projects to international initiatives on issues like obesity. However, there are also issues in the wider food economy.

Much attention has been focused on trade policy, as a factor shaping livelihoods as well as access to food. Stevens is our guide here. He points out that 'patterns of agricultural trade are changing so fast that the effects are likely to be powerful in the medium term'. The priorities are counter-intuitive, however, because a complex pattern of trade policy rents plays out differently for different products. Writing about Africa, Stevens distinguishes between traditional products (such as beverages) that are exported to a relatively undifferentiated liberal world market, other traditional exports (such as beef and sugar) that are exported to heavily protected markets, and non-traditional products (like horticulture). Paradoxically, he concludes that

Africa's greatest gains from exporting to Europe have been in the products that appear at first glance to be the most heavily protected and to receive the least generous preferences.

Beef and sugar are prime examples. Stevens foresees serious threats ahead for Africa, not least in the area of standards: more rigorous safety requirements, new areas of health concern, and new forms of monitoring. This is also a theme taken up by de Haen et al., including with respect to the Codex Alimentarius Commission, the joint FAO/WHO body concerned with food safety.

International regulation plays an important part in other areas, also. Millstone and van Zwanenberg explore biosafety issues, analysing the extent to which developing countries can find room for manoeuvre within the rules of the World Trade Organization and the Cartagena Protocol on Biosafety. They examine two cases in detail, the beef hormones dispute between the US and the European Union, and the parallel dispute about rBST, a hormone which increases milk yields. They are cautious about the role of science, but do conclude that there is scope for the exercise of discretion by developing countries. The Codex Alimentarius again has a role to play.⁸

International regulation matters because the risks to food security, whether climatic, environmental, political or economic, are more easily transmitted between countries in a more globalised food system. Lang writes eloquently of a food system in which 'slack

8. For decisions taken on this topic in July 2003, see www.fao.org/english/newsroom/news/2003/20363-en.html

(has) been so cleverly taken out of the system that if something (goes) wrong , it (does) so catastrophically’. The risks are no longer local, nor principally climatic.

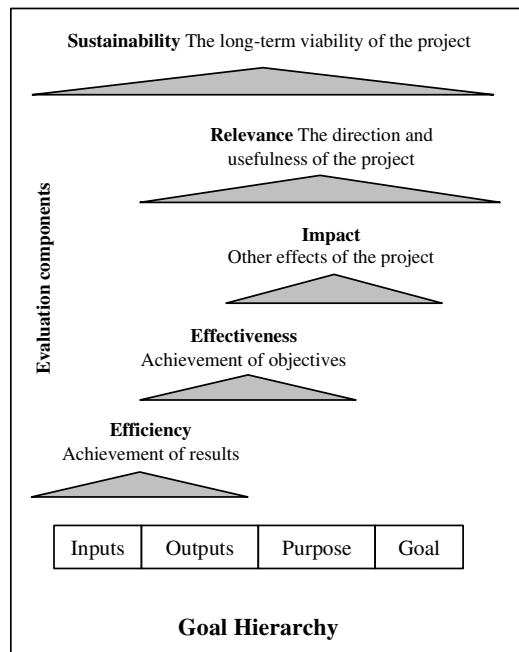
New actors are then drawn in. Historically, food policy has been the preserve of Ministries of Agriculture, with a supporting role played by Ministries of Health and, in some countries, departments dealing with drought relief and rehabilitation. Increasingly, however, food policy is becoming the concern of Ministries of Trade and Industry, Ministries of the Environment, and competition authorities. It is notable, for example, that the EU, and many of its Member States, have created independent Food Standards Agencies, and that competition authorities have taken an interest in food retailing (Competition Commission, 2001). The same is true internationally: as de Haen and his colleagues document for FAO, the new food policy is driving change in the organisation’s work programme.

Do the changes matter?

‘Do the changes matter?’ is an evaluation question, and this points to the need for an evaluation framework. However, the construction of a framework is not straightforward.

We might start with the general issues used in evaluation, deriving from the logical framework approach to project and programme planning (Figure1): sustainability, relevance, impact, effectiveness and efficiency (Norwegian Ministry of Foreign Affairs, 1993). But what do these words mean – in the context of food policy – and are there other factors to take into account?

Figure 1: An evaluation model for analysing development assistance



Source: Norwegian Ministry of Foreign Affairs (1993).

Efficiency is a good place to start, since this has precise economic content: in terms of production function, technical efficiency describes a position in which output is maximised for a given level of inputs, and allocative efficiency describes a position in which the output mix correctly reflects prices.⁹ The term ‘economic efficiency’ is sometimes used to describe a situation in which both technical and allocative efficiency have been achieved. Note that efficiency can be assessed from the point of view of private actors, using market prices, or from the point of view of society as a whole, correcting for price distortions and externalities (for example, environmental costs). As one of us observed in 1991, expanding on the definition that a food system should be ‘efficient’ (as well as equitable), this means that

all stages in the food chain, from production to final consumption, should be efficient in a social-welfare sense. Production policies should take account of dynamic comparative advantage; marketing margins should provide no more than normal profits in the long term; and consumer prices should reflect real scarcity values. (Maxwell, 1991: 16)

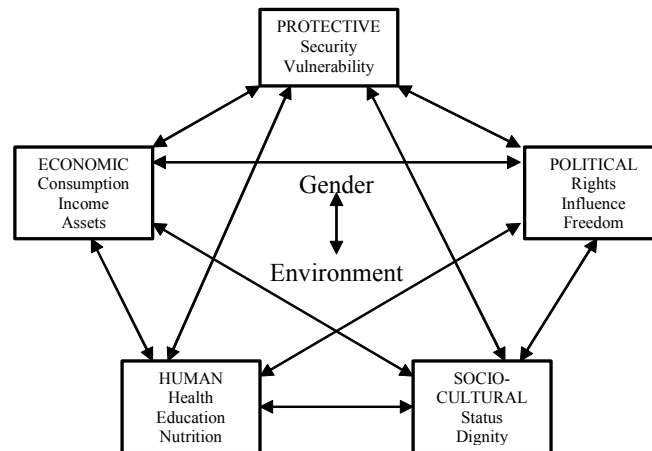
Beyond efficiency, the evaluation framework points to impact and sustainability. The impact of the food system is perhaps best approached in terms of welfare, and here there are valuable lessons to be learnt from the literature on poverty. This is no longer thought of in terms of income alone, but has many other dimensions. Again, Amartya Sen has been very influential, through his work on human capability and human development (ODI, 2001).

For example, the livelihoods perspective, much favoured by aid agencies working on rural development (Hussein, 2002), features income as an objective, but also reduced vulnerability, more sustainable use of the natural resource base, and stronger ‘voice’. More generally, the poverty framework adopted by aid agencies, in a set of guidelines agreed in 2001 by the Development Assistance Committee of the OECD, identifies thirteen facets of poverty, grouped into five clusters: economic, human, socio-cultural, political, and protective. In this model, reproduced in Figure 2, gender and environment are cross-cutting issues.

Equity is not specifically mentioned in the DAC model, but of course is frequently discussed in the context of poverty reduction, for both instrumental and intrinsic reasons (Killick, 2002; McKay, 2002; Naschold, 2002). It is particularly relevant to remember Townsend’s definition of poverty as

the lack of the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged and/or approved, in the societies to which they belong. (Townsend, 1979:21)

⁹ See Ellis, 1993: 67ff for a succinct definition of these terms.

Figure 2: Interactive dimensions of poverty and well-being

Source: DAC (2001).

Dowler is one who has written extensively on the interpretation of this definition for the understanding of food poverty in the UK, as an element of social exclusion (for example, Dowler, 1998, and in this volume). The definition of food security by one of us, reproduced in Box 1, which refers to the subjective nature of food poverty, is also relevant: the shift from objective to more subjective indicators of food shortage has been identified as a major shift in thinking about food security (Maxwell, 1996), and has become a recurrent analytic theme (Radimer et al., 1992; Gordon et al., 2000; Bickel et al., 2000). Dowler reminds us that

in the general public's mind, food is more than a bundle of nutrients: it represents an expression of who a person is, where they belong, and what they are worth, and is a focus for social exchange.

Sustainability is the other issue present in the initial framework, and has been a long-standing feature of the debate on food and agriculture, at least since the publication of *Silent Spring* in 1962 (Carson, 1962). Concerns have multiplied around Green Revolution technologies and the environmental cost of 'food miles' (Tansey and Worsley, 1995). In a recent review, Pretty and Hine cite the environmental costs of British agriculture at £2.3 billion p.a., or £208/hectare (Pretty and Hine, 2000).

Finally, it is worth referring back to the other definitions of food security in Box 1, to remind ourselves of the importance particularly of food safety – certainly a dominant issue in recent discussion about food policy in the North (Millstone and van Zwanenberg, 2002; Draper and Green, 2002; Lang, Millstone and van Zwanenberg, and de Haen et al., all in this volume).

Can all these different themes be integrated? As Barling et al. (2002) have suggested, 'joined up food policy' is certainly needed, and can be thought of using what they describe as an 'ecological public health model'. In this connection, they refer approvingly to a WHO-Europe initiative on 'Better Health through Safe Food and Good Nutrition', which links food safety, nutrition and sustainability (WHO-Europe, 2000).

This looks plausible, but misses some of the efficiency (and equity) arguments advanced earlier, and also the democratisation aspects, which, as it happens, those same authors strongly advocate (see, for example, Lang in this volume).

It looks, then, as though we need a new list of evaluation criteria. This is attempted in Table 2, which draws together the points from the previous discussion. There are no fewer than 19 criteria against which a food system can be judged.

Table 2: Criteria for a food system

A food system can be judged by whether it:		
• is technically efficient in social prices;	• is good for nutrition;	• offers security;
• is allocatively efficient in social prices;	• supports higher standards of education;	• reduces vulnerability;
• leads to increased consumption by the poor;	• enables people to have status;	• is good for environmental sustainability;
• leads to increased asset-holding by the poor;	• enables people to have dignity;	• promotes gender equality;
• is good for health;	• enables people to have rights;	• promotes equality in general;
	• enables people to have influence;	• promotes social inclusion.
	• underpins freedom;	

The very number of criteria, and their diverse character, immediately illustrate a challenge of aggregation in evaluating food systems, whether globally or locally. Some of the criteria are economic and financial, so that it might be possible to hope for a quantitative summary, using money as a *numéraire*. Others, however, are qualitative, and some are subjective. No single cost-benefit analysis is likely to be possible, even with heroic assumptions about valuation, weighting and time preference. As an alternative, the way forward may be to use multiple-criteria tables, as has been done before in evaluating food policy interventions (Huddleston, 1990; Maxwell, 1990).

Sadly, we do not feel strong enough at this point to evaluate the world food system – or even any local part of it – using a formal, multiple criteria approach. We are not that ambitious. Instead, we note that most of the topics identified in Table 2 are dealt with in one way or another in the contributions to this volume. We can identify seven major themes.

First, it is important not to be dismissive of technical and organisational changes which increase the productivity and efficiency of the food system. The many actors in the world food system, including farmers, have been astonishingly successful in increasing the supply and diversity of food, whilst simultaneously reducing prices. Lang is correct to talk of a ‘cornucopia’, at least in aggregate terms, for which we owe much to the kinds of innovations he lists (from the Chorleywood process for baking bread to the use of satellite tracking of lorries delivering food to supermarket distribution centres). Innovations shift the production function outwards and help improve both technical and allocative efficiency. They have included the Green Revolution, which, despite much criticism, turned out to be good for poor people (Mellor, 1976; Lipton with Longhurst, 1989), and they have the capacity to deliver much more, including the

hoped-for 'Doubly Green Revolution' (Conway, 1997). This is no time to be Luddite about technical change.

Second, however, and at the same time, there do need to be significant concerns about both the technical and allocative efficiency of the food system, when the costs and benefits are expressed in social prices, and when all externalities are taken into account. Market failure is ever present (Haddad in this volume), and there is at least circumstantial evidence of oligopoly, monopsony and rent-seeking in the food system. Lang's analysis of concentration in input supply and marketing does not prove uncompetitiveness, but it certainly, as he observes, raises questions about power along the global supply chain, and about the scope for regulation by single states.¹⁰ This, of course, is a major theme of value global chain analysis, of which there has been a good deal especially in the horticulture sector (Dolan and Humphrey, 2001; Gereffi and Kaplinsky, 2001). It is also a theme of Stevens' work on trade policy rents across a range of commodities: there are many costs associated with the current policy stance, and not all of them are reflected in budget allocations.

Third, health externalities need to feature in the social analysis, if not in the market calculation. The figures cited for the health costs of poor diet are remarkable, as Popkin, Lang and Dowler emphasise, among others.

Fourth, environmental externalities also need to feature, both on and off the farm. Pretty and Hines' estimates of the environmental cost of British agriculture, cited earlier, provide a powerful reminder. Water is another focus of concern, as de Haen et al. demonstrate.¹¹

Fifth, the income distribution effects of changes in the food system need to be kept under review. In the wider literature, for example about the Green Revolution, or about agricultural growth more widely, the consensus is that increases in output tend to benefit the poor, because they are small farmers themselves, or work on farms, or buy food the price of which is falling (Lipton with Longhurst, 1989; Irz et al., 2001). In the papers in this volume, the focus is more on the difficulties faced by the poor: as producers (Gibbon, Page and Slater, Deshingkar et al., de Haen et al.); as traders (especially poor African countries – Stevens); and as consumers (Dowler, Haddad, de Haen et al.).

Sixth, policy-making and regulation are problematic. This is partly a familiar problem of how to deal with a cross-cutting issue (Lang, Dowler, Haddad), but it arises particularly in relation to 'new' topics like biotechnology (Millstone and van Zwanenberg, de Haen et al.), and to other issues that cut across national borders (Lang, Stevens). Self-regulation by the food industry will certainly be insufficient.

Finally, the process of improving policy is also problematic. Public pressure for change is beginning to mount (Haddad, Lang), but there is a limit to piecemeal adaptation (Clay).

10. An enquiry into the competitiveness of the UK supermarket sector, conducted by the Competition Commission in 2001, found that the industry 'is currently broadly competitive and that, overall, excessive prices are not being charged, nor excessive profits earned'.

11. See also ODI (2002).

What might be done?

There is a process answer to the question of what needs to be done about food policy, and an answer about substance. The mainstream answer to the process question is easy, and is the same as in the 1970s: prepare a food strategy. We have, however, learned a good deal since the 1970s, about how to prepare food and nutrition strategies – in particular, about how to avoid over-loading such strategies with analysis, designing excessively complex organisational structures, and planning in such detail as to make implementation impossible (Field, 1987; Berg, 1987; Maxwell, 1997, 2001b). The main lessons are summarised in Box 2, emphasising a process approach of learning by doing and constant iteration between planning and practice. Clay (in this volume) effectively provides a case study of the method in action, illustrating the gradual adaptation to changing circumstances of the World Food Programme. He emphasises, however, that adaptation has limits: at a certain point, it is necessary to grapple with the fundamental reformulation of what policy is about, and with the reconstruction of institutions. In the case of the WFP, he argues, this point has now been reached.

Box 2: Lessons of food security planning

- On planning:
 - set clear, short-term goals and work towards them; focus on the task;
 - train the team to work together, with training in communication, conflict resolution and multi-disciplinary skills;
 - build team cohesion, through collaborative fieldwork, participative leadership;
 - stay close to the customer, build in participation.
- On implementation:
 - build in a bias to action; start small and grow;
 - take risks and innovate; embrace error;
 - downgrade overt integration – integrated planning but independent implementation.
- On evaluation and public relations:
 - constant iteration between planning, execution and evaluation; be flexible;
 - monitor progress; be publicly accountable for targets;
 - raise the profile of the topic; raise consciousness.

Source: Maxwell (2001b: 315).

The currently most popular form of strategy planning is for poverty reduction, through the mechanism of Poverty Reduction Strategy Papers. These have much to learn from past experience in the food and nutrition sectors (Maxwell, 1998a), but have also contributed new insights, especially about the value of participation and the importance of political processes (Booth, 2003). As Booth reminds us, ‘politics matter’.

This theme is again taken up in the papers in this volume. Lang, for example, identifies public pressure as one of the main drivers of policy change in the food arena,

reflecting concerns about health, but also about the state of the planet. Food activism has an honourable history and is growing fast.¹²

Haddad explores in more detail the ‘triggers’ for public action. Drawing on the work of Kersh and Morone, and taking the issue of obesity as an example, he identifies seven triggers, including social disapproval, mass movements, and interest-group action. Only three of the seven triggers have been tripped so far. Haddad concludes that

such constructs help us to remember that evidence is only one ingredient in the formulation and implementation of public health policy.

This is especially true because the evidence itself is often unreliable: science does not provide the certainty that policy-makers might hope for. Millstone and van Zwanenberg provide evidence on this point, using the case of genetic modification. They describe the state of scientific knowledge as ‘rudimentary’, and the scientific debate as ‘fractious’, and conclude that

the assumption (that science might settle ... regulatory disputes) is seriously undermined by the fact that our scientific understanding of the risks that GM crops and seeds might pose is chronically uncertain, incomplete and contested.

What, then, can be done? The papers are actually rich in prescription, ranging from ideas well outside the narrow remit of food policy (for example, Popkin’s thoughts on urban design and the connectivity of streets, designed to encourage higher levels of physical activity), to those which are very precisely about food (for example, Haddad’s ideas about how to increase the price, and thereby reduce the attraction, of unhealthy diet options). The proposals made in the papers relate to both the public and the private sectors, to international as well as national policy, and to all aspects of the production, marketing and demand for food. Table 3 summarises some of the policy ideas contained in the various papers.

There are various ways of classifying the proposals, various entry points for more detailed analysis. For example, Lang identifies a key choice between regulation and self-regulation:

An important duality has emerged. On the one side, we find a state system of regulations, on the other a system of self-regulation, largely driven by the major forces in supply chain management, the food retailers in particular.

Examples of self-regulation are found in the area of standards, for example in horticulture (Page and Slater). However, Lang is sceptical about the potential of self-regulation to deliver a food system that meets the multiple criteria listed in the previous section. This is largely, he argues, because of the interconnectedness of food policy.

Haddad takes a different route, focusing on public intervention, and distinguishing interventions on the demand and supply sides. His supply-side list includes technology,

12. See, for example, the Food Commission in the UK (www.foodcomm.org.uk), the NGO consortium which works together in the UK Food Group (www.ukfg.org.uk), and the food sovereignty movement (www.forumfoodsovereignty.org and www.peoplesfoodsovereignty.org).

Table 3: Policies for a new food policy: an initial list

- Learn how to increase consumption of fruit and vegetables and high fibre products (Popkin)
- Modify the physical environment to enhance physical activity (Popkin)
- More investment in technology to deliver high-productivity, low-cost vegetables and fruits and low-fat livestock products to poorer consumers (Haddad)
- Eliminate price incentives on growing high-fat foods and relax quantity restrictions on growing healthier foods (Haddad)
- Evaluate food trade policy from a health perspective (Haddad)
- Impose tougher standards on the fat content of food away from home and in schools (Haddad)
- Reduce malnutrition *in utero* (Haddad)
- Increase the relative price of unhealthy choices (Haddad)
- Clearer information about product contents (Haddad)
- Better awareness about consequences of poor diet (Haddad, de Haen et al.)
- Promote healthy eating and dietary change (Dowler, de Haen et al.)
- Local food projects (Dowler)
- Set state benefits at realistic levels (Dowler)
- Trade regulation at EU level (Gibbon)
- Regulation by exporting countries (Gibbon)
- Regulation of markets within developed countries (Gibbon)
- New production and marketing arrangements at local level that support small and marginal farmers (Deshingkar et al.)
- Direct foreign investment enabling small producers to keep in touch with tastes and standards in foreign markets (Page and Slater)
- Large direct private buyers providing partial access to production and technology advantages via technical advice and training (Page and Slater)
- Initiatives by developing country producers where there is no external private or public sector intervention (Page and Slater)
- Alternative trading companies offer inputs into production and organisation (Page and Slater)
- Establish export promotion agencies as the first point of contact for new exporters (Page and Slater)
- Establish import promotion agencies to encourage trade from developing to developed countries (Page and Slater)
- Use aid programmes to analyse the poverty reduction effects from trade and developed policies that maximise these effects (Page and Slater)
- Target technical research towards new export opportunities (Page and Slater)
- Encourage agencies promoting small production not just for export but also for local markets (Page and Slater, Deshingkar et al.)
- Better scientific risk assessment (Millstone and van Zwanenberg)
- Regional co-operation on biosafety (Millstone and van Zwanenberg)
- Better food security analysis of trade policy (Stevens)
- Better understanding of standards (Stevens)
- Better advocacy and monitoring (de Haen et al.)
- Promoting sustainable intensification (de Haen et al.)
- Strengthen Codex Alimentarius (de Haen et al.)
- Rethink the role of international food aid (Clay)

prices, standards, and a variety of nutrition interventions. His demand-side list again includes pricing, but also adds labelling and information/education. There are some intriguing ideas here. For example, in the US, a policy-induced increase in meat prices is shown to have some positive effects on diet, such as a reduction in fat and cholesterol intake, but also some negative effects, such as a reduction in iron and calcium. By contrast, an increase in the price of edible oil has much more generally favourable effects. Haddad does note, however, that 'in a developing country context, edible oil is often used to increase the energy density of infant diets' – and that the policy may therefore not be transferable.

Other papers explore particular aspects of policy. Thus, Gibbon reviews the potential of three types of public regulation designed to help small producers. Deshingkar et al. identify three forms of collaboration by farmers that can help small producers. Page and Slater assess nine ways in which the obstacles to market access by small producers can be overcome.

Some of these policies are more promising than others. Gibbon is probably the least sanguine. He concludes from his review of market regulation options that WTO rules, EU competition regulations, and structural adjustment practice all militate against intervention:

unfortunately, at least from the viewpoint of small-scale producers, regulation in all the forms mentioned has become difficult to maintain and virtually impossible to (re-)introduce.

Others are more optimistic. The village-level interventions identified by Deshingkar and her colleagues, for example labour-water exchange arrangements and group leasing of land, have sprung up of their own accord in response to market opportunities for the sale of exotic vegetable crops, like asparagus and baby sweetcorn. The interventions identified by Page and Slater are mostly at a national level. They include sub-contracting by the private sector, farmers' organisations, fair trade arrangements, and trade promotion agencies. There are many examples of success.

An important stream of recommendations concerns the international level. Thus, Stevens takes a characteristically careful and pragmatic look at current trade issues, and identifies key threats to developing countries, especially in Africa, from the erosion of preferences, higher import costs, and changes in standards. These are not, it needs to be emphasised, the places where most observers focus their attention. Stevens argues that debate about liberalisation of Northern agriculture is

largely irrelevant as a practical policy concern, since we are not about to see anything resembling liberal trade in OECD agriculture, despite the much-heralded 'reforms' to the Common Agricultural Policy (CAP) and the on-going agricultural reforms in the WTO Doha Round.

In a similar vein, Clay examines in detail the evolution of the global food aid regime, and argues strongly that a fundamental review is needed. He wonders whether a crisis is needed to trigger change – and whether such a crisis has now arrived, because of the increasing dependence of the WFP on US food aid. Lang would probably agree

with the general thesis: his description of changes in UK food policy corresponds to a crisis-driven model, including health crises.

Conclusion

The papers in this volume make powerful points about the scale and speed of changes in the global food system. We have argued that these changes matter, and that new policies and new policy processes are required to deal with them. But are the issues of equal salience everywhere? Is this really a rich or middle-income country problem? One of us has written about ‘comparisons, convergence and connections’ between developed and developing countries (Maxwell, 1998b). Do we have connections and convergence, or merely interesting comparisons?

There are certainly issues which feature more prominently in richer, more urbanised or more industrialised developing countries. For example, Millstone and van Zwanenberg make a distinction between the bulk of developing countries and those few, like Argentina, China and Cuba, which have deliberately set out to foster a domestic industry dealing with GM crops and food. Similarly, the urbanisation issues will, for now, feature much more strongly in countries which are already highly urbanised than in those which are not: the salt and fat content of street foods is likely to matter much more in Zambia, say (39.8% urbanised in 2001), than in Ethiopia (15.9% urbanised in 2001) (UNDP, 2003).

However, there are also grounds for arguing that the new food policy agenda is relevant in some degree to all countries, and to a high degree in very many. This is for four reasons.

First, all countries engage in food trade, as both importers and exporters. All countries therefore need to be aware of the way in which global value chains are evolving, to review negotiating strategies, and to consider the regulatory environment and institutional structure within which trade takes place. Stevens, Page and Slater, Gibbon, and de Haen et al. are all eloquent on this point. There is much in the wider literature, for example on the WTO, to back them up (Morrissey, 2002); also on the opportunities for improved negotiation by developing countries (Page, 2003).

Second, the domestic food systems of the developing world are evolving rapidly. The best evidence on this comes from the extensive work on supermarkets by Reardon and his colleagues, in Latin America and Africa. Even in India, a laggard in this transformation, as Deshingkar et al. show, the supply chain is beginning to undergo the kinds of revolutionary changes seen elsewhere.

Third, the diet-related changes in nutrition and health are pervasive, and become visible at progressively lower levels of per capita GDP. Popkin’s data are particularly persuasive here: in 1962, countries reliant on fat for 20% of energy had an average per capita income of US\$1475; by 1990, the income figure had halved, to only US\$750 per capita. At the same time, overweight and obesity are increasing rapidly in the poorest countries, and the rate of change is higher in poorer countries than in rich ones. In general, Popkin tells us, obesity is associated with poverty, both between countries, and, importantly, within countries.

Fourth, the capacity to make food policy is probably weakest in just those poorest countries where the new challenges are emerging most rapidly. As various papers in this volume make clear, food policy-making is difficult because of the number of sectors

involved. It is also expensive. Millstone and van Zwanenberg cite the budget of the UK's new Food Standards Agency as £115 million in 2001-2, covering a staff of nearly 600 people, and the budget of the new European Food Safety Authority as over £25m. in its first year, with an initial staff of 250. For developing countries, they point out, the scarcity of expertise and financial resources is likely to be a 'significant constraint'. Of course, these numbers are trivial compared to the cost of getting policy wrong: the recent foot and mouth crisis in the UK is estimated to have cost around £6 billion (Anderson, 2002).

The obvious conclusion is to strengthen both policy-making and policy in all countries. There will be country-specific choices to make about priorities and sequencing. There is also scope for collaboration, however. Millstone and van Zwanenberg make this point explicitly with reference to biotechnology, but it is more general. A particular role needs to be played by international institutions, as Clay reminds us in the case of food aid, and de Haen and his colleagues for other topics. 'Food Policy New' is growing in importance. Developing countries and their international partners will not want to be taken by surprise.

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