



Food

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Dr. Tim Lobstein

Director, Childhood Obesity Programme, IASO-IOTF, London.
Visiting Research Fellow, SPRU
- Science and Technology Research,
University of Sussex, Brighton

Access to an adequate supply of food is essential for life. Food consists of multiple components required to a greater or lesser degree (e.g. food energy, protein, essential oils, vitamins, minerals) but food may also contain threats to health through excess supplies of certain ingredients (e.g. saturated fats) or through toxic components or contaminants, including microbiological contaminants.

This chapter will focus on the ability to gain access to the types of foods that are able to supply a nutritious and well-balanced diet for those members of the population living in low-income private households. Except in passing, this chapter will not consider toxic or microbiological food-borne threats to health, nor the problems of gaining access to adequate food supplies faced by people living in institutions.

Characteristics of food and diet

Several authoritative sets of recommendations have been issued by international, European and British governmental bodies outlining the essentials of a nutritious diet. It is not necessary to repeat the specific recommendations here, as they are largely in agreement with each other and well accepted among professionals (although there is some scope for 'spinning' the emphasis on different components of a healthy diet which, when used in product promotion, can be a source of confusion among consumers). As a generality, healthier diets are those containing a greater variety of foods, and containing more fresh, perishable types of food (including fresh fruits and vegetables, oily fish and lean meats), as well as wholegrain foods. Less healthy diets are those containing more highly processed foods, and foods with relatively high levels of fats (especially animal fats), added sugar and added salt.

Secure food supplies have been a focus of attention in overseas development for many years, and definitions of food security are available, but these tend to focus on quantitative aspects of a few essential characteristics of food – such as adequate food energy and protein – and not on the adequacy and quality of the total diet. In modern economies where food security is not a major problem it is more useful to consider *nutrition security* and to use the term *nutrition insecurity* – akin to the concept of food poverty – to describe situations in which population groups are failing to meet the recommended dietary guidelines for nutritional health.

Nutrition insecurity underpins current concerns about the need for action to improve nutrition and reduce obesity and diet-related disease for the population generally and for low-income groups in particular, as discussed in the present paper. The causes of nutrition insecurity can be attributed to problems in food supply, availability and accessibility, and pricing differentials. The causes may also be attributed to inappropriate choices which, in turn, may be determined by the available information, the consumers' education, knowledge and motivation, and the commercial strategies being used to promote and market different products.

It should not be forgotten that food purchases may be made on behalf of other people: typically one member of a household will shop for others in the household. When eating out, the composition of the meals and foods available (the recipes and formulations) are determined by the caterer and the caterer's suppliers.

Nutrition insecurity is not directly measurable. Dietary surveys give the clearest indication of people's regular intake patterns but these normally rely on self-reported consumption data and are prone to errors of recall. The degree of under-reporting is not uniform, and can vary according to the type of food (e.g. snacks, confectionery, sweetened hot drinks and soft drinks are often forgotten) and can vary across income groups, age groups and household types. Other indicators of nutrition insecurity may use food supply data and food supply trends, market trends, price information and measures of availability of food types. Nutrition insecurity is also indicated by the health outcomes: primarily, the incidence and prevalence of diet-related diseases. These show clear socio-economic gradients across the income spectrum. It should be noted, though, that these diseases may be the result of multiple determinants, including nutrition insecurity, but also low physical activity, and tobacco and alcohol use.

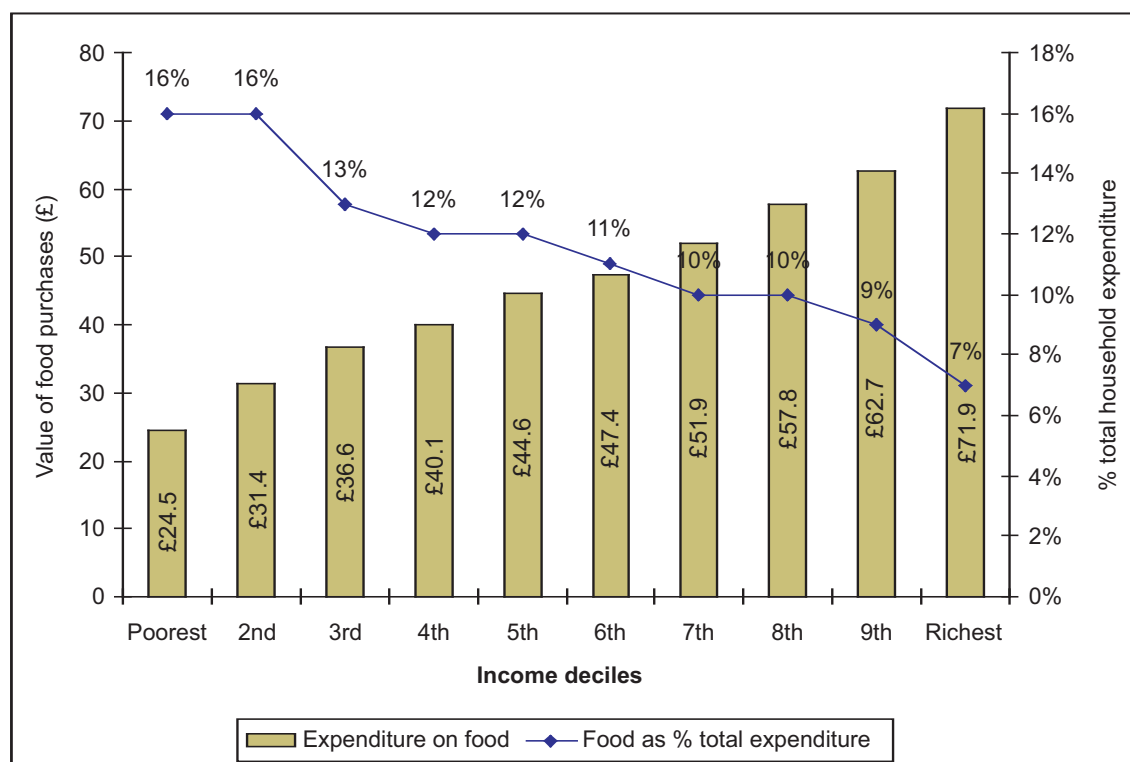
Table 1: Examples of raised levels of diet-related disease among lower-income populations, UK	
Disease	Dietary contribution
Anaemia of pregnancy	Lack of iron-rich foods, fruit and vegetables
Low birthweight	Poor maternal diet
Anaemia in children and adults	(as for Anaemia in pregnancy)
Dental disease	Sugary foods, snacks, soft drinks
Childhood eczema/asthma	Low breastfeeding rates
Obesity in childhood and adults	Energy dense foods
Hypertension	Salt and salty processed foods
High cholesterol	<i>Trans</i> and saturated fatty foods
Low high density lipoprotein or high triglycerides	Energy dense foods, lack of fish
Non-insulin dependent diabetes	Energy dense foods, lack of fruit, vegetables and fish
Coronary artery disease	Salty and energy dense foods
Peripheral vascular disease	Lack of fruit, vegetables and fish
Cerebrovascular disease	Energy dense foods, lack of fruit, vegetables and fish
Cancers of the lung, stomach, oropharyngeal, oesophagus	Lack of fruit, vegetables and fish
Cataracts	Lack of fruit, vegetables and fish

Source: *adapted from James et al, 1997*¹

Food in the household budget

Expenditure on food has always been a core element in household expenditure. With rising food prices in the UK reported in 2008, the previous decades' decline in the average proportion of household budget spent on food looks set to reverse and show a significant increase in the next few years. The figures below show the most recent pattern of spending, with the value and the proportion of total household expenditure spent on food (eaten in and outside the home) by income group. It can be seen that higher income groups spend more, but that this represents a smaller proportion of their total expenditure.

Figure 1: Expenditure on food in value and as proportion of all expenditure, by income decile



Source: Family Spending: 2007 edition tables 3.2 and 3.3, ONS, 2008.

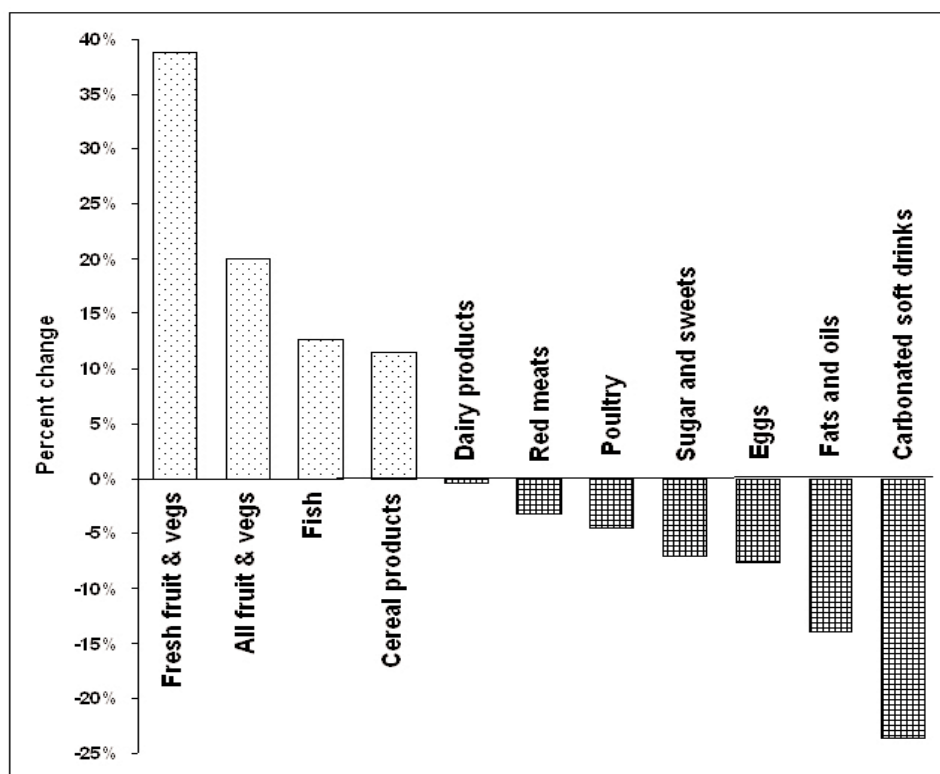
The relative costs of food are of high significance, as these may determine the pattern of food bought, especially among those on lower incomes. Prices and price trends indicate that generally the prices of certain commodities have decreased substantially, with the prices for fats, oils, sugar and starch falling over the long term, while the prices for fresh, perishable and healthier foods have tended to fall less, or to rise. Examples of the costs of different foods are given in the table below. Food costs are given per 100 kcal of food energy rather than per unit of weight, as food weight may be easily distorted by the inclusion of significant amounts of water, either naturally as in milk and fruit juice, or deceptively as in bacon or frozen prawns. Furthermore, using per 100 kcal indicates the degree to which the foods can 'fill you up' and not leave you feeling hungry. (For reference, an adult typically needs 2000–2500 kcal per day.)

Table 2: Costs of food (per 100 kilocalories) showing the cheaper sources of calories tend to be the least healthy		
Item	Typical cost per kg or litre	Typical cost per 100 kcal
'Healthy Living' pork sausages (11% fat)	£2.56	21,5p
Bulk-buy frozen pork sausages (29% fat)	£1.34	3.8p
'Healthy Living' burgers (7% fat)	£5.48	39.4p
Economy burgers (14% fat)	£1.75	6.8p
Lean mince (12% fat)	£4.99	38.3p
Regular mince (20% fat)	£4.50	17,5p
'Value' mince (28% fat)	£2.48	7.8p
Basics frozen whole white fish (0.3% fat)	£2.44	29.0p
Basics fish fingers (11% fat)	£1.96	12.3p
Carrots	45p	21.8p
Broccoli	£1.38	50.8p
Tomatoes	£1.33	88.5p
Potatoes	35p	7.6
Frozen chips	28p	2.0
Vegetable oil	£1.19	1.3p
Lard	£1,00	1.1p
Value wholemeal bread	46p	2.1p
Value white bread	46p	2.0p
Whole milk	70p	10.9p
1% skimmed milk	70p	20.6p
Value ice cream	38p	2.7p
Chocolate	£3.26	5.3p
Value digestive biscuits	55p	1.3p
Value Custard Cream biscuits	65p	2.2p
Basics ready salted crisps	£3.71	4.0p
Bananas	77p	9.8p
Apples	65p	12.5p
Oranges	68p	11.5p
Fresh orange juice	£2.15	38.4p
UHT orange juice	58p	11.5p
Hi-fruit squash (50% fruit) (as diluted)	23p	5.0p
Granulated sugar	77p	2.2p
Sweetened tea (home made)	10p	4.8p

Source: www.mysupermarket.co.uk Tesco and Sainsbury prices, 27 July 2008.

Trends in food supply show that the cheaper forms of calories have remained cheap or become relatively cheaper still, compared with healthier foods. The clearest trends are from the USA (see figure below), but with food prices largely set by world commodity markets, the trends are likely to be similar in the UK. An analysis comparing fruit and soft drink price trends in the UK showed a 33% price increase for fruit and a 20% price fall for soft drinks, relative to the food RPI, over the period 1980-2000.²

Figure 2: changing relative price of different foodstuffs, USA



Source: reproduced in *Food without Thought: How U.S. Farm Policy Contributes to Obesity* Institute for Agriculture and Trade Policy, 2006.

Recent increases in some food commodity prices (due to a variety of factors, including diversion of crops to biofuels, higher urbanisation of large populations and the transition of large populations from 'peasant' to 'western' diets) may alter this pattern, but it is unlikely that the prices of fresh and perishable foods will fall relative to processed, long-shelf-life foods. Rather, it is anticipated that price rises will further exacerbate the problems faced by low-income households and potentially lead to a worsening of their experience of diet-related ill-health.

Food on a low income

Studies in the 1980s and 1990s confirmed earlier research showing that lower-income households were likely to be suffering nutrition insecurity. Trends in the period 1980-1995 indicated a widening of the nutrient intake gap, so that even where lower-income households increased intake (e.g. of total fruit and fruit products) this was a smaller rise than that enjoyed in higher income households.

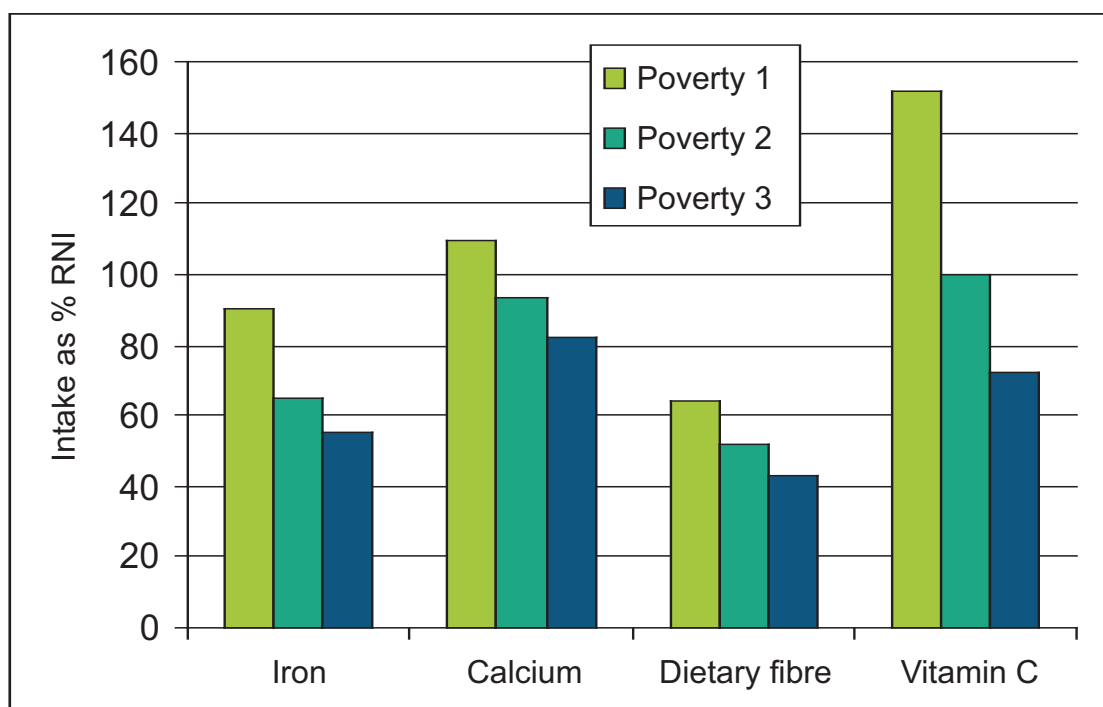
Other surveys indicated that low-income families in the 1990s were attempting to manage their budgets using a variety of strategies, although at some cost in terms of self-denial and family stress. Within their budgets, the evidence suggested that families spent efficiently in terms of the quantities of food and the avoidance of

hunger, but that their dietary variety was often limited. Food has some elasticity, and spending on food may be temporarily sacrificed when other essential items – such as heating for children – are required.

A tight budget is also a barrier to making dietary changes or experimenting with unfamiliar or perishable fresh foods. There is no room for wastage. Furthermore, in order to preserve self-esteem and avoid stigmatisation, branded goods are sometimes preferred to cheaper options, children are given snacks and drinks to match their peers, and available free school meals are sometimes not taken up.³

In a detailed study of single-parent families living on low incomes, Dowler and Calvert showed clear evidence for a strong gradient in nutrient intake within three levels of deprivation.⁴ Using a series of indicators to generate a poverty index (based on unemployment history and whether benefits were subject to deductions for rent and fuel arrears) the intake of key nutrients such as iron, calcium and vitamin C were strongly associated with the degree of poverty.

Figure 3: The gradient in nutrient intake according to degree of poverty



[1 = Not long-term unemployed, not having deductions to benefits; 2 = long-term unemployed or having deductions to benefits; 3 = both long-term unemployed and having deductions to benefits]

Source: *Dowler and Calvert, op cit.*

Continuing concerns over possible nutrition insecurity arose following the National Diet and Nutrition Survey (NDNS) series showing social class gradients in the intake of nutrients for adults, elderly people and children. One of the headline results for the adult survey was that consumption of fruit and vegetables is lower in households in receipt of benefit than in others, with 35% of men and 30% of women in this group eating no fruit during the survey week.

Food expenditure patterns also reflected the concerns expressed in the 1990s, with lower-income households spending more of their income, though less overall, on food purchases.⁶ Eating out of the home became more popular, but again this was found more among those on higher incomes (the richest 20% spent 34% of their total food expenditure on eating out) than those on lower incomes (the poorest 20% spent under 17%).

Additional evidence of nutrition insecurity has been shown in terms of infant feeding practices and infants' access to breastmilk. Defining social class by partner's occupation, 40% of mothers in social class V (lowest class) did not initiate breastfeeding in a 2000 survey, compared with 10% in social class 1 (highest class).⁷ This had improved somewhat by 2005, but even in the later survey the social gradient remained well-defined, and was also reflected in breast-feeding duration: at 6 months old, only 16% of infants in lower-income households were receiving any breast milk, while 35% of infants in higher income households continued to benefit from breast milk.⁸

The most recent UK government survey of dietary patterns among lower-income households indicated that many were failing to eat an adequately nutritious diet. Although the Food Standards Agency emphasised the similarities between lower-income and other UK households (the FSA's press release, stated *"The findings suggest that the dietary pattern of people on low incomes is the same as that of the general population, although in some aspects it is slightly less healthy"*), it acknowledged that the diets eaten by lower-income families were falling well short of the diets recommended for health. As a Canadian columnist described the UK survey's findings, *"low income adults eat about half the bare minimum of fruits and veg, while their kids eat one-third. Processed and salty meats, high-fat spreads, white bread and empty-carb treats are staples, all low-cost and easily hoovered."*⁹ He added *"Not surprisingly, the subjects' iron levels are low, the likely explanation for almost epidemic levels of anaemia and exhaustion, what the privileged observe as laziness and lassitude."*

The survey included a self-reported assessment of food security, and the results indicated that 39% of respondents said they had been worried they would run out of food before more money came in, and 36% said they could not afford to eat balanced meals. It also noted that 22% of respondents reported reducing or skipping meals and 5% reported not eating for a whole day because they did not have enough money to buy food.

Food support services

There are a number of food elements provided within the social support services, including support during pregnancy and early childhood, in the school meals services, and in meals services for elderly adults. Meals and food may also be provided to some adults through catering services in the workplace.

There are several statutory food-related benefits. For pregnant women and new mothers, the Welfare Food Scheme was replaced in 2006 by the Healthy Start Scheme. This provides pregnant women and women with children under the age of 4 with a £3.00 voucher per week (per child, with a second voucher for children aged between 0 and 1 year) to buy food within a set range of products (fresh milk, fresh fruit and vegetables, formula milk). The scheme is only available to those with low earnings or on Child Credit and not on Working Tax Credit. The vouchers are available to all pregnant women aged less than 18 years regardless of income.

Vitamin supplements are also available to pregnant women through local antenatal and midwifery services.

School meals are provided free to children from eligible households. To be eligible, households should be in receipt of:

- Income Support
- Income Based Job Seeker's Allowance
- The Guaranteed element of State Pension Credit
- Child Tax Credit and have an annual gross income below £15,575
- And not in receipt of Working Tax Credit.

Children who receive Income Support or Income Based Job Seekers Allowance in their own right are also entitled to receive free school meals.

There is also a government-funded scheme to provide a piece of fruit or vegetable at no cost to all children aged 4 to 6 years, every school day. This is not designed to deal with income inequalities, but may increase consumption among those with the lowest prior consumption levels, especially if the same children are also taking free school lunches.¹⁰

Food-related elements within social support payments are not defined. It has long been government policy not to ascribe any specific amounts of income support or other support payments to the purchase of particular goods or services. Only one indication was made available when individuals with specified dietary needs (e.g. those with kidney disease) would receive a supplement, and this was admitted to be based on an assumed amount being spent on food from the standard payment. The assumed amounts being spent on food by those receiving standard benefits were £11.30 for an adult, £5.50 for a person aged 16 or 17, £4.40 for a child aged 11-15, and £3.00 for a younger child.¹¹ This was in the mid-1980s, and no subsequent estimates have been made available. The discrepancy between the rates for adults and those for older children aged 16-17 is noteworthy, given the similar – and arguably greater – need for a healthy diet among 16-17 year olds. At the time it was assumed that these older children were living at home and benefiting from the economies of shared food purchase and preparation, but the argument has weakened with greater use of pre-prepared foods, more eating outside the home, and greater independence of young people.

Inadequacy of food support benefits

Several attempts have been made to estimate the minimum cost needed to provide a ‘modest but adequate’ range of foods to ensure dietary health. The amounts determined as necessary for health are invariably higher than those typically being spent and, in some cases where income is especially low, would require a very high proportion being spent on food.

For example, in 2002 the Family Budget Unit, York University, calculated the modest-but-adequate (MBA) weekly food needs (excluding alcohol) for older people aged 65-74 years to be £31 for a single man, £29 for a single woman, and £55 for a couple. (A more stringent ‘poverty threshold’ standard, referred to as Low Cost Acceptable, sets the value at around £25 for an individual and £46 for a couple.) At this time the state pension scheme provided a basic weekly income of £75.50 for category A (full contributions from one adult) and £45.20 for category B (widow or divorcee of a full contributor) pensioners. If this was all the individual received as income then the food costs would absorb a substantial part of this. For those with no other income, Pension Credits were introduced in 2003, replacing previous supplementary benefits and income support payments as a means of topping-up older people’s incomes to a basic minimum. This value is currently about £109 weekly for a single person and £167 for a couple. Assuming 10% food inflation spread over the period 2002-2008 is applied to the MBA basket of foods, then the MBA food costs would absorb some 30-35% of total income

For younger people the situation may be even more serious, and this is of special concern if the individual is likely to become pregnant, is already pregnant or is attempting to breastfeed, because nutritional status during these crucial reproductive phases may affect the long-term health of the child as well as the parent (men’s preconceptual nutritional status is also linked to their offspring’s health).

Using the most stringent Low Cost Acceptable standards (an amount necessary to protect health but with no flexibility and which expects the individual to seek out the lowest prices available) the York Family Budget Unit estimated the weekly foods needs for a single person to cost about £31, while for a lone parent with two children it was £42 and for a couple with two children it was £65. These figures provide some £2-£4 per day to find around 2000 kcalories of food, i.e. between 10p and 25p per 100 kcal – which should be compared with table 2 above on the price of different foods per 100 kcal.

The need to spend £31 on food for a week for a single person is unlikely to be met when the single person's Income Support allowance for people aged 18-24 is just £45. It would leave just £2 per day to find all other necessities. The situation is even more extreme for those single people aged 16-18 for whom the single person's allowance is just £36.

Compared with some other items, such as fuel, transport, essential clothing and personal care, food purchases tend to be more elastic. This is especially true for women, who may put the needs of their children or their partner ahead of their own needs, and consequently either eat insufficiently or have very poor diets. Several surveys in the 1980s and 1990s showed that women in low-income households gave their partners and their children priority in the types of food purchased, and would restrict their own consumption – to the point of missing meals or eating only left-over food – to ensure there was enough for the other family members.^{12 13 14 15} Similar findings were reported in the recent government survey of low-income household food patterns, which showed nutritionally poorer diets among women, but not children, in households with higher food insecurity.¹⁶

Local initiatives to ameliorate nutrition insecurity

The UK government's strategy for tackling health inequalities has acknowledged the need for cross-departmental collaboration, with a lead taken in public health. Initial targets related to life expectancy and infant mortality have led to disparities. Health sector strategies to increase life expectancy included reductions in smoking and road accidents and improvements in housing, along with "prevention and effective management of other risk factors in primary care, e.g. through early identification and intervention on poor diet, physical inactivity, obesity and hypertension through lifestyle and therapeutic interventions, including use of statins and anti-hypertensives according to need" (page 4). The emphasis on lifestyle and therapeutic interventions hints at the ideological issues at stake: the government's preferred avoidance of market interventions or regulatory approaches to improving diet, and its dependence on local delivery of health education, best practice example and exhortation.

The burden of improving health and reducing inequalities has largely fallen to NHS Primary Care Trusts, local authorities and voluntary services, with some support from central government. In particular, the Food Standards Agency has taken a significant lead in promoting local initiatives (over 300 local food initiatives are identified in the Food Access Network database at <http://www.sustainweb.org/fandb.php>).

The implementation of healthy eating and food access strategies through community and voluntary schemes has long been frustrated by short-term funding, a lack of long-term evaluation and a lack of feed-up and feed-forward mechanisms to allow local initiatives to influence national policy or subsequent programme development. This lack of integrated linkage between local actors, their authorities and their successors has led to poor strategic policy development, highlighted in a report to the FSA in 2003.¹⁸ The report also criticised the tendency for local projects – especially those run as statutory initiatives in the health sector – to focus on individual behaviour change, which were rarely achieving actual changes and were widely deemed to be 'tickling the edges' when more structural factors affecting food access needed addressing.

The Food Standards Agency has worked on several initiatives in this area, working with the Local Authority Coordinators of Regulatory Services to document these initiatives on the FSA's Food Vision website (see <http://www.foodvision.gov.uk/>); funding the UK Liaison project of the Food Access Network to disseminate advice and information (see <http://www.sustainweb.org/page.php?id=50>); and appointing an Advisory Committee on Consumer Engagement (ACCE) to monitor and evaluate the FSA's continuing involvement.

This work acknowledges the role community food projects play in addressing health and income inequalities and ensuring better access to healthy food. The FSA has also undertaken several activities which potentially reduce social inequalities in nutrition security on a population-wide basis. These include the moves to provide

‘traffic light’ front-of-pack nutrition signalling which has already led some manufacturers to re-formulate their products to achieve better traffic light signals, and which has been praised by consumer groups for being easier to use and not requiring numeracy skills, compared with some industry-promoted alternative labelling schemes.¹⁹

Further, the FSA’s moves to persuade manufacturers to reduce the salt content of a wide range of products may have beneficial effects for all sections of the population, especially in its potential impact on those who are less conscious of the amounts of salt they routinely consume. This has run alongside a series of consumer awareness campaigns aimed in particular at socio-economic classes C1, C2, and D households. The salt programme is to be followed by a similar programme on reducing saturated fat levels.

Note on food safety

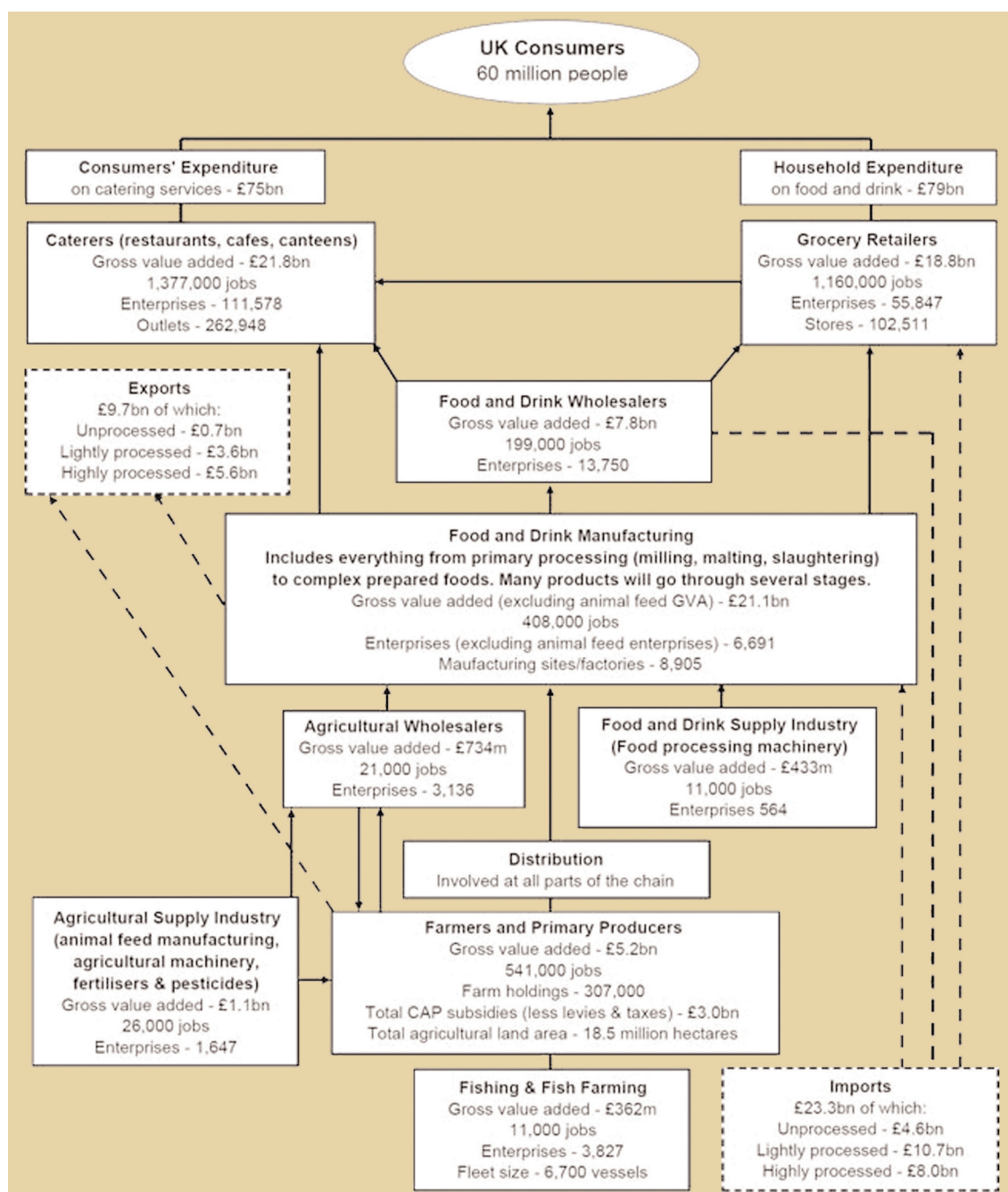
Little attention has been paid to the unequal distribution of food safety risks across socio-economic groups. In the absence of empirical evidence, there are strong a priori reasons to suspect that lower-income groups may be more exposed to the risk of consuming contaminated foods, including:

- Food of poorer quality, or handled by untrained staff, is more likely to be on sale at lower prices, attracting consumers with small budgets;
- People without easy access to good transport may be unable to maintain chilled foods at the proper temperature while bringing them home;
- Low-income families may not be able to afford to own or maintain certain hygiene aids and food storage and processing equipment, including food containers, fridges and clean microwave ovens.
- Lower-income families may be more motivated to keep left-over food for later consumption, or eat food that has passed its consume-before date;
- Poorly educated or non-English-speaking consumers may not fully understand the food storage, food preparation and heating instructions on products.

Private sector: the nature of the food market

The UK food supply chain can be summarised in the following Figure, showing the principal links in the chain from primary production at the bottom of the figure through to consumer. Note the major split between the retail and the catering markets. There is also a missing line connecting primary producers through to the sellers of fresh, unprocessed foods, especially through unconventional retailers such as street market sellers.

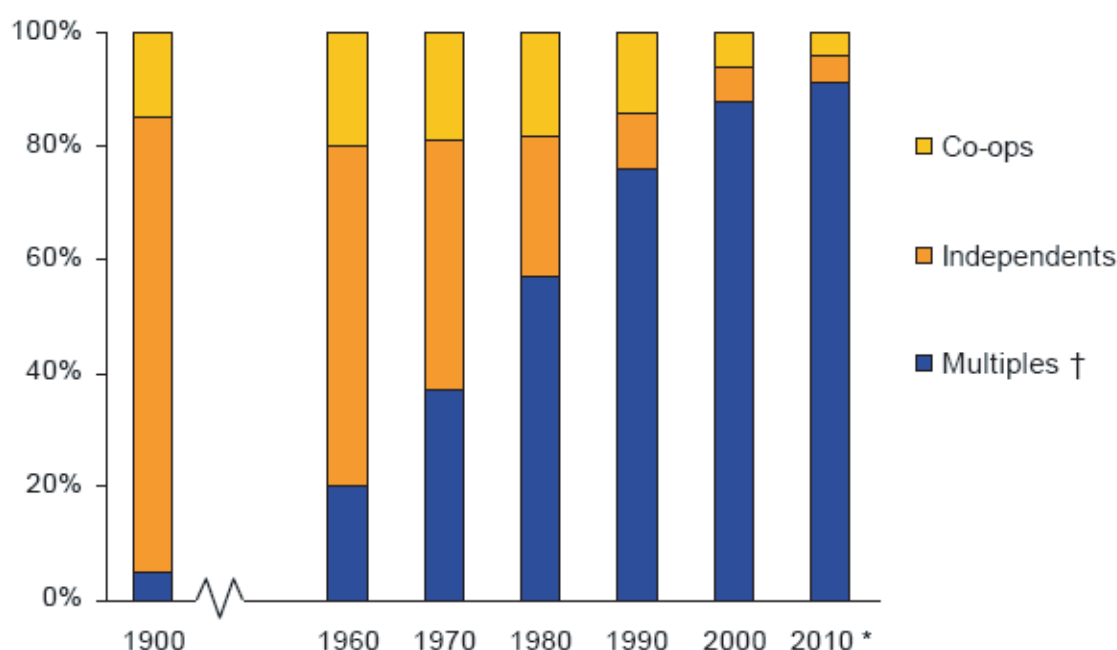
Figure 4: The UK food chain



Source: *Department for Environment, Food and Rural Affairs -Food Chain Analysis Group.2006.* ²⁰

One of the elements that is not clearly shown in the food chain schematic above is the degree of capital concentration in the various sectors. In particular the grocery retail chain has undergone a major revolution in the last four decades, with the multiple supermarket chains dominating the sale of food to the consumer. Within those chains, just four companies – Tesco, Sainsbury, Asda (owned by Walmart) and Morrisons (includes Safeway) – account for around 70-75% of food sales.^{21 22}

Figure 5: Increased concentration of food supplies into supermarket chains (multiples)



Source: IGD, *Grocery Retailing 2004*.²³

* 2010 is an industry forecast.

† 'Multiples' category includes symbol-group convenience stores e.g. Spar.

The effect of this remarkable change in a key industry is to raise substantial concerns over the impact on choice, price and access to foods. The decline of small independent shops may increase nutrition insecurity by reducing the availability of healthier foods (particularly hard hit have been fishmongers, but also substantially affected are greengrocers, butchers and bakers) distributed through localised distribution systems. Such specialist independents are increasingly relying on higher-income shoppers, while the remaining small shops in lower-income communities cannot risk stocking more perishable items and instead rely on sales of processed, long-shelf-life foods, especially confectionery, snacks and soft drinks. Some exceptions can be found among suppliers of minority ethnic foods (see below).

Supermarket competition has led to further changes, with supermarkets seeking particular sub-sections of the market, so that some will aim for upper-income customers and others lower-income customers, and in locations where only one supermarket is within reasonable reach this may result in loss of diversity and greater risk of nutrition insecurity.

In these conditions, access to retailers becomes a further well-recognised problem. Households without access to a car or the resources to use one frequently face considerable problems in shopping at larger, more distant supermarkets which may offer better variety and availability and lower prices. Public transport may not adequately replace the car in such circumstances, especially if young children must accompany the shopper. The amount purchased and carried home may be limited by physical constraints, leading to repeated visits and potentially high transport costs.

For some families, the easy alternative may be to use ready-prepared, ready cooked food provided by local caterers, either by collection or delivery. The price may be greater than home-prepared equivalent meals, but there is a considerable saving in labour time as well as savings in fuel, kitchen equipment, storage and – if

different members of the household have different preferences – savings in potentially wasted food. Fast food take-away services offer considerable social benefits, but unfortunately the nutritional quality of most of the product ranges is poor and the frequent use of this source of food may increase the risk of nutrition insecurity.

The supermarket ‘offer’ and income issues

As noted above, retailers have differentiated themselves in terms of the target section of the population, with some (e.g. Waitrose, Marks & Spencers) aiming primarily towards better-off households and others (notably Asda, Iceland, Somerfield, Lidl, Netto and Aldi) targeting more price-conscious lower-income shoppers. Three of the largest, Tesco, Morrisons and Sainsbury, remain in the middle with attempts to offer both premium quality goods and economy lines. None of the supermarkets have found a way of matching the variety and low prices of specialist foods demanded by ethnic minority groups and available in specialist shops in some urban areas. The reasons for the success of specialist shops for minority groups are unclear, but may depend on supplier and distribution networks within the same community, and links to family and business networks in the countries of origin. This form of social capital embedded in the community for ensuring supplies of specialist foods would benefit from further analysis for its potential to support lower-income households in non-minority communities, and its potential to improve nutrition security.

In the last decade, the mainstream supermarkets have increased their range of goods sold specifically to those on tight budgets, with ‘saver’ and ‘economy’ lines, usually wrapped in less decorative packaging and possibly lacking the degree of detail, such as nutritional quality, that the standard products carry. Compared with standard lines, the quality of the ‘economy’ goods may be lower (e.g. starch-thickened yogurts, grade 2 fruit), it may be as good but less attractive (e.g. smaller apples), it may be more variable (e.g. odd shaped), or it may be identical but packaged in lower-cost materials. A survey by the National Consumer Council found that the nutritional quality tended to be less healthy for the economy lines, for example having higher salt or fat content.²⁴

The range and variety of economy line products had previously been criticised for failing to include healthier foods such as fruit and vegetables,²⁵ but this has subsequently improved. Although primarily of economic benefit to lower-income shoppers able to access the larger supermarkets where economy lines are offered, there is some evidence that it is better-off shoppers that make more use of these lines, while lower-income shoppers continue to buy familiar and more widely advertised brands – perhaps not liking to have their poverty on display or else believing the quality too bad.²⁶

Within the supermarket offer, however, the greatest difficulty faced by consumers on a very tight budget is the inability to make use of the special offers that require larger outlay: thus milk prices per litre decline with the larger sizes, basic sliced bread is typically more expensive in the smaller loaves, as are many other staple foods (see table below). Furthermore, many special offers are made to reduce the cost per item when several are bought: thus ‘buy two get a third free’, or ‘two for the price of...’ offer require additional expenditure at the time of purchase. The benefit can be gained only if the food can be transported, can be properly stored and will be used before it deteriorates, and also if there is no cost to the shopper of advancing the capital at the time of purchase. For lower-income families, the advantages of bulk purchase may apply to larger families with the capital, resources and equipment to match, but for smaller low-income families there is unlikely to be sufficient capacity to take bulk purchases. The question of access to capital also affects home-delivered supermarket orders – again it is necessary to be able to pay in advance, and to afford the extra delivery costs unless these are offered free (normally only applicable if a minimum value of goods is ordered).

Table 3: Examples of differential pricing per unit of food in different sizes				
Food item	Weight or volume	Price (pence)	Price per unit (pence)	Bulk discount
Milk	1 pint	42	42	16%
	6 pint	212	35.3	
Eggs 'Basics'	6	88	14.7	32%
	15	150	10	
Rice basmati	500g	90	18	24%
	4kg	549	13.7	
Pasta	500g	79	15.8	21%
	1kg	124	12.4	
Canned sweetcorn	157gdr	31	19.7	23%
	272g dr	41	15.1	
Chopped tomatoes	230g	39	17	38%
	400g	42	10.5	
Baked beans	200g	45	22.5	45%
	4x400	199	12.4	
Nescafe	50g	158	3.16	79%
	2x400	600	75	
Sugar	500g	45	9	20%
	5kg	359	7.2	
White sliced bread	400g	69	17.3	17%
	800g	114	14.3	
Tea bags	40	69	69	28%
	480	5.95	49.6	
Lean mince meat	C 210g		492	14%
	C 710g		421	
Vegetable oil	1l	119	119	2%
	3l	349	116.3	
Cheddar mature	C 250g		691	8%
	C 450g		634	
Onions	Loose 'Basics' 2kg	78	72	46%
			39	
Carrots	Loose 'Basics' 2kg	73	74	51%
			36.5	
Grapefruit	1	46	46	28%
	3	100	33	
Oranges	1	26	26	36%
	12	200	16.7	
Apples	Loose 'Basics' 1kg	99	1.28	23%
			99	

Source: Sainsbury supermarket Wandsworth 25 May 2008.

Supermarkets aiming at lower-income groups typically promote a wider range of processed foods and a narrower range of fresh perishable foods compared with stores aiming to attract higher income shoppers, making it harder to choose a healthy diet. Surveys of shelf-space allocation, comparing for example the space allocated to soft drinks compared to that allocated to fruit, show a marked difference according to target market, with greater promotion of soft drinks in the lower-income-targeting stores. These promotional patterns compound the lack of availability of certain healthier foods – such as skimmed milk, wholemeal bread, low fat meat products, low sugar canned fruit etc – in stores aimed at lower-income shoppers.

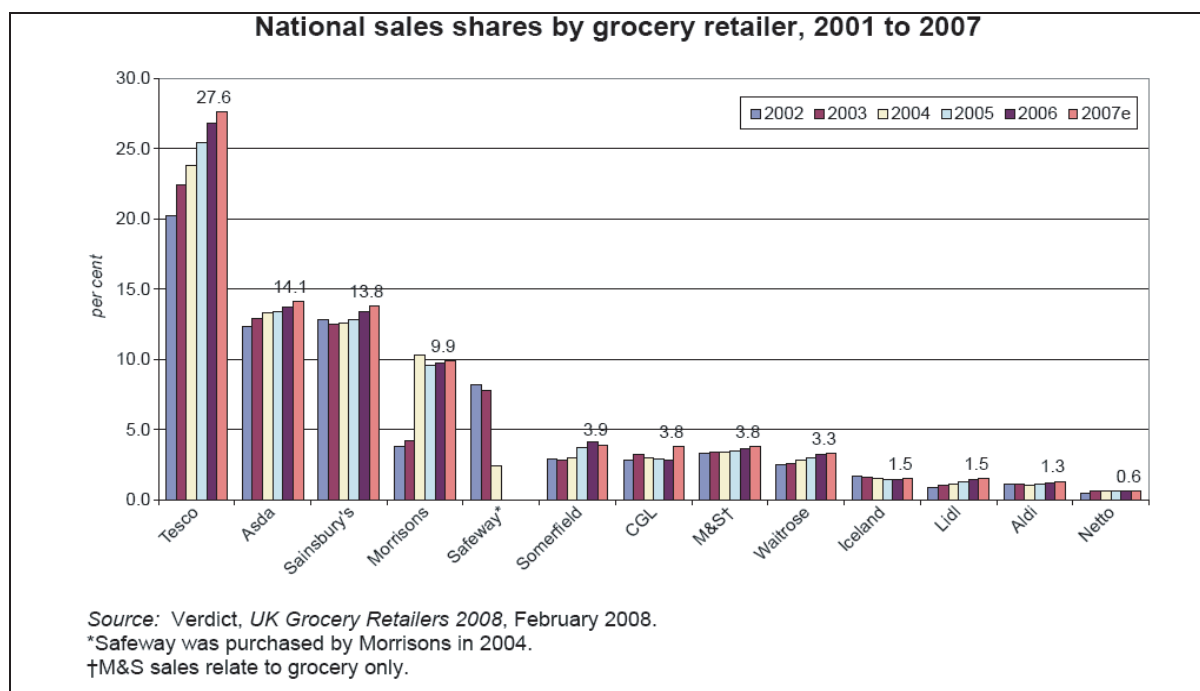
There is also evidence of red zoning, or price flexing, in which prices vary across stores within the same supermarket chain. Local smaller outlets in busy areas may charge more than their peri-urban sister stores, or may stock only higher-margin products. Those without transport are disadvantaged by this practice.

Supermarkets are also fiercely competitive in their development and expansion plans, with some accused of purchasing land in a spoiling manoeuvre to prevent rivals opening new stores. This may restrict choice and variety to shoppers in the immediate neighbourhood, and in smaller towns may effectively lead to a one or two company monopoly of the retail environment. These and other anti-competitive supermarket practices have been considered in the recent enquiry into monopoly in grocery retailing (next section).

Recent Competition Commission enquiry

As noted earlier, just four supermarket chains control some 70% of total grocery sales (see figure below) and this concentration led to the supermarkets being the subject of an investigation by the Competition Commission.

Figure 6: Proportion of grocery sales by the main supermarket chains



Source: Competition Commission 2008

The Commission's final report was published in April 2008.²⁷ Its principal findings address planning issues and the relationship to suppliers, namely:

- a recommendation for the inclusion of a 'competition test' in planning decisions on larger grocery stores. Applications would pass the test if within the area bounded by a 10-minute drive-time of the development site: the grocery retailer that would operate the new store was a new entrant to that area; or the total number of fascias in that area was four or more; or the total number of fascias in that area was three or fewer and the relevant grocery retailer would operate less than 60 per cent of groceries sales area (including the new store)

- action to prevent land agreements which can restrict entry by competitors;
- the creation of a new strengthened and extended Groceries Supply Code of Practice; and a recommendation to establish an independent Ombudsman to oversee and enforce the Code.

The Commission reported that it believed that local concentration hampered effective competition:

We concluded that consumers are adversely affected by local markets being highly concentrated rather than more competitive. Weak competition in local markets allows a grocery retailer to worsen the store-specific retail offer at its stores in those markets and earn higher profit margins at those stores. We estimated that the effect of weak local competition on store-level profit margins allows large grocery retailers to earn an additional £105–£125 million in profits per year at their larger grocery stores. This represents around 3 per cent of annual profits for the four largest grocery retailers. The additional store-level profits at mid-sized grocery stores as a result of weak local competition may be of a similar order. (p 12)

Concern was shown in a number of submissions to the Commission about the fixing of prices and, in particular, of two practices: the sales of goods at ‘below cost’ price which put significant stress on local competitors, especially smaller independent stores, and the sale of goods at different prices in different stores (‘price flexing’) unrelated to the actual cost, which exploits monopolistic situations. One estimate suggested that between 5 and 20% of the big chains’ cheapest lines were being sold at below cost, although prices on other items compensated for the lost profit (cross subsidy). Small independents may not be able to match the cross-subsidy arrangements, particularly if the below cost products were their main sales items – such as bread, milk or alcohol.

Points raised in evidence included:

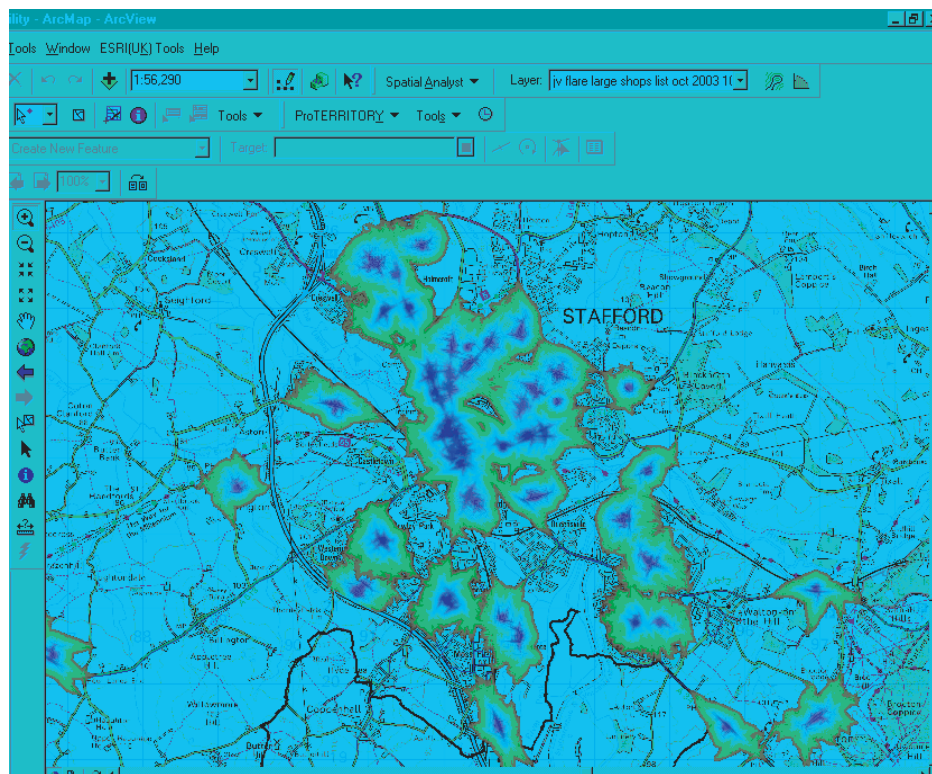
- The loss of local shops in the high street and in villages, the resulting loss of ‘social glue’ and removal of trade from the local economy;
- Low-cost alcohol sold in supermarkets encouraged excess consumption, including by those under the legal age limit;
- Concern over excess packaging and transportation of foods to supply the large chains;
- Exploitative contracts with farm suppliers increased the pressure to recruit labour at below minimum wage levels, increasing rural poverty;
- Problems of access to supermarkets in low-income communities: this is highlighted when retailers are unwilling to open in high-crime areas or in areas with low population density (mainly rural), giving rise to food ‘deserts’

Food deserts

The term ‘food desert’ refers to a locality with poor availability of an adequate supply and range of foods necessary for good health. There have been some arguments about the actual existence of such deserts, and the terms and definitions used to measure them. A food desert describes an area in which food retailers have moved away and shops have closed, and remaining shops offer only a very limited range of foods, so that access to a varied diet at low cost may require use of a car. Food deserts may be more apparent to those without access to a car and in need of a supply of a full range of foods within walking distance, and this may include older residents and low-income mothers with young children. Community mapping methods can help

expose such issues: a mapping exercise conducted in Stafford using GIS technology²⁸ showed significant patches of the community did not have local access to a variety of fresh fruit or vegetables and other healthier foods (see below).

Figure 7: Staffordshire community mapping of food stores, showing ten-minute walking distances from larger food stores



Source: *National Consumer Council 2006*

In a study of Sandwell, an urban area in the West Midlands, the majority of the community lived more than 500m from a store selling eight or more types of fresh fruit and vegetables.²⁹ The area is the seventh most deprived in Britain, and a third of households have no access to a car. Similarly, the Staffordshire analysis, and comparable studies in Oxford and the London Borough of Brent, have indicated that the communities most poorly-served in terms of availability of healthier foods tend to be those that have higher indices of multiple deprivation. Even greater difficulty in gaining access to larger shops applies to car-less households in more scattered communities, where a third of all low-income households are located, including a third of low-income pensioners' households.³⁰

Smaller shops may be available, but the cost of food from these sites is likely to be higher, and the range of healthy options available may be severely limited. Basic foodstuffs have been calculated to cost 24% more in small stores than in supermarkets and, taking supermarket own brands into account, the differences in costs were 60%.³¹ In the recently published government survey of lower-income household food intake patterns, some 50% did not use a car for food purchases and 20% were not able to use larger supermarkets on a regular basis.³² The survey noted that women in households that shopped at a large supermarket consumed significantly more fruit and more vegetables than other women.

It should also be noted that some planners measure physical access to shops 'as the crow flies' – a fixed measure of, for instance, 400m to the nearest basic services, or to the nearest outlet selling food. A direct

measure like this does not account for physical access problems, such as difficult road crossings, steps and other barriers that may be difficult to negotiate with a pushchair, a wheelchair or a walking stick. More sophisticated measurement methods, using GIS software for example, are needed to ensure that the reality of food accessibility is reflected in the mapping process. Participatory approaches to consultation (such as community mapping) can be used to reveal the detailed experience of people living in deprived areas, and people who have problems with physical access and everyday food shopping.

Legislative context

Most of the legislation relating to food concerns the safety of food supplies. There is legislation regarding the packaging, labelling and description of foods, which has a bearing on the present topic (see below on labelling) that grew out of the historic 'weights and measures' concerns with fraudulent trading. Greater use of labelling and promotion legislation to ensure consistent information is given to consumers could be a step towards improving nutrition security.

Planning controls on the provision of food outlets, the development of supermarkets, the licensing of street traders and consent for street markets, and consent for take-away food stores, also have a bearing on the present topic. Greater use of these planning controls to improve access and availability of types of foods may provide an opportunity to improve nutrition security at local level.

Certain foods are subject to Value Added Tax. These were originally meant to reflect 'luxury' food products, and include foods bought when dining out of the home, unless taken away for consumption off the premises. Adjustments to the VAT regime to raise the cost of energy-dense, nutrient-poor foods and reduce the cost of healthier foods could be considered a tax-neutral form of intervention designed to assist those who are most sensitive to food prices.

Relation to fuel and other services

Both food and fuel are essentials to support life and prevent ill-health. Unlike fuel, the quality of the food provided makes a significant difference, so that substitution of, for example, food energy from fruits and vegetables with food energy from fats and oils, will make a considerable difference in the risk of ill-health. Food may also suffer considerably from contamination and as a result there are regulations on food safety and hygiene.

The food sector has a long tradition of being a market-driven sector – indeed, the term 'market' summons to mind the tradition of displaying food products for sale in the community – and has remained relatively free of regulation compared with water, energy and telecommunications. There are no requirements for minimal universal service provision, and in theory there are relatively low entry thresholds, allowing opportunities for new enterprises to compete with established ones. Government support is seen most clearly at times of stress, such as during the Second World War, but has continued to be provided through support of scientific research for food processing and for crop and animal health, and direct support for farm production and market protection, now largely organised at European Union level.

Where the market has failed low-income groups, there have been various, largely short-term and poorly financed, initiatives to assist communities in developing their own alternatives to the market. Allotment schemes, shopping clubs, breakfast bars in schools, along with advice centres and Sure Start and similar support schemes are offered, although they do not always find those in the community that are the hardest to reach. State benefits, including free school meals and meals on wheels, also supplement the market.

Rather than compare different sectors, however, it may be instructive to consider how they interact. The

experience of living on a low income is dominated by the multiple interactions with all services, and the multiple disadvantages that can follow from these interactions.³³ As we have shown, many food products are 10-30% cheaper per unit volume if bought in larger quantities but their acquisition may require access to a car. Home deliveries require credit card payment. Bulk purchases require storage, which assumes there is sufficient space and sufficient technology such as freezers and fridges, to ensure the food does not perish. Furthermore:

- Lack of bank credit references and lack of bank account mean that credit cards may not be available, restricting access to advance purchase supermarket delivery and bulk-buy food products.
- Dependence on cash purchases for foods may be hampered by availability of cash outlets, with no banks and few ATM machines in lower-income estates.
- Fuel costs are a significant element in food preparation.
- Ordering and arranging deliveries requires computer and internet access which, in turn, assumes landline or more expensive ranging broadband services.
- Purchases of household equipment such as fridges, freezers, cookers, microwave ovens, etc requires credit or cash payment to get better deals, and access to the internet or at least a phone to 'let the fingers do the walking' and find the best deals, or to buy secondhand from e.g. E-bay.
- Theft losses of household equipment, including food preparation equipment such as microwave ovens, may not be easily replaced, especially if insurance has been neglected or is prohibitively costly.
- Access to welfare benefits, including those for food, requires dealing with Benefit offices, which in turn assumes telephone access as well as sufficient time to attend appointments.

Concluding remarks

It does not appear that the market as currently organised can deliver the necessary security of nutritious food to lower-income households. The major supermarkets have shown remarkable creativity in providing an enormous variety of foods to the population in general, but, as this chapter has shown, there remain significant structural factors which make access to a nutritious and healthy diet more difficult for those on lower-incomes. This chapter has also identified specific problems faced by low-income households which may increase their nutrition insecurity: namely accessibility and availability of nutritious foods, cost and differential cost of bulk purchases, as well as concerns over the availability of related resources, such as food storage and preparation equipment. It has also noted the need for adequate education and skills to ensure that appropriate food choices are made and can be put into effect.

Welfare resources may be improved to ensure incomes can cover the cost of a healthier diet, but even these gains may not be adequate to compensate for some of the structural disadvantages experienced by low-income households, given the way they are compounded by disadvantages in other sectors, with the result being that low-income households are excluded from a number of services at the same time.

An integrated approach to improving service availability and family support, beyond the purely financial, may be needed to ensure that the poor are not facing multiple disadvantage.

Lastly, it should not be forgotten that food is more than a means of 'fuelling' the physical body. Food also has strong social and psychological meaning. Well-meant attempts to identify recipes for poor families, which allow them to eat healthily on very tight budgets (the classic examples are fish-head soup and lentil bake), only serve to increase the potential social exclusion of being unable to invite people to share one's meals, let alone to dine out.

Food is also a comforter and a reassurance in times of low self-esteem. As George Orwell noted in *Road to Wigan Pier* in response to suggestions that poor people should eat brown bread and raw carrots, “when you are underfed, harassed, bored, and miserable, you don’t want to eat dull wholesome food. You want something a little bit ‘tasty’... Let’s have three pennorth of chips! Run out and buy us a twopenny ice-cream!”

Improving the health and wellbeing of people on low incomes requires a multiple, and multi-disciplinary, approach that takes structural, social and psychological needs into account. Resolving the structural issues – the focus of this chapter – can be the most important step towards improving the social and psychological impact of social exclusion.

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