Suppose we all ate a healthy diet… …could our food supplies cope?

Tim Lobstein, UK Food Commission.
tim@foodcomm.org.uk

The president of a leading potato snack manufacturer has said that it will take at least three years to reduce the saturated fat content of their potato chips. He said the company has to negotiate contracts with palm oil growers, must find new sources of vegetable oil, and may need to change the potato varieties to cope with the new oils. Then it will need to have faster delivery systems to ensure the products are not on the shelves so long because the saturated fat helped stop the chips from going stale.

If it takes three years to make a small change in the saturated fat content of a single snack product how long will it take to change our current food supplies to meet World Health Organization healthy eating guidelines?

Just suppose, for a fantastical moment, that the majority of consumers started to take their diets more seriously. Suppose we cut our saturated fats, limited our total fats, cut our salt and sugar... Suppose we bought fewer snacks, soft drinks, fatty meats and confectionery and purchased more fruit, vegetables, wholegrain foods and lean meats. What would it mean to our food supplies?

I fear that the current patterns of farming and food imports could not meet the new demands. Dramatic changes would be required.

As dietary surveys have shown, and as reflected in Bruce Trail's paper, the proportions of the populations meeting the recommended healthy eating targets are extraordinarily low. Hardly any EU member states are meeting their goals, according to dietary surveys data:

Table 1. Which member states are eating healthy diets?

Target	Over 50% of population achieving target	Less than 50% of population achieving target
Dietary fat: less than 30% total energy	Portugal	Austria, Belgium, Denmark, Finland, France, Germany, Greece (Crete), Ireland, Italy, Netherlands, Spain (Catalonia), Sweden, UK.
Saturated fat: less than 10% total energy	Portugal	Austria, Belgium, Denmark, Finland, France, Germany, Greece (Crete), Ireland, Italy, Netherlands, Spain (Catalonia), Sweden, UK.
Fruit and vegetables: more than 400 grams per day	Greece (Crete), Italy, Portugal, Spain (Catalonia)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Sweden, UK.
Dietary fibre: 25-30 grams per day	0	Austria, Belgium, Denmark, Finland, France, Germany, Greece (Crete), Ireland, Italy, Netherlands, Portugal, Spain (Catalonia), Sweden, UK.

Source: Adapted from Williams et al (1999)[1]

Further targets could be added, such as those relating to sugar or salt, and we could add targets for breast-feeding and physical activity and obesity – but still the majority of member states would fail to achieve the targets.

More seriously, there is evidence that even when people achieve one target, such as for fat, they may fail to achieve another target, such as for sugar. Very few people are actually eating a fully healthy diet. In the UK, for example, a 1994 survey found only one person in 2,000 meeting four or more of the criteria for a healthy diet.[2]

Put a different way, the vast majority of the population of Europe, including the accession countries, can benefit from improvements in their diets. Assuming that member state governments and the European Commission are serious in their policies to improve health through dietary changes, then they need to ask: where will that healthy food come from? What changes in policy can ensure that food supplies will provide what is needed?

Putting numbers to needs

First, however, they need to be able to measure what is happening. What are food supplies providing at present?

Every member state collects figures – called food balance sheets – which estimate the amount of food grown, the amount imported, the amount exported, and the amount put into storage or wasted. The remainder is the amount which moves from supply into consumption.

Food supply-into-consumption figures are not the same as actual dietary consumption figures, but they can be linked. Thus a food supply of, say, 10kg of fruit per person per month may be recorded as household and catering purchases of 7kg fruit (with the remaining 3kg being purchased in the form of juices, jams, confectionery, pastry content etc), and an actual dietary consumption of 5kg fruit (2kg being lost through perishing, or during preparation or cooking or plate waste).

Setting aside the issue of fruit juices (should they be included in fruit and vegetable recommendations, and if so to what extent...?) we can use food supply figures to roughly estimate the dietary consumption: in the example above a supply of 10kg leads to actual consumption of 5kg.

These are theoretical figures, but using dietary surveys from 14 member states during the 1980s and 1990s, and comparing these with food supply figures during the same period, we have estimated that this ratio is roughly true, with a supply of 10kg leading to dietary consumption of 5.13kg on average.[3]

We can use this relationship to estimate what would be needed to meet the World Health Organization's recommended dietary intake of at least 400 grams fruit and vegetables per person per day, as a population average target. This equates to a supply of 780 grams fruit and vegetables, or more, per person per day.

Similarly a dietary target of not more than 10% energy from saturated fats would translate into a food supply of around 60 grams of fat, or less, from animal products per person per day. A target of not more than 30% energy from all fats translates into a supply of around 135 grams total fat, or less, per person per day.

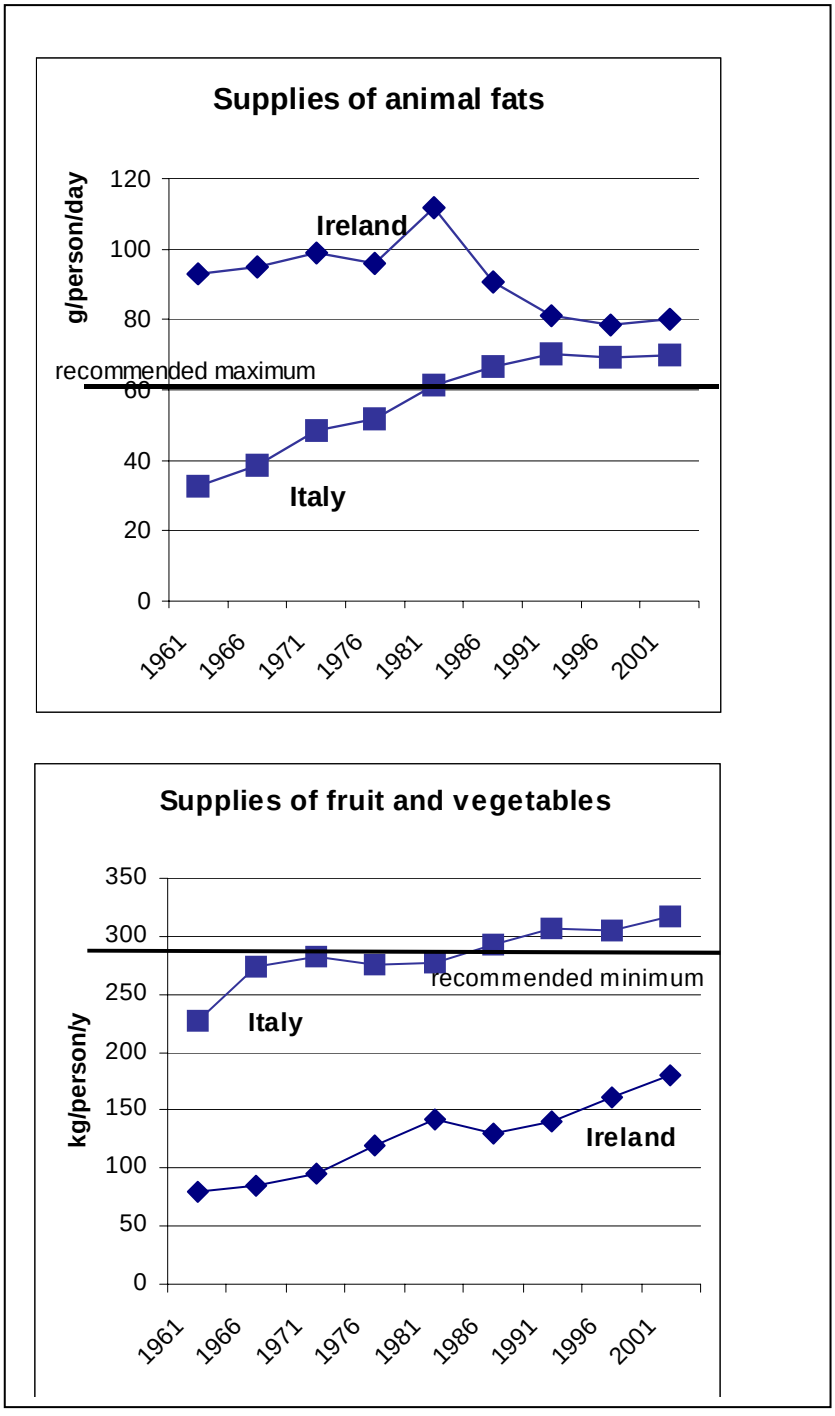
We can use these figures to evaluate the health impact of food supplies. For example, food supplies in Italy in 1965 provided around 720g fruit and vegetables, 38g saturated fat and 90g total fat, per person per day. This is a good Mediterranean diet with adequate fruit and vegetables and lower than maximum levels of fats.

By the end of the last century, Italy enjoyed a fruit and vegetable supply of 860g per person per day, but the animal fat supply had risen dramatically to 70g and the total fat to 152g. This shows a significant oversupply of fats, especially saturated fats, and a potential threat to the health of the Italian population.

Even if the figures are not exactly correct, the trends in food supply tell enough of the story. For Italy, the fat levels have risen significantly and the saturated fats more than doubled. Health policy-makers can immediately see that this is a trend in the wrong direction. For the health services, it is time to train more heart surgeons!

Figure 1 shows the trends in animal fat supplies in Italy, and also in Ireland over the last four decades. The figure also shows the trends for fruit and vegetable supplies. Data from other countries suggests that, within the EU15, only Greece has healthily low supplies of animal-based fat (below the 60g mark) while Greece and Portugal, like Italy, have healthy supplies of fruit and vegetables (above the 780g mark). These findings almost exactly reflect the figures obtained from dietary consumption surveys, shown in Table 1, and provide further arguments in favour of using food supply figures as a means of monitoring healthy eating policies.

Figure 1. Trends in the supply of animal fats and fruit and vegetables to Italy and Ireland over four decades.



Data for sugar supplies are harder to obtain, but estimates can be made. These indicate that southern European supplies of sugar have increased by some 50% over the last four decades, approaching the high levels supplied in northern Europe.[4]

Food balance sheets do not record salt supplies. Recent work by the UK Food Standards Agency has suggested a different approach. In their analysis, salt contributions to the diet have been estimated according to the typical salt levels found in those foods (usually the more processed foods in a diet) and weighted according to the quantities of the different foods eaten (based on dietary surveys). This allows certain categories of food products – such as snack foods, canned soup or meat products – to be ranked according to their contribution to the population's total salt intake.

Based on this analysis of salt consumption patterns, we can look at the effect of removing salt from, say, the canned soup category, and see how this would affect the total consumption level. This approach provides an alternative means of estimating the health impact of foods and the possible consequences of making changes in processed food recipes. It is a more complex approach but it has the advantage of drawing attention to the food products which contribute the most salt to our diet.

Resistance to change

Dietary surveys are expensive and few countries undertake a large-scale survey more than once in a decade. Food supply figures, in contrast, are collected on an annual basis, and for many countries the data are available since the early 1960s. As we have shown, these supply figures can provide an excellent proxy for consumption, and help to pinpoint the 'upstream' problems which are shaping our consumption patterns, such as trade and agriculture policies.

In a free market, economists might argue, the food supplies are purely 'demand-led' – i.e. the supply chain only reflects the changing tastes and demands exercised by consumers. Animal fat supplies have risen because people want more animal products in their diet, they argue. 'The companies only supply what people want,' they say.

There are several reasons why the market is not as pure as it could be. The first is that food companies spend a large amount of their income trying to influence what we want. The global marketing budget for food promotion exceeds the gross national products of many countries.[5] For every dollar the World Health Organization spends on non-communicable disease programmes, food companies are spending $500 on marketing their products – mostly high in fats, sugar and/or salt, and low in fresh fruit or vegetables.

Secondly, there are large amounts of public cash being used to support – and distort – the food marketplace. The Common Agricultural Policy costs some €40 billion annually, much of which is used to ensure high levels of production of milk, butter and cheese, meat, grain for animal feed, oils and alcohol, to say nothing of tobacco. The budget for fruit and vegetable production is partly used to pay for the destruction of fruit and vegetables to maintain high prices, and to pay for the removal of orchards from production. A similar policy operates for fish, in which the catch is destroyed if the price is likely to fall too low.

The European Commission also arranges that any excess butter is bought into intervention and then sold to manufacturers at a subsidy. Consumers who are cutting

their purchases of butter in order to improve their health may not realise how much is being fed to them in 'hidden' forms in processed food, thanks to public subsidy. Approximately 1kg of butter is sold in 'hidden' form in processed food for every 2kg purchased by householders.

There are other hidden subsidies in the food chain which distort a pure market. Tax advantages for food production using capital-intensive methods (offsetting the costs of equipment and agrochemical inputs), pollution costs, transport costs and the damage done to the environment by food freight, the environmental costs for processed food packaging – and a host of other externalised production costs which can distort the market, and may favour the production of mass-produced, processed, low nutrient foods against fresh, local produce.

Nor is the marketplace a balanced one between producer and consumer. When it comes to purchasing power, some consumers have more power than others. Indeed the whole concept of consumer power and consumer choice should be examined: for example, the processed food manufacturers are the 'consumers' of much of the primary agricultural produce from our farms and from imported commodities, as the president of the potato chip company proved.

Similarly, the supermarkets buy from farms and food processors, making choices based on price and volume, not nutritional quality. Catering outlets, including fast food chains but also public caterers such as school meal providers and hospital caterers, are the purchasers of large amounts of the food passing along the food chain, choosing what they put on their menus. At household level, the person who does the shopping may be making choices for several other people in the home. Thus the individual who eats the food at the final link in the chain is only a small part of the marketplace, with only a small part in determining what is available to be eaten.

Other distortions are also occurring. From the farmers' point of view, the best income is received from crops and livestock which have high yields, are disease-resistant, can be harvested easily and have other technical advantages. Farmers are rewarded for the volume of what the produce, not for the nutritional quality of their products.

Food technologies can give advantages to processed foods over fresh foods. Food preservation techniques – once a valuable means of ensuring food supplies during times of scarcity – are widely used to supply food of poorer nutritional value (e.g. fatty meat products) at a lower cost than fresh unprocessed equivalents. Colouring and flavouring additives are used to give an advantage to foods of inferior nutritional quality. These cheap chemical compounds provide an unfair advantage to manufacturers of processed foods over the suppliers of fresh, less processed foods.

These distortions in the market come between the supplier of healthier foods and the consumer who might want to eat them. They add to the difficulties consumers face, creating it hard for 'the healthiest choices to be the easiest choices'.

Yet they must be tackled if dietary health is to be taken seriously. Change is needed all along the food chain. These will need explicit policy changes at member state and European level.

10 steps towards change

Many policies can be implemented to help change the current supply trends to encourage better health. Here are some examples:

1. *Remove support for the status quo*. Current policies encourage food supplies which are not meeting health needs. Policies need to be reassessed, including the Common Agricultural Policy and also the use of public funds for food industry research.

2. *Improve market feedback*. In a 'pure' market, a change in consumer purchasing would be transmitted back to producers, who would make changes in production. The CAP, with its interventions, subsidies and market support schemes, creates an artificial market and distorts the message to producers.

3. *Establish dietary goals*. Set national dietary targets and a monitoring body to ensure that policies are concordant with achieving those targets. Ensure food producers are aware of the targets and the reasons behind them.

4. *Set food supply targets*. These can be derived from the national dietary targets, using the techniques suggested earlier. Food supplies can be monitored more easily than dietary patterns, and are more readily understood by food producers and manufacturers.

5. *Set food compositional standards*. Limit the amounts of salt, fat and saturated fat allowable in a range of specified food types and use these limits to create fair market conditions for all manufacturers. If the limits are exceeded by some producers, then name-and-shame publicity or regulatory sanctions can be considered.

6. *Change the recipes*. Provide support for the improvement of processed foods. Provide support for storage and distribution technologies for fresh and relatively unprocessed foods.

7. *Restrict the use of additives*. Legislation requires additives to be used only when there is a technological need, but current practices allow many 'cosmetic' colourings and flavourings to be used in foods of poor nutritional value, giving these poorer foods an unfair market advantage undermining healthy choices. Review and tighten the controls on their use.

8. *Improve the coherence of dietary advice*. Food messages come from many sources, including schools, health services, family members, the media and the food industry – e.g. food labelling and advertising. These messages should not conflict with the promotion of healthy diets. Food marketing messages must not undermine or conflict with health policy.

9. *Consider fiscal measures*. To repair the damage that the CAP does to the market, CAP-recovery levies might be taken from products which have gained an advantage from CAP subsidy. Purchase taxes and sales taxes currently being levied on foods should be assessed for their health effects: for example, taxes on foods which are currently over-supplied, such as those containing animal fats, can be used to subsidise

foods which are under-supplied. Taxation of food advertising might also be considered.

10. *Use public purchasing power*. Use public sector procurement to set gold standards for dietary health. In particular ensure that schools are beacons of good practice in their community, promoting healthy diets, good health messages and plenty of physical activity. Extend this concept to hospitals, social facilities, prisons, military bases and local and national government offices.

Food companies need to see what is coming. As the potato chip president knows, there are big advantages if you get ahead of the game.

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