



**Response by GM Freeze to the Defra Consultation *Ensuring the UK's Food security in a Changing World*
September 2008**

GM Freeze

GM Freeze is an alliance of 55 organisations *calling for a moratorium on GM foods, the growing of GM crops for any purpose and on patents on genetic resources in agriculture, food production and forestry until the need for and safety of GM technology has been established and alternative approaches have been fully evaluated.*

Our members include consumer groups, farming organisations, environmental groups, development agencies, religious groups, animal welfare groups and food companies.

This response is submitted on behalf of GM Freeze. It covers our response to Defra's consultation on *Ensuring the UK's Food security in a Changing World*, July 2008.

Summary

GM Freeze welcomes the consultation on food security. The continued reliance on buying food from abroad when required would leave the UK's food security very vulnerable if the were recent global price increases to be repeated.

The Defra analysis provides useful starting point for debating food security but more is required to make this a useful document including on:

- The impacts of liberalised trade rules on poor farmers.
- The changes needed in the UK to increase food self sufficiency.
- A risk assessment of the use of intensive farming methods in place such as Africa.
- Analysis of the risks and benefits of reducing the dependency on animal products in the UK's diet
- More in depth analysis of the causes behind the current food price increases and way to prevent them occurring.
- More attention to the wider implications of intensive production of biofuel crops.

The more conservative approach to the potential for GM crops is welcomed but more effort is required to find alternative approaches to tackling problems faced by farms, eg droughts, and saline soils.

Defra and other ministries need to urgently review their approach to research and development to ensure that they are fully implementing the 22 key findings of the International Assessment of Agricultural Knowledge, Science and Technology for Development.

Introduction

Our response to Defra's consultation is in three sections:

- Overall comments on the paper.
- Specific comments relating to the use of genetically modified crops.
- Specific comments on other issues.

Overall Comments

GM Freeze welcomes Defra's consultation on the UK's food security in the light of the long running debate on how food is produced and the impacts of shortages of supply and rising food prices. There are concerns we have about the overall approach taken in this document. These relate to the assumptions that underpin a lot of the thinking behind the analysis and omissions from the document.

Trade

Liberalisation of trade is assumed to be the way forward for poor farmers in the Global South. However, there is precious little evidence that wealth created by liberalised trade in food, fibre and fuels crops finds its way to the poorest people. A continuing rise in the prices of oil, nitrate fertilisers, potash, phosphorus, pesticides, seeds and basic foods could wipe out any financial gains made from increased income from agricultural sales leaving farming communities no better off and powerless to control their external costs.

The paper assumes that the UK will be able to carry on relying on food imports because of the inherent wealth of the UK economy. We do not believe that this "right to buy" is necessarily sustainable or ethically justifiable. We would wish to see far greater emphasis paid to fair trading across the whole spectrum of food production in which the price paid fully reflects the cost of production plus profits for farmers. Unless fair-trade extends beyond the present market niches the prospects for most farmers, aside from very large farms, looks bleak. We would like to have seen far more analysis of the efficiencies of various farming systems in terms of energy, resource uses, yields, climate and biodiversity. This would have been in line with the International Assessment of Agricultural, Knowledge, Science and Technology for Development's (IAASTD) report's call for farming to become much more multifunctional. GM technology offers no prospects for achieving this in the short and medium terms.

Business as Usual in the UK?

The Defra paper fails to address many important issues which would need to change if the UK were to wish to increase its present level of food security and aim for a higher level of self sufficiency. There is a need to show how farming could diversify to produce a greater range of crops which could replace imported foods. How would the UK population be able to adapt to a more seasonal approach to food? We believe that given a proper explanation for why the UK needed to become more self reliant in food, the public would adapt relatively quickly. The idea of salad and strawberries at Christmas is a comparatively new one and the majority of people will remember when the UK relied more on seasonal fruit and vegetables. This shift to imports has led to growing dependence on hydrologically stressed production systems in countries such as Spain. Diversifying production in regions and on farms can provide farmers with a several sources of income and act as a buffer against collapsing prices or extreme weather during the season.

Do Current Intensive Systems Provide Long-term Solutions?

Whilst the Defra paper acknowledges the IAASTD Report's analysis that intensive systems create problems – *“Emphasis on increasing yields has in some cases had (font here half 11 and half 12 point) negative and often unpredicted consequences on environmental sustainability”* - the Defra report fails to provide any attempt to assess the risks of following this model in places such as Africa. If fertiliser and pesticide use in Africa were to come anywhere near the same as the quoted for the UK (eg the annual application of 331kg per ha of fertilizer) what would be the health and environmental consequences in a continent where contamination of ground and surface water would have a major impact on public health, agriculture and biodiversity?

Current Consumption Patterns

Defra's paper acknowledges the additional strains placed on global food production by an increasing consumption of meat and dairy – *“Specifically, as larger numbers of people eat more meat and dairy products, further pressure will be put on the production of grain and other*

commodities. Producing 1 kg of beef requires 7-10 kg of grain". It also recognizes that 2 billion people are over weight in the world more than twice the number who are malnourished. However, there was no attempt to analyse what adjustments would be needed in the UK to reduce dependency on high fat animal products and reduce the need to grow crops used largely for animals feed. This is a serious omission from Defra's paper.

Causes of the Food Crisis

The Defra report lists many reasons behind the recent increase in world food prices:

- Rising incomes in India and China, in particular, which are increasing demand and shifting consumer preferences towards more meat and dairy.
- Bad weather.
- Export restrictions in response to high domestic food prices.
- Specific structural factors which tend to make the agriculture sector vulnerable to price volatility.
- High oil prices and increasing production costs.
- Growing demand for biofuels.

Whilst this analysis provides a significant part of the picture, we feel that certain issues need more development if they are to provide an insight into why prices have escalated so much in recent years. The three major changes have taken place in the last 2 years which seem most significant: the rise in oil prices; the increases in biofuel production; and the huge increase in the amounts being traded in commodity markets as investment funds seek more reliable returns following the collapse of confidence in the financial markets. We would like to see more attention paid to the latter to assess what changes in the rules might prevent huge speculation drive price rises in the future. In addition, the report places emphasis on growing demand for animal products in India and China and the growing demand for feed when in fact it appears that both countries remain net exporters of food (see for instance www.agpolicy.org/weekcol/409.html) and therefore less of a draw on global resources than painted in the Defra paper.

Biofuels

The Defra report rightly acknowledges the fact that current biofuel production competes with food production. However, we would hope that Defra and other ministries examine the issue in more detail in terms of the wider impacts of large scale biofuels production to include the impacts on local people, the impact on carbon already stored in natural vegetation cleared for plantations, the carbon balance of each crop, the cultural and biodiversity impacts of moving plantation onto marginal land and habitat destruction.

Genetically Modified Crops

The Defra paper is relatively conservative in its assessment of the role GM crops may play in the future food production:

"It is possible that GM crops may be able to make an important contribution to improving crop yields and resilience. We need to see how the technology develops but we must not compromise safety nor harm the environment".

This position is more closely aligned to the IAASTD's findings on GM which after a 4 year review found that there was no evidence that they had increased yields. However, a Defra minister, Phil Woolas, recently described GM crops as part of "our plan for Africa". It is very important that Defra does not get carried away with the potential for GM crops to solve food problems and raise false hopes. There are already signs that GM research is diverting research money away from more certain and long-term, sustainable approaches which meet the IAASTD's call for agriculture to become multifunctional.

The biotechnology industry and their supporters have made many claims about the potential for GM to produce crops able to cope with drought, salinity and nutrient deficiency and to increase yields. These claims were being made over a decade ago but there are still no such crops which

are any where near being made available to farmers. One major reason for this failure is that the genetic modification required to achieve the claims is much more complex and involved several genes compared to the relatively simple single gene changes in herbicide tolerant and insect resistant crops which dominate GM commercial growing at the moment.

GM Freeze has produced a number of briefings which try to explain the complexities of what is being attempted and look at alternative approaches to tackling these problems.

Please see:

On yields and land use:

http://www.gmfreeze.org/uploads/89D_yields_briefing%5B1%5D.pdf

On drought tolerance:

http://www.gmfreeze.org/uploads/drought_briefing_final.pdf

On salinity:

http://www.gmfreeze.org/uploads/saline_final.pdf

On GM and agro fuels:

http://www.gmfreeze.org/uploads/drought_briefing_final.pdf

Traditional plant breeding continues to improve crops yields and Defra need to be able to distinguish between yield increases due to this approach in GM crops rather than the impact of the single or double genes spliced in. Indeed, there is good evidence (see our briefing on yields and land use) that GM crops commonly yield less than their non GM counterparts.

One of the problems which farmers face world wide is knowing what to expect from natural systems during the growing for their crops especially as climate change begins to have an impact. Should they go for a drought tolerant crop when there is a good chance the crops may be inundated by heavy rainfall? Later this year, we will publish another briefing that looks at new approaches to plant breeding that should help crops adapt to unpredictable conditions by using a much broader genetic base than GM hybrids.

Specific Comments on Other Issues

The IAASTD report placed emphasis of the socio-economic issues relating to food production such as the need to ensure that: trade agreements are fair to poor farmers: that infrastructure is in place to store and move food to where it is needed; and that research and development is led by the needs of farmers and involves them (especially women farmers).

In 2006, GM Freeze brought to together three groups of people in England, Wales and Scotland to talk through the Future of Food and Farming. The summary of these workshops is available at http://www.gmfreeze.org/uploads/Future_of_Food_and_Farming.pdf

Participants were concerned that power along the food chain was weighted in favour of larger companies and wanted a shift the balance to primary producer and consumers. The main conclusions were focused on changing attitudes and not technology:

Actions required to achieve a sustainable food chain - Getting from Here to There.

All three workshops agreed that the transition to the sustainable farming and food chain would not be easy. Political, economic and social barriers would be considerable but as one of the Highland farming participants put it we need to be "bold and revolutionary".

The strongest and commonest theme which emerged from all three workshops was the need to educate people right along the food chain so that there was a much better understanding of how and where food was produced. The need to build trust right down the chain was felt to be an important aspect of education. All three workshops saw the need to improve the knowledge of children and parents to increase understanding of the countryside so that people understand

that it is principally a working place for food production where they can also enjoy landscape, recreation and wildlife.

Politicians also need to be educated on the impacts of globalisation and cheap food imports on the UK countryside and the need to maintain a working countryside rather than see it as a museum for tourists. Politicians need to understand the long term problems arising from a poor diet much better and plan to avoid future NHS costs by promoting healthy food. There was a repeated view that politicians should get out more and talk to food producers. There was an agreement that long term and consistent politics were needed if the necessary changes to sustainable practices are to be put in place across the countryside. Farmers were the other group identified to need more education – specifically in how to communicate with people – "don't be grumpy"! Good examples and role models should be promoted. Cooperation between farmers was also seen as an integral part of the sustainable food chain but it was recognized that the UK has a poor record suggesting we may need educating in this area as well. Entrepreneurial activity should be encouraged along the chain – farmers are not necessarily the best marketers and this may be best left to others. New approaches, such as community supported farms and the development of local biofuels production were needed. Opinion was divided on how to improve education. Some favoured working through existing organisations but others wanted an independent body to co-ordinate activity. However, all agreed that there was a big gap that needed to be filled. The restoration of a balance in economic power along the food chain was seen as a vital part of the sustainable future. This would mean addressing supermarket power. Allied to this had to be new incentives to get young people wanting to work in farming and food production. In this context access to land was crucial.

Conclusions

There was a remarkable similarity in the ideas coming from all three workshops in highlighting the role education will play in a sustainable future for farming and the food chain. This was needed to obtain sufficient level of understanding in the public and politicians to get policies and attitudes in place which supported a sustainable approach to farming (which might mean paying more for food). Local, quality production and consumption was the favoured approach, with lots of links between producers and consumers to build up understanding and trust.

Most of the suggestions as to ways forward were political, social and economic in nature rather than linked to technical innovation – better educated people, more cooperation and more encouragement for entrepreneurship and adjusting the economic balance along the food chain. One person summed up the general feeling about the present policies on a sustainable food chain as like "we were re-arranging the deckchairs on the Titanic". Those people taking sustainable local action on food were the ones actually manning the lifeboats. The message to politicians was to get out and about and listen and learn before setting policies and co-operate.

We are sure that Ministers will be acutely aware of the need to listen and communicate. Research and development strategies at home and overseas do not appear to have been reviewed in the light of the IAASTD report's key findings. This is a disappointment considering how much financial backing the UK gave to the IAASTD process.

The IAASTD's key findings can be summarized as follows:

22 KEY FINDINGS OF IAASTD

- 1. PRODUCTION INCREASES:** Agricultural Knowledge, Science and Technology (AKST) has contributed to substantial increases in agricultural production over time, contributing to food security.
- 2. UNEVEN BENEFITS:** People have benefited unevenly from these yield increases
- 3. NEGATIVE CONSEQUENCES:** Emphasis on increasing yields and productivity has in some cases had negative consequences on environmental sustainability.
- 4. ENVIRONMENTAL DEGRADATION:** The environmental shortcomings of agricultural practice [is] increasing deforestation and overall degradation.
- 5. INCREASED DEMAND EXPECTED:** Global cereal demand is projected to increase by 75% between 2000 and 2050 and global meat demand is expected to double.
- 6. MULTIFUNCTIONALITY OF AGRICULTURE:** Agriculture operates within complex systems and is multifunctional in its nature.
- 7. STRENGTHEN AGROECOLOGICAL SCIENCES:** An increase and strengthening of AKST towards agroecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity.
- 8. REDIRECT AKST:** Strengthening and redirecting the generation and delivery of AKST will contribute to addressing a range of persistent socioeconomic inequities,
- 9. INVOLVE WOMEN:** Greater and more effective involvement of women and use of their knowledge, skills and experience will advance progress towards sustainability and development goals and a strengthening and redirection of AKST to address gender issues will help achieve this.
- 10. BUILD ON EXISTING KNOWLEDGE:** [using] more innovative and integrated applications of existing knowledge, science and technology (formal, traditional and community-based).
- 11. USE NEW AKST APPROPRIATELY:** Some challenges will be resolved primarily by development and appropriate application of new and emerging AKST.
- 12. RESEARCH FOCUS ON SMALL-SCALE:** Targeting small-scale agricultural systems helps realize *existing* opportunities.
- 13. CREATE OPPORTUNITIES FOR POOR FARMERS:** Significant pro-poor progress requires creating opportunities for innovation and entrepreneurship, which explicitly target resource poor farmers and rural labourers.
- 14. DIFFICULT POLICY CHOICES:** Decisions around small-scale farm sustainability pose difficult policy choices.
- 15. PUBLIC POLICY AND REGULATION CRITICAL:** Public policy, regulatory frameworks and international agreements are critical to implementing more sustainable agricultural practices.
- 16. NEW INSTITUTIONAL ARRANGEMENTS REQUIRED:** Innovative institutional arrangements are essential to the successful design and adoption of ecologically and socially sustainable agricultural systems.
- 17. NEGATIVE IMPACT OF INTERNATIONAL TRADE:** Opening national agricultural markets to international competition can lead to long term negative effects on poverty alleviation, food security and the environment.
- 18. EXPORT AGRICULTURE UNSUSTAINABLE:** Intensive export oriented agriculture has adverse consequences such as exportation of soil nutrients and water, unsustainable soil or water management, or exploitative labour conditions, in some cases.
- 19. CRUCIAL CHOICES:** The choice of relevant approaches to adoption and implementation of agricultural innovation is crucial for achieving development and sustainability goals.
- 20. MORE INVESTMENT IN MULTIFUNCTIONALITY:** More and better-targeted AKST investments, explicitly taking into account the multifunctionality of agriculture.
- 21. CODES OF CONDUCT NEEDED:** Codes of conduct by universities and research institutes can help avoid conflicts of interest and maintain focus when private funding complements public sector funds.
- 22. MULTIDISCIPLINARY APPROACHES REQUIRED:** Diverse voices and perspectives and a multiplicity of scientifically well-founded options, through, for example, the inclusion of social scientists in policy and practice of AKST.

GM Freeze September 2008