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Centre for Agricultural Strategy

The 'greenhouse effect' and UK agriculture

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Edited by R M Bennett

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Opening Address

by the Rt Hon John MacGregor MP,
Minister of Agriculture, Fisheries and Food

I am delighted to open this Conference on the impact of the greenhouse effect on UK agriculture. I am very pleased that my Department has been able to sponsor the event and should like to congratulate Professor Spedding for organising it.

The Conference is well timed. It is a follow-up to the Prime Minister's seminar on global warming. The Conference is also taking place at a time when the international collaborative discussions are getting into top gear.

The Government's view is that the problems associated with global warming must be addressed internationally. We have recently proposed the negotiation of an umbrella convention. Our initiative has received general support, and work on it is now under way internationally.

My Department is very much involved in these discussions. We are a member of the Working Group of the Inter-governmental Panel on Climate Change which is considering, amongst other things, the possible response strategies in the agricultural sector and for coastal defences. I look to your Conference today to inform and assist us in the development of our approach on this complex issue.

At this stage, we can only make a very broad assessment of the possible effects on UK agriculture under various climatic change scenarios. These may or may not prove to be accurate. Current predictions of the rate and magnitude of climatic change are subject to considerable uncertainty. The current consensus opinion is however that, assuming the effective doubling of greenhouse gas concentrations, global warming might average between 1.5 and 4.5°C by the end of the next century. To those who argue today that the problem is already with us, or will be so within a year or two, my response is that, first, the greenhouse effect is a long-term not a sudden

phenomenon and, second, climatic evidence is still inconclusive. The general trend in annual average temperatures is consistent with global warming, but still within the natural range of variation over a period of centuries. Recent events such as mild winters in Britain or the US drought are still more likely to be exceptional events within existing patterns, rather than a new pattern already upon us.

We are therefore concerned to assess the likely impact not in the short-term but in the longer-term, not next year but next century.

The difficulty of making this assessment is compounded by the even greater uncertainty about the prediction of regional climate changes. While some broad generalisations can be made, specific regional forecasts are unlikely to be possible for 15 or 20 years.

A considerable amount of research is being carried out internationally to improve the current assessments, and the Government is making a substantial contribution to this effort. We are spending £15 M this financial year on research which is directly relevant to understanding climate change, including a £1 M programme relevant to the defence of our coastline against sea-level rise. This work is not being carried out in isolation. Much of it will complement work being carried out in other countries.

That brings me directly to the question of coastal defences, which is of course significant for agriculture – the topic of this Conference – as well as for many other aspects of our national life.

Last year my Department spent about £28 M on coastal defence works. I attached particular priority to increasing our expenditure on flood defences in our 3 year Public Expenditure plans for the Ministry, and as a result it has already been agreed that by the year 1991/92 the capital programme of water authority grant-aided work will increase by about 40% compared to that in 1988/89.

During the next century this amount seems certain to increase considerably. For example, up to now, flood defence works have been constructed to allow for a rise in sea level of 30 cm per 100 years. This is double the rate of rise which is estimated to have taken place globally over the early part of this century and therefore at first sight might appear to have some margin of safety. But rises over the next decades could well exceed this rate. Since many defence works can be effective for 50 years or more, this subject is very much in the forefront of our minds at present.

To give us more information, we have already installed a network of tide gauges which actually measure sea levels. Measurements from these tide gauges enable rises in mean sea level to be monitored. This information is not, of course, predictive but it does help to guide other investigation currently underway on the longer-term effects. As our predictions of the degree and rate of future sea level improve – and the way changing weather patterns will interact with this – we will be better placed to respond in the most effective manner.

Turning to the more direct consequences of the greenhouse effect for agriculture, there are several questions which must be addressed, obviously mainly for the longer-term. Agriculture Councils in the Community have a tendency to address only issues requiring urgent or very early resolution, but I am all for considering these longer-term issues now, not least to ensure that anything we do in the Common Agricultural Policy or in domestic agricultural and environmental policies now is compatible with the longer-term scenarios. For example, one of the advantages of set-aside as one part of the policy for dealing with arable surpluses, is that should the worldwide supply and demand situation change for any reason, and there is in consequence a need for us rapidly to increase production, say of cereals in the UK, that adjustment can easily and quickly be made.

I hope this Conference can make a valuable contribution to tackling at least some of these questions.

First, there is the impact of the greenhouse effect on the type of crops and livestock that can be grown and reared in the UK. For example will we be able to grow grain maize or sunflowers in the southern part of the UK? What will happen to rainfall patterns, since this will have a critical effect on livestock production? Could we envisage New Zealand grazing conditions in the UK?

Second, what will happen to yields? Will yield increases be the norm as a result of higher CO₂ concentrations and a warmer climate, or could lower rainfall or other causes actually lead to yield reductions?

Third, what are the possible implications for pest and disease control? A warmer climate, especially in the winter, could lead to more rapid build up of pest populations. Would this make it difficult, for example, to maintain the existing plant health advantages of potato growing in Scotland or will other research developments in the intervening period make this less of a potential problem anyway?

Fourth, the greenhouse effect will also radically affect production patterns throughout the rest of the World. What impact will this have on feeding the needy? What are the implications for world prices and trade and for international trade policies generally? In particular, what will be the implications for agricultural production and policy in the EC?

Last but not least there is the impact on the appearance and environment of our countryside. A warmer climate would offer greater potential for agricultural production in the north and up the hillside. But this could put at risk the important semi-natural habitat found there. What measures will be needed to safeguard this natural heritage? Could we encounter an entirely new range of problems such as erosion and forest fires, which are now commonplace in the Mediterranean area?

None of these questions have easy or clear-cut answers. Not least, much more information is required on the likely extent and pace of climatic change. Many changes will be slow and imperceptible.

But waiting for things to happen will not do. The Government is committed

to tackling the problems of research and policy analysis now. This Conference is a valuable part of this process. I wish you well and look forward to studying your conclusions.