



ALL PARTY PARLIAMENTARY GROUP

Agroecology for Sustainable Food and Farming

BRIEFING PAPER

SOIL AND FARMING METHODS

APPG on Agroecology for Sustainable Food and Farming:
Inquiry into soil health



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The APPG on Agroecology for Sustainable Food and Farming conducted an inquiry into soil health and protection in 2015/16, with a particular focus on agriculture. Evidence was heard across three oral evidence sessions from the following expert witnesses:

Martin Rodgers (*National Farmers Union*)
Peter Melchett (*Soil Association*)
Prof. Andy Whitmore (*Rothamsted Research*)
Lord Deben (*Committee on Climate Change*)
Robert Askew (*land classification specialist*)
Prof. Steve McGrath (*Rothamsted Research*)
Georgina McAllister (*GardenAfrica*)
Vicki Hird (*War on Want*)
Prof. Mark Kibblewhite (*Emeritus professor, Cranfield University*)

Scheduled to appear but unable to on the day, the following also gave input to the inquiry:

Graham Harvey (Agricultural journalist, author of *The Carbon Fields*)
Prof. Tim Wheeler (Department for International Development)

The inquiry panel was drawn from members of the APPG and included the following who put questions to the witnesses:

Scott Mann MP
Simon Hoare MP
Jeremy Lefroy MP
Rebecca Pow MP
Daniel Zeichner MP
Baroness Miller of Chilthorne Domer
Baroness Young of Old Scone
Lord Cameron of Dillington

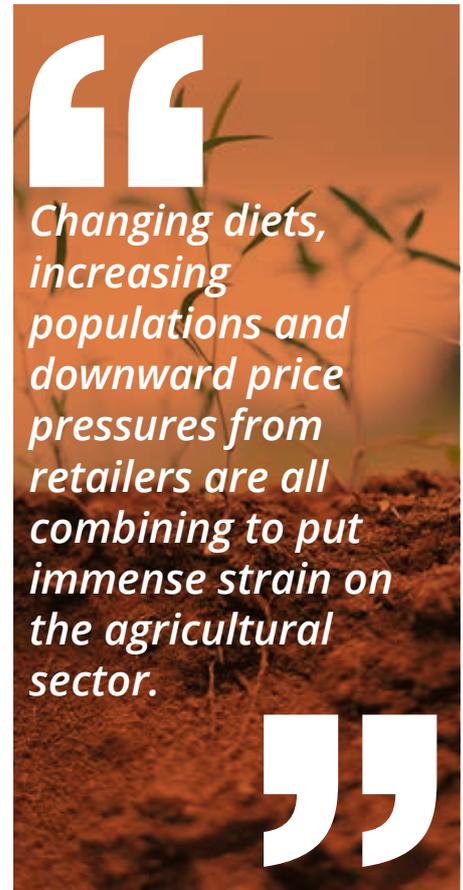
The report below is based on the evidence heard during the inquiry as well as additional information provided to the panel.

WHY SOIL MATTERS TO FARMING

The population of the United Kingdom is projected to rise to some 70 million people by 2030. As the population rises, so too will the pressure on our agricultural system.

It has long been acknowledged that a resilient, reliable and productive food system depends on healthy soils. Indeed, 95% of the food we eat comes from the soil. However, it is widely felt that the political rhetoric and agenda does not adequately reflect this understanding, and that the current policy framework is insufficient to ensure that soil is protected for future generations.

Changing diets, increasing populations and downward price pressures from retailers are all combining to put immense strain on the agricultural sector. This pressure has manifested itself in an increasing need by farm businesses to increase outputs while reducing inputs. This, especially when combined with increasingly shorter tenancies, is fostering a culture of short-termism, itself creating circumstances in which accruing problems with the soil may go unnoticed or unmanaged.



HOW AGRICULTURE DEGRADES SOILS

Soil erosion is an urgent issue, with an estimated 2.2 million tonnes of topsoil lost each year. The APPG inquiry heard from Professor Kibblewhite that this loss equates to £9 million per annum in lost food production, with further research by Cranfield University concluding that the total economic cost of soil degradation – including erosion, loss of organic matter and compaction – is £1.2 billion. Of that figure, 20% is borne by farmers, the rest is externalised in, for example, increased flood risk.

There are a number of land management practices which cause or exacerbate soil degradation¹. One concern expressed by both the Soil Association and Committee on Climate Change is the practice of growing crops for the production of energy (it must also be noted that the benefits of biomass as a carbon neutral energy source are disputed). The key concerns are not only that land used for energy biomass ought to be used for food production, but that the most common energy crop – maize – causes significant damage to soils when inappropriately managed. In the absence of any effective regulation on the growing of maize, and in light of the public subsidies available for renewable energy which incentivises its cultivation, significant concern has been expressed that this is a practice which urgently needs to be reviewed.

The basic concerns associated with maize cultivation – that the current regulatory and advisory model is inadequate to ensure proper soil management and protection – can be extended to many other aspects of farming and land management. Inappropriate irrigation, short rotations, disruption of the nitrogen cycle, poor planning, overuse of heavy machinery, selecting the wrong land for certain crops. All of these practices have been identified by witnesses as contributing to the problem of soil erosion and compaction, and to loss of organic matter.

REGENERATIVE AGRICULTURE: FARMING TO IMPROVE SOIL HEALTH

On the other hand, an array of good practice methods were presented during the inquiry by the National Farmers Union, Soil Association and Committee on Climate Change. These were recognised as essential components of a culture of good soil management. For example, cultivation of leguminous cover crops, carefully managed application of manure, rotations, well managed extensive livestock grazing (as opposed to intensive systems), buffer strips – all are examples of techniques which should be encouraged by government policy.

The inquiry found a very broad consensus among all expert witnesses that the primary issue is not of widespread poor farming practice per se, but rather a lack of political will, regulatory structure and advisory services to encourage soil-positive farming – a combination of which could achieve a great deal in the long-term safeguarding of soil. The failure to agree on the proposed European Soil Framework Directive was a blow to any such strategy, and the current framework – the out-dated soil safeguarding strategy, the good agricultural and environmental conditions (GAECs) set out under cross-compliance, inadequate incentives under Pillar 2 of CAP – does not go far enough.

On the latter point, the National Farmers Union underlined the importance of recognising the granularity of the British farming industry for the future of soil policy. A blanket approach would not necessarily be useful, given the



versatility and diversity of performance of the UK's soils. Rather, a strategy which ties in prescriptions, incentives and a mechanism for knowledge transfer, which can easily be adapted to deal with conditions specific to different soils, would be effective.

POLICY RECOMMENDATIONS

- Increase the incentives for agricultural practices that benefit soil health through the Common Agricultural Policy (CAP), using both incentives and stronger regulation.
- Include support under Pillar 2 of the CAP. A specific example of Pillar 2 support would be for agroforestry, which involves combining crops or livestock with trees. As well as improving farm diversification, this would do a great deal to increase the health and structure of the soil, and the biodiversity of the farm overall.
- Improve cross-compliance regulations so that the minimum requirements for Pillar 1 payments (single farm payment) include greater protections for soil.

¹ Committee on Climate Change in evidence to APPG



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