

Geology in the community: the role of national government

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BALDWIN, H. & DUNNE, P. (2008). Geology in the community: the role of national government. *Proceedings of the Shropshire Geological Society*, **13**, 62–63. Attention is paid to the need for geoscientists to engage with politicians, helping to establish priorities through discussion and informed debate. Examples are drawn from SSSI protection, geohazards and climate change to illustrate how geology fits in with the broader social and political framework of the nation.

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OPPORTUNITIES

Geoscientists need to engage with politicians, helping through discussion and informed debate to establish priorities. But how does geology fit in with the broader social and political framework of the nation?

Changing political boundaries do not necessarily reflect geological facets, but most contain examples demonstrating the impact of geoscience on the landscape, from the legacies in urban areas of former mining (subsidence, collapse, flooding and gas) and industrial development (quarrying, waste disposal and contaminated land) to the development in rural areas of the transport infrastructure and exploitation of mineral deposits. The latter may carry images of huge holes in the ground and fleets of heavy vehicles, but responsible design assisted by sympathetic legislation enables modern local quarrying to evolve almost invisibly, effectively disguised within the landscape by appropriate deployment of spoil and controls on plant and machinery.

MISSED OPPORTUNITIES

However, earlier this year (2007) the Government missed an opportunity to protect the 57 Sites of Special Scientific Interest in the Ludlow constituency; there are a further 55 elsewhere in Shropshire and 232 more across the counties of Herefordshire and Worcestershire.

New rules required under the Environmental Liability Directive (ELD) provide a minimum standard of protection by holding companies liable

for polluting the environment. The ELD covers environmental harm that may arise from certain hazardous activities. These include the use of genetically modified organisms (GMOs), waste disposal and the discharge of pollutants to water. Unfortunately the Government's plans for England currently exclude most wildlife species recognised as requiring protection (375 in total), and the SSSIs, of which there are over 3,000.

The intention of the ELD is to introduce a 'polluter pays' principle. By making businesses financially and legally accountable for any environmental damage they cause, they will be more cautious about what they do. It should prevent environmental harm and, if that does not work, the costs of putting things right should be borne by those causing the damage.

The proposed legislation has two loopholes which could enable companies to avoid financial liability for damaging the environment. The 'permit defence' would allow companies to avoid liability if they had been granted a licence for what turned out to be damaging activity, and the 'state of the art defence' excuses pollution if scientific knowledge at the time did not predict the potential harm. This may lead to inadequate research into side-effects, and allow polluters to continue to pollute. It will be the taxpayer who will have to pick up the bill.

GEOHAZARDS

The first author lives in the Teme valley, so having just been cut off by the re-establishment of the lake studied by Dr Peter Cross (Rosenbaum & Hodgson, *this volume*) it is relatively easy to believe the extraordinary fact that this river has

(geologically) recently reversed its flow direction. The second author lives on the banks of the former Glacial Lake Wigmore, prone to seasonal flooding but enjoying rich agricultural soils, again keeping to the forefront of one's mind the impact of geological history on the landscape.

The second half of June and the middle of July, 2007, saw exceptionally prolonged rainfall across South Shropshire, saturating the drainage system and causing widespread flooding. The floods brought out the best in people: emergency services, utilities, local councils and their contractors reacted with great speed and efficiency to help get people to safety and begin the clean-up; neighbour has supported neighbour.

Many have had their homes flooded - 62 houses in Much Wenlock alone. In some cases repairs will take months to complete. The saddest sight in the constituency was that which faced the couple in Ludlow whose house collapsed into the river Corve.

Is anyone to blame? The Environment Agency has responsibility for flood risk management and the River Severn basin is one of the few areas in the country where it has completed its plan. But it could not cope with the volume of water and had not foreseen all the places where problems would occur.

With climate change likely to increase incidence of extreme weather, the Government does have a responsibility to pay more attention to flood risk management. Last year the Environment Agency spent some £70M less on inland flood defences than the year before.

Record rainfall should add one more item on to Gordon Brown's 'to do' list: the Government should protect the people from climate change.

This means recognising flood plains serve a purpose and stop building on them; stop cutting back DEFRA's budget to pay for its own mistakes in farm payments; and start giving greater priority to managing water resources and flood defences.

A ROLE FOR GOVERNMENT

A broader role for national government concerns its lead on combating climate change. Here there are opportunities for technical innovation, leadership and pump-priming for technological solutions. There are various examples of Government putting their toe in the water and trying to introduce market solutions by means of

pump-priming, but the results have been disappointing.

Science has a big part to play in these matters. British companies are innovative and keen to take advantage of whatever pump-priming the Government is prepared to put in place. They are willing to meet the regulatory burdens placed on them in the search for alternative solutions, and a regime is needed to encourage the practical implementation of ideas arising from the scientists' imagination, an essential aspect of enabling enterprises to get going and a practical part of evolving a business.

It was notable that the day of the Symposium was the date the Conservative Party's Quality of Life Policy Group published its policy report on the environment (2007). At 549 pages, its contents are too large to print here, but it is available on-line (see below). The report is designed to trigger a national debate on policy solutions appropriate for our changing environment. There is need for geoscientific input and engaging with some of the suggestions. Such collaboration can effectively shape the policy debate and influence the manifestos of all political parties.

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