DEALING WITH ISSUES

There is now widespread emphasis on undertaking development in ways that are sustainable: to create policies and actions that will meet economic, social and environmental objectives, at the same time, for the benefit of present and future generations and the well being of the planet as a whole. That will be achieved only if problems and opportunities as assessed thoroughly on the basis of good information on, and understanding of, all aspects of economic, social and environmental issues. It is important to take account of implications for the present and the future since short term gains can store up long term environmental harm, prejudice future economic activity and lead to social deprivation. Because of this, and because information and understanding can be improved as time passes, it is important to undertake relevant surveys, research, monitoring and examination of the implications of current or developing policy options and selection of the most sustainable approaches, and ensuring that any necessary corrective actions are taken in good time through policy reviews.

Sound regulatory systems for spatial and land use planning, control of development, building control, environmental protection, conservation of the natural and cultural heritage, and civil contingency measures play an important part, provided these are properly enforced. But regulation is no complete substitute for convincing politicians, developers and the general public that it is in their own best interest and that of their communities and homelands to carefully look after their environment and to take sensible precautions. Good environmental practices can generate economic opportunities as well as saving money, injuries and lives.

All policies – whether social, economic or environmental – need to be tested together against sustainability objectives rather than being considered separately. Careful evaluation of options is needed because the impacts of one policy on another are not always immediately obvious. This requires examination of potential advantages and impacts in terms of costs and benefits. Some may be assessed in financial terms (e.g. sterilization of resources; likely costs in damage, injuries and lives of hazardous events) while others may need to be compared more subjectively (e.g. landscape quality). These are matters for multidisciplinary consideration so it is beneficial for economists, social scientists and environmental scientists to get used to working together in integrated teams – all have something important to offer – as well as interacting with politicians, developers, the public and the media in constructive discussions.

Education, in its widest sense, has an important part to play. This includes increasing public awareness through schools and public information, taking care to ensure that the wide ranging content is presented in an understandable way and is made clearly relevant to daily life. Only if this is done will public consultation of policies, plans and programmes of action be well-informed and effective. At a more detailed level, dialogue with the public on concerns, issues and development and conservation proposals is important. In higher education there is often a focus on a single subject which is vital in training well-equipped specialists, so that sufficient experienced experts are available. But is also important to create awareness of the inter-relationships of different disciplines and of the need for multidisciplinary collaboration in assessing and solving problems.

Important steps are to:

- plan the use of land so that development takes place in the least damaging and least vulnerable locations and environmental and cultural assets are, as far as possible, preserved;
- manage land and water sensibly so that actions are properly monitored and corrective steps are taken if problems emerge;
- ensure that development decisions are based on sound site investigations, environmental impact assessments or sustainability appraisals;
- ensure that constructions are fit for purpose (e.g. through building regulations);
- avoid, where possible, development in hazardous areas or, where necessary, to carry out precautionary works, but where hazards cannot be avoided or mitigated to devise effective emergency responses, carefully control pollution and prevent contamination;
- assess and, as far as possible, deal with current and past damage through regeneration and reclamation initiatives;
- minimise the extent to which valuable Earth resources are sterilized by development to safeguard these for possible future use;
- preserve, as far as practicable, habitats, biodiversity, geological and cultural assets and make the best use of these.

This set of leaflets is concerned primarily with the geoscience dimension of sustainable development. In this, as well other, subject areas successful actions depend on sound understanding of issues and process. This requires the assembly of existing information, identification of weaknesses, and survey, research and interpretation. It includes consideration of the behaviour, properties and potential of the ground and its materials, of processes that impact upon the Earth's surface and atmosphere, and the implications of these for habitats and people. Acquisition of information is often uneven, depending on events that need to be considered or individual research grants, whereas a systematic understanding is needed to properly consider assemble large and varied sets of data using digital information systems. The information from these can be made fairly readily available and can be easily updated for modest costs. The data that are required include information on:

- resources (e.g. water, soil, energy, landscapes, cultural heritage and human resources and habitats as well as waste that can be recycled); and
- hazards and constraints (e.g. flooding, earthquakes, volcanic activity, tsunami, wildfires, landslides, subsidence, contamination and pollution).

All of these should be considered at the outset, even if some are found not to be relevant in particular places. In the case of hazards, for instance, these may be taken into account where these often occur but may be overlooked, with unfortunate consequences, in places where they occur infrequently. It is important to establish the regional picture if environmental assessments and site investigations are to be properly planned and interpreted and affordable priorities identified.

Sustainable development is for now and the future so it is important to keep in mind that circumstances – economic, social and environmental – will inevitably change. Therefore monitoring and review of policies and procedures is essential. It cannot be a case of doing this once and then letting things run. It is also important to learn from the past – old ways of land management can sometimes the best ways – but to be aware that innovative new approaches may be needed because of environmental, economic or social changes.

Overall, the aim should be to do the best that we can now coupled with continuing investigation, monitoring, and creative thinking to improve performance and take account of future changes.

These leaflets have been prepared by Dr B R Marker OBE (UK) in collaboration with Professor Dr J J Pereira (Malaysia) and Professor I A Nyambe (Zambia)

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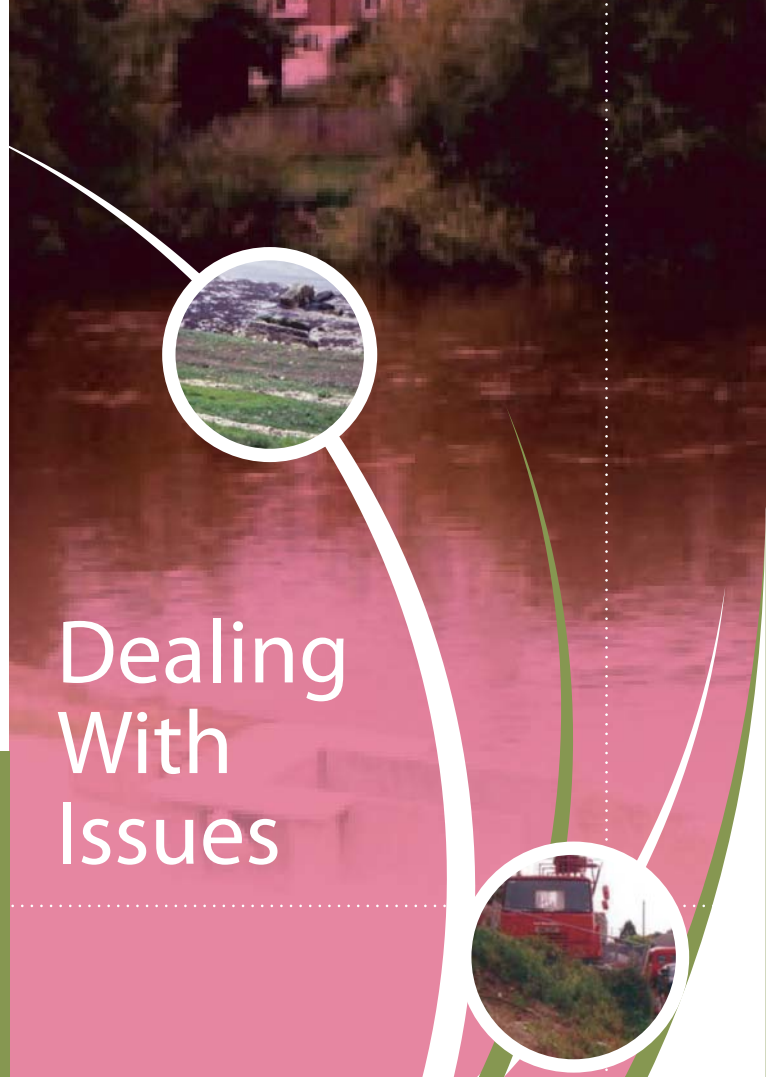

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