

IMAGE: New housing in Selby, Yorkshire, flooded in November 2000 (Photo courtesy of the Environment Agency)



# Delivering a better environment

## UNDERSTANDING ENVIRONMENTAL INEQUALITIES

A RECENT STUDY COMMISSIONED BY THE ENVIRONMENT AGENCY HAS REVEALED THAT PEOPLE LIVING IN THE MOST DEPRIVED AREAS OF ENGLAND ARE MORE LIKELY TO SUFFER THE EFFECTS OF POLLUTION. HERE, PROFESSOR GORDON WALKER, STAFFORDSHIRE UNIVERSITY, AND HELEN CHALMERS, ENVIRONMENT AGENCY, DISCUSS WHY SOCIAL INJUSTICE HAS TO BE TACKLED THROUGH ENVIRONMENTAL AS WELL AS ECONOMIC POLICIES.

Environmental policy has not traditionally been concerned with questions of deprivation and social exclusion. However, just as housing, health and education have important social-justice dimensions, environment management should also be concerned with questions of social distribution and equity. In the United States the concept of environmental justice has been a topic of debate for more than 15 years amongst communities, researchers and in government policy. In the UK only over the past few years have environmental groups started to incorporate environmental justice into their work, and various parts of government begun to consider how the social dimensions of environmental policy might be addressed.

### WHO GETS THE RISKS?

A critical environmental justice issue raised by environmental campaign groups, such as Friends of the Earth, is how environmental risks are distributed between different social groups. This theme is now starting to be reflected in statements from Government, which, with its current emphasis on equality and fairness, is now turning its attention to the environment. Last year, Tony Blair stated that "the environment, not just globally, but locally, in our towns and cities, is overwhelmingly an issue of concern for the poorest citizens in our communities... [who] live in the worst housing, and are the most affected by traffic pollution, live closest to landfill sites and have the worst graffiti and litter problems." Are environmental risks biased towards particular types of people or communities, defined by levels of deprivation, age, gender or ethnicity? And, if there is such a bias, is this acceptable, and how can these inequalities be addressed by policy?

### THE EVIDENCE GAP

Evidence is clearly needed to answer such questions but, to date, very little research on environmental justice has been undertaken in the UK. In order to begin to address the substantial gaps in the evidence base, the Environment Agency brought together researchers, practitioners and policy-makers to examine the issue of environmental equality and commissioned researchers at Staffordshire and Leeds Universities to examine the relationship between environmental quality and social deprivation. The research was designed to inform the Environment Agency's approach to addressing environmental inequalities and the wider debate on environmental justice, regeneration and sustainable development.

### ANALYSING THE EVIDENCE

Using the Government's Index of Multiple Deprivation at census-ward level, the research set out to examine how deprivation might relate to three types of environmental

threat – air quality, industrial sites managed within the Integrated Pollution Control regime, and flooding. The analysis was undertaken separately for England and Wales and used a standard approach of dividing the census wards into ten groups ranked from the most to the least deprived. Some of the key results are summarised below.

### WHO LIVES WITH POOR AIR QUALITY?

In England, the most deprived wards experience the highest concentrations of fine particulates (PM<sub>10</sub>), sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and benzene. People in deprived wards are exposed to 41 per cent higher concentrations of nitrogen dioxide (NO<sub>2</sub>) than those people living in wards of average deprivation. There are also clusters of wards that have poor aggregate air quality and high deprivation in London, Manchester, Sheffield, Nottingham and Liverpool. For Wales, both the most and least deprived wards experience above-average pollutant concentrations, although concentrations are highest in the least deprived wards. Here, the distribution is, overall more equitable than for England and air quality is generally better.

### WHO LIVES NEAR TO IPC SITES?

In England, there are five times as many IPC sites and seven times as many emission sources located in the most deprived wards when compared to the least deprived. In deprived areas, IPC sites are shown to:

be more clustered together; on average produce greater numbers of emissions;

present a greater pollution hazard;

produce more 'offensive' pollutants; and produce higher emissions of PM<sub>10</sub> and carcinogens.

All of the key industrial sectors in the IPC regime show a bias towards the more deprived deciles, with the differential in the waste sector particularly extreme. For Wales, the analysis is less clear cut and, in contrast to England, there is some evidence of bias towards more affluent areas. But while point-source emissions are tightly regulated and have reduced substantially in recent years, road traffic continues to increase and be the main cause of chronic hot spots of PM<sub>10</sub> and NO<sub>2</sub> in urban and largely deprived areas.

### WHO LIVES ON TIDAL AND FLUVIAL FLOODPLAINS?

Tidal floodplain populations in England are strongly biased towards deprived communities. There are eight times more people in the most deprived 10 per cent of the population living in tidal floodplains, than the least deprived

10 per cent. In contrast, for the fluvial floodplain there is an inverse relationship with deprivation, with a higher proportion of the floodplain population in the more affluent compared to the more deprived wards. For Wales, the pattern of social distribution is less distinct but shows some similarities to England.

### THE EVIDENCE GAP IS PARTIALLY FILLED

The research shows, for three environmental issues, that a greater burden of potential environmental impact is borne by deprived populations than by the more affluent, particularly in England. The fact that different and weaker patterns were found in Wales can, in part, be explained by the different factors influencing where deprived communities are found. Whilst by far the most substantial study undertaken to-date, this research is only a starting point in the development of understanding of environmental inequalities. Working at a national level, this analysis may hide regional variations and is limited by the available data. For example, the indicative floodplain maps used currently take no account of the level of protection provided by flood defences, while the IPC analysis shows only evidence of inequalities in relation to proximity to IPC sites. What we don't yet know is the relative exposure to hazard or level of risk and what this means for people's health in deprived areas. There is also a need to examine the effects of cumulative environmental and social impacts on vulnerable communities and look at other environmental issues such as waste.

### FROM EVIDENCE TO POLICY

Though the picture is far from clear, the research does show that some environmental threats can be unequally distributed. There may be many different reasons for these relationships, including the historical pattern of development in urban areas, past planning policies and siting decisions, and possibly, the strength of opposition put up by more middle-class communities to new developments. These factors need to be better understood if effective policy responses are to be developed to tackle these inequalities.

Environmental inequality is clearly one issue where joined-up policy and action is needed – not just across government, but from all sectors of society. The inclusion of environmental and social justice in the forthcoming review of the UK Sustainable Development Strategy will help progress this and engage a wide range of people in this debate.

One early win is to ensure that regeneration and other programmes which tackle deprivation and inequality include measures to protect and improve the environment. This will be critical in revitalising deprived areas and delivering sustainable communities. □