

Editors' introduction

This collection of essays on the theme of developing pressure indicators for Europe has been compiled as part of the Pressure Indicators Project (PIP), undertaken by Eurostat, the Statistical Office of the European Communities. The PIP aims to produce a set of indicators describing pressures resulting from human activities, which are intended to communicate environmental information to decision-makers and a wider public without losing the scientific soundness of the original indicators. Thus each indicator should describe the pressure in a comprehensive and analytically sound way, while at the same time being easy to interpret and capable of revealing trends on an appropriate time-scale.

The PIP project is divided into ten 'policy fields' (based on the seven themes of the Fifth Environmental Action Programme¹) chosen to reflect the decision-making structure of the central institutions within the European Union, such as national and regional governments and the European Commission, which will be the focus for policy changes to improve environmental sustainability. These policy fields are: Air Pollution, Climate Change, Loss of Biodiversity, Marine Environment and Coastal Zones, Ozone Layer Depletion, Resource Depletion, Dispersion of Toxic Substances, Urban Environmental Problems, Waste and Water Pollution and Water Resources.

Ten specialized institutes (SIs) corresponding to each of the ten policy fields were selected to coordinate much of the project's work. A list of the SIs is given in Annex II. The SIs established Scientific Advisory Groups (SAGs), selected from senior natural scientists and experts in the ten policy fields from across the EU, in order to help with the process of developing pressure indicators, mainly by responding to questionnaires. The first-round questionnaire asked SAGs for proposals for environmental pressure indicators in their respective policy fields. This was conducted in December 1995 and received a total of 2744 suggested indicators. These were used as the basis for a preliminary list of indicators for each policy field. In the second-round questionnaire, conducted in October 1996, the SAGs were requested to rank the indicators on the preliminary list for their policy field in terms of policy relevance (the importance of the indicator for policy-makers), analytical soundness (the correlation between changes in the indicator and changes in environmental pressure), and responsiveness (the response of the indicator to

policy actions, in other words: the ease or difficulty in taking action substantially to reduce the pressure indicator). They were also asked to opt for a short-list of five essential indicators (a core set) based on the above criteria. This has resulted in the production of a set of 100 'core indicators' for which a full set of methodology sheets will be made available on the main project Web site.² The ongoing stage of the project involves data collection, methodological development and calculation of the first 60 core indicators using data from across the EU Member States (see Foreword).

As part of the PIP a number of experts from across the spectrum of policy fields and from across the EU (and in a few cases beyond) were asked to write a short essay to reflect upon and aid the process of selecting an imaginative list of pressure indicators from the perspective of their policy field. These essays are collected together here with one part of the volume dedicated to each of the policy fields. The handbook is intended for decision-makers who are not environmental experts, but will also be of interest to the wider public.

It was initially suggested that authors could structure their essays to cover the following questions:

- What are the main problems within the policy field?
- Why is central political intervention necessary?
- What physical actions are needed to reduce the problem pressures?
- What are the expected benefits of communicating trends in problem pressures to policy-makers and the wider public via a pressure index for each policy field?³

A wide range of approaches, both within and between policy fields, has been taken by the various authors. Many chose to stay strictly within the boundaries of the guideline questions set out above. Some have addressed broader questions of the development of pressure indices, for example, Huisinigh (Chapter 29), while others have outlined areas of specialist research in environmental pressures, for example, Fiedler and Hutzinger (Chapter 25). Some of the essays that differed from the suggested format are included in this published collection to illustrate the diversity of perspectives held by the experts and in the interests of variety within the collection. It should be noted that the original essays were drafted in the period 1996–98. Where possible updates have been made to take account of developments although not all more recent developments are included.

Following the production of the second-round questionnaire results some authors chose to comment on these in comparison with their own views on indicator rankings. The introduction to each part of the book gives a summary of the questionnaire results in graphical form. Full details of the results can be found in the volume *Towards Environmental Pressure Indicators for*

the EU – Indicator Definition (see Foreword). The highest core-ranked indicators for each policy field are given in Annex I of the present publication.

The introductions to each part also include a discussion of the links with other policy fields and delimitation between policy fields, an evaluation of the essays and an outline of the international policy framework for the policy field. Where indicated, these have been written by the SIs for their policy fields, otherwise they have been written by us.

It is hoped that this publication will give a valuable insight into the process of developing pressure indicators undertaken by the PIP. The essays bring out a number of questions regarding the use of this approach. What should be the rationale for defining a clearly delineated set of policy fields? How can we accommodate into this framework both environmental media-based definitions (such as air and water pollution) and issues-based definitions (such as climate change), and what are the linkages and overlaps between these different types of policy field? How do we arrive at a comprehensive, analytically sound and widely accepted set of indicators for each policy field? How should we take account of the complex interconnections between environmental pressures, for example, when a reduction in one pressure indicator is linked to an increase in another pressure indicator, perhaps in another policy field? By what process should we make changes in the ranking of indicators over time (or introduce new indicators) in order to take account of a changing world?

It is also hoped that this volume will be a useful resource for all those with an interest in the broad range of environmental issues of current relevance to Europe. It presents concise explanations and background information on the present understanding of the main environmental pressures, as well as discussion on the practical actions necessary to reduce these pressures.

Metroeconomica have been involved with the Pressure Indicators Project since its inception, providing methodological support in the development of the pressure indices through use of expert questionnaires. We would like to thank all the essayists, and our colleagues from the specialized institutes (listed in Annex II) and Eurostat, in particular Catherine Kesy, for their various valuable contributions to this publication.

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NOTES

1. 5EAP; see Project terminology in Annex IV.
2. <http://e-m-a-i-l.nu/tepi/>
3. Possible future work foreseen for the project is the production of a set of ten indices, one for each policy field, which condense the indicators for each policy field into a highly aggregated format.