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RESEARCH INTO ENVIRONMENTAL ATTITUDES AND PERCEPTIONS (REAP)

SUMMARY FINAL REPORT

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I OBJECTIVES

This project had the objectives to :

- contribute to clarify the perception of the manifold social and technological processes governing global environmental issues, so as to understand the interrelationships between humankind and nature in terms of awareness, behaviour and consequences.
- carry out an in-depth exploration of the mechanisms working for and against environmentally sensitive behaviour.

An essential step in achieving these objectives was the acquisition of the pertinent data on the social, cultural and economic structures underlying fundamental attitudes towards and the perception of the environment. The project has collected and analysed such information.

The investigation comprised on the one hand a careful exploration of those structures underlying environmental values, attitudes and behaviour in our societies, and, on the other, provided a portable measurement instrument in the form of a standardised quantitative questionnaire for environmental issues which could be applied in other studies within the EU and other countries directly or could easily adapted to other national specific structures.

II METHODOLOGY

The Instrument: the REAP Bolt-on Module on Environmental Values, Attitudes and Perceptions, Behaviour and Policy Preferences

The REAP Bolt-on-Module consists of 126 items including 78 items of the 1993 Module on Environmental Issues of the International Social Survey Programme (ISSP). Because of the overlap of the majority of items, data accrued in REAP can be linked to a larger part of the ISSP 1993 module comprising basic value orientations and attitudes which were fielded in 1993 in 21 countries throughout the world by the International Social Survey Programme (ISSP).

The items specific to the project expanded the structural, behavioural and policy dimensions of the ISSP module. The combination of value orientations, attitudes, policy preferences, societal structures and behaviour allowed comprehensive and complex analyses within and across the five countries in the REAP project.

Development of the REAP Bolt-on Module

The REAP special items were designed in late 1993 by a group of four specialists. After several rounds of discussion and re-designing between the specialists and the principal investigators, the pre-test version was ready by February 1993 and tested together with the ISSP set of items.
The REAP questionnaire and the ISSP 1993 Environment Questionnaire formed a single unit designed to meet stipulations by the ISSP, i.e., it is suited to be a self-administrable or to be a interviewer-assisted questionnaire. The questionnaire was fully quantitative and did not contain open-ended questions. The items were constructed in keeping with the established rules for general population surveys, thus, for example, the language used takes into consideration problems of understanding in different social strata.

Special emphasis was laid on the intercultural and international adaptations of the items. A set of notes to assist translators accompanied the master questionnaire which was in British English. The five REAP questionnaires were conducted in 4 languages, Dutch, English, German and Italian. A number of procedures which have proven useful in ISSP surveys were employed in the translation of the REAP text. The translations were made by competent people involved in the project and thus familiar both with the goals and requirements of such translations.

Sampling

The REAP study was based on national random samples of approximately 1000 respondents in each country. In Germany two separate samples were needed to cover the differences between former East and West Germany. Thus six different samples were drawn (Table 1).

The six national sampling designs were standard for stratified random for large-scale representative social surveys. Stratified random sampling of either households and respondents within households or directly of respondents are considered optimal designs today.
Knowing the probabilities of respondents to be part of a given sample is the most important prerequisite for international comparison. Such probabilities can be estimated for all true random samples, but not for quota or mixed-design samples. From this it follows that the data obtained in national random samples can be compared across nations and between different surveys, between, for instance, the British Social Attitudes Survey, the German ALLBUS and the EUROBAROMETER survey. However, this holds if and only if, the substantive indicators (items and item batteries) used are also interculturally comparable.

Resulting sample sizes of the six COMPASS - REAP samples

Country /Region	**Number of Cases**	
Germany	2106	(former West 1014, Former East 1092)
Germany East	1092	
Great Britain	1261	
Ireland	957	
Italy	1000	
Netherlands	1852	

Fieldwork
The questionnaire was fielded in all five countries in conjunction with the respective national ISSP study. It was finished in all countries except The Netherlands by October 1993.

Data sets
The six national/regional data sets were merged into a combined data set analogous to previously merged ISSP data sets. The standard format was an SPSS PC system file, allowing both easy access to the data and simple importation into other statistic packages like SAS or NSDstat+.

Analysis
The data were analysed on several levels. Special emphasis was placed on the construction of complex indices or scales which allow easy comparison of multitude of single items or statements. The techniques used were comparisons by cross-tabulations and the construction of specific scales and models which permited comparison of the relative influence of specific scales on attitudes and behaviour of the respondents.

Evaluation
The first analysis showed the general adequacy of the REAP Bolt-on Module for the assessment of respondents' attitudes, perception and policy preferences in the area of environmental issues. As a general instrument, it reflected on the one hand the diversity and variety of regions in Europe, whether this be climate, culture or politics and, on the other, the European tradition shared by all Member States of the EU. Thus while numerous attitudinal items reflect important common issues, the number of items referring to common institutional, juridical and cultural facts and structures was rather limited. Further research is needed here to investigate the possibility of constructing more complex equivalent measurements of the different regional structures and opportunities.

III. MAIN RESULTS

The character of European environmental concern changed in the 1970s and 1980s. Once largely the preserve of 'middle class radicals', environmental awareness and concern are now much more wide-spread and less clearly tied to support for specific parties or even to particular policies. This lack of focus and consensus is partly due to a growing recognition of just how complex, inter-connected and truly global environmental problems are. But it also arises partly from the rapid diffusion of public concern from the *cognoscenti* to a wide public.

There have been a number of major studies which tap growing public concern about the environment in many countries. But questions can be raised about whether it is the nature of public opinion, or some social science reporting of it, that have led some authors to dub environmentalism a new 'secular religion'.

The data drawn upon for this report confirm other social science reports of a growth in public interest in, and awareness of, environmental issues. But they nonetheless cast doubt on the likely short-term political repercussions of this growth in interest. In particular, the data from this research project suggested that much public concern about the environment is currently superficial. The multiple measures of "environmentalism" enabled the team to take a sceptical look at the possible meaning and implications of the greening of Europe.

In addition to these now standard analyses of environmental concern, REAP explored cross-national data on environmental knowledge, values, attitudes and especially, reported behaviour. In particular evidence was brought forward as to whether stable and consistent attitudes towards the environment exist, and if so how consistency varies between different countries.

The relationship between environmental attitudes and those towards science and economic growth were analysed. The roles 'romantic imagery' and some kind of 'rational understanding' play in promoting both environmental concern and environmentally-sensitive behaviour was examined.
Special emphasis was placed on the analysis and comparison of reported behaviour. However, as stated above, identifying equivalent everyday situation involving environmentally relevant individual behaviour over five countries proved to be a quite challenging task.

Attitudes
There are, for instance, clear romantic, quasi-religious overtones to some aspects of public attitudes towards the environment. That is, some people's concern seems to stem primarily from a gloomy assessment of the role of science and human intervention in a romantically-conceived state of pure and uncorrupted nature. Those who espouse this sort of romantic environmentalism are particularly unlikely to have a very clear sense of which policies or actions might best address their concerns.
Yet it would be simplistic to describe some environmental beliefs and actions as 'irrational' and others as inherently 'rational'. Here, the project tried to disentangle the relative roles of romantic world-views (in particular, scepticism about scientific and economic progress), rational perceptions (in particular, scientific knowledge) and institutional contexts in influencing environmental values, behaviour and policy preferences.

The link between beliefs and policy preferences is important not just to social scientists. After all, the reluctance of most governments to adopt coherent environmental pricing and taxing strategies suggests that governing elites are sceptical about the extent to which widespread public expressions of concern about the environment necessarily lead to public support for even lukewarm environmental policies. This scepticism may be well founded. To the extent the policy makers have actually tried to create a climate favourable to tougher environmental policies, they have tended to do so through public information campaigns which show the scientific complexity of the issues and their likely outcomes. The data from the project suggested that this instrumental model of behavioural change is inadequate, reflecting an equally 'romantic' notion that knowledge, rather than affective social motivation, leads to changes in attitudes and behaviour.

Policy Preferences
One major substantive aim of the research was to measure the respondents' policy preferences concerning environmental issues. Policy preferences were measured on three levels: the balance of power between countries' parliaments and the European Union concerning environmental laws, willingness to pay more for environmental protection, and preferences about different measures to be taken in general as well as in specific areas such as driving cars or household waste.

Balance of power between countries parliaments and the European Union: final say on environmental laws
The balance of power shows a majority in favour of the EU having the last say in environmental matters in Italy and the Netherlands. Respondents in the other four countries/regions prefer the national parliament to have the last say in such matters (Table 2).

Table 2 Final say on environmental laws

Country	European Union	Own Country's Parliament	Can't decide	Number of Cases
Germany (Former) East	33	45	22	1085
Germany (former)West	22	56	22	1013
Great Britain	19	65	17	1251
Ireland	24	72	3	957
Italy	52	41	8	1000
Netherlands	55	33	12	1829

This result indicated the scepticism in many countries about the role of the EU in the process of law-making among Europeans. and has also been documented repeatedly by Karl Heinz Reif in the EUROBAROMETER Reports.

Evaluation of countries' relative efforts to protect the environment

The Italian and Dutch respondents' stronger support for the EU on this issue cannot be properly explained simply by evaluating Dutch and Italian efforts to protect the environment. While the Italians rate their country as doing less than other countries to protect the environment, the Dutch rate their country as doing much more than other countries. One should note the special character of this particular evaluation, which was a subjective internal evaluation (i.e. national) (Table 3)

Table 3 Order of countries in respect to respondents' evaluation of countries own efforts to protect the environment (evaluation within countries)

Country	more	same	less
Germany (former)West	76.3	13.8	1.6
Netherlands	65.2	17.7	1.8
Germany (former)East	29.3	22.4	5.6
Great Britain	12.9	27.4	30.9
Ireland	12.8	38.7	41.7
Italy	4.5	22.3	63
Regrouping of categories used in the questionnaire: much more & a bit more = more - a bit less & much less = less			

Measuring the extent to which the subjective evaluation from within a country, of the country's own efforts to protect the environment would itself require a further research project. The rank order of countries according to the subjective self-evaluation of respondents' country in Table 3 reflects other indicators measured in the REAP bolt-on module such as, for instance, whether various rubbish and waste collections are made directly at the respondent's doorstep (Table 4) .

Table 4 Rubbish/waste collection at respondent's doorstep

Country	yes response(%)
Germany (former)East	71
Germany (former)West	73
Netherlands	55
Ireland	50
Great Britain	23
Italy	26

This simple measure points to a need to provide more opportunities for individuals in some countries. Other possible indicators are the huge differences between countries, regions, urban and rural areas in water sewage,

water metering heating technology, insulation regulations, public transport and so on. All policy measures tending to be effective on the individual behavioural level have to take into account these differences. Otherwise even people in favour of such measure will be either actually unable to act properly or, if the individual costs of appropriate behaviour are too high, will tend to avoid or even deliberately ignore the measures.

Policy Preferences: Measures to be Taken by Governments

Respondents were asked how much they favour three different kinds of governmental measures to be taken to protect the environment: media campaigns increasing taxes and regulations. They were asked to express their general evaluation of these measures at the end of the questionnaire, after having already, made a number of policy evaluations concerning specific environmental relevant areas.

The second action to be evaluated was one of tax increases - such measures were supported by slight majorities in The Netherlands and Great Britain. In all other countries the response, was either neutral or against this kind of governmental action.

Surprisingly, perhaps in view of their distaste for rationing or other direct regulation of behaviour, respondents expressed more support for strict environmental laws than for either public campaigns or tax increases. It may be that regulation seems to be a cheaper alternative, or simply a vaguer one, or perhaps respondents are expressing a preference for direct intervention to structure market choices so that both they and business are forced to 'do the right thing'. Whichever reason applies, it seems to be another form of romanticisation that leads people to support tax increases for the sake of the environment much more in theory than in practice.

The differences between general acceptance of measures and specific measures say, tax increases on petrol, show that governments would a) be limited in their actions in specific areas, if they seek support by the general public and b) the degree of this limitation would differ from country to country. In some rare cases, (e.g., incentives) even the direction of the evaluation changes from positive to negative.

Three Attitudinal Scales Concerning Environmental Policies

It is instructive to examine in a comprehensive fashion the relatively small number of respondents who not only favour policies to protect the environment, but also express a willingness to make personal sacrifices in support of their beliefs. To do so, three scales of attitudes towards environmental policies were constructed. The first was a scale of aggregating responses concerning the general willingness to make material sacrifices for the sake of the environment; it was made up of the items about "willingness to pay higher prices", to "accept higher taxes", and "cuts in standard of living for the sake of the environment". The second was the aggregation of responses concerning support for policies meant to stop further harm to the environment in general; it was made up of the items measuring "support for public campaigns", "stricter environmental laws", and "higher taxes for the sake of the environment". The third scale was the aggregation of items concerning support for specific policy measures directed at particular activities; it was made up of the two items measuring support for "higher taxes on energy", and on "petrol".).

By examining the extent to which each of these three scales correlates with other factors, such as scientific knowledge or green values, one might begin to derive clues as to the factors that give rise to support for green policies in both concrete and abstract terms.

Respondents agreed more with items referring to general policies, followed by the sacrifice scale, and they disagree mostly with the two-item scale on specific taxes. The 'credibility gap' was widest in the case of Italy, but was present to some extent in all countries, with The Netherlands and West Germany showing the smallest gaps.

Neither support for a romantic view of nature (see below) nor environmental pessimism (a prominent characteristic of those who take a romantic view), translate itself into support for green policies or a willingness to make sacrifices for the sake of the environment. Romanticism about nature is clearly a shaky foundation upon which to build support for environmental politics.

In contrast, those with a high level of scientific knowledge and those who reject a pro-materialist position are more likely to express a willingness to make sacrifices for the sake of the environment and to support policies that will prevent harm to the environment, both in general and specific terms (though less so for specific tax rises). Thus, even rationality proves to be a somewhat insecure foundation for environmental politics.

Exploring Green Value Orientations

A number of items in the questionnaire were designed to measure underlying views about the role of science and faith in modern ways of living, the respondents' views on the effects of human intervention on the environment, and their evaluation of the relationship between economic growth and environmental protection. These items

were asked as a series of statements (item batteries), and respondents were asked to what extent they agreed or disagreed with each.
Two scales were constructed to measure value perspectives on the environment, a "non-romantic" one and an "anti-materialistic" one.

Table 5 Mean scale scores

	(Former) West Germany	(Former) East Germany	Italy	Ireland	Great Britain	Netherlands
"Non-romantic" scale	2.8	3.2	2.5	2.8	3.0	3.3
"Anti-materialist" scale	3.5	3.3	3.2	3.0	3.3	3.5

Table 5 shows that the citizens of The Netherlands are both non-romantic and materialist, while West Germans are romantic and materialist. West Germans and Italians are the most romantic nations, while the overall distribution (as opposed to the mean) of the Irish respondents shows they are in many ways similar to the British and East Germans. The overall distribution of The Netherlands is rather more clustered around a non-romantic and materialist perspective.
This result throws serious doubt on whether it makes sense to speak of the public's "green" values as anything approaching a coherent ideological perspective.

Scientific knowledge and environmental pessimism
Further goals in the analysis were to establish the extent to which rationality, is a source of respondents' concern about environmental issues and to examine the extent to which support for environmentalism is based on scientific knowledge.
One of the innovations of the ISSP environmental module was a battery of items designed to tap knowledge of current scientific wisdom on various topics
The first thing to note about the quiz was the relatively high proportion of respondents who picked 'can't choose' as an answer, even though the question allowed guessing: "just tick the box that comes closest to your opinion of how true it is."
To get around problems involving guessing at least partly, the responses were scaled, combining respondents' answers to ten of the twelve knowledge questions. The scaling weighted correct answers higher than incorrect ones. Looked at from this rather more rigorous perspective, the picture is much less rosy. Although only about one per cent of the various national publics are completely devoid of scientific knowledge (at least as measured by the scale), so too are only about one per cent absolutely knowledgeable. And the average' scientific knowledge scale score varied widely between different countries, as table 5 shows.

Table 6 Mean scientific knowledge scale scores

	(Former)West Germany	(Former)East Germany	Italy	Ireland	Great Britain	Netherlands
"Scientific knowledge" scale -Can't choose scored as -2	.04	.15	-.04	-.00	.40	.20
(Reliability of scale)	(.67)	(.68)	(.54)	(.52)	(.74)	(.70)
"scientific knowledge" scale Can't choose excluded	.33	.43	.10	.15	.63	.52
(reliability of scale)	(.58)	(.63)	(.48)	(.40)	(.66)	(.60)

Environmental Pessimism

The battery of knowledge items also served a quite separate purpose. It allowed us to identify another important phenomenon, that of environmental pessimism. Six items in the quiz were treated as measures of pessimism about the relationship between human beings and the environment. Admittedly, respondents were more likely to agree with pessimistic statements which are true than with those which are false. Nonetheless, the scale formed from these items was nearly as reliable as the scale measuring scientific knowledge overall.(Table 7)

Table 7 Mean environmental pessimism scale scores

	(former) West Germany	(former) East Germany	Italy	Ireland	Great Britain	Netherlands
"Environmental pessimism" scale	.41	.29	.82	.55	.03	.11
(reliability of scale)	(.61)	(.62)	(.70)	(.64)	(.63)	(.64)

This provided us with one explanation of why the scientific knowledge scored might have been so low in Italy and Ireland, and to a lesser extent in Germany and why the reliability of the scales was lower when those who answered 'don't know' were excluded. Many respondents may not be treating the scientific knowledge as a knowledge scale at all, but instead answering according to their underlying pessimism about environmental issues.

IV SCIENTIFIC INTEREST AND POLICY RELEVANCE

i. Scientific interest and novelty

For the first time, measurement instruments of value orientations, attitudes knowledge, concern and behaviour were applied on a comparative, international and nation-wide level.
The instrument, the REAP Bolt-On Module, proved to be valuable and could readily be incorporated into other surveys within the six regions observed. Applying the instrument into regions beyond the six of the present research will require adaptations to the behaviour and the objective structures parts, in view of the already mentioned substantive differences between nations and regions of the EU.
The quality of the translations produced was, in part thanks to experience in gained in translating ISSP questionnaires, and in part thanks to the discussion possible before the master questionnaire was finalised. Nevertheless, further improvements could be achieved if tried and tested general translation and adaptation guidelines were available.
The new comprehensive approach to analysis by scaling item batteries proved to be very useful for comparative analysis. This kind of analysis provides easy access to similarities and differences over a wide range of topics and dimensions. Substantively, new insights were gained into the interconnections between knowledge, value orientations and attitudes. In particular, the observation of what seemed to be an assessment of knowledge may in fact measure environmental pessimism raised questions about former mono-country and mono-causal theories about environmentalism.

ii Policy Relevance

Policy and Regional Differences: The differences in structural opportunities concerning environmental individual behaviour were substantive across the six regions observed. Apart from economic and cultural structures providing positive or negative bases for specific policy, measures, these objective differences pose a major obstacle to European Union wide policy measures.

Policy Measures : Both standard policies and public relation campaigns, received less support from respondents than might have been expected. The reasons may be manifold. But the much higher support recorded for measures known to be effective is of interest for policy makers, since it suggests that respondents (the general public) monitor the effectiveness of policy measures just as much as governmental bodies do. In other words: in the five countries researched, the majority of people are educated intelligent and informed enough to discuss and evaluate measures such a regulations and taxing policies rationally. The measures respondents considered effective for their given geographical, economic and cultural structures may consequently gain wide public support - although the REAP findings suggest lower support for regulations at EU level in some Member States.