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ZUMA-Arbeitsbericht 96/09

**Research into Environmental Attitudes and
Perceptions (REAP) 1993/1994
ZUMA Report
on the German Implementation of the Survey**

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0 Introduction

The environmental survey module REAP (Research into Environmental Attitudes and Perceptions in five EC Countries) was partially funded by the European Commission within the Third Framework Programme. The survey was carried out by COMPASS, a consortium of five European social research institutes, comprised of: EURISKO, Milan, Italy; IVA, Tilburg, the Netherlands; SCPR, London, Great Britain; SSRC, Dublin, Ireland; and ZUMA, Mannheim, Germany (for addresses, see section 8). The Third Framework research and development programme on the environment sought to expand and strengthen research which would help target EU environmental policies. Specifically, the research programme sought to clarify the social processes underpinning perceptions of the human and technological factors which affect global environmental issues.

The European Union funded COMPASS to design, carry out and analyse a survey on attitudes towards and behaviours relevant to the environment. The work programme "Research into Environmental Attitudes and Perceptions in five EC Countries - REAP" was linked to the 1993 module of the International Social Survey Programme (ISSP) on environmental issues. The ISSP module was fielded in 20 countries around the world (see the ZUMA-Arbeitsbericht, 1996/03). The REAP module was fielded by COMPASS members in Ireland, Northern Ireland, Italy, Germany, Great Britain and the Netherlands.

The data collected through the ISSP focus on value orientations, attitudes, beliefs and knowledge concerning environmental issues. Data collected through the REAP programme added behavioural and policy dimensions of special interest to advanced industrial countries. The behavioural dimension focused on individuals' or private households' activities relevant to environmental matters: energy use in the home, automobile use, household waste management and environmental labelling. Within each topic, dimensions covered included behavioural measures, assessments of risk, and attitudes towards possible national and EU policy measures.

One of the main objectives in the REAP programme was the creation of a scientifically sound data base for cross-national comparisons. This meant that special attention was paid to sampling, development and equivalent implementation of the questionnaire across languages and cultures, as well as high interviewing standards. In each country, a stratified probability

sample was interviewed; in Germany, two samples of respondents were used in order to represent the differences between the federal states in Eastern and Western Germany. The United Kingdom also had two samples, one for Great Britain, one for Northern Ireland.

Both the ISSP and the REAP module were designed for repetition in the future, so that trends over time can be charted, adding a longitudinal dimension to the research programme.

While most of the items or scales used in the ISSP and REAP modules took advantage of research conducted in the last ten years in different countries, it is the development of *standardised equivalent measures* which makes REAP unique. In addition, REAP brings together questions on attitudes, perceptions, policy preferences *and* reported behaviour about the environment in a multi-national, multi-cultural survey.

A final report on the finding's from the project, written by Sharon Witherspoon, Peter Mohler and Janet Harkness and available from ZUMA, forms the basis of sections 0 to 3 of this report.

1 An Outline of the REAP Study

The data collected through the REAP programme were designed to focus on environmental matters of special interest to advanced industrial countries. Main topics include energy use in the home, automobile use, household waste management and environmental labelling; within each topic, dimensions covered include behavioural measures, assessments of risk, and attitudes towards possible national and European Union policy measures.

These data are only a part of the data set available to the European Union. All five COMPASS members are also members of the International Social Survey Programme (ISSP), which fielded a module on attitudes towards the environment in 1993. The REAP module was specially designed to link with the ISSP data, permitting a deeper analysis in some areas (such as car and transportation issues) and a broader analysis in others (such as linking attitudes to the level of cognitive knowledge revealed in the ISSP module). Both questionnaires are appended to this report.

In addition, both the ISSP and the REAP module have been designed for repetition in the future, so that trends over time can be charted, adding a longitudinal dimension to the research programme. This meant that one concern was to ask questions, including the policy questions, in such a way as to permit their inclusion in later rounds of fieldwork.

2 The countries which fielded REAP

	REAP module	ISSP Module	Year of fieldwork
European Union countries			
Germany	Yes	Yes	1993
The United Kingdom of Great Britain and Northern Ireland	Yes	Yes	1993
Ireland	Yes	Yes	1993
Italy	Yes	Yes	1993
Netherlands	Yes	Yes	1993
Spain	Yes	Yes	1993/94
Other European Countries			
Switzerland	Part	Yes	1993
Non-European countries			
Japan (two samples)	Most	Yes	1993
(one sample)	Most	Most	1995

3 The English Source Questionnaire

3.1 Contents

In consultation with the European Commission, and after reviewing the topics already covered by the ISSP module on the environment, COMPASS members decided to focus the REAP module on the following areas (question numbers are those of the source questionnaire):

- Household energy: behaviour; cognitive assessment of the environmental impact of energy use; attitudes towards national and EU policies to encourage conservation of energy (Q25-Q30)
- Car use: behaviour and travel patterns; cognitive assessment of the environmental impact of car use; attitudes towards policies to encourage less car usage (Q31-Q38)

- Household waste: behaviour and consumption patterns; recycling behaviour; cognitive assessments of the environmental impact of household waste; attitudes towards policies to encourage production of less household waste (Q39-Q43)
- Environmental labelling: attention paid to environmental labelling on products, and attitudes towards labelling (Q44-Q45)
- General attitudes towards public policy measures to encourage changes in behaviour for the sake of the environment (Q46-Q47)
- Perceptions of the role of the European Commission in environmental regulation (Q48-Q50)
- Germany has an additional question on packaging (German Q40b) and one on self-assignment to a 'green' scale (German Q51)

The topics of the REAP questionnaire were chosen to complement the more general attitudinal, cognitive and policy dispositions, and the deeper values placed on nature and environmental protection already covered in the ISSP environment module. Thus REAP is based on a value-added model: the REAP data gain in descriptive and evaluative power when analysed in conjunction with the ISSP data. The topics covered in the ISSP part (see ZUMA Arbeitsbericht 1996/03 and the questionnaires here) include:

- General dispositions towards liberalism *versus* authoritarianism
- General dispositions towards government regulation *versus* private enterprise
- General dispositions towards science and its role in regulating human endeavour
- General dispositions towards, and images of, nature, and general beliefs about the threat to it from material progress
- Willingness to sacrifice immediate material consumption for the sake of environmental protection
- Personal efficacy *versus* passivity or fatalism in environmental behaviour
- General scientific knowledge (in the form of an 'opinionated attitude' quiz)
- Environmental knowledge (in the form of an 'opinionated attitude' quiz), focusing specifically on knowledge about: radioactivity; the 'greenhouse effect'; pesticides and chemicals; biodiversity; and pollution
- Assessment of both the environmental impact and the risks to humans of: air pollution caused by cars; nuclear power; air pollution caused by industry; pesticides and chemicals used in farming; water pollution; and the 'greenhouse effect'

- Attitudes towards environmental regulation by government of consumers and businesses
- Environmentally-relevant behaviour: recycling; purchase of 'organic' fruits and vegetables; vegetarianism motivated by beliefs in animal rights; cutting down on car use
- Environmental activism of a more political sort: membership in environmental groups; degree of political activism concerning the environment

In addition, as part of the ISSP survey, a full range of standardised demographic and background information (such as social class, education, political ideology, degree of rurality of the home community, and so on) is available.

In summary, the data available as part of the REAP/ISSP programme has the following character (the questions were not asked in this order).

Topics covered	Total number of items	Number in ISSP module	Number in REAP bolt-on module
Behaviour (including self-assessed behaviour)	20	8	12
Evaluation of environmental dangers	17	13	4
Policy preferences	16	2	14
Scientific knowledge	12	12	0
Attitudes towards nature and the environment	9	9	0
Social context and opportunities	7	0	7
Attitudes towards science	5	5	0
Efficacy and relative efficacy	4	2	2
Willingness to pay for environmental protection	3	3	0
Attitudes towards European Union	3	0	3
General values (including religion)	6	6	0
Additional demographic items	22	22	0
TOTAL NUMBER OF ITEMS	124	82	42

3.2 Design

The ISSP module was designed according to standard ISSP procedures. A drafting group, convened by Social and Community Planning Research and led by S. Witherspoon, prepared a bibliography and a set of research questions. After gaining approval for the research topic from the full meeting of the ISSP, the drafting group then prepared a topic

guide, and a first draft of the questionnaire. The full ISSP group then met and re-drafted the questionnaire, paying attention to the suitability of the questions for all the ISSP member nations, and to the structure and content of the questions. This meeting was also informed by results of a large-scale pilot study conducted by SCPR.

The REAP module, in contrast, had a more tightly-focused interest in the policy and behavioural dimensions relevant to the five EU countries in which the research was to be conducted. A preliminary outline was agreed by all five REAP institutes. In its development phase during November and December 1992, a long version of the questionnaire was drafted by a working group, comprising the REAP co-ordinator P. Ph. Mohler and three specialist consultants (J. Harkness, J. Hofrichter and S. Witherspoon). This long list of possible questions was then circulated to the principal investigators of COMPASS in advance of a plenary meeting in December 1992.

At that meeting, the general outline of the module was agreed and two kinds of specific issues were discussed: the clarity and analytic importance of each item and its cross-national comprehensibility. At the end of the plenary session, COMPASS agreed on a pilot version of the REAP questionnaire for pre-testing. The pre-test questionnaire included over 60 items - that is, it was about fifty per cent larger than the number of items possible for the final questionnaire. This allowed the group to test alternative formulations of certain items; to experiment with some travel questions about hypothetical modes of travel that might be used in the absence of a household car; and to include a long list of behavioural questions from among which the most promising could be chosen for the final questionnaire on the basis of the pre-test results. After pre-testing the wording of several items was revised in light of respondent and interviewer comments, the behavioural measures were pruned and final conventions of layout, ordering and translation instructions were agreed.

The REAP questionnaire, like the ISSP environment module, was designed and piloted to be suitable for self-completion (though in some countries, such as Italy, the questionnaire was administered by interviewers) and is in pre-coded format (i.e., there are no 'open-ended' questions). Questions are therefore asked in language comprehensible to a general sample of the population and the total number of items which can be included is strictly controlled, so as not to impose severe burdens on respondents.

3.3 Translation

A source language questionnaire was designed in British English. Each national team translated the questionnaire into their own language. 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 questionnaire, as were procedures suggested by research on translation and equivalence (Harkness 1996a; Alwin, Braun, Harkness & Scott, 1994). Queries were checked with the co-ordinators' office at ZUMA. Nevertheless, in co-ordinating the two Dutch institutes involved in the project, one translation problem - the distinction between to 'drive' (travel by car) and 'drive' (drive the car oneself) resulted in a wrong filter (Q34c and Q34d). The data set has been re-coded to rectify this.

While following in general the principle of asking only what is can be asked everywhere (rather than opting for different items whose cultural equivalence is untested), the REAP questionnaire was also provided with guidelines for translators. The goal of these was to free translators to some extent from the often negative outcome of too literal translation.

Places where country-specific formulations were required were marked in the source questionnaire. Demographic items regularly require this kind of adaptation. Finally, back-translation was used during the *design phase* of the REAP questionnaire to help identify potential problems in the source text (but see Harkness, 1996a on back translation).

3.4 Fieldwork

The REAP study is based on national random samples of approximately 1,000 respondents in each country. In Germany two separate samples were needed in order to cover the differences between East and West Germany. Thus, counting Northern Ireland, seven different samples were drawn for the five-nation study.

The national sampling designs are stratified random samples developed in each country for large-scale representative social surveys. In this form of sampling, every respondent has a known (though not necessarily equal) probability of selection. Probability-based sampling is the only way in which we can use statistical inference and be sure that we have a representative sample of the population, rather than one with unknown (and possibly large) amounts of systematic selection bias. Weights can be applied to cases in a data set to take

account of these known chances of selection. That is, if individuals in one region or household have a different chance of being selected from individuals elsewhere, the inverse of their selection probability is used to weight the resulting data. These weights are weights for selection probabilities; they do not include weights for attrition or sampling bias.

The REAP data set is not weighted. An optional weighting variable (V185) has been provided based on standard demographic statistics which certain countries supply for their ISSP data sets. The Netherlands and Ireland did not provide weights. The German weighting variable is based on the demographic statistics provided by the German Statistical Office (Statistisches Bundesamt Wiesbaden) from 31.12.1992.

4 The Merged REAP Data Set

The data sets from the five COMPASS member countries were merged at ZUMA. A volume of tables showing the marginal distributions for all of the substantive items according to country and sex, four age groups, and country and income is available from Bernhard Krüger at ZUMA, who also merged the COMPASS data set.

The five REAP surveys were carried out in conjunction with the ISSP 1993 module on environment. The background variables include items specially required for the REAP module and the background variables required for ISSP studies. The REAP data sets are available free of charge from any COMPASS member. The merged ISSP data sets for 1993 are available from the Zentralarchiv in Cologne, which also has the merged REAP data set. (Contact Rolf Uher, Zentralarchiv, address, section 8).

A number of ISSP background variables are always country-specific and merged ISSP data sets leave these unchanged. A number of minor differences arose in the ways different background variables were asked in 1993, generally due to country-specific requirements or practices. Thus, in Germany, for example, trade union membership is only available for those employed; in Ireland and Great Britain, years of schooling is a derived variable.

5 Implementation of the German Module

5.1 Translation into German

The researcher supervising and co-ordinating the German translation was involved in designing the source questionnaire and was also responsible for supporting Compass translations and producing the translation notes for REAP. Knowing the intent of the source questionnaire makes one aspect of translation easier, in that the dimensions targeted with items are known.

The REAP translation remains close to the English source questionnaire in ways not always recommended in general translation theory but standard in survey practice. Thus questions formulated in German to ask a given question might well have been formulated differently than they are in the translation. Several questions, for example, refer to ‘Leute’ (people) where a more German formulation might be ‘die Öffentlichkeit’ (the public). Furthermore, response scales already translated into German, for example, in the ALLBUS or the ISSP, were not re-translated. The standardly used translation was adopted, even where a different translation might be preferable (Mohler et al, 1996). An example here is the translation of ‘agree: disagree’ with ‘stimme zu: stimme nicht zu’, rather than with, for example, ‘stimme zu: lehne ab’.

In the process of finalising the German questionnaire, two independent versions of the source questionnaire were produced by German native speakers, one versed in survey work, the other not. These were reviewed by two ISSP researchers at ZUMA, one German, one British. The resulting version was revised in collaboration with the ZUMA fielding department, before and after an in-house pre-test with a regional sample (N=20). Further revisions were made in collaboration with the ZUMA Sozialwissenschaften-Bus editors after pre-testing by the commercial fielding institute, GFM-GETAS, Hamburg.

5.2 Pre-testing

ZUMA carried out a comprehension and timing pre-test with a regional sample of twenty respondents which resulted in a few modifications. The fielding institute GFM-GETAS carried out a national pre-test which resulted in further small changes and the inclusion in the German questionnaire of a filter-question (Q 25b), in order to deal better with the many coal-fired individual stoves used in East Germany. This question has been omitted

from the ZA merged data set for the 1993 module. It is useful in analysing certain questions and is included in the ZUMA REAP data set.

5.3 Fielding Information

The REAP/ISSP module was fielded as a self-completion questionnaire as part of the ZUMA Sozialwissenschaften-Bus 11/93 for two-thirds of the total omnibus sample points. The fieldwork was carried out between 10.5.93 and 8.7.1993, a total of 9 weeks.

5.4 Sample

The Sozialwissenschaften-Bus sample is designed to yield a representative sample of German citizens of 18 years of age and older living in private accommodation. People living in private households attached to institutions were included, inhabitants of the institutions themselves (residents of homes for the elderly, etc.) were not. The sampling frame used was the 'Master Sample' of the Arbeitskreis Deutscher Marktforschungsinstitute (ADM ('Working Group of the German Market Research Institutes')). The sample design is a stratified three-stage random design. The first stage selected areas on the basis of voting districts, the second selected households on the basis of a random route procedure and in the third stage Kish tables determined respondent selection at households with more than one eligible inhabitant. The ISSP survey was carried out in one net in former West Germany and one net in former East Germany (a net consists of 210 sample points).

5.5 Response Rate

	WEST	%	EAST	%
Addresses Issued	1680	100	1680	100
street or building not found	75	4.5	87.5	5.2
vacant	40	2.3	23	1.4
inhabitants out of scope	33	2.0	22	1.3
sample point or address not worked	85	5.1	40	2.4
other out of scope	7	0.4	10	0.8
Sum Total Out Of Scope	240	14.3	182	11.0
in scope	1440	100	1498	100
interview not achieved	420	29.2	402	26.8
non-contact (household)	38	2.6	60	4.0
non-contact (individual)	54	3.8	38	2.5
refusal (household)	141	9.8	135	9.0
refusal (individual)	112	7.8	109	7.3
individual away from home during illness	46	3.2	34	2.3
	29	2.0	26	1.7
Sum Total Interviews Not Achieved	420	29.2	402	26.8
interviews achieved	1020	70.8	1096	73.2
interviews discarded	6	0.4	4	0.3
Valid Interviews	1014	70.4	1092	72.9

5.6 Data Editing

The fielding institute delivered an edited data set to ZUMA with an optional weighting variable based on the demographic statistics provided by the German Statistical Office (Statistisches Bundesamt, Wiesbaden) from 31.12.1992. ZUMA carried out additional consistency checks.

5.7 Occupational Coding

Occupational coding (current or former occupation) was carried out at ZUMA using the ISCO 1968 and ISCO 1988 codes. Treiman (1975) and Wegener (1988) prestige scores were provided for the ISCO 1968 code.

6 Availability

The data, data tables and final report to the European Commission were delivered to the Commission in March 1995. The data are available from each COMPASS member, from

ZUMA as co-ordinator for the project and in modified form (no country-specific substantive items) from the ISSP archive (ZA Cologne). The report to the EU is also available from ZUMA.

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8 COMPASS MEMBERS: principal investigators and addresses, plus ISSP archive

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9 The English Source and German Questionnaires

The source questionnaire in English and the translated German questionnaire