The Press and Global Environmental Change: An International Comparison of Elite Newspaper Reporting on the Acid Rain Issue from 1972 to 1992

Edited By

William C. Clark and Nancy M. Dickson

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THE PRESS AND GLOBAL ENVIRONMENTAL CHANGE: AN INTERNATIONAL COMPARISON OF ELITE NEWSPAPER REPORTING ON THE ACID RAIN ISSUE FROM 1972 TO 1992

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CENTER FOR SCIENCE AND INTERNATIONAL AFFAIRS
AND
JOAN SHORENSTEIN BARONE CENTER ON THE PRESS, POLITICS AND PUBLIC POLICY

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Despite this assistance, some errors may remain. The responsibility for these is solely ours.

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THE PRESS AND GLOBAL ENVIRONMENTAL CHANGE: AN INTERNATIONAL COMPARISON OF ELITE NEWSPAPER REPORTING ON THE ACID RAIN ISSUE FROM 1972 TO 1992

Foreword

Almost everyone has an opinion on how the press covers public policy issues. Some people believe that reporters and their editors have a preconceived agenda and focus on those facts and stories that support that agenda, while others believe the press is more benign and has a limited effect in shaping public perceptions. Still others embrace the notion that press coverage reflects the biases and viewpoints of the government or the "establishment."

Environmental issues seem to trigger this debate over the accuracy and fairness of the media. Does the press deliberately exaggerate environmental threats? Are they beholden to one political interest or another? Where do reporters get their information? Why do they decide to pay attention to one aspect of a "story" rather than pursue a different tact? Finally, what factors tend to change a reporter's slant on an environmental issue?

Surprisingly, there has been a paucity of analysis about how the press covers environmental issues. Anecdotal descriptions are the rule, not the exception. Prompted by the vacuum in the scholarly literature and fueled by a generous grant from the IBM Environmental Research Program, scholars at Harvard's John F. Kennedy School decided to explore how the press in six different countries covered the issue of acid rain over a twenty-year period, 1972-1992. Under the direction of Prof. William Clark, teams of researchers were formed in six countries to analyze how one or two elite newspapers in each country selected for attention a subset of events, ideas, and perspectives related to the problem of acid rain and how it diffused these perspectives through society at large. The information obtained from each country was then compared to identify the similarities and differences between the countries.

This paper describes the results of this project. Professor Clark and Nancy Dickson plan to publish a book expanding on these themes which should be available in early 1997.

We at the Kennedy School deeply appreciate the confidence and support provided to us by IBM and particularly by Art Hedge (now retired), and Joe Sarsanski without whom this project would not have been possible.

Henry Lee

THE PRESS AND GLOBAL ENVIRONMENTAL CHANGE: AN INTERNATIONAL COMPARISON OF ELITE NEWSPAPER REPORTING ON THE ACID RAIN ISSUE FROM 1972 TO 1992

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Appendix 2

RESEARCH PROTOCOL

Acid Rain in the Media: An International Comparison

Renate Ell, William C. Clark, and Nancy M. Dickson

I Introduction to the Project*

Case Study

The study will focus on the acid rain case. The definition of "acid rain," for the purposes of this study, is the same as we are using for the broader SL study:

> "Air pollution that travels long distance and harms valued environmental assets as a result of direct acidic or corrosive effects, or through mobilization of harmful chemical reactions."

This definition encompasses the evolution that the term "acid rain" has gone through since the late 1960s: sulfur that acidifies lakes and kills aquatic life, sulfur and nitrogen that acidify soil, kill terrestrial vegetation, and corrode materials, and nitrogen and other ozone precursors that harm vegetation, materials, human health, and visibility.
In short, the scope of the project includes acid rain and tropospheric ozone that is caused by long-range transport of pollutants. This definition excludes acidification and ozone-creation problems that are caused by purely local transport mechanisms.

Today, these problems are considered both local and long-range, which complicates the analysis. The complexity stems from the nature of the problem, however, and it would be a mistake to try to simplify our task through definitional sleight of hand.

The question of what to include or exclude is fairly straightforward. The rule of thumb for deciding whether to include something under the scope of the project is whether the answer to both of the following questions is "yes."

1. Form of harm pollutant engenders:
   Does the pollutant create acid deposition or tropospheric ozone?
2. Transport mechanism of pollutant:
   Do the pollutants in question travel long distances (over 100km)?

In short, it includes the union of acidification and ozone-creation, as it intersects with long-range transport.

The time period to be covered is the 20 year span between the two UN Environment conferences, i.e., the Stockholm Conference of 1972 and the Rio Conference of 1992.

The countries to be included in the study are Canada, Germany, Hungary, Japan, Mexico, the Netherlands, and the United States.

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* This part is mostly taken from Bill Clark's memorandum of April 1, 1993, some is taken from his memorandum of May 29, 1993.

Theoretical Perspectives

This effort connects with the larger Social Learning project through its emphasis on the media's role in selecting a subset of available events, ideas, and perspectives, and analyzing the diffusion of such media reports to society at large.

The project seeks to understand the role of the media in shaping social responses to the risks posed by acid rain. As noted in the original proposal, within the "selection" framework, the empirical aspects of our study will focus on who the media selects as the sources for its news coverage, and what framing of the issues emerges from that selection. In particular, the study seeks to determine:

a) whether, and why, some actors emerge as dominant "sources" of media coverage of the acid rain issue;
b) whether, and how, the selection of sources is related to the content or "slant" of stories produced by the media.

The project will examine how answers to these questions vary across countries, and through time.

One line of theory has the media acting as a relatively passive selector, using sources in proportion to their actual role in the social debate and transmitting in a neutral way what that debate is about. An extreme alternative sees the media as active agents of social control, in some cases reformist, in others at the service of the state or other interests.
We wish to determine where on the spectrum of passive to active selectors the media of various countries lie in their approaches to the acid rain issue, and to trace the consequences of their orientation.

Organization and Tasks

The research protocol consists of three parts:

a) a codebook directing the collection of data on individual press articles published between 1972 and 1992;
b) a guideline for information to be compiled on each country's press in general;
c) a set of interview questions to be asked of the most important journalists and actor groups contributing to the coverage.

Only the first part is addressed in this version of the protocol; the other two will be released later.
The results of the study are to be presented at a large conference in 1994.

Each country will write a chapter consisting of the results of their empirical research (press coverage and interviews) along with background information on the press.

The first draft of the press analysis is due at the 1993 Social Learning Summer Institute, i.e. August 14, 1993. It should present the analyzed data, preferably in tables and time graphs, of changes in framing and sourcing.

II Press Analysis

Principles and Methodology*

For the analysis of the press coverage, we use the Notebook software (see appendix) to record the content of the relevant articles according to a classification template provided. The categories in this template are fixed for the sake of cross-team comparability, and thus must not be changed (see page 5).

Most information will not be entered into Notebook as clear text but by using classification codes, which are listed in the codebook. That means the data are entered in a format which makes them directly usable for subsequent analysis without any further processing. The codes can also be used along with the "find" and "select" features of Notebook (see appendix) to find, for instance, all articles which use scientists as a primary source and which were printed before 1985, or all articles on the front page. Free text entries have to be in English unless directions read otherwise.

For each item of information to be entered into the Notebook record, there is a correspondent paragraph in the codebook which exactly explains which information to enter and how.
In most cases, there is a list of tags, or codes, to enter the relevant information. These lists are mandatory.

The codebook is not designed to record the entire content of an article, but to record that part of the content which is relevant for the project according to the theoretical perspectives outlined above.
In order to produce valid and sound results, it is very important that the coder(s), that is, the person(s) entering the information, both master the codebook and understand the case of acid rain. To ensure this, coder training - including information on the issue of acid rain as well as test-coding of a random, diverse sample of articles and discussion of any uncertainty with the coder(s) - is a must.

Targets of Analysis

Our sample will contain articles about acid rain - according to the definition on page 1 - which appeared in the newspapers selected between Jan 1, 1972 and Dec. 31, 1992.
Letters to the editor (comments by readers of the newspaper, that is) are included, but reprinted articles from other sources (press reviews), TV or book reviews are not.
While cartoons are also excluded from the content analysis, teams should collect them, and outline the use of images - as a way of detailing the visual aspects of issue framing - in their report.

The unit of analysis is the article (or letter) as a whole, excluding the headline(s). The analysis will focus on the collection of two kinds of data: sources and content.

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* For the theoretical background of this research method, see Renate Ell (1992): "Environmental Risk Communication in the Mass Media", pp. 9-10

Each significant source in an article is coded by:

a) affiliation (e.g. executive branch, legislative branch, etc);
b) training or profession (i.e. scientists, non-scientist, unknown), and
c) name (for use in analysis of dominance by particular individuals).

The two dominant sources, i.e. the sources influencing the content or tone of the article most, are distinguished from the others in so as to facilitate indentifying them using Notebook's features.

The content of an article is first summarized in free text, in English. Additionally, the content is entered using codes according to a list provided. Four classes of content information are distinguished:

a) Issue framing: broad orientation and context;
b) Causes of acid rain as discussed in the article;
c) Impacts of acid rain as discussed in the article;
d) Options for action on acid rain as discussed in the article.

Since the content of an article is no "hard data," that is, it is subject to individual differences in perception, a training of the coder(s) is necessary to ensure*:

- Stability: that a coder codes the same content in the same way each time he or she finds it;
- Reproducability or intercoder reliability: that different coders code the same content in the same way each time they find it; and
- Accuracy: that the coding is done according to the rules as defined.

In addition to sources and content, the bibliographic data collected on each article can also provide valuable information as to what importance the issue of acid rain had at a certain time, or how it was framed. Among these data are the placement and length of an article, within which beat it appeared, its type (e.g. news story, editorial), etc.

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* Weber, R. P. (1990): Basic Content Analysis, pp. 17-18

The Notebook Template

There is one Notebook record for every article. This record can be imagined as an index card, a Notebook database then representing one index card box.
Each record contains a number of headings, one for each item of information required (e.g. "author"). These headings, together with the corresponding information, are referred to as "fields".

An amended version of the standard Social Learning Notebook template will be used for this project, the amendmends being fields specific for the content analysis. Some of the "traditional" fields, however, have been redefined for this project. Others became "dormant", i.e. they are not used for the core content analysis. There is no objection to using those dormant fields, too, as long as the team still complies with the rules below.

Additional coding to allow for more (nationally) specific information is possible, but only outside the fields referred to in the codebook, i.e. either in dormant fields or in fields specifically created by the team for this purpose (these can only be added at the end of the record).

There are two ways of entering information into Notebook.
Either it is entered directly, which requires limited skills in using Notebook's "edit" module.
Or the records are first entered in a word processing program and later imported into Notebook. In this case, certain rules nust be followed to ensure proper transmission from the word processor to Notebook (see appendices 1 and 4). In this case, the record template may already contain invariable information such as the newspaper title or the country of publication. One record after the other is then added at the end of the textfile using the individual word processor's features. The files, however, should not be too large, since that slows down their processing and increases the danger of system failure. All textfiles can later be merged in one Notebook database.
In both cases, it is very important to develop a habit of saving the records on at least one disk to prevent data losses.

The following chapter, i.e. the codebook, is to be handed to the coder(s) as a whole.

Keyname
Year pub
Author
Add author(s)
Author(s) role(s)
Essay/article title
Journal
Volume no.
Issue/ed. no.
Day/Month (or qtr)
Book title
Anth/multivol title
Editor(s)
Place pub
Publisher/press
Journal/Book pages
Index
Summary
Length of work
Comments
Language of summary
Case study
Functional field
Social actor
Date of ref-begin
Date of ref-end
Country ref
Reference no.
Report no.
Country of pub
Location
Interview-name
Interview-orgzn
Interview -phone
Type
Beat
Placement
Source names

Notebook template; fields in bold face are used for the content analysis, fields in italics were added to the Social Learning template

The Codebook*

Preparations for coding

Before starting to actually code the articles, you should familiarize yourself with the coverage as well as with the problem of acid rain itself, and of course with this codebook. You should discuss any questions you have with your supervisor or with the authors of the research protocol. It is crucial for the success of the project that you understand what you code and how you are supposed to code it.

To get started, it is a good idea to read a random sample of articles spread over the whole investigation period, including articles of different types (i.e. news stories, features, or editorials) and about different topics (e.g. science, health, forest damage, environmental policy). In a second preperatory step, test-code a number of articles and discuss them with your supervisor. Discuss all problems and uncertainties, and feel free to contact the authors of this protocol with any remaining questions.

The coding procedure

First, read the whole article once without coding anything, and only then start the coding, reading through the article again.
There is no reason to fill in the fields in the order of the template. In fact, it might be much easier not to do so. You might want to start with the statistical data (keyname, author, page, etc.), then list the source names, write the summary, and fill in the social actor and the content codes last.

Take your time and read the instructions carefully. Be sure to code consistently. To test yourself - and you should really do that - code the same article twice, a few days or a week apart, and then check whether you did it the same way in both cases. If not, give the differences a close look, try to find out the reasons and consider what to do to avoid inconsistencies in the future. Re-code all articles you have entered in the meantime and repeat the test again some time later with another article.

General rules for using the codebook

The use of punctuation for the entries, as well as the use of upper or lower case, have to be the same as in the codebook. Violations of this rule may have the effect that automated searches within Notebook produce incorrect results or no results at all.

For the fields this codebook refers to, no codes other than those listed here may be used. For any additional coding, either one of the "dormant" fields or new fields added at the end of the Notebook template have to be used (new fields must never be inserted at any other point of the template).

All clear text entries have to be made in English unless the instructions say otherwise.

All abbreviations have to be explained in an extra record at the very beginning of the database. To enable successful searching, abbreviations and long forms have to be used consistently.

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* This codebook draws in part on contributions made by Roderick A. Scheer.

Keyname

The Keyname is used by Notebook's companion programs Bibliography and Citation to locate a citation in a document (see the Notebook manual for details).

Use the following format: XZ, YY/MM/DDn
XZ = the abbreviated newspaper name, two or three letters
YY/MM/DD = the publishing date in six-digit Year-month-day format, and
n = if applicable: a letter to distinguish articles in the same paper on the same date.

Since the keyname already contains the complete publishing date, the fields "Year published" and "Day/month or quarter" of the Social Learning template remain dormant.

Examples: *SZ, 92/02/01* (for an article in Süddeutsche Zeitung on February 1, 1993)
NYT, 92/02/01b (for the second article in the New York Times on February 1, 1993)

Author

The author's name, last name first, the the first name, separated by a comma. If the name is abbreviated and you cannot find out the full name, enter the initials as they appear. If the article is written by more than one author, enter the first author's name here.
For unsigned articles, enter "Staff".
For articles by wire services (i.e. Reuters, UPI, AP, TASS, etc.), even if the author's name is provided, enter "Wire".
Also enter "Wire" if an article is attributed both to wire services and newspaper staff.

Example 1: *Urban, Martin*
Example 2: *Gore, Al*
Example 3: *Wire*

Additional author(s) (Add author(s))

This field is basically treated the same way as the author field. Enter additional authors' names in the same format as in the author field, separated by semicolons.
If the article is a compilation from (a) wire service(s) and staff, enter "Staff" here.

Example: *Brundtland, Gro Harlem; Tolba, Mustafa*
Example: *Staff*

Author's role(s)

For authors who are members of the newspaper's staff, enter "Staff".
For other authors, enter their affiliation as in the "Source names" field. If the affiliation is not provided but known to you, enter it according to your knowledge.

For wire service articles, enter the service's name here, using the appropriate abbreviation (the one that is used by the service itself, that is). If the article is a compilation from more than one wire service, list the names in the same order as in the article, separated by commas.

The following examples correspond to those for the author field.

Example 1: *Staff*
Example 2: *Vice president, USA*
Example 3: *Reuters, UPI, AP*

Essay/article title

The headline of the article; capitalize only the first word and proper nouns (exception: German). If there is a subtitle, close the main title with a colon and enter the subtitle in a second line.

Example: *Coal industry predicts decline in acid-rain source*
Example: *Tannensterben durch sauren Regen;*
Schäden an Nadeln und Wurzeln / Fäulnis im Innern des Baumstamms

Journal

The full name of the newspaper as it appears on the title page.

Journal/book pages

The page on which the article is printed, in the same format as it appears in the paper.
If an article is continued on a second page, enter only the page on which it starts.
If the information is not available, enter "n.a."

Example: *1*
Example: B1
Example: n.a.

Index

The content of the article represented by codes according to the table below.
Four classes of contents are coded:

- "Framing" captures the broad orientation and context of the article and its general bias with respect to problem perception and source representation.
- "Causes" refers to the source(s) of the problem which the article names.
- "Impact" refers to the effects of acid rain which the article names.
- "Options" refers to options how to deal with acid rain which the article names.

To identify the dominant topic or issue of a longer article, it might be advisable to go through the article paragraph by paragraph, taking down the topics and then looking which one(s) appeared most

often. How many "dominant" topics an article can have depends on it length; in general, the number should be as small as reasonably possible.

A code has the format "X1a" or "*X1a", with:
- * = if applicable: place an asterisk next to the code to mark the article's dominant topic(s) or issue(s); never for Framing
- X = content class, abbreviated by its first letter: framing, causes, impacts, options;
- 1 = content group, marked 1,2,3 ...: a general subject;
- a = content item, marked a, b, c, ...: a specific subject.

Refer to the individual content classes for the number of codes to be entered.
The codes should reflect the article's contents as closely as possible. Unusual issues should be pointed out in the "Summary" field.

Framing (F): Enter one code for each content group (1-4). The "*" is not applicable in this class.

1) Field of news
   This need not reflect the beat an article appears in.
   a) Science story
      Chemistry of acid rain, biochemistry of effects in the biospere or in humans, technology, etc.
   b) Politics, economy, etc.
      Domestic or international regulations, parlamentary debates, economical implications of acid rain effects or regulations, etc.
   c) Health story
      Health effects directly or indirectly caused by acid pollutants in humans, but no in-depth medical science article (cf. science story)
   d) Environmental story
      Acid rain as an environmental problem; article that integrates several or all of the above (but without in-depth scientific treatment): causes, effects, options, ...

2) Necessity to take action
   a) yes ("alarmist" article)
   b) no (no problem, too uncertain, too expensive, etc.)
   c) neutral

3) Bias towards an actor group
   This refers to the article's tone and need not reflect the number of actors quoted, which can be dictated by events
   a) Government
   b) Industry
   c) Environmentalists
   d) No positive bias, neutral

4) Bias against an actor group
   a) Government
   b) Industry
   c) Environmentalists, environmental NGOs
   d) No negative bias, neutral

5) Domestic or international scope
   a) Purely domestic scope
   b) International/transboundary aspects mentioned, but domestic focus
   c) International/transboundary aspects as main focus
   d) Coverage of another country's problems

Causes (C): each content group (1-3) has to appear at least once, but you may enter as many codes as necessary to reflect the content of the article (each in the format "X1a"). If a content group is not present in the article, choose "none" as the content item. If one or more of the items in this class dominate the article, mark them with an asterisk.

1) Fossil fuels
   a) Electricity generation (power plants)
   b) Automotive transport
   c) Household combustion
   d) None

2) Other anthropogenic causes for forest dieback
   a) Silvicultural mistakes
   b) Other
   c) None

3) Natural causes for adverse effects in ecosystems (acting alone or in combination with others)
   a) Pests, deseases, weather
   b) Natural sources of SO_2, NOx, tropospheric ozone
   c) Other
   d) None

Impacts (I) each content group (1-4) has to appear at least once, but you may enter as many codes as necessary to reflect the content of the article (each in the format "X1a"). If a content group is not present in the article, choose "none" as the content item. If one or more of the items in this class dominate the article, mark them with an asterisk.

1) Ecosystems
   a) Forests
   b) Lakes, fish
   c) Agricultural crops
   d) Other
   e) None

2) Human health
   a) Respiratory deseases
   b) Other
   c) None

3) Secondary effects
   a) Groundwater or drinking water decline (decreasing amount or quality, e.g. toxic elements)
   b) Erosion, avalanches
   c) Economic damage (fisheries, tourism, health care, agriculture, forestry, etc.)
   d) None

4) Other
   a) Material damage (buildings, monuments)
   b) Other
   c) None

Options (O) each content group (1-4) has to appear at least once, but you may enter as many codes as necessary to reflect the content of the article (each in the format "X1a"). If a content group is not present in the article, choose "none" as the content item. If one or more of the items in this class dominate the article, mark them with an asterisk.

1) Technologies to reduce pollution at sources
   This refers to discussions of different technology options, not to regulatory requirements (see no. 3 below)
   a) Emissions reduction technologies for power plants (e.g., scrubbers, incineration technologies)
   b) Emissions reduction technologies for cars (e.g., three way catalytic converters)
   c) Fuel switch (e.g. to natural gas, nuclear energy)
   d) Renewable energies (e.g. solar or wind energy)
   e) Other
   f) None

2) Technologies to mitigate impacts
   a) Liming or fertilizing (forests, lakes)
   b) Breeding or introducing resistant species (fish, trees)
   c) Other
   d) None

3) Regulations
   This refers to discussions of different legal options, not to their technological properties (see no. 1 above).
   a) Domestic emissions standards for power plants
   b) Domestic emissions standards for automobiles
   c) International or bilateral regulations or agreements
   d) Other
   e) None

4) Behavioral changes
   Options that aim to change behavior, e.g. to use different fuels or to save to energy.
   a) Incentives (financial, other)
   b) Education
   c) Other
   d) None

Example: *F1a, F2a, F3d, F4d, *C1a, C1b, C2c, C3d, *I1a, I2a, I3d, I4c, O1a, O1c, O2c, O3d, O4c*
(see "Summary" example for corresponding text)

Summary

A brief, concise summary of the article's content in English.
In case of letters to the editor, start the summary by stating to which article the letter refers, using its keyname in the database.

Example: *Acid rain causes forest dieback by acidifying the soil and damaging coniferous trees' needles. More than half of the forests are already affected. The pollutants can also cause respiratory problems. The main cause are fossil fuel power plants, while cars are contributing, too. Scubbers for fossil fuel power plants, or firing power plants with natural gas, could reduce acid pullution.*

Length of work

The length of the article according to the following classes, measuring the text without headlines and illustrations (1" = 2.54 cm, 1 cm = .39"):

1 less than 10 column centimetres;
2 between 10 and 20 column centimetres;
3 between 20 and 40 column centimetres;
4 more than 40 column centimetres;
5 more than 60 column centimetres

Comments

The use of this field is at the team's discretion.

Social Actor Group (Social actor)

The actors groups which are quoted as sources in the article in form of statements, be it in direct or indirect speech.
In addition to listing the actor groups represented, identify the one or two dominant source(s), i.e. the source(s) most influencing the content or tone of the article.

Use the following format: *AB-C-DE
* = if applicable: place an asterisk next to to mark the article's one or two dominant actor group(s)
AB = the actor group a source belongs to,
C = the role or profession the source has within this actor group, and
DE = the source's arena of origin (i.e. country, EC, or international organization).

Separate the codes for the individual actors by commas.
Enter one code for each actor group quoted (i.e. if two university scientists are quoted, enter the according code twice).

Use the following matrix to identify the first two items:

	Role or profession:		
	Scientist	Non-scientist	Unknown
Actor group:			
Executive	EX-S	EX-N	EX-U
Legislative	-----	LE-N	-----
Academia	AC-S	AC-N	AC-U
NGO	NG-S	NG-N	NG-U
Emittor industry	EI-S	EI-N	EI-U
Impacted industry	II-S	II-N	II-U
European Community	EC-S	EC-N	EC-U
Internat. organization	IO-S	IO-N	IO-U
Media	ME-S	ME-N	-----
Unknown, other	UK-S	UK-N	UK-U

Executive:	government and its agencies, both national and federal/regional
Legislative:	members of parliament or other legislativ branch (Senate, Upper House, ...)
Academia:	universities, research institutes not affiliated to government or industry
NGO:	non-governmental organizations (environmental and consumer groups, but not industry groups, which are coded with industry, below)
Emittor industry:	fossil fuel power plants, automobile industry, etc.
Impacted industry:	private forest, fisheries, timber, tourism, etc.

Refer to the list at the end of the codebook for the arena codes.

Examples:	**EX-N-US*	for Lee Thomas, EPA administrator
	NG-N-DE	for Hubert Weinzierl, president, BUND
	**EC-N-EC*	for Carlos Ripa de Meana, EC environment commission
	NG-S-US	for Michael Oppenheimer, Environmental Defense Fund
	AC-S-DE	for Hans Schütt, forest biologist, University of Munich

Reference number (Reference no)

This number allows to identify the reasearcher who entered the information in the database.

Use the following format: CC-WXY-...
CC = country (team) code, see list at the end of the codebook
WXY = three initials for the researcher. If you do not have a middle name, enter an "X"; if you have four initials, enter only three.
... = optional rest of the reference number.

Country of publication (Country of pub)

Use the team codes in the list at the end of the codebook. This field will be useful to find articles published in a certain country when the individual databases are merged.

Type

Use the following tags to distinguish four different types of articles, some of which can be found in different sections of the paper:

N News story, a basic report of what happened;
F Feature, a report which focuses less on the latest events than a news story, is less stringent in style, and may also present, to a certain extent, the author's opinion;
O Opinion piece: editorial, column or commentary (on the editorial pages or elsewere in the paper);
I Interview
L Letter to the editor

Beat

The section of the newspaper in which the article appeared; use the following tags (if the article appered in a supplement, enter the beat it is most closely related to):

N general news, both domestic and international;
O op-ed, editorial page
B business or economics;
S science;
E environment;
R regional news (anything below domestic);
X other, unknown.

Placement

The position of the article in the paper; use the following tags:

1 title page;
2 page two, or first page of a section;
3 any other position;
4 unknown

Source names

Enter the names of all sources listed in the preceding two fields with as much detail as possible. This includes all information provided about the sources's affiliations (e.g., if a scientist from the XY institute is a member of a government comittee on acid rain, both affiliations are to be entered). If the affiliation is not (fully) provided but known to you, enter it according to your knowledge.
Also enter the names of organizations or institutions which were quoted without naming individual representatives (e.g. "a study by Greenpeace ...").

Names of institutions or organizations should not be translated; a list explaining them should accompany the database and later the report. However, functions within institutions and organizations (such as president, spokesperson, official, minister for the environment, etc.), should be indicated in

affiliation is not (fully) provided but known to you, enter it according to your knowledge.
Also enter the names of organizations or institutions which were quoted without naming individual representatives (e.g. "a study by Greenpeace ...").

Names of institutions or organizations should not be translated; a list explaining them should accompany the database and later the report. However, functions within institutions and organizations (such as president, spokesperson, official, minister for the environment, etc.), should be indicated in English. Again, use the codes for countries/arenas given at the end of the codebook. Separate affiliations and arenas by semicolons.
All abbreviations should be explained in an extra record at the beginning of the database.

Use the following formats, starting a new line for each entry:
- Last name, first name (affiliation; arena)
- Institutional name (arena)

Identify the dominant sources by a "*" at the beginning of the line, corresponding to the "Social actor" field.

Examples: **Kohl, Helmut (Chancellor; DE)*
von Lersner, Heinrich (President, Umweltbundesamt; DE)
**Greenpeace Deutschland (DE)*
Cowling, Ellis B. (North Carolina State University; Interagency Task Force on Acid Precipitation; US)
Carlo Ripa di Meana (Head, Environment Commission; EC)

Arena Codes

Use the following arena codes wherever required in the codebook.

European Countries:

AL	Albania	IT	Italy
AT	Austria	LU	Luxembourg
BE	Belgium	NL	Netherlands
BG	Bulgaria	NO	Norway
CS	Czechoslovakia	PL	Poland
DK	Denmark	PT	Portugal
FI	Finland	RO	Romania
FR	France	ES	Spain
DE	FRG*	SE	Sweden
DD	GDR*	CH	Switzerland
GR	Greece	TR	Turkey
HU	Hungary	SU	USSR, CIS
IS	Iceland	GB	United Kingdom
IE	Ireland	YU	Yugoslavia

Non-European Countries:

CA	Canada
JA	Japan
MX	Mexico
US	USA

Other Arenas:

EC	European Community
UN	United Nations, including agencies (e.g. UNEP)
XX	None of the above

* Germany: Since the vast majority of the material studied was published before unification (October 3, 1989), and since GDR is sometimes covered in this material even after unification, "DE", the code for FRG, will be used throughout the project to identify sources and press from the Federal Republic of Germany - no matter whether the article in question was published before or after unification.

III Interviews

Interviewees

Journalists

The journalists who have written a substantial part of the coverage analyzed within the project should be interviewed, but it might also be interesting to talk with the responsible editors since they may be influencial gatekeepers. Whether or not this is the case depends on the individual situation within each newspaper.

Actors frequently quoted in the media

The "Source names" field of the content analysis of the newspaper coverage provides the information on who was most often quoted in the media.

However, these persons themselves may not be the ones who will actually be interviewed. In the case of companies, trade groups (industrial associations), ministries, executive agencies or large NGOs, the press or public relations officers are more appropriate to talk to. They may or may not be the only representatives of that actor to be interviewed. In any case they are knowledgable about the actor's media activities and maybe helpful in providing press releases or other material, or in setting up a meeting with another representative you may wish to meet.

While scientists should be interviewed themselves if possible, the press officers of their university or research institute should also be contacted: they will probably be able to find press releases about the scientist's acid rain related work, or to explain how media requests are handled in general and by the specific scientist in particular.

Important actors not frequently quoted in the media

There are different reasons for actors who have been important in a certain way not to be quoted in the media.

Scientists are most likely to be in this group. Many of them do not like to talk to journalists and therefore try to avoid it if possible. Others might not have the talent to explain facts in a way journalists appreciate. Again others might be avoided by journalists because they lack credibility, e.g. because they are thought of as advocates for a certain opinion or policy.

There are basically two ways to find out which researchers who are not quoted in the press made important contributions to the science of acid pollution and its effects. First, this information should be part of the case studies prepared for the project Social Learning in the Management of Global Environmental Risks, or of similar case studies. Or second, an analysis of the relevant scholarly

journals, or the Science Citation Index, for the most frequent (or better even: the most frequently quoted) authors of articles about acid pollution.

A second group very likely not to be quoted are environmental advocacy groups which are not accepted as credible sources by the newspapers studied in this project. However, journalists might use information from those groups without attributing the source, which makes them even more interesting for this study.
The case studies mentioned above are the most obvious source to find those groups as well. A second place to look could be relevant environmental magazines or the "alternative" press.

Objectives

On the newspaper side, we want to find out about the decision and selection processes that precede the publication of an article about acid pollution. These processes include both the decision whether or not a topic or an event is newsworthy at all, and the subsequent selection of sources to be used for and quoted in the article. They may also include the decision to publish an editorial or commentary, which involves the adoption of a certain point of view.

We want to know why certain actors, certain topics, certain frames and slants occur more often than others. We want to know what caused developments both in the amount and in the content of the coverage during the study period.

We also want to know what commitment the newspapers included in our study make towards science and environmental coverage, and how this compares to other newspapers, or to the media in general, of the country, and how this changed during the study period. "Commitment" in this context includes the allocation of space, the existence or creation of a special department or beat, and the assignment of journalists to cover environmental issues.

On the actor side, we want to find out about their media strategy and commitment. Similar to the newspapers, "commitment" refers to the allocation of staff and resources. Media strategy includes the means of public relations - press releases, press conferences, briefings, etc. - as well as its content and addressees. The latter refers to the fact that the actors use the media to transmit their messages not only to the general public, but also, and more importantly, to other actors. One could see the media as a stage or an arena for political conflict.

We want to know whether an actor preferred certain journalists or newsmedia over others, and if so, for what reasons. We also want to know what means of public relations an actor used, and what kind of messages he or she used them for. And we want to know how an actor rates the coverage of acid pollution, especially in the newspaper(s) included in our study. If an actor finds the coverage unbalanced, we want to know what he or she thinks to be the reason for that.

Besides the interview, a collection of press releases or other material published by the actor is a valuable source of information. A comparison of this material and the according articles will help us to assess the selection made by the journalists.

The Interview

Questions

The following are sets of questions which form the core of the interviews. As far as applicable, these questions should be asked in every interview to make sure that the same basic information is collected by every team, thus enabling cross country comparisons later.

However, every team is encuraged to ask additional questions addressing the interviewee or the country's history of acid pollution more specifically.
The expression "<newspaper>" in some of the questions is to be replaced by the newspaper(s) studied in this project.

Journalists

Writers

Occupational and personal background

? In what beat did you start out as a journalist?

? For what beat did you cover acid rain?

? Which other environmental topics have you covered?

? What education do you have?
Journalism, science?

? How did you cope with the influx of science/politics into your coverage?
Did that happen for the first time with acid rain?
Ask science writers anout the influx of politics, and general assignment or political journalists about the influx of science.

? How/where do you aquire specific knowledge about a topic?
e.g. scientific journals, books, interviewing actors, media, seminars.

? Do you have a general objective when you write an environmental or scientific article?
(e.g. information about scientific progress, raise concern about environmental problems, promote action on environmental problems)

? How would you describe your professional responsibilities as a journalist?
This question refers to the issue of "advocacy" vs. "objective" journalism.

? How would you describe your paper's general attitude or policy towards environmental coverage, and how did that develop over the years?

? Did you ever have difficulties getting an environmental topic accepted, especially one about acid rain?
Or did the editors tend to "bury" articles about environmental topics in less prominent parts of the paper?
If so, when and for what reasons?
These questions are to find out when environmental topics gained acceptance as a "normal" part of the news.

Acid Rain

? When you think of acid rain, what do you think of first, and what images come to your mind immediately?
Dead trees, lakes, fish, smokestacks, ... This question is a good start to focus on the issue, but it might also be asked at another time during the interview. It aims to find out how each interviewee frames the issue. A list of all the answers to this question will be an interesting collection of all the different ways to frame this issue.

? How would you characterize the issue, also in comparison to other environmental issues?

? What made the issue noteworthy for you in the very beginning?
Who or what brought it to your attention?

? What reasons do you see for the changes in public/media attention over the years?
(Up and down of media interest: is the issue overrun by others, such as climate change, ozone depletion? Why?)

? To what degree is acid pollution a domestic or an international issue for you?

? Have you collected cartoons about acid rain?
If the journalist has a collection of cartoons, make copies for the project's cartoon file.

Sources and sourcing

? Who were your most important sources? Why?

? Were there sources you got along with better than with others?
If so, who and why?
With these two questions we want to find out what kind of a work relationship there was between actors and journalists. More specific questions could go after certain actors a journalist prefers to deal with, or, on the other hand, whom he or she cannot access (any more), and for what reasons.

? Who would address you directly with information they want you to publish?
Whom would you (have to) seek out to get information?
Did that change over time?
This refers to proactive and reactive media work by the actors.

? Did you make a point of "always presenting the other side", e.g. ask an NGO to comment on industry's or the government's point of view?
Or more specifically: when the journalist recieved a press release, or attended a press conference, did he or she try to get another opinion on the issue?

? Did you make use of foreign sources?
If so, did that start from you or from them?

Senior writers, editors

? How would you describe your paper's general attitude or policy towards environmental coverage, and how did that develop over the years?

? *If the paper carries a special page or section for environmental issues:*
What led to the decision to create the environmental page/section?

? *If the interviewee is the editor of the science department:*
How would you describe the development in the amount of environmental issues you have covered in the science department since it was created?

? Have you collected cartoons about acid rain?
If the journalist has a collection of cartoons, make copies for the project's cartoon file.

Actors

Frequently quoted actors

Occupational and personal background

? What exactly is your position in <interviewee's employer>?
What are your responsibilities?
How long have you been in this position?
It might turn out that the interviewee has not been in this position at the time when acid rain was most extensively covered in the media. In this case you might have to talk to whoever else has done the media work at that time.

? What education do you have?
e.g., science, public relations, journalism, etc.

Acid rain

? When you think of acid rain, what do you think of first, and what images come to your mind immediately?
Dead trees, lakes, smokestacks, ... This question is a good start to focus on the issue, but it might also be asked at another time during the interview. It aims to find out how each interviewee frames the issue. A list of all the answers to this question will be an interesting collection of all the different ways to frame this issue.

? How would you characterize the issue, also in comparison to other environmental issues?

? Have you collected cartoons about acid rain?
If the interviewee has a collection of cartoons, make copies for the project's cartoon file.

Media coverage

? What reasons do you see for the changes in public/media attention over the years?
Up and down of media interest: is the issue overrun by others, such as climate change, ozone depletion; why?

? How do you rate the coverage, both in general and specifically in the <newspaper>?

? Did you perceive an obvious bias by certain newspapers?

Media activities

? In general, has your media work been more proactive or more reactive?
Did that change in the course of time? If so, when and why did it change?

? What do/did you do to attract the journalists' attention to your information/activities?

? To what extent have you been successful with that?

? Who would seek you out and address you directly with requests for information, and whom, on the other side, would you (have to) seek out to offer information?
This question refers to differences in attention to an actor between newspapers.

? How important is your trust in or respect for a journalist's work and knowledge when you consider giving information to him/her? Or what other factors play a part?

? Are there any journalists whom you prefer over others?
With these two questions we want to find out what kind of a work relationship there was between actors and journalists. More specific questions could go after certain journalists an actor prefers to deal with, or, on the other hand, whom he or she tries to avoid, and for what reasons.

? Which other actors did you address in your media work?
This question refers to the concept of media as an arena or a stage for political conflict.

Additional questions for frequently quoted scientists

? Do you do any proactive media work?
If yes, do you do that on your own or in cooperation with the public information office of your university/institute?
And what makes you do this kind of media work?
e.g., the public information office asks the scientist to do that, or the feeling that the public ought to know about the scientist's findings

? Has there ever been a conflict between you and your superiors over your being covered in the media?
If yes, how was that resolved?
If no, have they been supportive?

? Have other scientists ever criticized you for being covered in the media?

? Do you generally take the time to talk to journalists when they call you?
If no, what influences your decision whether to talk to them or not?
e.g., time constraint, talks only to certain journalists

Additional questions for actors (including scientists) not frequently quoted

? For what reason have you not been quoted in the media/<newspaper> more often: did the journalists avoid you or did you avoid talking to journalists?

? If the journalists avoided you, why do you think they did that?
Did you try to change that?
The actor may have an unsuccessful media strategy, or journalists might not consider him or her a credible source.

? Are there journalists who have used information they got from you without acknowledging their source?
If the answer is yes:
Who were those journalists? Did you continue to give them information?
What did you do about it? Have you been successful with this acitvity?
Journalists might do that because they value the information but the source does not have a good reputation (e.g. advocacy groups).

? If you avoided talking to journalists, what were your reasons for that?
This will probably (only) be the case with some scientists. They may think it inappropriate for a scientist to be frequently quoted in the media, or they may have had negative experiences with being misquoted, or they may have other priorities. There may also be a conflict with the scientist's superiors, such as the president of their university or the director of their institute.

Taping

Taping is the most efficient way to do the interview. Provided the equipment works (!), you will not miss anything the interviewee told you, and you will also be able to make exact quotes.

However, the interviewee has to agree to taping the conversation. Tell him or her exactly what the tapes are for, and who will have access to them and to the transcripts to be produced later. Ideally, access to the written version of the interview is more open than access to the actual tapes. The transcripts should be available to all participants of this project; the interviewee may request to see the transcript before it is made available to other project participants. It might be a good idea to start each tape by having the interviewee say who he or she is and that he or she agrees to taping the interview.

Typically, journalists and people often talking to the media will not mind taping. It may happen, however, that they want to say something "off the record". In this case, offer to stop the tape for a moment. If the tape continues to run, but the interviewee expresses that information is off-record, do not transcribe this information, whether you want to follow up on it or not. If you do make use of it in your further work, it goes without saying that you do not mention the information and its source to anyone.

Transcripts

The transcripts of the interviews are to be part of the project database in the same way as the coded newspaper articles. For the majority of the interviews, which are not conducted in English, there will be two written versions: a detailed version in the original language, and a summary in English. Though the English version does not need to be a direct translation of the actual interview, it should be in the form of questions and answers so that other researchers can easily find specific information they are looking for.

These English summaries will be gathered in a database using the same template as the press analysis, although partly using different fields. The following explains the use of the fields similar to the codebook. Only the fields used to enter the interviews are mentioned. For information on how to enter the information (using a word processor or enter into Notebook directly), or for a complete list of the fields, refer to page 5 and Appendices 1 and 4.

Keyname

The last name of the person who was interviewed, plus the word "interview", and the year. Distinguish multiple entries for one person and year by a, b, etc. after the year if necessary.

The Keyname is used by Notebook's companion programs Bibliography and Citation to locate a citation in a document (see the Notebook manual for details).

Example: *Clark Interview, 1993*

Year published (Year pub)

The year in which the interview was conducted.

Author

The name of the person who conducted the interview, last name first.

Example: *Ell, Renate*

Essay/article title

A standardized title for every interview. If it is necessary to split a very long interview in two parts (see Summary field), the different parts are distinguished by adding add "part 1", "part 2" , etc. This distinction is independent from the one in the Keyname field, which can refer to two different interviews as well as to two parts of one interview.

Use the following format: "Interview with <interviewed person> by <interviewer>, part <n>".

Example: *Interview with William C. Clark by Renate Ell*

Day/month (or quarter)

The date on which the interview was conducted.

Use the following format: "YY/MM/DD", with y=year, m=month and d=day.

Summary

This field holds the transcript of the interview.

One Notebook record holds a maximum of 12 pages. If the text is longer, it has to be split into two (or more) records. In this case, the records have to be distinguished by "part 1", "part 2", etc. in the title field.

Write the summary in a question-and-aswer-style, and start a new paragraph with each question.

Comments

The use of this field is at the team's discretion.

Social Actor Group

Use the same codes as in the codebook for the press analysis to identify the interviewee's affiliation with an actor group.

Use the following format: AB-C-DE
AB = the actor group a source belongs to,
C = the role or profession the source has within this actor group, and
DE = the source's arena of origin (i.e. country, EC, or international organization).

Use the following matrix to identify the first two items:

	Role or profession:		
	Scientist	Non-scientist	Unknown
Actor group:			
Executive	EX-S	EX-N	EX-U
Legislative	-----	LE-N	-----
Judiciary	-----	JU-N	JU-U
Academia	AC-S	AC-N	AC-U
NGO	NG-S	NG-N	NG-U
Emittor industry	EI-S	EI-N	EI-U
Impacted industry	II-S	II-N	II-U
European Community	EC-S	EC-N	EC-U
Internat. organization	IO-S	IO-N	IO-U
Media	ME-S	ME-N	-----
Unknown, other	UK-S	UK-N	UK-U

Executive:	government and its agencies, both national and federal/regional
Legislative:	members of parliament or other legislative branches (Senate, Upper House, ...)
Judiciary:	judges (list lawyers with the group they represent, prosecuting attorneys with the executive)
Academia:	universities, research institutes not affiliated to government or industry
NGO:	non-governmental organizations (environmental and consumer groups, but not industry groups, which are coded with industry, below)
Emittor industry:	fossil fuel power plants, automobile industry, etc.
Impacted industry:	private forest, fisheries, timber, tourism, etc.

Refer to the list at the end of this chapter for the arena codes.

Examples:	*EX-N-US*	for Lee Thomas, EPA administrator
	NG-N-DE	for Hubert Weinzierl, president, BUND
	EC-N-EC	for Carlos Ripa de Meana, EC environment commission

Reference number

This number identifies the researcher who entered the information in the database (see page 13).

Use the following format: CC-WXY-...
CC = country (team) code, see list at the end of the codebook
WXY = three initials for the researcher. If you do not have a middle name, enter an "X"; if you have four initials, enter only three.
... = optional rest of the reference number.

Report number (Report no.)

If an interview is also published as a Social Learning paper, enter the contribution number for that paper.

Location

Enter the location of the tape, if applicable, and the original transcript.

Country of publication (Country of pub)

Use the country codes at the end of this chapter to identify your team.

Person interviewed (Interview-name)

The full name of the person interviewed, last name first.

Example: *Clark, William C.*

Interview-Organization (Interview-orgzn)

The title, organization, and address (including country) of the person interviewed.

Example: *Director, Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138, USA*

Interview-Telephone (Interview-phone)

The phone number of the person interviewed, including country and area code. Identify whether it is a direct phone number or the one for the person's secretary. Include a fax number if available.

Example: *phone: + 1-617-495-3981 (desk)*
fax: + 1-617-495-8963

Arena Codes

Use the following arena codes wherever required in the codebook.

European Countries:

AL	Albania	IT	Italy
AT	Austria	LU	Luxembourg
BE	Belgium	NL	Netherlands
BG	Bulgaria	NO	Norway
CS	Czechoslovakia	PL	Poland
DK	Denmark	PT	Portugal
FI	Finland	RO	Romania
FR	France	ES	Spain
DE	FRG*	SE	Sweden
DD	GDR*	CH	Switzerland
GR	Greece	TR	Turkey
HU	Hungary	SU	USSR, CIS
IS	Iceland	GB	United Kingdom
IE	Ireland	YU	Yugoslavia

Non-European Countries:

CA	Canada
JA	Japan
MX	Mexico
US	USA

Other Arenas:

EC	European Community
UN	United Nations, including agencies (e.g. UNEP)
XX	None of the above

* Germany: Since the vast majority of the material studied was published before unification (October 3, 1989), and since GDR is sometimes covered in this material even after unification, "DE", the code for FRG, will be used throughout the project to identify sources and press from the Federal Republic of Germany - no matter whether the article in question was published before or after unification.

IV Background

Information on the country's press in general and the newspapers included in the study in particular, as well as on the development of science and environmental coverage, shall provide a perspective for the results of the empirical research, i.e. the press analysis and the interviews, which are the core of this study.

While some of this information will be gathered in the interviews, other facts can be found in the relevant literature or obtained from the publishers of the newspapers studied.
The following is a list of questions that each team should address in the final report.

Press in general

? What is the structure of the press: is it rather centralized, with one or two dominating national newspapers, or rather regionalized? What development led to this structure?

? What part do newspapers play as sources of information compared to the weekly press, radio and television?

? How far has the press concentration proceeded, i.e. who owns the press?

? How did environmental and science reporting develop (since when, what topics, importance within general news reporting)?

? What are the characteristics of news reporting in the press (objective or biased with respect to the paper's political orientation, investigative, etc.; cf. studies on news reporting and textbooks on writing for journalism students)?

Newapers included in the study

? What position do the newspapers included in this study have within the country's press, with respect to
- political orientation,
- influence (are they national newspapers?),
- circulation,
- readership (educational and occupational characteristics, percentage of decisionmakers in industry and politics among the readers, etc.; cf. surveys by the newspapers)?

? What is the ratio between news from wire services and those written by the newspaper's own staff?
Is this the same ratio observed in the analysis of the acid rain coverage?
If not, what is the difference and what are the reasons for that?

? Do the papers have a science or environment section?
If so, since when, and what are their characteristics (space, frequency, topics, etc.)?

CENTER FOR SCIENCE AND INTERNATIONAL AFFAIRS

CSIA is a vibrant and productive research community at Harvard's John F. Kennedy School of Government. Emphasizing the role of science and technology in the analysis of international affairs and in the shaping of foreign policy, it is the axis of work on international relations at Harvard University's John F. Kennedy School of Government. CSIA has three fundamental missions: to anticipate emerging international problems, to identify practical solutions, and to galvanize policy-makers into action. These goals animate the work of all of the Center's major programs.

The Center's Director is Graham Allison, former dean of the Kennedy School. Marie Allitto is Director of Finance and Operations.

CSIA's International Security Program (ISP) is the home of the Center's core concern with security issues. It is directed by Steven E. Miller, who is also Editor-in-Chief of the journal International Security.

The Strengthening Democratic Institutions (SDI) project works to catalyze international support for political and economic transformations in the former Soviet Union. SDI's director is Graham Allison.

The Science, Technology, and Public Policy (STPP) program emphasizes public policy issues in which understanding of science, technology, and systems of innovation is crucial. Lewis Branscomb, former head of the National Institute of Standards and Technology, and former chief scientist at IBM, is STPP's director.

The Environment and Natural Resources Program (ENRP) is the locus of interdisciplinary research on environmental policy issues. It is directed by Henry Lee, expert in energy and environment. William Clark, an environmental scientist and editor of Environment, serves as ENRP's faculty chair.

The heart of the Center is its resident research staff: scholars and public-policy practitioners, Kennedy School faculty members, and a multi-national and inter-disciplinary group of some two dozen pre-doctoral and post-doctoral research fellows. Their work is enriched by frequent seminars, workshops, conferences, speeches by international leaders and experts, and discussions with their colleagues from other Boston-area universities and research institutions and the Center's Harvard faculty affiliates. Alumni include many past and current governmental policy-makers. Graceann Todaro is CSIA 's Fellowship Coordinator.

The Center has an active publication program including the quarterly journal International Security, book and monograph series, and Discussion Papers for work in progress. Teresa Lawson is CSIA's Senior Editor, and is also Deputy Editor of International Security. Members of the research staff also contribute frequently to other leading publications, advise the government, participate in special commissions, brief journalists, and share research results with both specialists and the public in a wide variety of ways.

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