Springer

Environmentalism among Nation-States
Author(s): Thomas Dietz and Linda Kalof
Source: *Social Indicators Research*, Vol. 26, No. 4 (Jun., 1992), pp. 353-366
Published by: Springer
Stable URL: https://www.jstor.org/stable/27520933
Accessed: 26-04-2020 13:14 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at https://about.jstor.org/terms

JSTOR

Springer is collaborating with JSTOR to digitize, preserve and extend access to *Social Indicators Research*

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

THOMAS DIETZ AND LINDA KALOF

ENVIRONMENTALISM AMONG NATION-STATES

(Accepted 13 June, 1991)

ABSTRACT. This article attempts to offer a better understanding of international environmental cooperation by measuring state environmentalism. We examine whether there is a structural response by nation-states to various international agreements on the environment. Using alpha and theta reliability scaling, we create an environmental scale that measures the propensity of a nation-state to take political action in support of the environment, as indicated by the ratification of key international treaties. Our work suggests that environmentalism is, in fact, a structural characteristic of nation-states that leads them to respond in a patterned way to environmental policies.

INTRODUCTION

International agreements to regulate the behavior of nation-states increasingly are seen as a key to protecting the global environment. Global environmental change, including global climate change, loss of biodiversity, ozone depletion and acid precipitation, cannot be solved by any single nation or even a small group of nations. Solutions to these problems require coordinated efforts on the part of most or all nation-states. As a result, research on international agreements is a high priority in efforts to understand the human dimensions of global environmental change (U.S. National Research Council, 1991).

To date, most work on this subject has focused on case studies of specific treaties or regulatory regimes. Drawing on the so-called 'neorealist' and public choice traditions, this literature attempts to elucidate the factors that led nations to endorse a particular treaty or that led to the development of an international regulatory regime in a particular domain of environmental policy.[1] Neorealistic or hegemonic theorists emphasize the influence of one or a few dominant actors. These hegemons use their power to orchestrate consensus on proposed treaties (e.g. Gilpin, 1987; Krasner, 1985; Strange, 1983). In contrast, rational choice theorists focus attention on the benefits and costs of a

Social Indicators Research **26**: 353–366, 1992.
© 1992 *Kluwer Academic Publishers. Printed in the Netherlands.*

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

proposed regulation to each nation and the rational calculus of decision-making that follows from awareness of these benefits and costs (e.g. Schelling, 1960; Tullock, 1970; Young, 1975; 1982). But both approaches use the case study in support of their arguments.

We offer a complementary approach to the study of international environmental cooperation. We ask if various international agreements on the environment constitute a consistent body of stimulae to which nation-states respond in a structured way. That is, we look at the behavior of nation-states which regard to environmental accords in much the same way that a social psychologist would look at a repertoire of questionnaire responses or behaviors, and ask if the responses can be considered the results of an underlying belief or attitude. Rather than looking at individual accords and theories that attempt to explain why they have been adopted, we attempt to measure state environmentalism.

Existing treaties cover a broad range of topics, including ozone depletion, pollution of the oceans, trade in endangered species and preservation of unique ecosystems. Neither hegemonic nor rational choice models of nation-state behavior implies that a nation would adopt a similar stance across the dozen major environmental treaties, since each treaty may be viewed differently by hegemons and will generate different costs and benefits. Our approach suggests that there may be structural factors that do generate consistent reponses. This may be a result of a generalized environmentalism on the part of a hegemonic state, which in turn may be the result of the strength of indigenous environmental movements or of susceptibility to pressure from the international environmental movement. Or it may be that the general position of a nation in the global political economy consistently influences benefits and costs, whether the specific issue is biodiversity or marine pollution. In any event, in this paper we limit our inquiry to examining whether or not it is meaningful to speak of state environmentalism. We conceptualize state environmentalism as a characteristic of nation-states that leads them to ratify international agreements on the environment. Thus state environmentalism can be considered a latent variable that influences the observed ratifications.[2]

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

DATA AND METHODS

Data are taken from *World Resources 1990–91* (World Resources Institute, 1990, Table 25.1). The data include information on the response of 146 nations to a dozen global conventions on the environment promulgated from 1963 to 1989. We did not include the various 'Regional Seas' conventions in our analysis because the potential signatories to each regional convention vary. We have scored nations which are contracting parties (i.e. which have ratified the treaties) 1, other nations are scored 0.[3] Note that nations scored 0 include some which have signed the treaties but have not ratified them. Signature requires only the consent of the administration, but in democratic societies ratification requires further political action, so we consider ratification the more reliable indicator of environmentalism. Table I displays the treaties and the proportion of nations which are contracting parties.

TABLE I
Global environmental protection conventions and proportion of contracting (ratifying) nation-States ($n = 146$)

Convention	Date Established	Proportion of Contracting Nation-States
Nuclear Test Ban	1963	0.75
Wetlands (Ramsar)	1971	0.33
Biological and Toxic Weapons	1972	0.69
World Cultural and Natural Heritage	1972	0.68
Ocean Dumping	1972	0.38
Endangered Species (CITES)	1973	0.64
Ship Pollution	1978	0.34
Migratory Species	1979	0.20
Law of the Sea	1982	0.25
Ozone Layer Vienna	1985	0.37
CFC Control Montreal	1987	0.33
Hazardous Wastes Movement	1989	0.01

We use two methods to analyze the patterns of response by nations to the 12 treaties. The first is alpha reliability scaling, which assumes that the latent variable, state environmentalism, can be considered a

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

linear sum of observed variables, implicitly assigning each observed variable a weight of 1.0. The second is Armor's theta scaling, which also assesses the reliability of a linear sum of variables, but uses a principal components analysis and related eigenstructure to assign weights to each item so as to maximize additive reliability (Armor, 1974). Examining the change in alpha reliability that would result from deleting a variable from the scale provides a mechanism for dropping variables that do not tap the underlying dimension of state environmentalism. Loadings on the first principal component provide both a way of estimating the link between the latent variable and the observed national behavior, and also of dropping those variables with loading too low (below 0.4 by convention) to be considered reliable indicators.

RESULTS

Table II displays the alpha when an item is deleted, the factor coeffi-

TABLE II
Factor loadings, alpha if item deleted from analysis, and alpha and theta reliabilities for 12 environmental conventions ($n = 146$)

Convention	Factor Loading	Alpha if Item Deleted
Nuclear Test Ban	0.43834	0.7210
Wetlands	0.74660	0.6885
Biological and Toxin Weapons	0.40117	0.7299
World Heritage	0.26665	0.7376
Ocean Dumping	0.65385	0.6960
Endangered Species (CITES)	0.46722	0.7197
Ship Pollution (MARPOL)	0.58787	0.7117
Migratory Species	0.50120	0.7148
Law of the Sea	−0.15353	0.7726
Ozone Layer Vienna	0.79565	0.6852
CFC Control Montreal	0.81148	0.6804
Hazardous Wastes Movement	0.14643	0.7406

Alpha = 0.7359
Theta = 0.7845

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

cient and the alpha and theta reliabilities using all twelve items as indicators of state environmentalism. Three treaties, the World Heritage Convention, the Law of the Sea Convention and Hazardous Waste Movement Convention, do not seem to be reliable indicators of state environmentalism. Debate around the Law of the Sea often focused on North-South relations and on the role of the private versus state enterprise, and thus its environmental content may have been less important to national response than these other issues. The Hazardous Waste Movement convention was only instituted in 1989, so most nations have not yet had time to ratify it. The reasons that participation in the World Heritage Convention is not a reliable indicator of state environmentalism are less clear. This convention was established in 1972 to protect valuable cultural and natural heritage sites and implies some global control over or interest in such areas. Perhaps some nations consider it a threat to national sovereignty in ways that other environmental treaties are not. They may be reluctant to participate in this particular regime even though they cooperate in other environmental accords. If that is the case, ratification is related to state environmentalism, but also to nationalism and concern with territorial sovereignty, and thus it is not a reliable indicator of environmentalism alone.

Table III displays the results obtained when these three items are deleted. The Biological and Toxin Weapons Convention now has the weakest link to state environmentalism. We have included it in our final scale although the alpha and theta scaling criteria would allow either its inclusion or deletion. All other items have strong or moderate relationships to the underlying factor, and the overall scale is quite reliable. The second principal component has an eigenvalue of only 1.1, and explains only 12% of the overall variance compared with 39% for the first principal component, thus our assumption of a single underlying dimension of environmentalism seems justified.

Table IV displays the value of state environmentalism for each nation in the sample. We provide two measures. One is simply the unweighted sum of the nine variables, that is, the number of accords to which the nation is a contracting party. We include this simple measure because it is easy to interpret and nearly as reliable as the weighted sum based on principal components analysis. The second scale weights each

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

TABLE III
Factor loadings, alpha if item deleted from analysis, and alpha and theta reliabilities for remaining nine environmental conventions ($n = 146$)

Convention	Factor Loading	Alpha if Item Deleted
Nuclear Test Ban	0.44072	0.7845
Wetlands	0.73912	0.7495
Biological and Toxin Weapons	0.39780	0.7922
Ocean Dumping	0.65048	0.7625
Endangered Species (CITES)	0.45014	0.7875
Ship Pollution (MARPOL)	0.59989	0.7708
Migratory Species	0.50789	0.7802
Ozone Layer Vienna	0.80954	0.7419
CFC Control Montreal	0.82356	0.7395

Alpha = 0.7890
Theta = 0.8013

ratification according to its loading on the first principal component in the principal components analysis. We call these scales State Environmentalism A and B. The unweighted scale, A, has a range of 0 to 9, mean 4.6, median 4.00, and standard deviation 2.55. Figure 1 is a stem and leaf plot of this variable. The weighted scale, B, is standardized and so ranges from −1.40 to 1.93, with mean 0.00, median −0.224, and standard deviation 1.00.

To establish the validity of our measures, we have examined their relationship to two other indicators of environmentalism available for a large number of nations. Table V presents the correlation between our measures and both the percentage of national land area protected under scientific reserves, national and provincial parks, etc., and the percentage of years that the nation has met the reporting requirements of the Convention on International Trade in Endangered Species. These data are obtained from *World Resources 1990–91* (World Resources Institute, 1990, Tables 20.1 and 20.3, respectively). Both are related to national action to alleviate problems of biodiversity. Unfortunately, no indicators related to policies on other global environmental

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

TABLE IV
Value of Environmentalism Scale A (unweighted) and Scale B (weighted) for 146 nation-states

Nation-State	Scale A	Scale B
Africa		
Algeria	3	−0.32608
Angola	0	−1.40679
Benin	4	−0.23675
Botswana	2	−0.84413
Burkina Faso	2	−0.42599
Burundi	1	−1.13729
Cameroon	4	0.20390
Cape Verde	3	−0.48310
Central African Rep	2	−0.84413
Chad	3	−0.36336
Comoros	0	−1.40679
Congo	2	−0.89029
Cote d'Ivoire	3	−0.36765
Djibouti	0	−1.40679
Egypt	7	1.30827
Equatorial Guinea	1	−0.92602
Ethiopia	2	−0.89029
Gabon	5	0.35062
Gambia, The	2	−0.84413
Ghana	6	0.74405
Guinea	1	−1.13729
Guinea-Bissau	2	−0.86664
Kenya	6	0.76720
Lesotho	1	−1.15980
Liberia	3	−0.48169
Libya	3	−0.48310
Madagascar	2	−0.84413
Malawi	2	−0.84413
Mali	2	−0.59764
Mauritania	2	−0.66487
Mauritius	3	−0.59714
Morocco	4	−0.01183
Mozambique, People's Rep	1	−1.13729
Niger	5	0.21202
Nigeria	7	1.12759
Rwanda	3	−0.59714
Senegal	5	0.21202
Sierra Leone	2	−0.86664
Somalia	2	−0.77690
South Africa	8	1.57841
Sudan	2	−0.84413
Swaziland	1	−1.11363
Tanzania	2	−0.84413
Togo	3	−0.59714

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

Table IV (*continued*)

Nation-State	Scale A	Scale B
Tunisia	9	1.93880
Uganda	4	0.31593
Zaire	4	−0.21360
Zambia	2	−0.84413
Zimbabwe	1	−1.13729
North & Central America		
Barbados	1	−1.15980
Canada	7	1.21597
Costa Rica	4	−0.21360
Cuba	2	−0.77626
Dominican Republic	4	−0.21360
El Salvador	1	−1.11363
Guatemala	6	0.76720
Haiti	1	−1.02325
Honduras	4	−0.21360
Jamaica	1	−1.15980
Mexico	6	0.94646
Nicaragua	3	−0.59714
Panama	8	1.49003
Trinidad and Tobago	4	0.13667
United States	8	1.57841
South America		
Argentina	4	−0.21360
Bolivia	3	−0.59714
Brazil	5	0.14884
Chile	6	0.59555
Columbia	4	−0.23469
Ecuador	3	−0.59714
Guyana	1	−1.13729
Paraguay	3	−0.52991
Peru	5	0.24607
Suriname	5	0.41785
Uruguay	6	0.69484
Venezuela	5	0.38367
Asia		
Afghanistan	4	−0.21360
Bahrain	1	−1.15980
Bangladesh	3	−0.59714
Bhutan	2	−0.86664
China	6	0.62961
Cyprus	4	−0.23469
India	6	0.57446
Indonesia	3	−0.48169
Iran, Republic of	4	−0.14837

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

Table IV (*continued*)

Nation-State	Scale A	Scale B
Iraq	1	−1.11363
Israel	4	−0.12130
Japan	8	1.57841
Jordan	7	1.21597
Kampuchea, Dem	1	−1.15980
Korea, Dem People's Rep	2	−0.79736
Korea, Republic	3	−0.50420
Kuwait	2	−0.86664
Lao People's Dem Rep	2	−0.86664
Lebanon	3	−0.50420
Malaysia	4	0.13667
Mongolia	2	−0.86664
Myanmar	2	−0.75119
Nepal	3	−0.39536
Oman	2	−0.66081
Pakistan	5	0.21202
Philippines	4	−0.21360
Qatar	1	−1.15980
Saudi Arabia	1	−1.15980
Singapore	5	0.38367
Sri Lanka	5	0.38367
Syrian Arab Rep	4	0.22961
Thailand	5	0.38367
Turkey	2	−0.86664
United Arab Emirates	3	−0.04245
Viet Nam	1	−1.15980
Yemen Arab Rep	1	−1.15980
Yemen, People's Dem Rep	2	−0.86664
Europe		
Albania	0	−1.40679
Austria	7	1.19487
Belgium	8	1.57841
Bulgaria	4	−0.05544
Czechoslovakia	3	−0.50420
Denmark	9	1.93880
Finland	9	1.93880
France	7	1.28525
German Dem Rep	8	1.57841
Germany, Fed Rep	9	1.93880
Greece	7	1.30890
Hungary	9	1.93880
Iceland	7	1.30890
Ireland	7	1.30685
Italy	9	1.93880
Luxembourg	6	0.74405
Malta	6	0.83243

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

Table IV (*continued*)

Nation-State	Scale A	Scale B
Netherlands	9	1.93880
Norway	9	1.93880
Poland	5	0.32810
Portugal	8	1.64564
Romania	2	−0.86664
Spain	9	1.93880
Sweden	9	1.93880
Switzerland	8	1.57841
United Kingdom	9	1.93880
USSR	8	1.57841
Yugoslavia	5	0.32810
Oceania		
Australia	8	1.57841
Fiji	4	0.11416
New Zealand	7	1.21597
Papua New Guinea	4	−0.21360
Solomon Islands	2	−0.77626

problems are available for a broad sample of nations. The correlations indicate that both our scales have reasonable external validity, and that scale A actually has slightly higher correlations with these policy measures than the more complex weighted scale.

CONCLUSIONS

State environmentalism appears to be a viable concept describing the propensity of a nation state to take political action in support of the

```
9 : 9 9 9 9 9 9 9 9 9 9
8 : 8 8 8 8 8 8 8 8 8
7 : 7 7 7 7 7 7 7 7 7
6 : 6 6 6 6 6 6 6 6 6
5 : 5 5 5 5 5 5 5 5 5 5 5
4 : 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
3 : 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
2 : 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1 : 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0 : 0 0 0 0
```

Fig. 1. Stem and leaf diagram of Environmentalism Scale A

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

TABLE V
Pearson's correlation coefficients for state Environmentalism Scale A, state Environmentalism Scale B, percentage of national land area protected, and percentage of years reporting requirements of endangered species convention met by nation.

	Protected Lands	Reporting Reqs Met	Environmentalism Scale B	Environmentalism Scale A
Protected Lands	1.0000 ($n = 146$)	0.2733 ($n = 136$)	0.2244 ($n = 146$)	0.2541 ($n = 146$)
Reporting Requirements Met		1.0000 ($n = 136$)	0.4658 ($n = 136$)	0.5033 ($n = 136$)
Environmentalism Scale B (weighted)			1.0000 ($n = 146$)	0.9924 ($n = 146$)
Environmentalism Scale A (unweighted)				1.0000 ($n = 146$)

environment. Of course, our measure is based on ratification of international accords, and ratification does not always produce compliance, even as attitudes measured in a survey instrument have only moderate correlation with observed behavior. But the moderate correlations between our measures and two indicators of state action suggest that the measures are valid. And the protracted domestic and international debates over these treaties indicate that nations do take ratification seriously.

Our results suggest at least two lines for further research. First, the implementation of domestic laws and regulations to protect the environment needs to be examined, as does the impact of both international accords and domestic policy on the environment. Commoner (1990) has argued that even when implemented many environmental laws and regulations have little effect on the state of the environment. This suggests that research is needed to determine the consequences of state environmentalism and in particular, the conditions under which state environmentalism produces any change in environmental conitions.

A second line for further research looks to the causes of state environmentalism. The neorealist and rational choice theorists in international relations have proposed theories about specific policy choices and examined them using case studies. We believe that quantitative cross-national comparisons, emphasizing the structural situation of the nation state, including both its position in the global political economy

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

and internal political, economic and social structure, have much to contribute to understanding state environmentalism and thus to an understanding of human response to global environmental change.[4] For example, we hypothesize that the strength of indigenous environmental movements is an important influence on state environmentalism, but that its impact depends on the democracy of the political system (Bollen, 1980; Bollen and Jackman, 1985). We also suspect that strong influence from multinational corporations, which often 'offshore' environmentally degrading activities to the Third World, will lessen state environmentalism (Covello and Frey, 1990).

Understanding the causes and consequences of state environmentalism is a topic for further research. In this paper we have tried to demonstrate that contemporary nation-states have a generic pattern of response to proposed environmental policies, whatever their responses to specific policies. We hope that this notion, and the scales resulting from it, will prove useful in research on the state and environmental policy.

ACKNOWLEDGEMENT

An earlier version of this paper was presented at the 1991 Eastern Sociological Society Meetings in Providence, Rhode Island, U.S.A. We thank Amy Hubbard, Marvin Olsen, Thomas Rudel, Oran Young and the Social Indicators Research reviewers for their comments. The research was supported in part by the Northern Virginia Survey Research Laboratory, Department of Sociology and Anthropology, George Mason University and by U.S. National Science Foundation Grant SES-9109928.

NOTES

[1] Young (1989a, b) provides a review and synthesis of this literature.

[2] A reviewer noted that we operationalize state environmentalism in terms of what we are here describing as an effect of environmentalism — the ratification of treaties. A full structural equation model might include other variables, such as domestic environmental policy, that could serve as indicators, and also incorporate causes of environmentalism and consequences other than treaty ratification. This would provide better

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

understanding of the causes and consequences of state environmentalism and enhance the validity of measurement.

[3] We have analyzed unweighted data. As a reviewer noted, this means that the ratification of the Ocean Dumping Treaty by land-locked Afghanistan has the same impact on our analysis as ratification by the U.S., and the ratification of the Nuclear Test Ban Treaty by the Soviet Union the same weight as the actions of Benin. Obviously, the practical significance of treaty ratifications will differ across countires, and the significance of each country's participation in a regime will differ across treaties. We have not weighted cases because we are trying to identify a common factor that underlies these differences accross treaties and nations. The extent of state environmentalism varies considerably across nations, and it may be that the structure of environmentalism also differs. Certainly treatly ratification has a different meaning for rich than for poor nations, for large than for small nations, and so on. Further research should explore these differences, as well as examining the causes of state environmentalism.

[4] Empirical analyses of the determinants of environmentalism must be attentive to chronology. For example, the international treaties we use as indicators were drafted between 1963 and 1987. Over the quarter century involved, many changes occurred in the structural situation of most, if not all, nations. Care must be taken to insure that the structural variables used in an analysis refer to the period during which ratification took place, or other forms of environmental policy were implemented.

REFERENCE

Armor, D. J.: 1974, 'Theta Reliability and Factor Scaling'. In Sociological Methodology, 1973—74 (Jossey Bass, San Francisco), pp. 17—50.

Bollen, K. A.: 1980, 'Issues in the comparative measurement of political democracy', American Sociological Review 48, pp. 468—479.

Bollen, K. A. and R. W. Jackman: 1985, 'Political democracy and the size distribution of income', American Sociological Review 50, pp. 438—457.

Commoner, B.: 1990, Making Peace with the Planet (Pantheon, New York).

Covello, V. T. and R. S. Frey: 1990, 'Environmental health risks in developing nations', Technological Forecasting and Social Change 37, pp. 159—179.

Gilpin, R.: 1987, The Political Economy of International Relations (Princeton University Press: Princeton, New Jersey).

Krasner, S. D.: 1985, Structural Conflict: The Third World Against Global Liberalism (University of California Press, Berkeley, California).

Schelling, T. C.: 1960, The Strategy of Conflict (Harvard University Press, Cambridge, Massachusetts).

Strange, S.: 1983, 'Cave! hic dragones: A Critique of Regime Analysis.' In S. D. Krasner (ed.) International Regimes (Cornell University Press, Ithaca, New York), pp. 337—354.

Tullock, G.: 1970, Private Wants, Public Means, (Basic Books, New York).

U.S. National Research Council: 1991, Human Dimensions of Global Change, (National Academy Press, Washington, D.C.).

World Resources Institute: 1990, World Resources, 1990—91. (Oxford University Press: New York).

Young, O. R. (ed.): 1975, Bargaining: Formal Theories of Negotiation (University of Illinois Press, Urbana, Illinois).

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms

Young, O. R.: 1982, Resource Regimes: Natural Resources and Social Insititutions (University of California Press, Berkeley, California).
Young, O. R.: 1989a, 'The Politics of international regime formation: managing natural resources and the environment', International Organization 43, pp. 349—375.
Young, O. R.: 1989b, International Cooperation: Building Regimes for Natural Resources and the Environment (Cornell University Press, Ithaca, New York).

Human Ecology Research Group
Department of Sociology and Anthropology
George Mason University
Fairfax, UA 22030
U.S.A.

Department of Sociology
State University of New York at Plattsburgh
Plattsburgh, NY 12901
U.S.A.

This content downloaded from 213.55.83.51 on Sun, 26 Apr 2020 13:14:08 UTC
All use subject to https://about.jstor.org/terms