

The Greening of the Globe? Cross-national Levels of Environmental Group Membership

RUSSELL J. DALTON

University of California, Irvine, CA, USA

ABSTRACT Is the environmental movement still growing in members? What explains cross-national levels of environmental mobilisation? This article addresses these questions using data from the new 1999–2002 wave of the World Values Survey. We describe the membership levels in environmental groups across nations, and then examine rival explanations for why membership is concentrated in certain nations although environmental concerns exist globally. We first find that environmental groups represent one of the most common forms of political group membership on a global scale, and membership levels are increasing. We also demonstrate that the combination of social and political conditions in advanced industrial democracies is a strong predictor of environmental group membership levels.

Attention to environmental issues has grown over the past generation, and many scholars now speak of environmentalism as a global phenomenon; environmental interests exist not only in advanced industrial societies, but also in less developed nations. For instance, Inglehart (1995) showed that concerns about pollution, and the public's willingness to pay for environmental remedies, are common in affluent and developing nations (see also Norris, 2003). Dunlap *et al.* (1993) demonstrated that people in less developed nations are as aware of pollution as citizens in advanced democracies. A growing number of international agreements attest to the globalisation of environmental issues and interstate attempts to address them (Meyer *et al.*, 1997). The spread of transnational environmental action also illustrates this trend (Dalton *et al.*, 2003; Smith *et al.*, 1997).

However, there are persistent claims that environmental activism is waning (Bramwell, 1994; Rowell 1996). In addition, evidence on the extent of environmental activism in the developing world is still limited (e.g. Princen & Finger, 1994; Haynes, 1996, 1999; Rootes, 1999). Green activism appears to be spread unequally across nations, in contrast to the widespread support for

Correspondence Address: Russell J. Dalton, Center for the Study of Democracy, University of California, Irvine, CA 92697-5100, USA. Email: rdalton@uci.edu

environmental protection. Several past studies, using different measures of environmental activism, found that the strength of the movement is related to the economic and political development of the nation (Dalton & Rohrschneider, 2002; Frank *et al.*, 2000; Smith & Wiest, 2002). These studies are valuable evidence about the distribution of environmental activism, but further research can expand the temporal and cross-national breadth of the evidence, and the theoretical explanations of environmental mobilisation.

This article first describes membership levels in environmental groups at the start of the 21st century, and examines whether membership has systematically changed over the past two decades. We describe the cross-national patterns of environmental membership with data from the new 1999–2002 wave of the European Values Survey and World Values Survey (WVS). These new surveys are unprecedented in the number of nations they include, allowing us to extend cross-national comparisons beyond those of previous research. Then, we determine the conditions that predict cross-national levels of environmental group membership. That is, why is membership in environmental groups higher in some nations than in others, although general interest in green issues seems to be a global phenomenon? Finally, we conclude by discussing the implications of our findings in considering green activism as a global political movement.

Cross-national Levels of Environmental Group Membership

Our research uses the 1999–2002 WVS to measure self-reported membership in environmental organisations. The WVS is a co-ordinated data collection effort on a nearly global scale.¹ The nations in the fourth wave represent more than 75% of the world's population. There is nearly complete coverage of the advanced industrial democracies, more than a dozen states from eastern Europe and the former Soviet Union, and a much wider range of developing nations than in earlier WVS waves or other academic surveys.

The WVS uses the following question to tap membership in environmental groups:

Please look carefully at the following list of voluntary organisations and activities and say...which, if any, do you belong to? [Do you belong to] conservation, environmental, or animal rights groups?

The interpretation of what constitutes a conservation or environmental group is left to the respondent, and the understanding of these terms may vary across nations (e.g. Rohrschneider, 1990). In addition, the content of environmental activism differs significantly across nations. For instance, Greenpeace and other such challenging groups have a larger presence in Western democracies, while the movement in developing nations often focuses on problems of local living conditions, such as clean water, sanitation and health. We are interested in a broad assessment of environmental movement membership on a global scale that inevitably encompasses such variation.

Previous research has used different methodologies to measure environmental activism. Frank *et al.* (2000) and Smith and Wiest (2002), for instance, counted the number of environmental groups in a nation without measuring membership in these groups. We think that activism requires that we count individual membership, especially since the membership size of environmental groups appears to vary systematically between developing nations and advanced industrial democracies. Other studies have used membership statistics reported by environmental groups (Dalton, 1994; Rootes, 2004). Such data are valuable, but they also present reliability and validity problems, and cannot account for multiple memberships by the same individuals. Moreover, reliable membership data are not available on a broad cross-national scale over time. Thus, we treat the WVS data as a reasonable, albeit imprecise, estimate of green activism in its various hues.

Table 1 presents the percentage of respondents who state they are members of an environmental group. The highest participation is in the Netherlands, which is atypically high but reflects both the political traditions of the nation and membership in conservation groups as a byproduct of the nation's park and nature preserve system (van der Heijden, 2002). At the other extreme, several nations report membership levels below 1%. Across the 56 nations included in this article, stated membership in environmental groups averaged 5.2% at the end of the 1990s. This membership level may seem modest, but membership in political parties – the major form of political organisation in most nations – is only slightly higher (6.5%). Membership in local community groups (5.2%), women's groups (4.9%), human rights groups (3.6%) and peace groups (2.7%) is even lower.² Thus, environmental groups now represent one of the more common non-economic elements of civil society on a global scale.

One of the complications of survey-based statistics is that the level of self-reported group membership in any nation is subject to the normal variation of sampling error (as well as non-random questionnaire effects). However, we can demonstrate the basic validity of the WVS membership estimates by comparing these data with other international surveys.³ The 2002 European Social Survey includes 17 nations that overlap with the 1999–2002 WVS samples; the Pearson *r* correlation between national membership levels in the two surveys is 0.829.⁴ Similarly, the 1993 and 2000 International Social Survey Program (ISSP) surveys focused on environmentalism. The 1993 survey included a different subset of 17 nations that overlap with the WVS; the correlation between national membership levels and the WVS is 0.892.⁵ The 2000 ISSP survey had 20 overlapping nations, and the correlation of membership levels is 0.857. Thus, the ranking of nations is quite similar between the WVS and several other respected international surveys, reinforcing the validity of these membership estimates.

The practical sampling error on the WVSs is in the range $\pm 3\text{--}5\%$, and this should be considered in examining membership levels for specific nations in Table 1. Across all these nations, however, sampling error should vary

Table 1. Environmental group membership over time

Nation	1999	1990	1981
Netherlands	45.1	23.8	11.4
USA	15.9	8.3	5.1
Denmark	13.2	12.5	5.4
Venezuela	11.9		
Sweden	11.7	10.6	6.7
Greece	11.0		
Belgium	10.5	6.6	3.1
Albania	10.4		
Uganda	9.7		
Luxembourg	9.7		
Austria	9.6	2.9	
Philippines	8.2		
Canada	8.1	7.6	4.9
Vietnam	7.6		
India	7.0		
Czech Republic	6.6		
South Korea	6.2	2.0	2.7
Finland	4.8	5.4	0.7
Macedonia	4.8		
Mexico	4.7	2.8	3.2
Moldova	4.7		
Iceland	4.6	4.8	4.5
Algeria	4.4		
Montenegro	4.4		
Italy	3.8	3.3	1.7
South Africa	3.8		3.1
Slovenia	3.3	1.7	
Ireland	3.2	2.3	2.7
Japan	3.2	1.1	0.7
Chile	3.1	1.6	
Peru	3.1		
Croatia	3.0		
West Germany	2.8	4.6	3.3
Slovakia	2.6		
Zimbabwe	2.6		
Argentina	2.2	0.2	1.1
France	2.1	2.3	1.5
Malta	2.0		
Spain	1.9	1.4	2.4
Hungary	1.9	1.4	
Estonia	1.7	2.7	
UK	1.5	5.0	5.0
Bulgaria	1.5	3.8	
Poland	1.4		
China	1.2	1.0	
Singapore	1.1		
Romania	1.0	1.0	
Belarus	0.9		
Portugal	0.9	0.8	

(continued)

Table 1. (continued)

Nation	1999	1990	1981
Lithuania	0.8	2.1	
Serbia	0.8		
Latvia	0.7	4.3	
Russia	0.7	1.7	
Ukraine	0.6		
Morocco	0.6		
Turkey	0.2		

Source: WVSs. The sampling error in the typical WVS survey is $\pm 3\text{--}5\%$, which should be considered in estimating the membership rates in any specific national survey.

randomly, so the overall patterns in the relationship we examine below will be statistically reliable.

For some of the WVS nations, we can also track the change in environmental group membership over time. Eighteen nations (largely advanced industrial societies) were included in the first wave of the WVS in 1981–83, the second wave in 1990–93 and the fourth wave in 1999–2002 (a few additional nations were included at only one of these earlier time points). These three waves also have comparably worded questions on social group membership.⁶ There is a marked increase in environmental group membership over this 20-year span. In 1981, 3.6% of the public in these 18 nations said they belonged to an environmental group; this increased to 5.8% in 1990–91. A decade later, 8.0% said they were members of a group. Green membership also increased over these two decades for the three developing nations in this time series (South Korea, Mexico and Argentina).

The clear exceptions to this upward trend are the nations of central and eastern Europe. The 1990–99 time trends show a marked drop in environmental group membership in many of these former communist nations. We attribute this to the abnormally high levels of activism that surrounded the regime change in the early 1990s, especially because environmental groups often provided an umbrella group for dissidents before and during the transition (DeBardeleben & Hannigan, 1995; Howard, 2003).

In summary, despite some claims that the green movement is a passing phenomenon or that group membership has waned in recent years (e.g. Bramwell, 1994; Rowell, 1996; Opp, 1996; Pakulski & Crook, 1998), these survey-based membership statistics generally demonstrate that the movement has grown since the early 1980s. The long-term growth would likely be even more dramatic if earlier data were available for the 1970s. Environmental group membership now represents one of the largest areas of civil society and political membership on a global scale.

Predicting Cross-national Levels of Membership

Green activism has become a global movement, but it is also clear that the extent of group membership varies widely across nations. This section briefly reviews several of the most prominent explanations of group membership. We provide an initial empirical exploration of each theory in this section. We realise that several of these processes are interrelated, and thus we combine predictors into a multivariate model to predict environmental group membership.

Socio-economic Development

Modernisation theory, in one form or another, is often used to explain the emergence of the environmental movement in advanced industrial societies. This literature focuses on how socio-economic development expands the resource base that facilitates political mobilisation. Advanced industrial societies, for example, have dense communication structures, mass education, urbanisation and high degrees of social mobility. These characteristics undoubtedly facilitate the opportunities for environmental protesters (or other political activists) to translate public concerns into activism (Wessels, 1997; Meyer & Tarrow, 1998). Consider, for example, the importance of mass communication technologies. These technologies enable groups to communicate with potential constituencies across large distances and to mobilise support for the movement. Simply put, if environmental activists cannot reach many of their potential supporters, it is difficult to build an organisation with a large membership base. Advanced industrial societies are also more connected to global political and scientific institutions, which facilitates the development of the movement (Frank *et al.*, 2000). The higher education levels in advanced industrial societies also contribute to a greater ability to mobilise supporters. A better-educated public is, on average, more likely to translate their policy preferences into political action. Relatedly, the more affluent public have greater resources to join in a voluntary organisation and more leisure time to devote to political activism. Urbanisation also may help to mobilise ecological concerns because the concentration of like-minded individuals (e.g. in certain sections of cities) enhances their mobilisation by groups. Thus, the societal infrastructure of modern societies enhances the odds that people can be mobilised to join environmental groups.

These macro-level arguments of environmental mobilisation also work at the individual level. Survey research on green activism links individuals' social class, higher education and higher income to higher levels of environmental involvement (Dunlap & Mertig, 1992; Dalton & Rohrschneider, 2002). On the one hand, these individuals possess the skills and political resources that increase the likelihood of participation in civic associations, such as environmental groups (Norris, 2003). On the other hand, these individuals may be more sensitive to the environmental problems facing their nation.

In sum, socio-economic development theories suggest that modernisation stimulates environmental group membership in two ways. At the national level, affluent societies possess the infrastructure needed to mobilise constituencies. At the individual level, a relatively large number of citizens in advanced industrial societies possess the socio-demographic characteristics which are presumably conducive to their mobilisation in environmental groups as well as other civil society organisations. Thus, several previous studies have demonstrated that environmental group membership is higher in more affluent, developed nations (Dalton & Rohrschneider, 2002; Frank *et al.*, 2000; Norris, 2003).

Evidence in support of this theory comes from correlating national affluence with the level of environmental group membership.⁷ As prior research has shown, Figure 1 indicates that group membership is higher in more affluent societies than in developing societies. Among the 10 nations with the highest gross national product (GNP), for example, about 12% of the population claim to be members in an environmental organisation (9% if the Netherlands is excluded as an outlier); the equivalent percentage for the 10 nations with the lowest gross domestic product (GDP) per capita is 4%. There is a substantial positive relationship between GNP per capita and membership rates ($r = 0.313$).⁸ There are several developing nations where conservation activities and local contextual factors have seemingly stimulated environmental activism

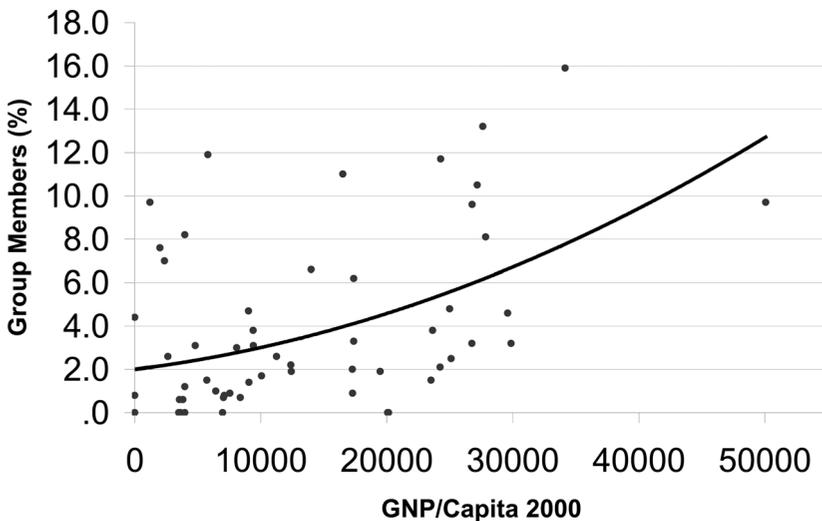


Figure 1. National affluence and environmental group membership. *Source:* WVSs for environmental group membership and United Nations Development Programme (2001) for GNP per capita statistics; the Netherlands was not included because of its extreme membership percentage. Figure entries are the percentage belonging to an environmental group.

as well. Green activism is not exclusively the domain of affluent nations, but social modernisation appears to facilitate green mobilisation.

Democratic Institutions and Political Opportunity Structures

Another major theory in the social movement literature maintains that political opportunity structures influence the mobilisation potential of movements (Foweraker & Landman, 1997; Osa & Corduneanu-Huci, 2003; Meyer, 2004). Open, democratic political structures presumably facilitate challenging groups such as the environmental movement (Tarrow, 1994; McAdam *et al.*, 1996). Democracies provide the legal and political structures to support civil society groups, and tolerate (or encourage) their existence. Democratic rules greatly facilitate the free exchange of ideas, the ability to form groups and the potential to oppose a government. In contrast, less democratic societies may lack the institutional guarantees that allow challenging social groups to develop, and the protection of democratic rights that enable such groups to flourish. Simply put, democratic societies are more likely to afford people with the opportunities to mobilise new political interests and, ultimately, to recruit new members.

The importance of institutional openness for environmentalism is increased because environmentalism represents a challenge to the dominant economic priorities of most contemporary societies (both market and non-market systems). In most nations, labour and business interests – and their governmental allies – typically resist the growth-restricting policies of environmentalists. As a result, environmental policies often must overcome the opposition of economic interests that are better institutionalised, better funded and possess greater political access. Consequently, the expression of opposition to dominant governmental policy priorities requires that citizens have the right to organise in order to challenge the government. In contrast to the political rights that are constitutionally guaranteed in well-established democracies, authoritarian systems frequently suppress environmental protests. Thus, previous cross-national studies of environmental group membership and the number of transnational social groups also found that the level of democracy in the polity was strongly related to the presence of these groups (Frank *et al.*, 2000; Dalton & Rohrschneider, 2002; Smith & Wiest, 2002).

We tested the political opportunity structure hypothesis by correlating cross-national levels of democratic development (measured by Freedom House scores) with membership levels in environmental groups.⁹ As expected, environmental group membership is higher in the more democratic nations ($r = 0.197$), although the link is weaker than in several previous studies. This may reflect the high level of state-directed environmental mobilisation in a few less developed nations (e.g. Vietnam) where reported environmental membership is not a sign of a challenging movement. Other indicators of democratic development – such as press freedom ($r = 0.294$) and corruption ($r = 0.250$) – yield stronger relationships.¹⁰ Indeed, more than the characteristics of electoral

democracy measured by the Freedom House index, press freedom is perhaps closer to the democratic rights and rule of law that are beneficial to the development of challengers such as environmentalist groups.

Overall, the patterns for democracy parallel those for social modernisation. In more democratic nations, which tend to be more affluent, civil society groups are more likely to develop and flourish. Moreover, if we could measure membership in environmental groups that overtly challenge the dominant social and political orders, we expect these patterns would be even stronger. Liberal democracy facilitates the ability of citizens to mobilise on behalf of environmental concerns and other alternative societal goals; where civil liberties are in short supply, the opportunities to mobilise on environmental matters are reduced.

Cultural Theories

Another explanation of environmental activism is ideological. Research maintains that social modernisation has transformed citizen values, and this process explains the emergence of environmentalism and other new social movements (Dunlap & van Liere, 1978; Milbrath, 1984). Inglehart (1990, 1995) argues that having made substantial progress in meeting traditional economic and sustenance needs, a growing proportion of the public in advanced industrial societies are shifting their attention to postmaterial goals. Postmaterialists' greater concern for quality of life issues leads them to support environmental protection issues as part of a new political agenda. Moreover, these sentiments are often tied to a broader critique of the value paradigm of advanced industrial societies, which provides an ideological basis for mobilising environmental activism.¹¹ Postmaterialists often view the entire society from a critical distance, seeing the need for fundamental reforms to redress environmental problems. Furthermore, the participatory values of postmaterialism stimulate individuals to political activity (Inglehart, 1990). Thus, the influence of postmaterial values on support for and membership of environmental groups is a well-documented finding at the individual level (Milbrath, 1984; Inglehart, 1990; Rohrschneider, 1990; Dalton, 1994).

Environmentalism often has a different ideological base in less developed societies, for at least three reasons. First, in less developed nations, environmental concerns often focus on problems that directly impinge on the individual's physical health or well-being, such as the provision of clean water, waste disposal or clean air (Kirdar, 1992; Fisher, 1993). The Gallup Health of the Planet study, for example, found that citizens in lower-income nations were substantially more likely to list sewage, water quality and air quality as very serious problems in their community.¹² Second, given the widespread poverty in less developed societies, it is implausible to argue that people fault economic affluence for their environmental problems. Third, environmental concerns may not only co-exist with economic concerns but may exist *in order to* enhance individuals' economic well-being (e.g. Gibson, 1999). Bailey (1996)

suggests this possibility in his study of the conservationist movements to protect rainforests in central Africa, and Gibson (1999) reached a similar conclusion in his study of wildlife protection in Africa.

We thus hypothesise that postmaterial values may stimulate environmental mobilisation. We explored this relationship using two different indicators. First, we correlated the level of postmaterial values in each nation (as measured by the WVS) and environmental group membership.¹³ The relationship is among the largest we find ($r = 0.366$). Membership in environmental groups is more common when more people hold value orientations that make them amenable to the ideological appeals of green groups, and these influences are stronger than the socio-economic development of the nation.

Our second values indicator is support for green parties. Green parties are the representatives of the new environmental paradigm. Such parties illustrate the existence of an environmental movement within the nation, even if there are not formal ties between groups and parties. Moreover, the existence of a green party may also contribute to a greater mobilisation of green non-governmental organisation (NGO) members in these societies. There is a significant, albeit modest, correlation between the percentage of the vote that green parties received in national elections and membership in environmental groups ($r = 0.267$).¹⁴ Thus, environmental mobilisation in the electoral arena is partially linked to the presence of a larger environmental movement.

Environmental Conditions

Our fourth potential predictor of activism is the environmental conditions in a nation. In most policy areas, analysts presume that objective need fuels activism: the lack of social policies mobilises activism in support of social services, limitations on employee benefits mobilise labour activism, limitations on civil rights prompt minority group activism. Indeed, a rival theory to the modernisation thesis holds that growing problems of environmental pollution and other problems of over-industrialisation and consumption are creating strong incentives for environmental action in advanced industrial societies (e.g. Caldwell, 1990).

While the theoretical logic is clear, it is difficult to decide upon a cross-nationally comparable measure of environmental conditions. As noted above, the environmental problems of the developing world are often fundamentally different from those in advanced industrial nations. Problems of water pollution, sanitation and basic air quality are often predominant concerns in the former; the excesses in carbon fuel usage, industrial waste and nuclear power typify the problems of the advanced industrial societies (da Soledade Vieira, 1985; Koenig, 1995; Adams, 2001). Uner Kirdar of the United Nations Development Programme summarised this position: 'environmental problems of the North are the result of overdevelopment, extravagant consumption of fossil fuels and unrestrained demands for ever-larger quantities of goods and

services', while in the South environmental degradation is 'a product of poverty' (Kirdar, 1992, p.5).

Previous studies have used various measures of environmental conditions. Palmer (1997) developed a measure of environmental quality in the late 1980s that included the average growth of forests, fertiliser consumption, CO₂ controlling for population size and growth rates of fertiliser consumption. Others have used single indicators, such as population density, energy consumption patterns or protected spaces.

We turn to a more comprehensive measure, the 2002 Environmental Sustainability Index (ESI). The ESI is a composite index tracking a diverse set of socio-economic, environmental and institutional indicators that characterise environmental sustainability at the national level. It was developed by Daniel Esty at the Yale Center for Environmental Law and Policy, in co-operation with Columbia University's Center for International Earth Science Information Network (CIESIN) and the World Economic Forum's Global Leaders for Tomorrow Environment Task Force. They sought to create a cross-nationally comparable measure of environmental conditions that can be analysed on a global scale.

The 2002 ESI report discusses the difficulties inherent in this task, and the differing environmental conditions involved in global comparisons, and the most recent, 2005, ESI report includes an extensive comparison with other possible environmental indices and a discussion of the validity of the ESI (World Economic Forum, 2002; Yale Center for Environmental Law and Policy & CIESIN, 2005). To produce a comprehensive measurement of environmental conditions, they begin with 68 variables that are combined into 20 indicators, which are then summated into five broad areas: (1) environmental systems; (2) environmental stresses; (3) human vulnerability; (4) social and institutional capacity; and (5) global stewardship. 'Environmental systems' combines measures of air quality, water quality and biodiversity. 'Reducing environmental stress' sums together various economic statistics and industrial emissions that place a stress on the environment, such as air pollutants, fertiliser use and population growth rates. 'Human vulnerability' includes variables such as child mortality rates and under-nourishment statistics. The 'social/institutional capacity' index measures scientific resources, government and private sector environmental actions and the political context (including the Freedom House statistics). 'Global stewardship' includes participation in international agreements, reducing greenhouse emissions and reducing transboundary environmental pressures. The 2002 ESI averages the 20 indicators, presented as standard normal percentiles.

These five dimensions tap distinct aspects of environmental conditions, although they also tend to be strongly intercorrelated.¹⁵ We correlated each dimension with national levels of environmental group membership (significant correlations at 0.05 level denoted by an asterisk): ESI 2002 index, $r = 0.074$; environmental systems, $r = 0.006$; reducing stresses, $r = -0.383^*$; reducing

human vulnerability, $r = 0.057$; social/institutional capacity, $r = 0.340^*$; global stewardship, $r = 0.244$.

There is a range of relationships between different aspects of environmental conditions and membership in environmental groups. The only evidence that negative environmental conditions are related to environmental activism is the stress variable, which may be a spurious relationship linked to national affluence.¹⁶ The two dimensions that likely are more sensitive to the negative environmental conditions in less developed nations – human vulnerability and environmental systems – are essentially unrelated to group membership. In addition, environmental activism is more common in nations that score higher in global stewardship and social/institutional capacity. The overall ESI index balances these contrasting patterns by summing all five subdimensions, and thus displays only a weak positive relationship between economic development and environmental conditions (World Economic Forum, 2002).¹⁷

In summary, the bivariate analyses in this article provide various perspectives on what is now a familiar picture. Advanced industrial democracies possess a set of national and individual characteristics that facilitate membership in the environmental movement. These nations possess the political resources that NGOs draw upon for funding their activities and mobilising their members. Similarly, the democratic norms and processes of the advanced industrial democracies facilitate the existence and development of challenging social movements that might be suppressed in a less democratic political environment. Advanced industrial democracies are also better integrated into the global system, which facilitates environmental mobilisation (Frank *et al.*, 2000). In addition, environmentalism in advanced industrial societies uses ideological appeals linked to postmaterial values and an alternative value paradigm to attract postmaterialist citizens. Thus, environmental concerns are global, but the mobilisation of environmental activism appears linked to the socio-political conditions of a nation.

A Multivariate Analysis

Because several of these potential causal factors are interrelated, we need to consider how these separate factors jointly, and independently, explain cross-national levels of environmental group membership. National affluence and democratic development are strongly correlated, and this is the case with the nations included in the WVS. The distribution of postmaterial values is similarly related to economic and political development (Inglehart, 1990, 1997), and even environmental conditions are related to economic development.

We therefore developed a multivariate model of environmental group membership. The percentage of the public that belongs to an environmental group in the nation is the dependent variable. We include several predictors of group membership based on the strongest predictor in each section of the preceding analyses:

- affluence (GNP per capita in 2000, purchasing price parity measure);
- democracy (Press Freedom scores);
- postmaterialism (mean on four-item postmaterial index);
- environmental conditions (2002 ESI).

We initially estimated a baseline model using these four predictors. Model 1 in Table 2 indicates that the strongest predictor of group membership is the national mean score on postmaterial values ($\beta = 0.295$). This is also the only statistically significant variable in the model. The other variables that might explain membership rates – affluence, press freedom scores and environmental conditions – are insignificant in the multivariate model. Rather than emphasise postmaterialism, however, we believe it is more reasonable to describe these variables as describing a nexus of causal effects that locate the strongest base of environmental mobilisation in the advanced industrial democracies. The independent influence of affluence, postmaterialism and press freedom is weakened in a multivariate model by the substantial multicollinearity among the independent variables.¹⁸ For example, the bivariate correlation between GNP per capita and press freedom is $r = 0.682$: thus the effect of one variable largely overlaps with the other.

Because the Dutch membership levels are so high compared to other nations, and this might affect correlations, we reran the analyses excluding the Netherlands. The second model in Table 2 demonstrates the same general pattern of higher environmental activism in affluent democracies with high proportions of postmaterialists. At the same time, environmental conditions are still not significantly related to green activism ($\beta = -0.097$), although the direction of the relationship indicates that negative environmental conditions stimulate group membership, once the characteristics of an advanced industrial democracy are controlled.

We explored other variants of these models, and the substitution of other predictors for our four core concepts. These analyses further reinforce our belief that this model is capturing a nexus of overlapping effects in advanced industrial democracies, and separating the unique effects of each concept is difficult with collinear variables. Different subsets of variables may redistribute this variance, but the general patterns endure. In short, the postmaterial basis of environmental action and an affluent, democratic context strongly influence the extent to which members are mobilised. This is the dominant explanation of cross-national membership levels in environmental groups.

Conclusion

The newest wave of the WVS demonstrates that environmental activism is a growing part of civil society on a global scale. In the 18 societies for which we have longitudinal data since the early 1980s, reported membership in environmental groups has more than doubled over the past two decades. Today, membership in environmental groups rivals that of political parties,

Table 2. Multivariate models predicting national levels of environmental group membership

Predictor	Full sample		Without Netherlands		Bivariate correlations	
	<i>b</i>	β	<i>b</i>	β	<i>r</i>	<i>r</i> (without Netherlands)
GNP per capita, 2000	0.0002 (0.000)	0.040	0.0002 (0.000)	0.060	0.313	0.341
Press freedom	0.056 (0.057)	0.182	0.035 (0.033)	0.197	0.294	0.320
Postmaterial values	0.256 (0.146)	0.295*	0.151 (0.085)	0.298*	0.366	0.383
Environmental conditions	-0.040 (0.114)	-0.085	-0.044 (0.066)	-0.097	0.074	0.076
Constant	7.443 (6.875)		6.066 (4.005)			
Multiple R^2 (adjusted R^2)		0.168 (0.097)		0.190 (0.120)		

Note: Coefficients marked by an asterisk are significant at the 0.1 level; the standard errors are in parentheses for the unstandardised regression coefficients. Pairwise deletion of missing data was used for the set of nations that has membership statistics on the dependent variable.

Source: WVS membership statistics from Table 1 and aggregate national characteristics.

and exceeds the membership levels of other important civil society sectors. Moreover, other research suggests the steady institutionalisation of the environmental movement and a growing involvement and influence in the political process (Meyer *et al.*, 1997; Dalton *et al.*, 2003).

This research further asked what factors explain cross-national levels of environmental group membership. Environmental mobilisation is facilitated by the confluence of social and political development. The societal infrastructure of affluent nations substantially stimulates public involvement in environmental groups. In addition, a democratic political context facilitates the mobilisation of environmental activity. The strongest predictor was the distribution of postmaterial values in a society. Taken together with previous cross-national studies of environmental mobilisation (Frank *et al.*, 2000; Dalton & Rohrschneider, 2002; Smith & Wiest, 2003), our findings suggest that the collective impact of social conditions in advanced industrial democracies is the major factor facilitating membership in environmental groups, and possibly other civil society groups.

One practical implication of our findings concerns the pace at which one may expect a global environmental movement to form. Some analysts of environmental action suggest the emergence of global 'civic society' where environmental NGOs take a lead in establishing international regulations to protect the environment (Princen & Finger, 1994; Smith *et al.*, 1997). Our

findings suggest that environmental concerns in less developed nations will have difficulty mobilising broad public involvement because they often lack the proper infrastructure, are frequently occurring in undemocratic circumstances and green NGOs will have difficulty using appeals based on ecologism to recruit members. Even if negative environmental conditions may stimulate environmental action, this effect is secondary to the socio-political context and becomes apparent only when these prior conditions are controlled.

Thus, our findings suggest that environmental groups in advanced industrial democracies will remain as the largest and most influential actors on global environmental issues. Since public pressures are vital in this process, environmentalists in advanced industrial democracies are in a better position to lobby for international agreements and even support environmental action in the developing world. Many environmental issues may have a global reach, but the civil society resources to address these issues will likely remain unevenly concentrated among the advanced industrial democracies. Consequently, larger mass-based groups from advanced democracies may continue to occupy a large role in developing a global environmental regime.

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Notes

1 Additional information on the WVS samples, fieldwork and the questionnaire are available on the project website: www.worldvaluessurvey.org. These data are available from the Inter-university Consortium for Political and Social Research (ICPSR) (3975) and other national archives. We began with the 59 nations included in the first public release of the data (May 2004) as described in Inglehart *et al.* (2004).

We did not include two nations (Bangladesh and Tanzania) in our analyses because of concerns about the representativeness of the sample. In both instances environmental group membership is very high (20.3% and 20.1%, respectively), as is membership in the other social groups listed in the WVS. Our analyses for this article and in other analyses determined that both samples have a very large upper-status, upper-education bias. For instance, the United Nations Development Programme education index gives Tanzania and Uganda equivalent scores, but education levels in the Tanzanian WVS sample are twice as high as in Uganda, and comparable to the level of many European nations. The United Nations Development Programme education statistics for Bangladesh are substantially lower, but the WVS sample had a mean educational level even higher than Tanzania. Excluding these two nations strengthens the impact of economic condition, but has less effect on the other relationships presented below.

2 Markedly higher levels of membership were registered for labour unions (12.6%), professional associations (6.9%) and educational groups (12.2%).

3 Neumayer (2002) did a validity check on some of the attitudinal items from the Gallup Health of the Planet survey and found much lower levels of consistency, often falling below minimal levels of statistical significance. However, his analyses focused on measures of environmental

- opinions, which are more variable in measurement and meaning across surveys, and his reference poll was the Gallup survey. The WVS correlations with the European Social Survey and International Social Survey Program display much stronger consistency.
- 4 Information on the European Social Survey (ESS) is available at www.europeansocialsurvey.org/. On average, membership levels are 2.25% higher in the ESS. This is likely due to the more inclusive wording of the European Social Survey question: 'an organisation for environmental protection, peace or animal rights'.
 - 5 Information on the ISSP is available at www.issp.org/. Overall, average membership levels are within 2% in both the 1993 and 2000 ISSP surveys. This is a small difference considering the different time frame and question wording in the two surveys. The ISSP wording is 'are you a member of any group whose main aim is to preserve or protect the environment?'
 - 6 We did not include the third wave of the WVS (1995–98) because that wave used a different list of groups, which raises issues of the comparability of membership levels. Most of western Europe was also missing from the third wave. Additional data on the prior WVS waves are presented in Inglehart (1997), Norris (2003) and Dalton & Rohrschneider (2002).
 - 7 These data are taken from United Nations Development Programme (2001). Our indicator is gross national product per capita, adjusted for price parity. Because economic statistics vary across time, and our surveys were conducted in different years, we decided to use data from 2000 as consistent across nations in the adjustments for purchasing price parity (ppp) and other factors, and this year was in close proximity to the sampling dates of the various WVS surveys.
 - 8 We also explored an alternative measure of socio-economic development. The United Nations' Human Development Index combines economic conditions, literacy and other social factors to go beyond the simple economics of GDP (using the 2000 index scores). This measure is positively related to environmental group membership ($r = 0.190$).
 - 9 This index is the average of the two seven-point scales of civil liberties and political rights that the Freedom House reports for each nation. The resulting index was recoded to range from 1 (low democracy) to 7 (high). We use the Freedom House scores for the same year in which the WVS was conducted.
 - 10 The press freedom measure is from the Freedom House; the corruption index is from Transparency International. Both of these statistics are from the same year in which the WVS was conducted in the nation.
 - 11 Postmaterial values also overlap with the values of the 'new environmental paradigm', which represents a more encompassing, biocentric view of nature. These two value dimensions are empirically related (Milbrath, 1984; Dalton *et al.*, 1999) and, since the postmaterial index is available from the WVS, we focus on this measure of values.
 - 12 Dunlap *et al.* (1993) classified their nations into high, medium and low personal income. Sewage was named as a very serious community problem by 46% in the low-income nations, compared to only 12% in the high-income nations. In the low-income nations, 42% cited poor water quality and 34 poor air quality, compared to 13% and 14% respectively in the high-income nations. Concerns about soil, overcrowding and noise problems display much weaker relationships with national income.
 - 13 We use the four-item postmaterial index because it is available for a larger number of nations. The question presents four choices to the respondent, and asks them to identify their first and second choice. Materialists select the first and third items, postmaterialists the second and fourth (Inglehart, 1997).
 In your opinion, which one of these items is most important? And what would be the next most important?
 Maintaining order in the nation
 Giving people more say in important government decisions
 Fighting rising prices
 Protecting freedom of speech
 - 14 We selected the election adjacent to the WVS and coded the percentage of the vote the green party received in the election. Our data source was www.electionworld.org.

Table 3

	GNP per capita	Press freedom	Postmaterialists	Environment index
GNP per capita	1.000			
Press freedom	0.682	1.000		
Postmaterialists	0.608	0.385	1.000	
Environment index	0.356	0.340	0.283	1.000

- 15 A factor analysis of the four subdimensions and the ESI index for the full set of nations finds that all items load positively on a first dimension. However, the stress index displays the weakest factor loading (0.119).
- 16 This may be an indication that stress leads to mobilisation in advanced industrial democracies, but the strong correlation with national affluence ($r = -0.705$) suggests this may also be a spurious relationship. The test for an independent influence of environmental conditions comes from the multivariate analyses in Table 2 below.
- 17 The social/institutional capacity dimension does not directly measure environmental conditions, but might be viewed as tapping the potential for environmental action in a nation. To ensure that this did not distort our results, we created an alternative ESI measure that excludes this subdimension. This revised measure is correlated at 0.907 with the original ESI. In addition, neither ESI summary measure displays a statistically significant relationship with environmental group membership. Substituting this reduced measure in the multiple regression analyses of Table 2 does not significantly change the coefficients in the model (ESI $\beta = -0.085$, ESI revised $\beta = -0.117$). Thus, we utilise the original ESI in our analyses.
- 18 The correlations among these four predictors for all nations are given in Table 3.

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