GENDER AND ENVIRONMENTAL TREATIES: IS FEMALE EMPOWERMENT THE KEY TO ENVIRONMENTAL PROTECTION?

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By

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GENDER AND ENVIRONMENTAL TREATIES: IS FEMALE EMPOWERMENT THE KEY TO ENVIRONMENTAL PROTECTION?

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ABSTRACT

Sociological research has shown that women tend to place a greater importance on environmental health and quality than do men. Women not only express greater concern for environmental issues than men, but they are also more likely to take action for environmental protection. Most existing research only examines the effects of these gender-specific tendencies at the local and community levels; there is a dearth of information about the potential national or international effects of these trends. My research examines the potential effects of women’s participation in national legislatures on environmental treaty ratification. Social development organizations utilize gender empowerment programs to increase women’s educational attainment and economic activity. These efforts may ultimately contribute to women’s ability to serve in national legislatures and other positions of authority in which they can demonstrate their higher environmental concern on a national level. I hypothesize that countries with a higher percentage of women in their national legislatures demonstrate a greater commitment to
environmental protection, measured as environmental treaty ratification in this study. I use OLS regression to first demonstrate which social development indicators predict women’s participation in national legislatures, and then determine the impact of women’s participation on environmental treaty ratification. My results indicate that women’s educational attainment and economic activity are significant predictors of participation in national legislatures. My results also show that women’s participation is a significant predictor of environmental treaty ratification, which indicates that pursuing gender empowerment and social development of women can be an effective means to increased environmental protection.
I would like to thank my advisor, Daniel Hilliard, for his guidance throughout this process, as well as many other members of the GPPI faculty who taught me so much during my time here. I would also like to express my deepest appreciation to my parents for all of their love and support during my pursuit of this graduate degree.
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**Introduction**

What are the effects of women’s participation in national legislatures on national commitments to environmental protection efforts? This is the question my thesis attempts to answer. Specifically, I examine the effect of women’s participation in national legislatures\(^1\) on the number of environmental treaties that countries have ratified. I predict that countries with a higher proportion of women in their national legislatures will have ratified a higher number of environmental treaties than countries with lower representation of women in their legislatures. This hypothesis is supported by prior research on the subjects of women’s empowerment and female environmentalism (Bretherton, 1996; Mohai, 1992; Norgaard & York, 2005; Nugent, 2007; Ostwald & Baral, 2000, and Zelezny, Chua, & Aldrich, 2000).

Research by global aid organizations, such as CARE and the Global Fund For Women, has shown that programs focusing on women’s empowerment issues produce positive effects at the family, community, and local levels (CARE, 2009; GFFW, 2009). Empowerment efforts, such as education, job training, and allocation of microloans have enabled women to increase their standing in communities that are traditionally patriarchal. Some women have even used the profits from their new small

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\(^1\) For this research, “legislatures” refers to national-level assemblies of elected representatives, including Senates, Parliaments, Assemblies, etc.
businesses, initially funded by microloans, to develop their own lending organizations within their communities (Nygaard, 2009).

One reason that gender-specific empowerment efforts and microloan programs have been so successful is that women in developing countries tend to make better investments than men do when given aid money. For example, women are more likely to invest in home improvements, children’s education, better nutrition, agricultural technology, and to start small businesses, whereas men often spend microloans on alcohol and prostitutes (Nygaard, 2009). Men are also much more likely to default on loans than women are; in fact, four out of five defaulters are men (Faiola, 2008).

These investment patterns indicate how highly women in developing countries value the health of their families and their local economies. Women also tend to value the health of the environment more highly than men do, as demonstrated by a body of sociological research that compared the environmental concern of women to that of men (Bretherton, 1996; Mohai, 1992; Ostwald, 2000).

Some of the explanations for gendered patterns of environmental concern include women’s evolutionary history of being the more nurturing gender (Bretherton, 1996), a connection between oppression of women and disregard for the environment by a patriarchal society (Littig, 2001), the tendency of women to care more about their immediate surroundings and the effects of those surroundings on their families.
(Seager, 1993), and the negative impacts of pollution and environmental degradation on women and children (Bretherton, 2003).

There is also substantial research regarding the immediate benefits of women’s empowerment, and on women’s concern for the environment. However, there is very little information about the long-term, multi-generational, and national-scale effects of such efforts, or what benefits these efforts might have for the environment. That is, if women are empowered enough to participate in national governments, would increased commitment to environmental protection be a consequence of that empowerment?

A 2005 study by Kari Norgaard and Richard York addresses this question by examining the impacts of female participation in Parliament on environmental treaty ratification (Norgaard and York, 2005). They found that in addition to several economic development indicators, female representation in Parliament was a very significant predictor of treaty ratification. In 2007, Colleen Nugent addressed a similar question, examining the effects on national environmental protection efforts of increased women’s development status (Nugent, 2007). Similar to the results of Norgaard and York, Nugent concluded that women’s political status is a significant predictor of the percentage of land a country designates as “protected” (Nugent, 2007; 14).

\[2\text{ See Faiola, 2008; Mohai, 1992; Ostwald & Baral, 2000; Zelezny, Chua, & Aldrich, 2000.}\]
My research explores questions similar to those examined by Norgaard & York and Nugent, but also serves to both update and augment the work done by these authors in several important ways. First, my research updates the work of Norgaard and York by including more recent data. Norgaard and York used data from 1999, while my research expands the timeframe of analysis by using data from 2009. I also include several treaties in my data that were not counted in the 2005 study. Norgaard and York measure national environmentalism based on ratification of 16 environmental treaties, whereas my dependent variable is based on ratification of 26 environmental treaties.

Second, my work adds to that done by Nugent by offering an alternative method of measuring environmental protection efforts. Nugent measures amount of protected land as an indicator of environmental protection, which is an arguably flawed measure, as outlined below. However, I analyze environmental treaty ratification, which I believe is a more accurate cross-national comparison. Various characteristics unique to each country influence how much of that country’s land can or should be designated as protected areas. The definition of “protected area” also varies from country to country, and within individual countries. It is therefore difficult to

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3 Even within the United States, protected lands are subject to different uses, with different environmental consequences, depending on which government agency manages them. For example, lands within the National Landscape Conservation System are managed by the Bureau of Land Management and are open to cattle grazing and recreation activities such as ATV use. However, lands managed by the National Park Service have more restrictions about what types of recreation are allowed.
accurately compare protected areas between countries, whereas international
environmental treaties are consistent across countries by their very nature.

In order to determine how female participation in national government
influences environmental treaty ratification, I use Ordinary Least Squares regression
with the number of treaties ratified as the dependent variable and the percentage of
seats in the national legislature occupied by women as the primary independent
variable. The other independent variables used in my analysis include measures of
human development and gender equality, such as literacy rates, educational
expectancies, and women’s economic activity. In order to use treaty counts as the
dependent variable, I assume that ratification of environmental treaties is a legitimate
expression of a country’s commitment to environmental protection efforts. While I
believe that this is a reasonable assumption, it is important to bear in mind that other
considerations, including political and economic factors, may also influence a
country’s treaty ratification behaviors (see Roberts, Parks, & Vasquez, 2004).

I expect to find that women’s empowerment and representation are important
determinants of environmental treaty ratification. If my hypothesis is supported by this
research, it would indicate that women’s empowerment efforts have the potential to
support environmental protection efforts. An important policy prescription associated
with this outcome would be that environmental advocates should place a greater
emphasis on educating women and encouraging their participation in the workforce and government where they would have a voice in decisions relating to environmental issues. Support of my hypothesis would also indicate that women’s participation itself, not just human development in general, is a significant factor in environmental treaty ratification. The policy and programmatic implications of this finding would be significant for governments, development and empowerment organizations, and environmental advocacy organizations. Nevertheless, the extent of these impacts is dependent upon my assumption that ratification of environmental treaties is a valid indicator of a country’s commitment to environmental protection.
Literature Review

There is a substantial body of research supporting the hypothesis that women place a greater importance on environmental health and protection than men do, but these studies only demonstrate this difference in priorities at the local level (e.g., Ganguly-Scraser, 2003; Hunter et al., 2004; Mohai, 1992; Ostwald and Baral, 2000; Szagun and Pavlov, 1995). Many of these authors also discuss the increased likelihood of women to express concern for the well being of the environment and to change their behavior for the sake of the environment. However, the studies do not examine how the differences in environmental concern between men and women might impact commitment to environmental protection at the national or international level.

Only two previous studies look at how women’s higher level of environmental concern affects environmental protection at the national and international levels. In a 2005 study, Kari Norgaard and Richard York examine the impact of women’s participation in Parliament on environmental treaty ratification. The authors conduct an Ordinary Least Squares regression and determine that women’s political participation, along with several economic development indicators\(^4\), is a significant predictor of treaty ratification behavior (Norgaard and York, 2005).

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\(^4\) The economic development indicators measured by Norgaard and York include foreign direct investment, official development assistance as a percentage of GDP, and whether the country has a capitalist economy.
Colleen Nugent addresses a similar question in her 2007 study. She examines the effects of increasing women’s economic, educational, political, and health status on the percentage of land that countries designate as “protected areas.” Her analysis concludes that women’s political status is a statistically significant determinant of countries’ environmental protection efforts (Nugent, 2007).

A 2004 study by Roberts, Parks, and Vasquez examines the factors that influence whether countries ratify environmental treaties. The authors use Ordinary Least Squares regression to determine which of several political, economic, and development characteristics have the most significant influence on countries’ ratification decisions. Their analysis demonstrated that the narrowness of a country’s export base had the greatest influence on ratification behavior, but they did not incorporate any gender- or empowerment-related variables in their model (Roberts et al., 2004). As a result, the relationship between gender and environmental treaty ratification remained unexplained.

My research contributes to this existing environmental treaty and protection literature in three significant ways. First, my research updates the findings of Norgaard and York by including more recent data and additional environmental treaties in my analysis. Second, I augment the conclusions of Nugent by using a different measure of
analysis. Finally, my work adds to the conclusions of Roberts et al. by incorporating an analysis of the impacts of gender differences on environmental treaty ratification.

Norgaard and York’s research question is similar to what I investigate, but their emphasis is on economic development indicators, whereas I examine human development and equality measures. In addition, their data is from 1999, and not only have the gender distributions of national governments likely changed in the last decade, but my data include several environmental treaties that they did not incorporate into their study. By using the most recent data available, I am thereby able to update and corroborate the findings of Norgaard and York.

Nugent examines independent variables similar to those I use, but her measure of environmental protection is less robust than measuring treaty ratification. She uses the proportion of total land in each country that is designated as “protected” as her dependent variable, but this is not a consistent measure across countries. There are many internal political and economic factors that influence how much land a country can set aside as protected area, and these factors are not necessarily correlated with that country’s intentions to protect the environment. In addition, the definition of “protected area” varies from country to country, and it is impossible to know if the extent of environmental protection is consistent across borders. Even within the United States, some “protected lands” are available for potentially damaging
recreational use, while others are almost completely inaccessible to the public. Therefore, area of protected land is a less than ideal measure of international environmental protection. My use of environmental treaty ratification as a measure of commitment to environmental protection is a more accurate cross-national comparison because treaties are, by their very nature, consistent for all countries that ratify them.

Finally, my research is a useful addition to the conclusions of Roberts et al., which address the political and economic reasons for international environmental treaty ratification. They find that a country’s export base, domestic institutions, and presence of non-governmental organizations (NGOs) are the most significant predictors of environmental treaty ratification. These findings are important and policy-relevant, but they do not examine the potential impacts of gender differences in environmental treaty ratification. There is a substantial amount of research supporting the theory that men and women prioritize environmental protection differently, but there is a dearth of research examining the national and international impacts of this difference in priorities, which provides a strong justification for my analysis.

Roberts et al. (2004) set a precedent for use of an OLS model to test a hypothesis examining the political and economic influences on treaty ratification behavior. Although their focus was on economic indicators rather than human development or gender empowerment, their dependent variable was a count of
environmental treaties ratified by each country in the sample, as is my dependent variable.

Similar to my research, Kari Norgaard and Richard York (2005) used OLS regression to examine the effects of female participation in Parliaments on treaty ratification. However, they used economic development indicators as their secondary explanatory variables, whereas I use social development indicators. Both Roberts et. al. and Norgaard and York used OLS to test their respective hypotheses, and both teams found significant results. Given the similarities between my research and these two studies, I believe that a strong precedent has been set indicating the use of OLS regression as the best analysis option.
Methodology

For this project, the population examined consists of the 187 countries for which the United Nations has gathered data. Since there are only 187 countries in the population, I decided that it was best to include all 187 in my analysis rather than take a sample. Also, using the entire population will yield more accurate results than I would find had I used a subpopulation.

My primary independent variable is the proportion of legislature seats held by women in the countries analyzed (FEMPART), and my dependent variable is the number of environmental treaties (TREATY), out of a possible 26, that each country has ratified. In addition to female participation in national legislatures, I examined independent variables that measure various aspects of social development, such as women’s educational expectancy (EDUCW), women’s economic activity rates (EARW), and women’s adult literacy rates (LITWOM). Women’s educational expectancy is the number of years of education that a woman in a given country is expected to have completed, on average. Women’s economic activity rate is the proportion of the adult female population that is counted as part of a country’s labor force. Women’s adult literacy rate is the percentage of adult women (over the age of 15) who are able to read and write.
I also included a dummy variable that indicates whether a country has ever elected a female head of state or government (FEMHOS), because being elected to the highest position in government can be considered the culmination of female empowerment. I included GDP per capita (GDP) and population (POP) in my model so that I can accurately compare countries of different size and economic strength in terms of the effect that female participation in government has on environmental treaty ratification. I am most interested in how gender empowerment impacts a country’s commitment to environmental protection, as measured by treaty ratification. The social development measures quantified by women’s education, literacy, and economic activity are the best way to quantify female empowerment, as described by Malhotra, Schuler, and Boender (2002). Table 1 (below) lists the definitions of the variables used in my analysis.
### TABLE 1. Definitions of Key Variables

<table>
<thead>
<tr>
<th>Variable Code</th>
<th>Variable Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TREATY</td>
<td>Environmental treaty count</td>
<td>The number of environmental treaties that each country has ratified (dependent variable)</td>
</tr>
<tr>
<td>FEMPART</td>
<td>Female participation in Parliament/Senate</td>
<td>The proportion of seats in national Parliament or Senate that are occupied by women</td>
</tr>
<tr>
<td>GDP</td>
<td>GDP per capita</td>
<td>Gross Domestic Product per capita, measured in US dollars</td>
</tr>
<tr>
<td>POP</td>
<td>Population</td>
<td>Total population of each country</td>
</tr>
<tr>
<td>FEMHOS</td>
<td>Female head of state</td>
<td>A dummy variable indicating whether or not each country has ever had a female head of government (^5)</td>
</tr>
<tr>
<td>EARW</td>
<td>Economic Activity Rate (women)</td>
<td>Percentage of women in the population, both employed and unemployed, that constitutes the manpower supply of the country’s labor force; measures the degree of success of the country in engaging the population in some form of production activity</td>
</tr>
<tr>
<td>LITWOM</td>
<td>Adult literacy rate (women)</td>
<td>Percentage of the women in the country’s population who are literate</td>
</tr>
<tr>
<td>EDUCW</td>
<td>Educational life expectancy (women)</td>
<td>The number of years of education, on average, that a woman is expected to complete</td>
</tr>
</tbody>
</table>

\(^5\) Excluding royal figureheads, because they are not elected and therefore do not represent the population’s attitudes towards women in power.
My data are from the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP). My sample is composed of 187 countries for which the UN has data. Data for the development indicators, population, and GDP were collected between 2007 and 2009, and the treaty information is current as of September 2009.

Since my data is not collected from a single set, I have compiled information from multiple UN sources and placed it into a single custom-made dataset. The UN is a reliable source of international-level data. However, the most significant limitation I face might be a lack of knowledge of how the data was collected. The data were downloaded from the UN website, and the United Nations did not provide information regarding how the surveys were conducted. If countries self-reported any of their indicators, there might be some concern about the accuracy of the data, since countries would have an incentive to show themselves in the best possible light. Nevertheless, the UN data represent the best available information relevant to my research, and I am therefore confident using them to test my primary research question.

I used Ordinary Least Squares regression analysis to examine the impacts of women’s participation in government on environmental treaty ratification. OLS is appropriate for two reasons: first, because the characteristics of the data call for such a
model, and second, because previous research has used OLS to examine similar questions.

The dependent variable in my analysis is the number of environmental treaties, out of 26, that a country has ratified. Since the dependent variable is not a binary outcome, linear probability, logit, and probit models are not appropriate. There is a significant amount of variability in the dependent variable; that is, the values are not clustered around a limit. Therefore, a tobit model would also be unnecessary for this data. After eliminating the other options, an OLS regression, which allows me to estimate the effects of female participation in national government on treaty ratification, along with several other human development indicators is the best choice of model for this analysis.

The conceptual model used in this study consists of two equations. In Equation 1 (below), I determine which social development indicators are statistically significant predictors of female participation in national legislatures. Quantifying how great an impact female social development has on female participation in government allows for more comprehensive and specific policy recommendations. I regress female participation in national legislature on women’s economic activity rate, women’s adult literacy rate, women’s educational expectancy, and the dummy variable for female head of state:
Equation 1: Predicting Participation in National Legislatures

\[ \text{Participation} = \beta_0 + \beta_1(\text{EARW}) + \beta_2(LITWOM) + \beta_3(\text{EDUCW}) + \beta_4(\text{FEMHOS}) + \mu \]

In Equation 2, I examine whether female participation in national legislatures is a statistically significant predictor of environmental treaty ratification. I regress environmental treaty ratification on per capita GDP, national population, women’s educational expectancy, and female participation in national legislatures:

Equation 2: Predicting Environmental Treaty Ratification

\[ \text{Treaty Ratification} = \beta_0 + \beta_1(\text{GDP}) + \beta_2(\text{POP}) + \beta_3(\text{EDUCW}) + \beta_4(\text{FEMPART}) + \mu \]

This combination of equations allows me to examine not only the effects of women’s increased participation in national legislatures, but also what variables can lead to increased women’s participation. The combined results of these regression analyses provide more information and policy implications than either equation alone.
Regression Results and Analysis

Table 2 provides the results of two Ordinary Least Squares regressions analyzing the effects of different variables on both female participation in national legislatures and environmental treaty ratification for all 187 countries in the sample.

### TABLE 2. Ordinary Least Squares Regression Coefficients and Robust Standard Errors

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Female Participation</th>
<th>Treaty Ratification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Head of State</td>
<td>6.8933** (2.4608)</td>
<td></td>
</tr>
<tr>
<td>Economic Activity Rate (women)</td>
<td>0.1584* (0.0632)</td>
<td></td>
</tr>
<tr>
<td>Literacy (women)</td>
<td>-0.1007 (0.0575)</td>
<td></td>
</tr>
<tr>
<td>Educational Expectancy (women)</td>
<td>1.066* (0.4322)</td>
<td>0.3212** (0.1018)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td></td>
<td>0.000052 (0.00003)</td>
</tr>
<tr>
<td>Population</td>
<td></td>
<td>4.33e-06*** (1.09e-06)</td>
</tr>
<tr>
<td>Female Participation</td>
<td></td>
<td>0.0743* (0.0313)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.150</td>
<td>0.310</td>
</tr>
</tbody>
</table>

Note: * p<0.05; **p<0.01; ***p<0.001
Predicting Women’s Participation in National Legislatures

Results for the first equation show that women’s economic activity rate and women’s educational expectancy have statistically significant impacts on female participation in national legislatures at the .05 confidence level. Specifically, for a 10 percentage-point increase in women’s economic activity rate, female participation in national legislature is predicted to increase by more than 15 percentage-points. For an additional year of women’s average educational achievement, female participation is predicted to increase by more than one percentage point. These results indicate that any increases in women’s participation in the labor force and educational attainment would likely have positive effects on the number of women elected to national legislatures.

Such increases may not be easy to achieve, because both economic activity and educational achievement are often determined by societal mores, which are complex and take time to change. However, targeted programs by development and empowerment organizations could be effective in increasing these social development measures. An example of such a program is CARE’s Girls Education Unit, which works to reduce cultural and economic barriers to girls’ education (CARE, 2010). The Aga Khan Agency for Microfinance, which provides microloans to rural women so
that they can increase agricultural productivity or start a small business (Aga Khan Development Network, 2010), is another example of a targeted program that can improve women’s social development. My regression results suggest that efforts by organizations like CARE, the Global Fund for Women, and the Aga Khan Development Network have measurable results in improving women’s educational and economic achievements as well as women’s political representation on a national scale.

Whether or not a country has had a female head of state is also a significant predictor of the percentage of women in national legislatures at the .01 confidence level. A country that has had a female head of state is predicted to have nearly seven percentage-points more women in its national legislature. Part of this effect may be that women view a female head of state as a role model and are therefore more likely to seek national office if a woman has already been elected to the top position in government. Another possibility is that this correlation is due to the Parliamentary system of government, which is used in 78 countries, or approximately 38 percent of the world (CIA, 2010). Under a parliamentary system, national legislatures are usually responsible for electing the Prime Minister or head of state. If the Parliament has a substantial amount of female representation, it may be more likely to elect a woman to the top office than a Parliament that is overwhelmingly male. In either case, there is a strong connection between a country having elected a female head of state and women
having strong representation in the national legislature. This connection indicates that women’s economic and educational empowerment efforts may be effective in gaining female representation in national legislatures and enabling women to achieve the highest level of political participation.

Predicting Environmental Treaty Ratification

Results of the second equation show that women’s educational expectancy and female participation in national legislatures are statistically significant predictors of the number of environmental treaties a country has ratified at the .01 and .05 confidence levels, respectively. For a three-year increase in women’s average educational achievement, a country is predicted to ratify approximately one additional environmental treaty. This result demonstrates that, irrespective of women’s participation in national legislature, women’s educational attainment is an important determinant of a country’s commitment to environmental protection. This is an important finding for both social development organizations and environmental organizations. Many social development organizations, such as CARE and the Global Fund for Women, emphasize women’s educational achievement for the sake of gender empowerment and improving women’s status in communities. However, my results
show that their efforts might have positive effects for the environment as well. These results also confirm that environmental organizations can effectively pursue educational advancement for women as a means to increased environmental protection efforts.

Female participation in national legislatures is also a statistically significant predictor of environmental treaty ratification. For a 15 percentage-point increase in female representation in the national legislature, a country is predicted to ratify approximately 1 additional environmental treaty. This result confirms my hypothesis that increased representation of women in national legislatures would result in a higher commitment to environmental protection, demonstrated through environmental treaty ratification.
Policy Implications and Conclusions

My findings have several important policy implications for both social development and environmental protection organizations. First, my results suggest that efforts to increase women’s economic participation rates and educational attainment could have positive quantitative effects on female representation in national government. This indicates that the effects of empowerment programs can be seen not only at the local and community levels, but also at the national government level.

Correspondingly, since female participation in national legislatures is a significant predictor of environmental treaty ratification, and educational and economic empowerment are important predictors of female participation, it would provide an opportunity for environmental organizations to support such empowerment efforts as a way to increase countries’ demonstrated commitment to environmental protection, specifically through international environmental treaty ratification. In addition to their traditional work of increasing awareness of environmental problems and potential solutions, environmental advocacy organizations could also work to improve women’s economic standing and educational opportunities, since the subsequent impacts of such efforts have the potential to benefit the environment.

Given the impending threats of global climate change, decreased agricultural productivity, and water shortages, it is imperative that countries increase their efforts to
mitigate the consequences of these environmental threats. It is therefore useful to know that environmental organizations can pursue social development efforts in addition to environmental awareness goals in order to increase the global commitment to environmental protection.

My research provides new and policy-relevant information about the potential effects of female empowerment on environmental protection commitments. The results of my analyses, which link women’s educational attainment and environmental treaty ratification, also provide environmental organizations with new avenues to pursue a furthering of their mission of increased environmental protection. This study makes some progress toward filling an existing research gap by examining the national and international impacts of female empowerment on national commitment to environmental protection, rather than focusing solely on local and community effects. However, there is still much more knowledge to be gained on these topics of gender empowerment impacts and treaty ratification behavior.

For instance, it would be worthwhile to investigate regional trends in the effects of gender empowerment programs, especially in areas such as Latin America, which have until recently been very strongly male-dominated. Likewise, it might be the case that educational programs are more effective in increasing women’s political representation in certain areas of the world, whereas economic development might be
the most effective tool in other regions. If so, it would be useful for development organizations to know how best to focus their efforts and scarce resources, if one of their goals is to increase women’s national political standing.

It would also be interesting to investigate what other environmental activities affect environmental treaty ratification behavior. For example, is there a correlation between environmental treaty ratification and the presence or absence of environmental non-governmental organizations (NGOs)? Is there a correlation between amount of land set aside for protection and ratification of environmental treaties? Research examining this question would be an interesting bridge between the work of Nugent (2007) and that of Norgaard & York (2005) and Roberts et al. (2004).

Answering these and other related questions could provide a more comprehensive understanding of treaty ratification behavior, which might lead to increased ratification rates if the information is used effectively. Assuming that environmental treaty ratification is an accurate representation of a country’s commitment to environmental protection, further research in this area could lead to greater worldwide environmental protection efforts, which will only become more important in the future.
Appendix A: Environmental Treaties

- International Convention for the Regulation of Whaling (1946)
- International Convention for the Prevention of Pollution of the Sea by Oil (1954)
- Convention on Fishing and Conservation of the Living Resources of the High Seas (1958)
- Convention on the High Seas (1958)
- International Convention on Civil Liability for Oil Pollution Damage (1969)
- Ramsar Convention on Wetlands of International Importance (1971)
- Convention for the Protection of the World Cultural and Natural Heritage (1972)
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972)
- Convention for the Prevention of Marine Pollution from Land-Based Sources (1974)
• Convention for the Protection of the Mediterranean Sea Against Pollution (1976)

• Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979)

• Geneva Convention on Long-Range Transboundary Air Pollution (1979)


• Vienna Convention for the Protection of the Ozone Layer (1985)

• Montreal Protocol on Substances that Deplete the Ozone Layer (1987)

• International Convention on Oil Pollution Preparedness, Response, and Cooperation (1990)


• Convention on the Transboundary Effects of Industrial Accidents (1992)

• United Nations Framework Convention on Climate Change (1992)

• Convention on Biological Diversity (1993)

• United Nations Convention to Combat Desertification (1994)

• Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997)


• Stockholm Convention on Persistent Organic Pollutants (2001)
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