Reforming Global Environmental Governance Through Deliberative Norm Building

Walter F. Baber
California State University Long Beach

Robert V. Bartlett
University of Vermont

and

Christopher Dennis
California State University Long Beach

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Juristic democracy is an approach to improving and reforming global governance, one that seeks to establish a fruitful means for creating and legitimizing transnational norms that can serve as the basis for a global common law (Baber and Bartlett 2009). Juristic democracy offers a particular micro-political innovation, utilizing "groups small enough to be genuinely deliberative," and suggests a pathway by which these mini-publics might be "consequential in democratic practice" in the larger political system, most notably at the transnational level (Goodin and Dryzek 2006, 220-221).

Juristic democracy presents a citizen jury with a concrete (but hypothetical) problem and asks it to come to a unanimous resolution of that problem. A substantial number of these deliberative outcomes can be aggregated through a process of restatement into a general account of the outcome of the “case” that represents the considered judgment of the relevant population regarding the normative question that the dispute entails. The discursively constrained environment of the jury and the neutrality resulting from the hypothetical nature of the case allows ordinary citizens to contribute to collective will identification (or formation) without engaging their self-interests or ideological biases (Baber and Bartlett 2005).

As a first step toward moving beyond mere theories and immodest proposals, we crafted three hypothetical cases to isolate and highlight three real-world normative environmental governance conflicts: (1) the responsibility for shared environmental impacts of development having vastly differential benefits; (2) the adequacy of informed consent as a regulative strategy for trade in hazardous materials; and (3) the appropriateness of alternative regulatory schemes for allocating risks and benefits from differential transboundary pollution of a common resource. These dispute scenarios are as
hypothetical yet concrete as we can make them, but the conflicts are directly analogous to real world conflicts over which no normative consensus appears to have evolved. The purpose is to identify and model normative discourses that are fundamental to earth system governance, to map areas of consensus and disagreement through scenario-based empirical research, and to aggregate the findings in a form that will allow for further progressive development of global environmental norms. These first dispute scenarios, and the procedures for presenting them to citizen juries for possible resolution, were pilot tested on several juries in the United States and Italy. Detailed descriptions of the three dispute scenarios and the panel deliberation process can be found in Baber and Bartlett (2011).

At the Fort Collins Conference on Earth System Governance in May 2011, representatives of the Earth System Governance Research Centres and other interested researchers met and committed to organize citizen juries that would deliberate these dispute scenarios in various places around the world. This Norms of Global Governance Initiative (NGGI) was formally launched as an international collaborative research activity of the Earth System Governance Project in June 2011 (http://earthsystemgovernance.org/news/2011-05-21-launch-norms-global-governance-initiative-nggi) and the first citizen panels were conducted in Oldenburg, Germany, in July 2011. Through December 2011, seven more panels were conducted in Kingston, United Kingdom, and Lund, Sweden. Additional juries have since been completed in 2012 and more are planned, but here we only report some early, preliminary results of nine juries that deliberated on the same scenario: Case 1, on the responsibility for shared environmental impacts of development having vastly differential benefits. (To date, only one panel has deliberated Case 2 and none has deliberated Case 3, so we have little or nothing to analyze or report about them.)
In the next section, we describe the dispute scenario that was the subject of these citizen jury deliberations. In subsequent sections, we report the results of the first deliberations and begin to explore and analyze their implications for understanding environmental norms and their progressive development.

The Hypothetical Scenario: Conflict among the Countries of the Terran Continent

All of the hypothetical scenarios that we use in this research present jurors with disputes arising on the imaginary continent of Terra. Four nations occupy the Terran landmass (though one plays no role in these particular simulations). They share an imaginary history of colonial occupation from which they emerged along different trajectories as a consequence of their geographic and demographic diversity and their different experiences under colonial rule.

The eastern and northern regions of Terra are occupied by Panterra, the largest, most populous, and most economically advanced of the continent's nations. The central region of the continent is shared by two nation-states. Along the southern coast lies the nation of Meerland. This region is not as prosperous as neighboring Panterra, but it is undergoing a period of rapid economic development fueled largely by the use of its forested mountains and unspoiled coast for eco-tourism. North of Meerland lies Arroya, a sparsely populated and agrarian nation that is almost entirely desert because it lies behind the rain shield of Meerland’s mountains. Arroya’s only arable region lies along the banks of the Terra River, which also marks the boundaries of these three countries along their shared borders. More complete descriptions of these nations and a map of the Terran continent--materials provided to all panelists prior to deliberations--can be found in Appendix I.
The dispute that lies at the heart of the scenario and dispute deliberated in these early juries involves the use by Panterra of geothermal resources for the production of electricity. The resulting wastewater, although clean, is much warmer than the water of the Terra River into which it is discharged. For the purposes of the deliberation, the jurors are provided with the following set of facts, to which the countries involved have stipulated:

- The residents of the Republic of Arroya living in the vicinity of the Terra River rely on the Terra River salmon fishery for approximately 80% of the protein in their daily diet.

- Throughout the recorded history of the Arroyan people, the Terra River salmon have spawned in the area immediately downstream of the Terra Rapids near the border between Arroya and the Republic of Meerland (Meerland).

- In 1993, the Federated Republic of Panterra (Panterra) began to develop geothermal electrical generating facilities on its own territory near the Terra River and its borders with Meerland and Arroya. In 1999, Meerland also began to produce geothermal electricity on its territory and to discharge water in areas that ultimately drain into the Terra River.

- The geothermal facilities throughout this area discharge large quantities of water into the Terra River. Even when this water is held in catchments and allowed to reach ambient air temperature, it is still significantly warmer than the water of the Terra River.

- Beginning in 1994, measurable increases in the temperature of the Terra River were detected below the Terra Falls in the area of the salmon spawning grounds. These temperature increases have continued since 1994 and, by 2006, the Terra River was
without salmon across 4/5ths of its length on the Arroyan border.

- If temperature increases continue, wildlife biologists are unanimous in their view that the salmon spawning grounds will continue to shift downstream and that there will be no salmon in the Arroyan segment of the Terra River within five to ten years.

- The parties also share the view that if increases in ambient river water temperature levels could be limited to no more than 0.5 C, salmon would likely return to the Terra River along all of its Arroyan segment. Limiting increases in ambient river water temperature to no more than 0.5 C would require a 60% reduction in geothermal production of electricity, given no changes in currently available technology. Further, the parties agree that no technological innovations that would allow for reductions in river water temperature without reducing electrical production are currently available or foreseeable in the future.

Based upon this set of facts, Arroya has petitioned an international tribunal for an order directing the Federated Republic of Panterra and the Republic of Meerland to reduce their geothermal electrical production by 60% from 2006 levels and to refrain from exceeding that limit in the future. (The list of stipulated facts and all petitions are provided in Appendix II.) The Arroyan petition asks that the panel retain jurisdiction for an indefinite period of time. Arroya argues that it should be allowed to reserve the right to develop geothermal resources equivalent to those of Panterra and Meerland (on a proportionate per capita basis) and that the panel should use its retained jurisdiction to mandate further future reductions in Panterran and Meerlandan production to accommodate Arroyan development as it may occur.
Not surprisingly, Panterra objects. Panterra cross-petitions the tribunal to require all parties to return their geothermal electricity production to 2001 levels (which all parties agree would constitute an overall 60% reduction). This remedial measure would, Panterra accurately contends, impose a roughly equal financial loss on both Panterra and Meerland in terms of the total value of the infrastructure investment that would have to be decommissioned.

In a cross-petition of its own, Meerland asks the panel to mandate a 70% reduction in Panterran geothermal production and asks that Meerland be allowed to increase its geothermal production by an amount equivalent to 10% of current Panterran production (thus meeting the 60% overall objective). This would allow Meerland to approach a level of geothermal electrical production that would be equivalent (as a percentage of its total electrical production) to the Panterran electrical production profile. This increase in Meerland’s electrical production would allow it to meet its other economic development objectives. Meerland vigorously objects to the Panterran remedial proposal on the grounds that 70% of its production facilities have been constructed since 2001 whereas only 15% of Panterra's much more extensive production capacity has been built during that time. As a factual matter, the Meerland argument is accurate in its description of the history of geothermal development in Panterra and Meerland and the implications of the Panterran proposal. Whereas the financial loss caused by the Panterran proposal would be roughly the same for both Panterra and Meerland, geothermal production by the latter would be harder hit.
Deliberated Judgments by the Panels

The nine panels that we have asked to deliberate Petition 1 have consisted of a total of 96 jurors, with each panel ranging from four to eighteen jurors. Deliberative panels have been conducted in Oldenburg Germany (Kevin Grecksch), Pskov, Russia (Ruben Zondervan), Kingston, UK (Kevin Grecksch), and Lund, Sweden (Ruben Zondervan). Three jurors declined to identify their sex on our pre-deliberation questionnaire, 52 identified as female, and 41 identified as male. One panel was all-male, two panels were evenly balanced by sex, and six panels were majority female. Jurors ranged in age from 18 to 39, with a mean age of 26. Because we can report results from so few deliberations and so few jurors so far, all of our findings must be viewed as preliminary, exploratory, and to some extent speculative.

The underlying normative issues presented by this dispute described in Petition 1 have the same structure as those involved in the debates over the Kyoto Protocol and possible successor agreements to regulate climate-warming gasses. Yet in all of our jury deliberations, only one participant identified this connection. Trial participants have universally attempted to resolve the question on its own merits without invoking any real world disputes to advance their analyses. Moreover, the juries have arrived at their collective judgments with a surprising level of consensus. As can be seen in Table 1, there was near unanimity regarding the main thrust of Arroya’s petition (a 60% reduction in emissions). But Arroya’s request for a “set aside” that would allow that country to develop its own geothermal program received support from only one of the nine panels. The “equity based” requests of Meerland seem to have influenced the judgments of six panels.
Preliminary Results

A review of the reasons given for the judgments suggests that these panel deliberations are identifying several considerations--threads of discourse--that should be represented in any large-scale attempt to adjudicate existing differences over climate change through deliberative discourse. First, there is a marked reluctance to accept ‘pre-packaged’ solutions. While it is true juries often attempt to split the difference in criminal cases by convicting on lesser included offenses and acquitting on the most serious charges, civil litigation rarely allows for that kind of fine-grained judgment. Participants in these simulations, however, show a strong preference for solutions of their own devising. So any worries that jurors might become passive tools of wily experimenters would appear, at this stage at least, to be unfounded.

Second, while participants are not shy about bringing to these simulations concerns other than purely ecological ones, there is no evidence that they are inclined to lose sight of the environment. Juries have mentioned technological and scientific issues and raised social issues such as the rights of indigenous populations and rights to an adequate diet. But these matters have not been allowed to trump the environmental problem at hand.

Table 1
Final Judgments and Reasons, All Juries 2010-2011
Petition One

<table>
<thead>
<tr>
<th>Place and Date</th>
<th>Judgment</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA April 2010</td>
<td>Panterra to cut twice as much as Meerland, totaling 60% overall</td>
<td>Panterra cutting twice as much as Meerland is the most fair</td>
</tr>
<tr>
<td>Country</td>
<td>Period</td>
<td>Suggestion</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>USA</td>
<td>October 2010</td>
<td>In favor of Arroya, but also Arroya must be allowed to fish in Meerland and Panterra stretches of the river until the fish population is restored to a sustainable level</td>
</tr>
<tr>
<td>Germany</td>
<td>July 2011</td>
<td>A tradable permit scheme with permits allowing 60% of current emissions, the initial distribution based on a large reduction by Panterra but increases by Meerland and Arroyo</td>
</tr>
<tr>
<td>Russia</td>
<td>August 2011</td>
<td>Require reduction to 2001 levels, create commission for future levels and monitoring, create foundation to invest in developing alternative sources, establish educational fund for Arroyo</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>October 2011</td>
<td>In favor of Panterra</td>
</tr>
<tr>
<td>Sweden</td>
<td>December 2011 #1</td>
<td>In favor of Meerland</td>
</tr>
<tr>
<td>Sweden</td>
<td>December 2011 #1</td>
<td>All petitions denied and no order entered</td>
</tr>
<tr>
<td>Sweden</td>
<td>December 2011 #2</td>
<td>A reduction by 60% overall, allocated by a formula of per capita, already existing investment/production capacity, and rural/urban ratio, formula determined by a body of technical experts</td>
</tr>
<tr>
<td>Sweden</td>
<td>December 2011 #3</td>
<td>Reduction by 60% overall, emissions per country allocated per capita</td>
</tr>
<tr>
<td>Sweden</td>
<td>December 2011 #4</td>
<td>Reduction by 60% overall, proportional to capacity to replace energy through other suitable sources; Arroyo not allowed to develop any geothermal</td>
</tr>
</tbody>
</table>
Third, deliberation panels are inclined to think that, to the extent that economics in involved, future resource exploitation should be “distributed equally” rather than differentially, and also alternate means of development should be sought that do not involve wealthier nations being “penalized” (although a distinct minority view suggested precisely that). Further deliberation panels will, undoubtedly, add more discursive threads that will flesh out our understanding of what constitutes a fully “representative” discourse on climate change. But even at this stage, a bit of doubt is cast on some aspects of the normative foundations of the Kyoto Protocol and the post-Kyoto negotiations.

*Ideology and the Deliberative Construction of Norms*

Interpreting the results of environmental problem-solving exercises is likely to face insurmountable difficulties if some account is not taken of political ideology. In an exclusively American context, one might be tempted to merely ask participants to self-identify as either liberals or conservatives. But when participants from across the globe are involved, no such culturally specific technique will suffice. An approach to understanding political ideology is available, however, that is based on the most nearly universal human experience.

Lakoff (2002) argues that liberalism and conservatism are essentially competing moral systems grounded in the child-rearing experience. This perspective, whatever its other merits, suits our long-range agenda well because what we are advocating is the use of hypothetical test cases to elicit people’s moral (as opposed to political or economic) judgments about basic principles of environmental protection. To account for ideological interference in those judgments, our conceptualization and operationalization of ideology
must be as nearly universal as possible. According to Lakoff, conservatism is actually a moral perspective that he characterizes as the Strict Father model, whereas liberalism he describes with the model of a Nurturant Parent. Based upon this perspective we have developed an account of conservatism that contains four conceptual elements, each of which can be measured by asking participants to agree or disagree with statements about the social and natural world. The elements of conservatism we have used are:

1. **Moral Absolutism** – Good and evil are constants and people’s orientation to them is a social given rather than a variable subject to reform. Preserving the moral order is critical to a society’s survival and this requires us to judge each problematic case on its own merits.

2. **Human Depravity** – Without the right incentives, people will not behave appropriately nor develop the self-discipline necessary for social stability. So a system of rewards and punishments is necessary.

3. **Natural Adversity** – Negative outcomes are to be expected so people need to be self-reliant and self-interested. Competition is, therefore, both a moral imperative and a guarantor of collective survival.

4. **Social Authoritarianism** – Disobedience is both morally wrong and socially destructive. Authority figures should be obeyed and those who refuse must be isolated from society. Human authority extends to control over the non-human elements of the world.

This model of conservatism does not implicate specific political or economic issues nor does it engage interests that may be grounded in class, occupation, or other demographic characteristics. Moreover, this is a model of conservatism that clearly suggests why certain kinds of “conservatives” might adopt environmentally unfriendly
positions. People who are morally dedicated to the pursuit of self-interest, certain of the correctness of their own views, hostile to those who question authority, and constantly concerned about adverse social and economic outcomes would not appear to be naturally prone to strong environmentalism. If it turns out that there is a moral matrix this fundamental that causes some people to be indifferent (or even hostile) to environmental protection, its existence should appear in its clearest form when people are challenged to resolve environmental disputes in which neither they nor anyone they know is involved.

The data that we have gathered on this question to date are so limited and preliminary that it is impossible to draw any firm conclusions about the question. At this early point, however, there is an inkling of only the most modest relationships between ideology as we have attempted to measure it and participant responses—either to the substance of the disputes or to the deliberative process itself. Should this finding of weak or no relationships be sustained by data from many additional citizen panels, the news would be very good indeed. It would support a conclusion that political ideology does not preclude the possibility that deliberative research can map the normative ground that international actors must traverse in their efforts to craft environmental regimes.

*Side Benefits of Deliberating Hypothetical Scenarios*

Experiences with the juries already undertaken clearly indicate that the panel deliberations are enjoyable for the participants and also can serve other purposes in parallel, according to Ruben Zondervan, who conducted two juries in Pskov, Russia, in August 2011 (as part of the summer school organized by the Russian State Hydrometeorological University, in cooperation with the Central European University and
the Earth System Governance Project and supported by RESET, the Open Society Institute's Higher Education Support program) and also four jury deliberations with LUMES master's students in Lund, Sweden, in December 2011. For example, the summer school in Pskov had a focus on teaching methodologies and the jury turned out to be a great way of teaching the participants, all from natural science backgrounds, some basics of deliberative approaches in environmental governance while using a format very different from the teacher-centered classroom education common in Russia. In Lund, the juries were held close in time to a high profile international negotiation meeting, the UN Framework Convention on Climate Change COP (Conference of Parties). Students had very heated discussions and a hard time agreeing although they had no 'vested interests' or strict mandates with respect to the hypothetical scenario, which made the deliberations an excellent way to illustrate the difficulties of negotiations, which was an eye opener for many students.
Appendix I

The Countries of Eastern Terra:
Geography, Politics, and People

TERRA

Geography

The continent of Terra comprises 6,356,863 square miles, roughly twice the size of Australia. Like Australia, much of Terra is desert. The southern most quarter of the island is made up of a heavily forested range of mountains that are volcanic in origin. The south slope of the Southern Mountains faces into the prevailing winds, creating a rain shield that deprives the northern half of the continent of significant precipitation.

Between the Southern Mountains and the Northern Desert there lies a relatively fertile plain, watered by mountain runoff and the occasional showers that manage to clear the peaks to the south. The other major feature of the continent is the Terra River. The headwaters of the Terra are high in the Southern Mountains. From there the river runs first north and then west, nearly bisecting the continent. It reaches the ocean near the northern end of the continent’s western coast. The areas immediately surrounding the Terra are the only areas of the Northern Desert (aside from the coastal strip around the mouth of the Terra) that will sustain agricultural activity and most of that region’s sparse population lives within walking distance of the river banks.

History

Until nearly the middle of the 19th century, the Terran continent was dominated by two competing colonial powers. The eastern half of the continent (roughly speaking) gained its independence in 1832 when the colonial power ceded its sovereignty as a result of its own internal instability and growing pressures for autonomy in its far-flung colonial possessions. The newly independent country took the name Panterra, in recognition of the fact that its territory included the entire eastern bank, approximately one sixth of the western bank, and the headwaters of the Terra River.

The western half of Terra had to win its independence by combination of revolution and patience. The western most part of this region contained nearly three quarters of the colonial population, which waged a three year battle against colonial rule from 1855-1858. At the end of this time, the southwest area of the continent gained its independence as the new nation of Westmare and the northwestern area along with the intervening desert region (north of the Terra River) was ceded by the colonial power to Panterra. The central and south-central areas of the continent continued as a relatively unimportant and largely neglected colonial possession for another half-century, gaining its independence in 1913 as growing tensions in Europe led its colonial master to divest itself of its overseas possessions.

In surrendering sovereignty over the sparsely populated central and south-central area of the continent, the former owner created two small states, roughly contiguous with the territories of the area’s two major ethic groups but with boundaries that were largely arbitrary. The southern area now constitutes the nation of Meerland, which consists of a rugged southern ocean-front (with only a small population in a few fishing villages) and a fertile
highlands area in the north (home to four fifths of the country’s population). The region to the north of Meerland is now the landlocked nation of Arroya, which is entirely desert. Virtually all of Arroya’s population lives in the narrow fertile strip along the western bank of the Terra River (which is Arroya’s northern and eastern border with Panterra).

**MEERLAND**

Meerland is bordered to the east by Panterra, to the north by Arroya, to the west by Westmare, and to the south by the ocean. Meerland is a country dominated by mountains. The southern third of the country, which includes its entire coastline, is comprised of a densely forested range of volcanic peaks. Only scattered fishing villages dot the coastline and the mountains themselves are virtually uninhabited. To the north of the mountains there is a vast expanse of rolling hills and plains, watered by mountain runoff and occasional winter showers. There is a small arid region in the far north, adjacent to Arroya. In this area the border shared by Meerland and Panterra touches the Terra River. There is also considerable geothermal activity in this area, which the Meerland government has recently begun to exploit for the generation of electricity. Meerland’s government is stable and democratic. Its population is relatively homogeneous, comprising a single ethnic group whose members tend to identify with local village life and who have, since achieving independence in 1913, taken a growing pride in their national identity. The Meerland constitution establishes a congressional system of government, with a popularly elected president serving one six-year term. Extraordinary majority requirements in both houses of Congress have promoted a consensus-oriented politics that has produced steady consolidation of the federal system without depriving the country’s townships of their valued sense of self-determination. A statistical profile of Meerland appears below:

**Land.** *Area:* 886,700 sq. mi. (2,296,500 sq. km.); *Capital:* Kingston (population 426,657).

**People.** *Population:* 1,680,000; *Density:* 1.9/ sq. mi. (0.73/sq. km.); *Distribution:* 74% rural, 26% urban; *Annual growth:* 2.1%.

**Education.** *Adult Literacy:* 90%; *Universities:* 5.

**Health.** *Hospital Beds:* 55,900; *Physicians:* 7,800; *Life Expectancy:* women-65, men-55; *Infant mortality:* 24/1,000 live births.

**Economy.** *GNP:* $19.3 billion, $1,200 per capita; *Labor distribution:* agriculture-40%, services-21%, government-15%, commerce-12%, manufacturing-12%; *Trade: Imports:* $74 million, *Exports:* $64 million; principal trade partners-Pantaro, Westmare.

**Government.** *Type:* Republic; *Legislature:* Congress; *Political subdivisions:* 142 townships.

**Communications.** *Railroads:* none; *Roads:* 81,000 miles (130,350 kilometers); *Major ports:* 0; *Major airfields:* 2.

Meerland has recently undertaken two major development projects. The first exploits the geothermal resources of the country’s north eastern region for the generation of electricity. The current electrical usage within the country is small. But electric generation, which had been limited due to the expense of importing oil shipped by pipeline from the eastern coast of Panterra, is growing as geothermal sources come on line. The second project, in its earliest
stages, involves the development of a port facility in the southern coast’s only shelter anchorage. The objective is not to increase shipping capacity, since there is little population or economic activity in the area. The goal is to develop a resort destination and a base for the promotion of environmental tourism.

ARROYA

Arroya is entirely landlocked. It is bordered on the east and north by Panterra, on the west by Westmare, and on the south by Meerland. This former colonial possession is the poorest nation on the Terran continent. Its territory is almost entirely desert. Only the strip of irrigated land along the Terra River supports agriculture. It also supports the vast majority of Arroya’s citizens. The remainder of the country is home only to herdsmen and miners. Arroya is a republic, with eight semi-autonomous states. Each state is a homeland to one of the tribes which comprise the ethnic group whose distinctive culture led to the creation of the state by its former colonial master. The central government serves relatively limited functions, largely involving the mediation of disputes between the tribal states who control the country’s national assembly. In this, the government enjoys reasonable success. Crime and civil unrest are only limited problems. Political parties are unknown and the country has neither a military nor a regulatory establishment in the conventional sense. Arroya generally limits its foreign interactions to those required to maintain relations with its immediate neighbors. A statistical profile of Arroya appears below:

Land. Area: 674,133 sq. mi. (1,746,000 sq. km.); Capital: Rivertown (population 876,657).

People. Population: 3,300,000; Density: 4.9/ sq. mi. (1.9/sq. km.); Distribution: 19% urban, 81% rural; Annual growth: 3.7%.

Education. Adult Literacy: 38%; Universities: 1.


Economy. GNP: $920 million, $920 per capita; Labor distribution: agriculture-80%, construction/trade/transport-7%, government-5%, industrial/mining- 3%; Trade: Imports: $74 million, Exports: $64 million; principal trade partners-Pantaro, Westmare.

Government. Type: Republic; Legislature: National Assembly; Political subdivisions: 8 states.

Communications. Railroads: 1,332 miles (2102 kilometers); Roads: 27,693 miles (45,000 kilometers); Major ports: 0; Major airfields: 1.

Arroya has an economy based largely on agriculture made possible by ditch irrigation from the Terra River. The country imports virtually all of its manufactured goods. Its principal exports are small quantities of various ores mined in the northern half of the country and sold principally to Panterra. There is also a small trade in wool across the Westmare and Panterra borders, but the size of this market can only be estimated because it is a largely informal activity carried on between the indigenous peoples of the two countries. Arroya is, by a small margin, a net importer of foods. These imports are principally meat products. The Arroyan population’s major protein source is the Terra River Salmon which has historically spawned
in the middle third of the River’s length, just downstream of the rapids that mark its descent from the Meerland plains.

These economic activities have been essentially static since Arroyan independence in 1913. A few development activities have been pursued by international agencies. But the occasional indifference of Arroya’s tradition-oriented population, disunity among its tribal states, and limited domestic governmental capacity has hampered these efforts.

PANTERRA

Panterra is the largest and by far the most populous country on the Terran continent. The country stretches from the rugged southern coast, across the eastern third of the Southern Mountains, on to the extreme northern coast of the continent and west across the Northern Desert to the Western Sea. Its official name is the Federated Republic of Panterra, though its twenty-six provincial governments are little more than administrative regions under central authority. The country enjoys stable and representative government in the form a parliamentary system, including three major parties and several minor ones. It has a respectable record in the area of human rights, but its environmental protection performance is mixed. The country has never participated in a major military operation, is part of no military alliances, and maintains only a small armed force. In its international relations, Panterra is a firm and long-time advocate of free trade. A statistical profile of Panterra appears below:

Land. Area: 3,285,619 sq. mi. (8,511,965 sq. km.); Capital: Bay City (population 1,576,657).

People. Population: 150,400,000; Density: 45.8/ sq. mi. (17.7/sq. km.); Distribution: 74% urban, 26% rural; Annual growth: 2.1%.

Education. Adult Literacy: 91%; Universities: 88.


Government. Type: Federated Republic; Legislature: Parliamentary; Political subdivisions: 26 provinces.

Communications. Railroads: 18,505 miles (29,871 kilometers); Roads: 889,745 miles (1,448,000 kilometers); Major ports: 11; Major airfields: 24.

Panterra has a large and diverse economy that supports the continent’s highest standard of living. Its major exports are natural resources. Exports include timber (28% of total exports), iron ore (25%), machinery and vehicles (13%), coffee (12%), sugar (10%) chemicals (9%), agricultural products (8%), rare minerals and gems (5%). Panterra’s major import is oil. The country has only small reserves of oil and imports 60% of its domestic consumption. This is the major reason for the country’s trade deficit and its status as one of the world’s largest debtor nations, in spite of its relatively healthy economy.

In order to reduce its reliance on foreign oil, as well as to improve the air quality in its capital of Bay City, Panterra has undertaken a major effort to exploit the geothermal resources.
near its border with Meerland. This area, lying north of the Southern Mountains and along the Terra River, has great potential for the generation of electricity. Panterra’s Interior Ministry has, with the help of international lending agencies, established several power stations. These stations now generate more than half of the electricity used in the capital, which is also Panterra’s largest city.

This new source of power has also allowed for the creation of an industrial park to the west of the capital as well as a successful electrification project for the nation’s central highland agricultural region. Most significantly, Panterra has been able to reduce its reliance on foreign oil from 80% five years ago to 50% today while its economy has grown by 9% during the same time.
Appendix II

Petition One

The Republic of Arroya
versus
The Federated Republic of Panterra
and
The Republic of Meerland

Facts of the Case

The parties agree that the following facts are accurate:

1. The residents of the Republic of Arroya (Arroya) living in the vicinity of the Terra River rely on the Terra River Salmon fishery for approximately 80% of the protein in their daily diet.

2. Throughout the recorded history of the Arroyan people, the Terra River Salmon have spawned in the area immediately downstream of the Terra Rapids near the border between Arroya and the Republic of Meerland (Meerland).

3. In 1993, the Federated Republic of Panterra (Panterra) began to develop geothermal electrical generating facilities on its own territory near the Terra River and its borders with Meerland and Arroya. In 1999, Meerland also began to produce geothermal electricity on its territory and to discharge water in areas that ultimately drain into the Terra River.

4. The geothermal facilities throughout this area discharge large quantities of water into the Terra River. Even when this water is held in catchments and allowed to reach the ambient air temperature, it is still significantly warmer than the water of the Terra River.

5. Beginning in 1994, measurable increases in the temperature of the Terra River were detected below the Terra Falls in the area of the Salmon spawning grounds. These temperature increases have continued since 1994 and, by 2006, the Terra River was without salmon across 4/5ths of its length on the Arroyan border.

6. If temperature increases continue, wildlife biologists are unanimous in their view that the salmon spawning grounds will continue to shift downstream and that there will be no salmon in the Arroyan segment of the Terra River within five to ten years.

7. The parties also share the view that if increases in ambient river water temperature levels could be limited to no more than 0.5 C, salmon would likely return to the Terra River along all of its Arroyan segment. Limiting increases in ambient river water temperature to no more than 0.5 C would require a 60% reduction in geothermal production of electricity, given no changes in currently available technology. Further, the parties agree that no technological innovations that would allow for reductions in river water temperature without reducing electrical production are currently available or foreseeable in the future.

Petition (Arroya)
The Republic of Arroya petitions the panel for an order directing the Federated Republic of Panterra and the Republic of Meerland to reduce their geothermal electrical production by 60% from 2006 levels and to refrain from exceeding that limit in the future. Additionally, the Arroyan petition asks that the Court retain jurisdiction for an indefinite period of time. Arroya argues that it should be allowed to reserve the right to develop geothermal resources equivalent to those of Panterra and Meerland (on a proportionate per capita basis) and that the court should use its retained jurisdiction to mandate further reductions in Panterran and Meerlandan production to accommodate Arroyan development as it may occur.

Cross-petition (Panterra)

Panterra opposes the Arroyan petition in its entirety and, in a cross-petition, requests that the panel require all parties to return their geothermal electricity production to 2001 levels (which all parties agree would constitute an overall 60% reduction). This remedial measure would, Panterra accurately contends, impose a roughly equal financial loss on both Panterra and Meerland in terms of the total value of the infrastructure investment that would have to be decommissioned.

Cross-petition (Meerland)

In a cross-petition of its own, Meerland petitions the panel to mandate a 70% reduction in Panterran geothermal production and that Meerland be allowed to increase its geothermal production by an amount equivalent to 10% of current Panterran production (thus meeting the 60% overall objective). This would allow Meerland to approach a level of geothermal electrical production that would be equivalent (as a percentage of its total electrical production) to the Panterran electrical production profile. This increase in Meerland’s electrical production would allow it to meet its other economic development objectives.

Meerland vigorously objects to the Panterran remedial proposal on the grounds that 70% of its production facilities have been constructed since 2001 whereas only 15% of Panterra's much more extensive production capacity has been built during that time. As a factual matter, the Meerland argument is accurate in its description of the history of geothermal development in the Panterra/Meerland region and the implications of the Panterran proposal.

Charge to the Panel

The task for your panel is to arrive at a resolution of the dispute described above that you can agree is just. You may incorporate any of the arguments presented above in your judgment or develop solutions and rationale of your own. After rendering your judgment, you are requested to provide a concise general statement of the reasons for your ruling.
Appendix III

Participant name _____________________________

Terran Panel
Preliminary Questionnaire

INSTRUCTIONS:

Please fill in your name above. Please place no other identifying marks or information on this questionnaire.

Fill out this questionnaire as completely and accurately as you can. You may, of course, decline to answer any or all of these questions. After you have completed the questionnaire, return it to the Professor.

All of your responses will be held strictly confidential. They will be used only in aggregate form, with all identifying information removed. Please place no identifying information on this form other than your name.

Demographic Information

1. What is your gender?    Male____    Female____  Other _____

2. What is your year of birth? _____________

3. Please describe your racial/ethnic background: ________________________

4. Including yourself, how many people reside in your household? _____________

Attitudinal Information (please circle your response)

1. With respect to political issues generally, do you consider yourself to be (circle);
   a. liberal
   b. somewhat liberal
   c. neither liberal nor conservative
   d. somewhat conservative
   e. conservative

2. With respect to issues of environmental protection in particular, do you consider yourself to be (circle)
   a. liberal
   b. somewhat liberal
   c. neither liberal nor conservative
   d. somewhat conservative
   e. conservative
3. Using the scale provided, please indicate your level of agreement or disagreement with the following statements:
   1. strongly disagree
   2. disagree somewhat
   3. neither agree nor disagree
   4. agree somewhat
   5. strongly agree

___ Life is difficult and the world is a fundamentally dangerous place.
___ People will make themselves do things they don’t want to do in order to get a reward.
___ Without the incentives of reward and punishment, self discipline would disappear and social life would come to a halt.
___ Competition between people allows them to develop self-discipline and to earn and deserve the benefits of success.
___ Good and evil are constant and unchanging. They do not depend on your point of view.
___ People in positions of authority deserve respect and ought to be obeyed.
___ In order to survive, human societies require a moral order.
___ People have legitimate authority over nature (plants and animals) because people exercise power over nature.
___ Deviation from accepted social norms is not simply wrong for the individual, it also threatens the foundations of society.
___ The virtues (or vices) people develop early in life stay with them for life.
___ People who refuse to observe society’s moral code should be separated from those who do observe it.
___ Using self-discipline to pursue one’s self-interests allows a person to become self-reliant.
___ If each person tries to maximize his own well-being, the well-being of all will be maximized as a result.
___ People should accept the negative consequences of their own irresponsibility or lack of self-discipline, because if they don’t they will never become responsible citizens.
___ Disputes between individuals should be resolved in a way that does justice in the particular circumstances, without considering any precedent that the resolution might set for the future.
Initial Response Form 1

In the matter of Petition One

(circle one and only one of the following):

A. Judgment should be entered in favor of Arroyo.
B. Judgment should be entered in favor of Panterra.
C. Judgment should be entered in favor of Meerland.
D. All petitions should be denied and no order should be entered.
E. An order to the parties should be entered as follows:

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

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________________________________________

Below (and on the reverse) please provide a Concise and General Statement of the reasons for your Judgment:

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

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Final Judgment Form

Date:________________

In the matter of Petition One

(circle one and only one of the following):

A. Judgment is entered in favor of Arroyo.

B. Judgment is entered in favor of Panterra.

C. Judgment is entered in favor of Meerland.

D. All petitions are denied and no order is entered.

E. An order to the parties is entered as follows:

___________________________________________________________________________
___________________________________________________________________________
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Below (and on the reverse) we provide a concise and general statement of the reasons for our judgment:

___________________________________________________________________________
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MEMBERS OF THE PANEL:

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Final Judgment Form (dissent)

Date:_____________

In the matter of Petition One, our ruling would have been

(circle one and only one of the following):

A. Judgment to be entered in favor of Arroyo.

B. Judgment to be entered in favor of Panterra.

C. Judgment to be entered in favor of Meerland.

D. All petitions to be denied and no order is entered.

E. An order to the parties to be entered as follows:

___________________________________________________________________________

___________________________________________________________________________

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________________________________

Below (and on the reverse) we provide a concise and general statement of the reasons for our dissent:

___________________________________________________________________________

___________________________________________________________________________

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___________________________________________________________________________
Final Appraisal Form

Please fill out this form as completely as possible. Use the remaining space to provide any feedback on your study experience that you would care to offer. Please circle your response.

1. My simulation group produced a final judgment that judged:
   a. in favor of Arroya
   b. in favor of Meerland
   c. in favor of Panterra
   d. that all petitions should be denied
   e. that another outcome (as described below) should prevail

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

2. Our judgment was reached:
   a. unanimously
   b. by a majority vote

3. I concurred in the judgment
   a. yes
   b. no

4. The other members of the panel showed respect for my views and arguments:
   a. strongly agree
   b. agree somewhat
   c. neither agree nor disagree
   d. disagree somewhat
   e. strongly disagree

5. My group found reaching a unanimous decision to be:
   a. very easy
   b. somewhat easy
   c. somewhat difficult
   d. very difficult
   e. impossible

6. I personally found reconciling my views with those of other participants to be:
a. very easy  
b. somewhat easy  
c. somewhat difficult  
d. very difficult  
e. impossible

7. If invited to participate in another such experiment I would:  
a. definitely agree  
b. probably agree  
c. not sure  
d. probably not agree  
e. definitely not agree

8. How would you feel about elected and appointed government officials using a procedure like this to arrive at decisions about real world policy problems:  
a. I would strongly support the idea  
b. I would support the idea, but not strongly  
c. I would have no opinion  
d. I would oppose the idea, but not strongly  
e. I would strongly oppose the idea

9. If government officials convened sessions like this to deal with real world policy problems and you were asked to participate, would you agree to do so?  
a. definitely agree  
b. probably agree  
c. not sure  
d. probably not agree  
e. definitely not agree

Below please provide any additional observations or feedback that you would care to offer:
References


Goodin, Robert E., and John S. Dryzek. 2006. "Deliberative Impacts: The Macro-