Values Analysis and Institutional Adaption to Climate Change

Abstract

This paper complements "Value and Ethical Analysis in Vulnerability to Climate Change: Establishing an Analytic Framework for Identifying, Classifying and Evaluating Vulnerability Issues" (April, 2005). Much of theoretical background for what I am calling "values analysis" has been articulated in that paper. The task there was to develop a value analytic approach to stakeholder vulnerability. The task for this paper is to develop a value analytic approach to identifying and assessing institutional capacities to adapt to climate change in light of stakeholder vulnerabilities. It is written as a companion paper to the H. Diaz, A. Rojas, Richer and S. Jeannes paper, "Institutions and Adaptive Capacity to Climate Change" (2005) and the H. Diaz and A. Rojas, "Methodological Framework for the Assessment of Governance Institutions" (March 2006).

The open-ended and empirical approach for which the paper argues identifies two major sources of information regarding (formal) institutional values: 1) documentation (internal and external) such as mandates, mission statements and to some extent, policies; 2) practices of the institutions and their agents. It proceeds on the assumption that differences between stakeholder and institutional value analysis are marked by 1) more explicit and well defined value and ethical commitments for institutions, owing to the documentation and publically identifiable practices, 2) role differentiated responsibilities of institutional agents that limit what values they are free to exercise.

Evaluation of institutional adaptive capacity from the perspective of values analysis is to be based on: 1) an examination of consistency between an institution's avowed or explicit value commitments and stakeholder value profiles; 2) an institution's explicit value commitments and implicit (as reflected in its practices) value commitments. At a broader level, it is suggested that three arguably near universal normative principles can be invoked to provide a second-order values analysis: 1) the harm principle; 2) giving what is due; 3) principles revolving around the virtues of honesty/trustworthiness.

Introduction

This paper complements "Value and Ethical Analysis in Vulnerability to Climate Change: Establishing an Analytic Framework for Identifying, Classifying and Evaluating Vulnerability Issues" (April, 2005). Much of theoretical background for what I am calling "values analysis" has been articulated in that paper. The task there was to develop a value analytic approach to stakeholder vulnerability. For this paper, the task is to develop a value analytic approach to identifying and assessing institutional capacities to adapt to climate change in light of stakeholder vulnerabilities. It is written as a companion paper to the H. Diaz, A. Rojas, Richer and S. Jeannes paper, "Institutions and Adaptive Capacity to Climate Change" (2005) and the H. Diaz and A. Rojas, "Methodological Framework for the Assessment of Governance Institutions" (March 2006).

There are two major sources of information regarding (formal) institutional values: 1) documentation (internal and external) such as mandates, mission statements and to some extent, policies; 2) practices of the institutions and their agents. The differences between stakeholder and institutional value analysis are marked by 1) more explicit and well defined value and ethical commitments for institutions, owing to the documentation and publically identifiable practices,

2) role differentiated responsibilities of institutional agents that limit what values they are free to exercise.

On the Methodological Framework

      Beginning this paper with a discussion of Harry Diaz and Alejandro Roja's methodology paper (March 2006) helps develop the values analytical framework, its structure and conceptual orientation. First, a general but brief description of the literature on values and institutional adaptation and its relationship to the IACC project is in order.

      Where the literature on climate change and institutional adaptation deals with values, a pattern can be found. Many researchers in the social sciences and humanities acknowledge that other-than-economic values are in fact involved in the experiences of stakeholders faced with the impacts of climate change. The balance of this literature thus far examined suggests that we need to (as in "ought to") establish a method for taking these other values into account. Increasing numbers of papers, including those focused on economics, criticize the exclusive focus on exchange values (capital) in an attempt to find some way to recognize what have traditionally been treated as externalities (e.g., environmental degradation, pollution and cost to the health care system). How to incorporate these sorts of values into accounting schemes, e.g., by using full-cost accounting strategies, has been considered without a great deal of success. Others have attempted to introduce overarching principles, such as distributive or re-distributive justice in an effort to better represent this wider array of values in decision-making and policy schemes. Most importantly for the IACC research effort, however, is the coupling of the growing demand that decision-makers recognize this wider array of values (often only identified or listed) with the fact that no clear way to accomplish this task has been developed.

As in the stakeholder vulnerability literature, most researchers in the social sciences and a few in the humanities (philosophy) focus on principles of justice and distributive justice. When values are discussed, they are characterised principally in terms of imbalances (equity), marginalization and under-representation. As in the companion paper to this one, I do not reject this focus, but do warn that it is a lens which can obscure or perhaps even hide certain value orientations and, consequently, what value claims might mean for various stakeholders. Although likely relatively few in number, there may be people and communities who are not so much interested in a re-distribution of wealth – one exercise of equity measures – but, as Adger{Adger, 1999 #1178} points out, in being enabled to adapt in their own ways through a reinforcement of the local moral economy and building of community. A re-distribution of certain kinds of opportunity would better characterise what some people would see as a proper expression of 'equity.'

Another point to consider in the analysis of institutional adaptive capacity is raised by Miller {Miller, 2000 #2764@212}. He argues that institutions themselves frame meaning, such that even the identity of the community they serve can become debatable. If we do not allow stakeholder communities to negotiate how they are to be identified – a process that includes the values that characterize them – institutional agencies could very well misrepresent what is at stake for their constituents. Conceiving of and formulating adaptive measures could then be inappropriate and inadequate from the start. This is the same point made earlier about the adequacy of profiling stakeholder values. But it is important to emphasize that institutions may have a responsibility to engage in greater depth analysis than is generally recognized. This suggests that an analysis of capacity should include answers to questions about how institutions identify their constituent communities and the vulnerabilities of those communities.

A growing body of literature suggests that institutions are not acting and adapting in accordance with stakeholder needs (see Blunden, Vickers, Fukayama, MacIntyre). Hence, institutional ineffectiveness and/or conflict with stakeholder values needs to be recognized as a significant theme. Calls for institutions to examine other policy forming criteria (e.g., Adger calling for effectiveness, legitimacy/justice) address the tendency of institutional policy makers and other agents to narrow the scope of institutional responsibilities. Calls to recognize the importance of differing world views and how they are carried through in planning call to attention the tendency to overlook how dominant analytical schemes marginalize certain stakeholder groups and deny them appropriate forms of protection (see Hiedanpaa, 245). O'Neil & Spash, (532) criticize the use of CVM and WTP analyses to show in greater detail how dominant analytical schemes need to be re-thought to include considerations of legitimacy, justice, fairness, entitlements. They emphasize the fact that value biases are implicit in the training of analysts and professionals. These biases are embedded in professional purview, methodologies etc. They are, therefore, relevant in assessing the capacity of institutions to take cognizance of the concerns that underlie stakeholder adaptation potential.

Second to the economic approach, the distributive justice approach seems to be the one most widely received, reflecting a social sciences and humanities left leaning political orientation. This orientation, like the economic, however, can interfere with the task of understanding what stakeholder's values are from their own perspective. Some stakeholder values may have no relationship to justice, or, the sense of justice relevant to them may be different than the one researchers use to characterize stakeholder values. By using a justice or distributive justice framework, consequently, researchers may in fact distort and misrepresent the values they are trying to represent. Some spiritual values, for instance, are seen as transcending

matters of justice, such that to treat them as values that are to be recognized "at the table" and to be represented in negotiations may engender a sense of violation in stakeholders. There may be certain institutional values that have similar properties, such as those characterizing an institutional culture. Sometimes robust institutions have become that way because of exceptional leadership, which contributes to a proud legacy. Values associated with these factors are also not easily "tabled" and subject to analysis in terms of justice. Like spiritual values, they may speak to an institution's identity. They may be core values and, therefore, seen as separate from other sorts of values. Given the ethnographic approach adopted by the IACC team and the value analytical framework of my previous paper, it is important to avoid assuming a normative standpoint at the beginning, in order to avoid biasing what can and cannot be heard in the data gathering and analysing stages. It may turn out that justice will become the central normative concept to order the analysis of institutional values, but this should not be decided at the start.

It is perhaps not necessary to say, but possibly helpful to repeat, that all institutions and the frameworks according to which they operate are driven by value commitments.{Callicott, 1991 #2873}Whether hidden because all members share the same values, or, suppressed, because a dominant group has come to determine the policies and operations of an institution, certain value commitments determine what an institution's policies and practices are. This fact becomes abundantly clear in the Diaz/Rojas (2006) definition of 'institution': "all those means that hold society together by creating and maintaining an ordered system of social behaviors and relationships. Institutions tell us how to behave in specific contexts, what to expect from others, and what is right or wrong." Furthermore, the relevance of other-than-economic values is clear in this definition, as is the significance of the normative aspects of value commitments. The

definition is consistent with a more abstract definition of 'institution' as a mode of social organization that is generated by people to serve some end or complex of ends in a prescriptively ordered way. Abstracting further in this way is helpful for my purposes for reasons that will, hopefully become clearer. In this formulation, greater emphasis is placed on the action of people in ordering their lives. Further, the more abstract terms "prescriptive" rather than "right and wrong" is more intentionally used to ensure that we not neglect to capture a wider set of norms that have to do with such dichotomies as suitable vs. unsuitable, good vs. bad, satisfying vs. unsatisfying.

Institutions, especially the more complex they are, must arrange a plurality of ends relative to the ordering of social behaviour. Stakeholder demands, legal restrictions, political forces and the like can all be expected to put pressure on an institution's procedures for formulating its purpose and on its operations. In the arenas where institutions are held accountable, they will adopt principle-governed ways to formulate their purposes and operational procedures. This implies that the values relevant to institutional adaptive capacity will be ordered according to a variety of normative forces (moral, legal, political and economic). To conduct a thorough values analysis, then, the analytical framework needs to be open to more than judgments about right and wrong.

Given that there are many forces that act on institutions, we cannot assume that all institutional values will be consistently related. We can therefore anticipate both complicated and complex relations between values. By 'complicated,' I refer to a system of external relations. For example, justice typically orders diverse values and valuers to form a system. Order is imposed such that each member would likely do other than it does under the system when not forced by the system into compliance. By 'complex,' I refer to a system of internal

relations. For example, an ecosystem is typically seen as an evolved order, such that each

member does what it does '"by nature." In some instances, institutions reflect more of an

external ordering when various sections, policies, practices and agents are forced into

compliance with some higher order principle. They reflect more of an internal ordering, when

these aspects are not forced to comply with a higher ordering principle. Typically, governments

reflect external ordering , while some religious/spiritual organizations reflect internal ordering.

Complex systems are often ordered in accordance with 'identity' and 'reputation' as core

concepts. Where agents and sub-sections of an institution identify strongly with the institution

as a whole, more internally related values and functions are likely. Where systems are ordered

by such concepts as 'justice' or 'profit,' it is more likely that they will be externally ordered,

such that sub-sections and agents have to be kept in check by such things as threat of punishment

or loss of employment. How externally or internally ordered an institution is will have bearing

on how well it can adapt, how robust it is (especially in crisis situations) and for what kinds of

values and forces it is best suited to adapt. Sometimes complex, internally related value systems

are less adaptable than externally ordered systems, because they resist change, if change implies

a threat to identity (e.g., many religious institutions illustrate this propensity). Communities with

strong place-based identities are likely to be less adaptable to certain climate change scenarios, if

adaptation requires re-location. Externally ordered institutions might have formed more flexible

ways to respond to external forces and so would be more prepared to re-locate. On the other

hand, complex systems may be more robust in terms of maintaining community cohesiveness

and be better able to maintain a way of life by working cooperatively (e.g., as in certain

Mennonite communities). The point here is that it is important to identify type of value systems

as much as individual values, if we are to understand institutional capacity to adapt to threats to

stakeholder values. The literature also suggests that values pertaining to honour, respect, trustworthiness, and integrity operate in the stakeholder/institution relationship: the greater the sense of trust, the greater the sense of internal relatedness between stakeholder and institutional values.

I emphasise complexity and internal relations, here, because they appear to be typically overlooked – due to the difficulty in identifying them – yet can be critical to the adaptive capacity of institutions.

From the previous discussion, it is possible to see how institutions are forms of governance which can be ordered according to values related to identity. While some such values, e.g., reputation, are explicit, others are implicit (e.g., the sense of belonging). They can and do become explicit, however, when compared against other institutions or in crisis situations. For instance, we tend not to see how identity values are involved in the operations of the Canadian government, until compared to the U.S. government. During such moments, we see government officials and politicians emphasising the differences between U.S. and Canadian institutions. They often attempt to introduce measures that would reinforce this distinct identity, such as defining our military as a peace keeping force, or, establishing ministries to protect Canadian heritage. We also see how important an institution's identity and reputation is when they fund research on and publish its history. If identity values are somehow critical for ordering institutions and making them more or less robust and functional, then they shape the institution's normative expectations which are reflected in its structure and its functioning, which, in turn, affects its how it might adapt and what means it would use to adapt.

The literature also indicates another reason considering other-than-economic values. It is the fact that institutions are formed to help guarantee, or better, enable, stakeholders to establish

practices, or, patterns of acting on their interests. This literature, particularly that which is concerned with justice, has identified values related to competence, where excellence and other virtues (both moral and non-moral) are related to the carrying out of justice. Since the institution-stakeholder relationship in climate change research is principally one of protector-protected, values related to the ability to carry-out protection mandates are connected to the virtues, where these virtues are "instrumentally valued," even though they are not economic values.

In general the literature indicates a growing awareness of the relevance of values and of how normative principles operate within institutions and between institutions and their constituencies. While few articles explicitly identify it, the harm principle is implicit in the protector-protected relationship, since that relationship is about eliminating, reducing or adapting to threats and various kinds of harm. It is no surprise, then, that justice should be a central concept in this literature.

A second implicit principle can also be identified: being given and giving what is due. Wherever rule-governed or prescriptively governed behaviour is expected, the relationship between people and institutions is one in which both owe something to the other. Institutions owe protection to their stakeholders and stakeholders owe support (e.g., in the form of tax dollars) to institutions. What institutions owe stakeholders is usually explicitly formulated in institutional mandates and policies, but can also be anticipated at a more primitive level. Wherever people commit to an ordered as opposed to chaotic way of interacting, they anticipate being better off under the protection of the institution than they would be had the institution never existed. Where institutions (and individuals) consistently fail to give what is due,

arrangements collapse and chaos can ensue. Sometimes, this can result in rebellion{Scott, 1976 #1181}. Hence, part of what is due to stakeholders is institutional trustworthiness.

Trustworthiness, which is closely related to integrity, then, forms a third basic normative principle. Institutions are designed to assume responsibilities and, therefore, to make decisions and operate on behalf of their constituents. They are entities that are empowered to act. As such, they are *entrusted* with responsibilities, not merely constructed to perform a function. Values pertinent to *agency,* therefore, seem relevant to a values analysis.

Hence, at least three, albeit inchoately formulated, other-than-economic values relevant to the institution-stakeholder relation are those connected to: 1) the harm principle; 2) being given what is due; 3) principles revolving around the virtues of honesty/trustworthiness. These are normative values in the sense that they have to do with prescriptive ordering principles.

General Implications for Methodology

For this paper, I assume that the institutions to be studied have been selected. An array of preliminary normative concerns, organized under the above three headings, are of immediate interest. For any institution, we can expect to identify what it is designed to protect, what it owes to its constituencies and with what it is entrusted. Now, given that institutions may be complex/complicated and situated in a hierarchy of institutions, this task of identification may not be an easy one, but we know that it is at least necessary. It is important to note here that the three principles do not exhaust the purview of values analysis. They are either explicit or implicit in the literature, expressing a pattern and focus for values analysis. But values analysis has a wider purview than what is definable in terms of normative principles. This normative element is one of possibly many in a values analysis; it belongs to a more comprehensive value

profile. They are necessary but not sufficient for a values analysis. It is fair to say, then, that we can conduct an institutional values analysis with the explicit intention of identifying normative values.

Where can we expect to find expressions of these sorts of values? Explicit mandates/mission statements and possibly policy commitments provide at least an initial indication of what normative values might be relevant to an institution. An institution's relation to other institutions and its place in hierarchies of institutions may also be relevant. For our purposes, what stakeholders identify as institutional responsibilities is another possible source.

In general, the question to be asked of institutions is, "For what is this institution responsible?" At the same time, however, we need to know what enables, limits, interferes with institutions to carry out their responsibilities. These factors may be other values that may not directly pertain to the normative expectations of the institution. Being a cost-recovery organization, for instance, may have nothing to do with its prescribed responsibility, but may have everything to do with its ability to carry out its responsibilities. Normative values, then, need to be related to economic and other sorts of values, which can be identified using the methods as described by Diaz and Rojas.

On the Relation between Values Analysis and The Methodological Dimensions for Assessment

My characterization of 'institution' closely follows that of Diaz and Rojas, but supplements that characterization by way of expanding on the normative dimension of institutions. During a workshop with PFRA (Regina, March 17, 2006), Barry Smit noted that whatever institution is identified for study, it will be embedded in a system of institutions that

determine its place in society. It will be related closely to some and peripherally to others. It will be related hierarchically to some (e.g., as the PFRA is related to the federal government) and horizontally to others (e.g., PFRA's relation to other water-related agencies). Each type of relationship will have different sorts of effects on the institution being studied. These effects may become important when examining adaptive capacity.

When we ask the following questions, therefore, we are implicitly asking about how various institutions aid, complement, interfere with or even undermine one another's ability to satisfy their responsibilities. " What organizations compose the water governance institution in each basin?" "What are their formal roles and responsibilities?" "How do they link to each other?" It is relatively easy to see how values analysis methodology can be integrated with the general methodology. No new or separate data needs to be gathered, as long as the data gathering processes allow for depth analysis during interviews and examination of practices.

One problem can, nevertheless, be anticipated. It concerns stage C., assessing management and decision-making effectiveness. Since matters of agency and trust become relevant, value analysis must be conducted cautiously and sensitively. The focus on agency could lead to identifying specific agents as causes of institutional failure. In such cases, agents and even institutions themselves can become vulnerable because of the research process. With this is mind, assessment procedures have to be conducted with strict regard for confidentiality. Focussing on institutional practices and responses to these practices then should shape the terms of reference, such that whatever discussion of agency there is, it will be generalized. The research approach needs to avoid becoming a performance review, while not losing its ability to assess the role of agency within the institution.

This can be done through generalization. For instance, determining how trust operates in the institution can described from a third person perspective. "To what extent have successes and failures been precipitated by giving agents too much or too little decision-making licence?" is one question that can be asked of many respondents and results generalized so as to avoid identifying specific individuals. Where interviewees do speak from a first person perspective and disclose sensitive information, all such disclosures need to follow confidentiality rules and any public reports address only patterns, not specific incidents.

With appropriate safeguards in place, interviewees can be asked about how they see the relationships between their responsibilities/functions, the institution's responsibilities, mandates, mission statements, policies and possibly codes of ethics. What they identify as stakeholder responses to their institutional practices and how they evaluate those responses can also help determine what values operate within the institution and between the institution and stakeholders.

Follow-up questions concerning how well stakeholder and institutional values match, how onerous responsibilities are and what aids or interferes with satisfying responsibilities can help disclose the network of operational values. It is also important to know how the institutional culture functions; are first responses to consult legal departments or to send agents into the field to consult with stakeholders? What are the formal and informal procedures in both conflictual and non-conflictual situations?

Identifying further internal aids and barriers will be needed to frame the context in which assessment is conducted. If, for instance, hierarchical and authoritative management system is in place, its description will aid in interpreting responses with regard to issues of empowerment or

decision-making significance of agents. Are autonomy and meaningful employment important to the institution?

Under D., assessment of values over and above those implicit in the institutional setting, research can proceed more straightforwardly than in the stakeholder analysis. In that analysis, the first line of value identification depended on what people actually said in interviews. Whether pertinent values were identified depended on two things: stakeholder willingness/ability to divulge value commitments; 2) interviewer ability to employ appropriate kinds of methods (questions, silences, provocative comments). Such devices as hanging around communities were envisaged to help researchers identify key informants, central icons, symbols, organizations, histories etc., With this information researchers could then seek to interview key respondents, using familiar images and ideas to evoke responses. Institutional analysis, in contrast, because of the presence of formal mandates, histories, etc., enables researchers to abstract initial value profiles ahead of time. Interviews with institutional agents can then be treated as much as feedback fora as initial data gathering fora. Keeping the role differentiated responsibilities of agents in mind, however, the interview process cannot be as open-ended as stakeholder interviews. Eliciting responses, therefore, will be more targeted and directed by the limitations of agent institutional roles.

With these considerations in mind, the value analytical framework to be adopted in relation to the Diaz and Rojas methodology is:

A): necessary.

B): 'practices' should be added to the list to identify more informal factors. This has to do with depth analysis.

C) through to C.2): if depth analysis is included in (B), then (C) needs no addenda.

Comment on C.2): the notion of legitimacy may well introduce another set of factors that will move the research process into the realms of ethical and political theory. It seems absolutely necessary to determine the "perceived" legitimacy among stakeholders and the *de facto* legitimacy as recognized in practice in the sphere of interactions between social and political institutions, but if the research is aimed at determining overall legitimacy, it could create insurmountable difficulties.

On Elicitation of Values

Initial value profiles abstracted from mandates, use of instruments etc, are a point of entry for eliciting elaboration responses from interviewees, where agents can expand on, clarify and possibly challenge the profile. It can also be used to elicit responses concerning institutional practices and how agents perceive them. By including such factors as the history, political relations and legal/economic relations in the profile, agents will have a fuller and contextualized set of concepts to respond to. Here, the flower diagram can become very useful, either as the means for profiling institutional values or as an additional tool to aid in triggering responses. Asking respondents freely to accept, modify or reject the diagram could also be used in the event that a more discursive characterization of the institution's values is seen as too abstract or obscure.

Asking for elaboration, clarification or constructing scenarios to which interviewees can respond is useful for eliciting further and more detailed information that can be added to the profile. As in the case with stakeholder vulnerability analysis, I recommend holding collective/group sessions at which findings are reported and respondents allowed to provide further feedback. This has the benefit of gaining insight to the institutional culture, as well as of

correcting assumptions and formulations. Again, using the flower diagram as an elicitation

device can help to attain a more comprehensive and collective profile. The open diagram (not

yet filled in) by Rojas and Diaz could also be used where respondents are more comfortable with

talk about values and speaking freely. The only modification I recommend here is that the four

petals or two continua – Individual freedom vs. Social responsibility and Anthropocentrism vs.

Biocentrism – also be left open to modification. Although it is difficult to see how any value

orientation would not fit onto these continua, elicitation processes such as those envisaged can

generate surprises. Despite the dominance of these dyads in the literature, both stakeholders and

institutions might wish to describe their value orientations in accordance with different

oppositional relations, or, perhaps, even see their value orientations as not fitting into an

oppositional relational scheme at all.

Whether to include what Diaz et al. (2005) refer to as 'institutional inertia' and

'institutional amnesia' in the profile is an issue. As Adger{Adger, 1998 #2777} has pointed out,

how stakeholder values are related to the array of institutional values (e.g., those relevant to an

institution's own survival and protection of its place in the social order) is complex and can

sometimes be the key determining factor in how institutions respond to stakeholder vulnerability.

This can produce recalcitrance to respond openly and honestly to researchers. It might be

strategic, then, not to include these kinds of values in the profile. On the other hand, if they

genuinely affect adaptive capacity, then their omission compromises both the value and general

institutional analysis.

 Concerns about Value Analysis

In her "Compartmentalizing Culture," Sue Jackson {Jackson, 2006 #2845} expresses a number of concerns about incorporating values into resource management, among other functions of institutions. A key problem is the plasticity or variability of social values between people and within people. For instance, a river can have recreational value or commercial value for different people, or, for the same person; and it can change over time and context. Which values are to be taken into account when developing stakeholder profiles? To which profiles should institutions respond? Jackson further argues that people do not value thing in themselves, but the relationship they have to things. For instance, many people value their relationship with a forest for the pleasure and peacefulness it brings to their lives, not the forest itself. Thus, a forest can have economic, recreational, psychological even spiritual value for different people, or, for the same person in at different times and in different contexts. This relational property of valuing has suggested to many in the West that values are purely subjective and arbitrary. Values analysis, as a result, should not be a part of resource or environmental planning.

In response, as more recent research is beginning to show, this way of viewing values tends to miss the import of values in human life. Callicott{Callicott, 1991 #2873} has shown how value commitments are implicit in any decision over resource management. Whether we build or not build a dam, presupposes certain value commitments. Even the selection of the evaluation criteria – cost-benefit analysis, for instance – presupposes a value commitment to, for example, quantification over qualitative approaches, which in turn presupposes another level of value commitments, e.g., efficiency over effectiveness. If we do not address the question of values, then we simply default to the *de facto* dominant value system.

Fortunately, as increasing numbers of researchers have shown (e.g., Cragg, Coward, Callicott, Rolston III Sagoff, Norton), not all value commitments are so fickle. The upshot of

this research is that values or ways of valuing can be far more robust than critics such as Jackson have described. While there is indeed an analytic level at which values appear to be entirely capricious and arbitrarily chosen, research by the likes of Wes Cragg have shown how distinctions between core and peripheral values need to be made. Some values that pertain to identity and spiritual life tend to be far more consistently held and less prone to variation. Within a culture, for instance, a forest may be valued in a consistent way across all members, especially when that forest is seen as having a spiritual significance. Values pertaining to people's children also appear robust and resistant to change. For instance, the suggestion that a parent sell her daughter to the slave trade is met more with repulsion than acceptance. Moreover, such values are held with great consistency in one individual over time and in almost all contexts. There seem to be several categories of value, then, that admit of a significant consistency.

Another characteristic of the likes of Jackson and Miller is the failure to understand how certain values and value systems are presupposed wherever social and institutional arrangements have developed. In the institutional analysis thus far conceived, we have noted how mandates, missions, policies etc. are associated with certain value commitments, in the form of the three normative principles. Insofar as social and institutional arrangements are stable and robust, so too do the values systems that ground them seem to be. Critics of value analysis, then, focus on a narrow band of values; those that can be identified explicitly. We have seen that this process constitutes only an initial stage of value analysis.

A curious connection between two apparently diametrically opposed philosophers, Alisdair MacIntyre{MacIntyre, 1981 #731} and Gottfried Leibniz, who also happen to have written their key works three hundred years apart, have concluded that there are near universally

held moral values. MacIntyre challenges us to think of a culture or community that has established institutional practices yet do not order themselves in accordance with these three principles. Leibniz, a rationalist and metaphysician claims to have researched the then known political and legal institutions of the world and concluded that they operate according to very similar principles (moral values). These values/principles are: 1) avoid harming; 2) give what is due; 3) honesty or trustworthiness. Since previously identified as implicit in the development of robust institutional arrangements, they can be identified as ordering just about all social and institutional arrangements. They approach universal status. It is quite possible, therefore, that a rigorous values analysis will disclose core values that can be categorized in accordance with these three principles.

In contrast to the detractors, Leah Gibbs{Gibbs, 2006 #2846} argues against the tendency toward reductionism and simplification of values. Where the categorisation of values according to the triple-bottom-line approach toward sustainable development (economic, ecological, social) {Gibbs, 2006 #2846@75} is meant to represent a wide range of values for environmental policy, she argues, it is typically dominated by the economic perspective. This tendency to simplify values suppresses awareness of the multiple values that are pertinent to environmental policy and decision-making. More importantly, it denies the importance of the relational aspects of values. For instance, she notes how water values are connected to senses of place, time, scale and specific local knowledge {Gibbs, 2006 #2846@77}, all of which are overshadowed by the focus on economic values. In one respect, Gibbs' approach is compatible with the values analytical approach being proposed here.

Gibbs{Gibbs, 2006 #2846} may describe her 'valuing of variability' as constituting a new 'framework', to incorporate complexity and messiness, but without appreciating the

demands of reduction and simplification, she has no point of reference from which to appreciate the plurality of values there to be recognized. Her resistance to categorization and support for valuing variability, however, is too radically pluralistic to do useful work. This is the reason I refer to the MacIntyre/Leibniz connection and the work of Wes Cragg. In order for any institution to do useful work, it must reduce the initial complexity of its context by representing it in simpler form. Indeed, no explanation or justification can begin without simplification. Recognizing the plurality of values and value relations, then, requires having some organizing concept or principle which puts order to the plurality of values and related perspectives. Otherwise, there is only chaos.

The second stage of values analysis, categorization, is meant to begin the process of simplification, but not to treat this reductive process as final or in some way getting at the essence of values. In various places, I have criticized the categorization of values, as well. As a number of anthropologists (e.g., Goulet{Goulet, 1998 #2847}) and philosophers have argued, this nominalization tendency is not entirely intelligible in other cultures. For the Dene, as Goulet explains, the noun form is actually a nominalized action verb. Since the Dene view the world as a process of ever-changing identities, no identity is fixed or exists apart from its relations to all other things (see Goulet{Goulet, 1998 #2847}. Western thought is dominated by the tendency to identify things according to their essences, while other cultures place far less or no emphasis on essences. My point in using categorization as a tool for simplification is that it is likely indispensable in bringing some order to the task of value analysis. Stage one, identification of values, will indeed likely produce a plethora of values, commitments, profiles and relations. By subjecting these identifications to a categorization and evaluation process, however, we turn the potentially chaotic situation into an ordered way of recognizing the plurality of values. We are

also likely to see that, if the three normative principles previously discussed are indeed presupposed in the ordering of values, they will emerge as generally, if not universally, valid ordering principles.

In this regard, the flower diagram is a tool of categorization, which also allows those categories to be further reduced such that they can be represented along the two axis: individual freedom vs. collective responsibility and anthropocentrism vs. biocentrism. Something akin to a GIS mapping strategy could be used to superimpose other grids that adopt cultural or epistemic values. They could also be asked to identify values in terms of the three principles: "What are the harms most relevant to you re climate change?"; "What do you think is due to stakeholders?"; "With what are institutions entrusted with regard to climate change vulnerabilities?" The values associated with these responses can be analysed and mapped onto the flower diagram. Patterns will likely emerge.

As in the previous paper, the harm principle becomes an especially important principle on which to organize the study of institutional values. The concept of vulnerability, since tightly connected to that of harm, implies that the nature of the stakeholder-institution relationship is, from the start, about harm and preventing or minimizing it. The entire value analysis can be filtered through the lense of harm. The main task, then, is to identify just what harms various institutions are responsible to address and whether they are satisfying those responsibilities.

Assessing institutional adaptive capacity to address stakeholder vulnerabilities, from a values analytical perspective, is to assess institutional responses to harms and potential harms. It is to assess mandates, policies etc., in light of how well they identify harms and operate to protect their constituencies from harm. Thus, institutions can succeed or fail to identify relevant vulnerabilities; they can succeed or fail to protect through adaptation in appropriate ways. As

many in the field of climate change research have noted (Adger being among the most prominent) failure to recognize certain ways of organizing communities (e.g., according to moral economic values) and relations to environment court adaptive failure or even community destruction. One of the more infamous cases is reported by Vandana Shiva{Shiva, 1989 #2874} with respect to the green revolution in India. In an attempt to modernize India and bring it out of poverty, foreign aid policies and interventions had the effect of destroying local subsistence economies and the role differentiated responsibilities of men and women, that is, the social order. Adger{Adger, 1998 #2777} cites cases in Vietnam and Scott{Scott, 1976 #1181} cases in Thailand where institutional (especially governmental) adaptation policies threaten undermined the moral economy in a like manner. The government's failure to recognize certain ways of practising reciprocity, for instance, led people in Burma and Vietnam to revolt against their government. Assuming that coastal, fishing villages could adapt to increasing storms by moving them inland to more sheltered areas also precipitated failures in adaptation policies, because the people's sense of place was entirely ignored. In our own study areas, the water conservation policies that led to the building of dams on the Elqui River resulted in the displacement of the poorer sectors and, indeed, the denial of water rights. In all cases, the consequences of employing the adaptive measures governments and foreign aid agencies could have been predicted with the aid of a thorough understanding of the harms and potential harms that people face. The inappropriateness of these adaptive responses could have been anticipated and evaluated ahead of time, if a full values analysis had been conducted. Harms would not only have been identified in terms of economic values, but in terms of cultural, identity, sense of place, community cohesion.

Relation to Diaz, Rojas, Richer and Jeannes, "Institutions and Adaptive Capacity to Climate Change"

Diaz et al. (2005) argue, in Section 7, that value-frameworks, paradigms and models shape how both problems and solutions are identified. In light of the role values play, it is clear that technological advances will be insufficient to address adaptive needs (4). Strengthening capacities, formulated as, for example, human and social capital, will be a necessary institutional response. The paper then proceeds to interpret the institutional responses to water issues in terms of the value orientations (e.g., individualistic, free-market values and more collectivistic, regulatory values). Different value orientations are related to different ways of perceiving problems and responding to them. This is consistent with what I have been arguing in this paper.

On Inputs, Processing and Outputs

The three basic components of institutional capacity – input, processing and output – can be roughly mapped onto the identification, categorization, evaluation stages of values analysis, or, at least made complementary. The initial inputting of problem formulations runs parallel to the input of data about stakeholder vulnerabilities. "Tabling" ways to formulate solutions to problems runs parallel to tabling stakes; each problem, furthermore, can be given a parallel interpretation in terms of the values in conflict. Many times this parallel interpretation will not add significantly to the input stage, especially where problems are merely technical. On the processing side – seeking solutions – there is a rough parallel to the categorization process of value analysis. Appropriately categorizing values is viewed as a step toward appropriate representation and understanding the values at stake. Although this stage can be seen as

contributing to the number of problems by creating a problem where none was formerly recognized, it is also a step toward a solution, since it addresses the issue of marginalizing stakeholder groups and denying them voice. On the output side – the ability to implement solutions – there is a relation to the evaluative procedure. In this step, value analytical function is to determine the legitimacy of various value claims and the proposed means for recognizing them. Where appropriate implementation of adaptive measures is undermined because of conflicting value commitments, stage three is relevant to the assessment.

However, we can anticipate problems emerging in the relation between value categorization and processing, since the processing stage omits a number of factors that the input stage anticipates. These factors are related to what I have called "depth" of analysis, or, disclosing more fundamental and implicit values. To explain, under "Inputs," there is sensitivity to *types* of information (1.), *levels* of information (2.), *purpose* or significance of information (4.) and the diversity of *perspectives* (5.) are to be recognized. This is a multi-dimensional, multi-factored approach to representing problems to be addressed. It is completely consistent with stage one in values analysis. Under "Processing" (18), however, it is not clear that these concerns are acknowledged in the procedure used to identify and, therefore, to propose solutions to problems. By selecting the World Bank's way of balancing interests (2), the two terms of reference – "getting everyone represented" and "negotiation" – may steer processing more toward combative and hard-nosed types of interaction than toward addressing the five input concerns. Using the principle of fairness and the concept "distribution" predisposes respondents to articulate their values during the input stage in terms that are intelligible within a distributive justice framework. But some values may not fit well in such a framework. Were identity values and spiritual values to be important to stakeholders, it may be difficult, possibly embarrassing, to

"table" them at the input stage, if treating them as values to be fairly distributed will be anticipated as the way they will be processed. Wealthy and powerful stakeholders would likely find such a framework threatening and biassed against them. They would likely refuse to participate or find some way to alter the frame of reference in reaction. This one of the reasons for my criticisms of the distributive justice focus in much of the social sciences and humanities oriented literature.

The principle of fairness by itself, however, fits well with both the five input concerns and values analysis. Fair representation of stakes, problems and values requires recognition of various levels, purposes etc. of information. The lack of fairness in these terms is what I have argued is the problem with dominant cost-benefit and risk analyses. My suggestion then is this: allow fairness to stand alone as the guiding processing principle and allow principles of justice to emerge in interviews, subsequent discussions and feedback fora.

Another problem with the emphasis on distribution is that it encourages hard nosed "tabling" of values and negotiation. It encourages quantification over values and aids certain groups in resisting qualitative analysis. The reason is that distribution and re-distribution lend themselves to quantification. We distribute amounts. This tends to marginalize values or stakes that cannot be readily quantified or measured. Certain types of values (e.g., spiritual, familial, moral, identity), then, will tend to be suppressed or remain unrecognized, because the frame of reference defines non-quantifiable values as incoherent or unmanageable, when in fact, they might be critical as organizing principles.

If these so-called "soft values" are crucial and could very well figure largely in the input component, we will need a processing procedure that would enable us to handle different qualities as well as quantities. Problems relating to trust and lack of it, for instance, need to be

handled differently than those pertaining to mal-distribution of goods and opportunities. It may be that something like a "moral economy" as used by Scott{Scott, 1976 #1181} and others will need to be created. A question that will arise, as a result, is: "Is the IACC team willing and able to develop and utilize a dual processing scheme, where commensurability between quantitative and qualitative approaches cannot be guaranteed?" While this discussion precludes accepting willingness-to-pay approaches to problem solution, it may, when appropriately formulated, be open to willingness-to-accept approaches.

These considerations are meant to support the discussion on discourse (from p. 20.) Contrasting the scientific and social constructivist approaches highlights the importance of accepting multiple value-orientations and seeing how each has its place, just as multiple realities have their place (p. 21). Accordingly, the usefulness of the Flower Diagram could once again be emphasized as an analytical tool, since it is extremely useful for illustrating the range of possible value-orientations and the possibilities for conflict (p. 23), including that between quantitative and qualitative approaches (each, after all, reflects a certain value commitment).