WHAT COUNTS AS LOCAL KNOWLEDGE IN GLOBAL ENVIRONMENTAL ASSESSMENTS AND CONVENTIONS?

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ABSTRACT:
        Two defining characteristics of the Millennium Ecosystem Assessment are (1) a concern to link scales of analysis by integrating local/indigenous knowledge into global scientific assessments and (2) creating a scientific assessment process designed to meet the needs of decision-makers. Taken together, these two characteristics present several challenges to those involved in the MA process and to those responsible for translating MA outputs into policy. In this paper I explore these challenges by examining how "local knowledge" is constituted in global environmental assessments and conventions. In doing so, I follow two trajectories. First, I consider the constitution of the "local" and the politics of translation. Specifically, I examine how local perspectives are elicited and presented in mediated form through social science metrics and methods. Second, I consider the constitution of "knowledge," showing how scientists interested in local/indigenous knowledge have focused overwhelmingly on environmental knowledge and ignored other domains of knowledge that are salient in the effort to link scales of analysis. I conclude by offering an alternative approach to integrating local/indigenous knowledge into global scientific assessments that is premised on distinguishing several forms of mediation of local perspectives and that incorporates a more expansive definition of knowledge.

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INTRODUCTION

Several years ago Arturo Escobar raised the specter of a new regime of "environmental managerialism" (1995:194), wherein the "Western scientist continues to speak for the Earth" (Ibid:194). In its very conception, however, the Millennium Ecosystem Assessment represents a challenge to such a business-as-usual approach, and the present conference is the clearest manifestation of this. One of the defining characteristics of the Millennium Ecosystem Assessment is a concern to link scales of analysis by integrating local/indigenous knowledge into global scientific assessments. At the same time, it represents an effort to create a scientific assessment process designed to meet the needs of decision-makers (Alcamo, et al 2003, Reid 2000). Taken together, these two characteristics present several challenges to those involved in the MA process and to those responsible for translating MA outputs into policy.

Today I explore these challenges by examining how "local knowledge" is constituted in global environmental assessments and conventions. Most of us here have dedicated some significant portion of our professional lives to the analysis of local or indigenous knowledge systems, and to demonstrating the relevance of such systems of knowledge in the management or governance of ecosystems. What I want to suggest here is that local/indigenous knowledge is a bit more complicated than we conventionally take it to be, and I want to make an argument for a more expansive conception. My argument is premised on the assumption that bridging scales requires more than bridging epistemologies. Across a range of disciplines the theoretical landscape today is defined

by a concern with questions of power, and the boundaries between the epistemological and the political are not as clear as we once took them to be.

In making this argument, I follow two trajectories. First, I consider the constitution of the "local" and the politics of translation. Specifically, I examine how local perspectives are elicited and presented in various mediated forms. Second, I consider the constitution of "knowledge," showing how scientists interested in local/indigenous knowledge have focused overwhelmingly on environmental knowledge and ignored other domains of knowledge that are salient in the effort to link scales of analysis.

As I follow these two trajectories, I also want to stress the importance of locating the kinds of questions I am asking about the constitution of local knowledge within a broader series of historical, political, and institutional shifts. By way of illustration, I want to frame my comments today with reference to two domains that have been the focus of my own work: transnational indigenous activism and transnational conservation.[1]

The 1980s and 1990s were decades of remarkable growth and proliferation in indigenous movements worldwide. Through conferences and internet connections, indigenous peoples across the globe forged unprecedented solidarity premised on widely shared histories of oppression and dispossession. Much of the momentum for this movement was built around opposition to the presence of extractive industries on indigenous lands, and the indigenous movement forged powerful alliances with, among others, the global rainforest movement. Somewhat later, as "indigenous knowledge" began to appear on international agendas, the issues of bioprospecting and intellectual property rights became central concerns around which indigenous activists organized (Brush 1993). They established transnational networks and got "a seat at the table" in numerous international fora. Most recently, as I shall describe, indigenous representatives have become ever more vocal in their criticisms of conservation (Brosius Forthcoming).

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[1]. Brosius 1997a, 1997b, 1999a, 1999b, 1999c, 2001a, 2001b, 2003a, 2003b; Brosius & Russell 2003; Brosius, Tsing & Zerner 1998; Mascia, et al 2003.

Shifts in the field of conservation have been equally significant. As global environmental change proceeds at an unprecedented pace, conservation has emerged as a central element in civic and political debates in the nations of both the North and the South. Responding to these debates, new forms of conservation practice are continually emerging. Some years ago we witnessed the proliferation of bottom-up models under the rubric of community-based conservation. More recently, the "requiem for nature" argument raised fears about mixing development and conservation and called for enlarging and defending protected areas (Terborgh 1999). Simultaneously we are seeing a host of new strategic priority-setting approaches that fall under the rubric of ecoregional conservation.

Taking developments such as these into consideration, I conclude by offering an alternative approach to integrating local/indigenous knowledge into global scientific assessments that is premised on distinguishing several forms of mediation of local perspectives and that incorporates a more expansive definition of knowledge.

(1) THE CONSTITUTION OF THE LOCAL AND THE POLITICS OF TRANSLATION

Let me now turn to the constitution of the local. In raising this issue, what I want to get at is the question of what counts as "local" when we speak of "local knowledge." While this may seem self-evident, I would argue that it is anything but. There is much at stake in how we answer this question. I want to suggest that when we invoke the "local," we might in fact be speaking about two distinct things.

On the one hand are the voices of peasants, farmers, fishers, or indigenous peoples, often living in out-of-the-way places, frequently marginalized politically and economically. These are the people we most often turn to when we seek to elicit local knowledge, people we have come to valorize as possessing richly detailed knowledge representing generations of observation and experimentation; about medicinal plants, crop varieties, trees, the habits of animals, and much more.

On the other hand are the voices of those who *are delegated* to speak for local or indigenous communities in national and international fora. They are no less local – it is more the context in which we encounter them. We don't go to them – they come to us.

These are actors who have much to say to the scientific community and to decision-makers. In an effort to counter long histories of oppression or dispossession, they are forthright in challenging national and international conservation or development agendas, conventions and assessments, and in asserting their rights to lands and livelihoods. These are relatively new actors on the global stage. Though local and indigenous peoples have mobilized in many times and places over the centuries, it is really only since the 1980s that we have witnessed the emergence of a global indigenous rights movement: what Friedman has referred to as "the rise of the indigenous voice" (Friedman 1998:567).

These are the people who made such a dramatic impression at the Vth World Parks Congress in Durban last September. One of the most striking features of the World Parks Congress was the presence of over 120 representatives from indigenous and local communities worldwide. Throughout the Congress, at plenary sessions, on panels, and in workshops, indigenous and local community representatives spoke of conservation initiatives undertaken without their consent, and of exclusion from ancestral lands. That indigenous issues were on the agenda at the WPC was in no small part the result of preparatory work by indigenous organizations and their allies before the Congress.[2] They lobbied to secure speaking slots for indigenous representatives on the agenda and in drafting committees, sought funding for indigenous participation, and coordinated regional and preparatory meetings. Once the WPC began, indigenous and local representatives were well-prepared to make their voices heard and ensure they were included in the final outputs of the Congress: the *Recommendations*, the *Durban Action Plan*, the *Durban Accord*, and the *Message to the Convention on Biological Diversity*.[3]

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[2]. It is also important to acknowledge the openness of IUCN to the inclusion of indigenous issues on the World Parks Congress agenda. Further, certain structural aspects of the Congress played an important role in ensuring that indigenous and local concerns were addressed on the agenda and represented in the outcomes. Most significant were the inclusion of *Governance* as one of the seven Streams of the Congress, and *Communities and Equity* as one of three Cross-Cutting Themes (Brosius Forthcoming).

[3]. The *Message to the Convention on Biological Diversity*, for instance, calls on the Conference of the Parties to "Ensure that indigenous and mobile peoples…fully participate in the establishment and management of protected areas and that mechanisms are put in place to guarantee that they share in the benefits arising from these areas" (IUCN 2003:2). It urges empowering "local and indigenous communities living in and around protected areas to effectively participate in their management" (Ibid:4). According to Ashish Kothari, "the WPC represented a significant breakthrough in the global thinking on conservation"; the inclusion of communities, equity and governance on the Congress agenda, along with the presence of indigenous participants in the discussion "resulted in…a very forward-looking, progressive set of results" (Personal Communication). According to IUCN Chief Scientist Jeff McNeely, "at least seventeen of the thirty two congress recommendations specifically mentioned indigenous peoples and their issues…For the

What the indigenous presence at the Congress represented was a challenge to many basic assumptions about conservation. Indigenous representatives were suggesting that conservation could be done without models, management plans, or monitoring and evaluation. They were also challenging assumptions about the roles of both Western science and major conservation organizations, asserting that conservation goals could be accomplished outside circuits of transnational expertise. Their message was that indigenous and local communities must represent something other than a "transaction cost," that threat assessments that classify their land use practices as disturbances are unacceptable, and that participatory methods that define them as just one more category of stakeholder have no place in their vision of conservation.

Though both kinds of actors – "local locals" and local/indigenous advocates -- get coded as "local" in international fora such as this, there are important differences between them. When we consider how their words, their insights, and their knowledge move between scales in the process of translation, we must recognize that both are mediated, albeit in very different ways. Making an effective link between local knowledge and policy requires that we recognize these different forms of mediation.

For most of us interested in local or indigenous knowledge, it is those "local locals" that we usually work with the most. After all, those are the people that exist "on the ground", as repositories of the knowledge that interests us. And there is the rub: their knowledge enters circuits of global knowledge production in mediated form *through us*. We are all here because powerful institutions are interested in supporting our research, and because they are increasingly interested in what anthropologists, sociologists and others have to say about particular people and places. When they want to learn about local realities and local perspectives, they turn to the social sciences. This is what Gledhill was getting at when he reminded us that

> intellectuals are contributing to new regulatory strategies being pursued by states and transnational agencies. There is a particular danger that anthropologists will reinforce a politics of containment where this offers a new market opportunity for

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first time ever, the indigenous peoples were successful in ensuring that their issues were given a full and sympathetic hearing" (Personal Communication).

peddling our services as experts on "culture," either to the national state as an employer of specialists in the administration of ethnic difference or to the wider world of transnational agencies and NGOs" (1998:516-517).

The key to understanding this process of mediation lies in an understanding of the tools we use. As an anthropologist, I believe in the value of ethnographic research methods. Other social scientists rely on more rapid, formalistic, survey-based methods and metrics. Whichever methods we prefer, the social sciences get positioned as speaking for the local. In so doing, the danger is that the representations of those of us who possess expertise in making the local legible and intelligible to those working at other scales are conflated with local voices themselves. These are not the same thing; we must never conflate data provided by those who work at local level with local voices themselves. We can offer our translations, our mediated accounts, and these can be very valuable, but we must never presume that we actually ever speak *for* the local.

The voices of indigenous advocates or representatives are mediated as well, albeit in a very different way. While they may be unmediated by social science conventions and formalistic methods, they *are* mediated by transnational discourses of indigeneity. As the rights of indigenous peoples has become a global concern, indigenous advocates have increasingly found common ground outside national borders. Such groups, while asserting locality, simultaneously legitimize local concerns with reference to global discourses and are increasingly brought into transnational advocacy networks. In short, we are presently witnessing the formation of a "globalized political space" in which "new forms of social and political agency" are being invented and contested (Smith 1994:15-16). These are movements intended to empower historically marginalized communities. To the extent that they represent an attempt to renegotiate the terms by which political agency has historically been exercised, their primary task has been to legitimize their efforts through appeals to fundamental moral/political principles (social justice, human rights) or through assertions of rootedness and authenticity (Lattas 1993).

There is yet another aspect of how the local is constituted that deserves our attention: the pervasive distinction made between local actors and "decision-makers." This is achieved in part through what I have elsewhere termed the "topology of simple

locality" (Brosius 1999c): a topology which defines the task of the ethnographer as one of inscribing and representing for an audience some actually existing place or set of places. It is a kind of focalizing strategy, drawing our attention to particular places. The topology of simple locality suffers from the same shortcoming that has produced critiques of that other convention of anthropological writing, the "ethnographic present". Though anthropologists today are much more alert to the politics and histories that have shaped the communities they study,[4] the "ethnographic present" is a still-extant convention of ethnographic writing wherein an anthropologist, describing a particular set of cultural practices, writes about them in the present tense, even though their research may have occurred many years in the past and though much of what is described may no longer exist in the same form it did when it was observed. As Fabian has so persuasively argued, writing in the ethnographic present represents an act of discursive distancing (1983:26), one element in "*a persistent and systematic tendency to place the referent(s) of anthropology in a Time other than the present of the producer of anthropological discourse*" (1983:31, emphasis original). Just as the ethnographic present acts as a distancing mechanism that relegates our research subjects to a timeless irrelevancy, immune from history and from the effects of our ethnographic presence, so too does the topology of simple locality create a coherent "there" that can be known and represented, and kept in it's place.

Anthropologists are not the only ones who produce such topologies. For example, recent years have witnessed the adoption of methodological frameworks designed to address conflict in conservation.; *Peace and Conflict Impact Assessment*, for example. Such frameworks objectify 'conflict' as something requiring intervention, and they locate the source of conflict "on the ground", in the "community. Because they are focused "downward," they ignore wider structural questions, and thus divert attention from matters of social justice and legitimacy. Such frameworks are problematic, not least because "one person's 'conflict' may be another person's resistance, and for some actors, conflict may not be a pathology to be ameliorated."

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[4] Particularly influencial in this respect have been individuals such as Eric Wolf (1982), Sidney Mintz (1985), William Roseberry (1989), and Immanuel Wallerstein (1974). See also Schneider and Rapp 1995 and Dirks, Eley and Ortner 1993.

As Mohamed Tawfic Ahmed and Walter Reid remind us, the Millennium Ecosystem Assessment is "designed to meet the needs of decision-makers" (2002). Unspoken here is an assumption about the inherent distance between local actors and decision-makers and, therefore, about the relation between scale and hierarchy. Viewed in this way, indigenous knowledge is provided to those in the policy domain, but speaks only in the passive voice of science rather than in the active voice of advocacy, and it speaks from the subordinate position of knowledge solicited and translated up for the purpose of governance. The architects of the Millennium Ecosystem Assessment recognized this. In *Ecosystems and Human Well-Being*, Alcamo et al state:

> Most states view indigenous knowledge and institutions as local in scope, relevance, and power, whereas the rules and knowledge of the state are viewed as bigger in scale, scope, and significance. As a consequence of this thinking, there is a strong tendency to override, minimize or ignore local considerations, issues, or preferences. Many ecosystem management problems result from centralization and uniformity in bureaucratic operations that hinder local adaptation and learning. On the other hand, local adaptation is not universally good. Sometimes a state is needed to deal with the externalities that may arise from local decisions or to arbitrate among competing local claimants to ecosystem services. Scale is thus critical for issues of governance of ecosystems… (Alcamo, et al 2003:123)

Whether our goals are purely instrumental – rendering local voices and local knowledge into forms that are useful in managerial terms – or emancipatory – rendering local voices into compelling narratives designed to secure rights – those local voices are situated in a subject position.

(2) THE CONSTITUTION OF KNOWLEDGE

Let me now turn to the question of what counts as "knowledge" when we speak of "local knowledge." As it is used by ethnoecologists and others, reference to indigenous or local "knowledge" – IK or TEK -- is generally applied to knowledge of the natural world: what such groups know about the resources they exploit, how these societies

cognize or interpret natural processes, and so forth. Brush has suggested that the forms that the study of indigenous knowledge has taken have changed considerably, and that four distinct, historically-situated approaches can be discerned: descriptive historical particularism, cultural ecology, cognitive anthropology, and human ecology (Brush 1993:658). Each of these presupposes a different set of starting assumptions regarding the nature of indigenous knowledge, and the purposes and epistemological bases for studying it. Central to the latter two approaches in particular has been a concern with the structural or systemic nature of indigenous knowledge (Ibid:658) and its utilitarian or adaptive significance (Ibid:659). Nonetheless, when we speak of indigenous or local knowledge, what we generally mean is *environmental* knowledge.

That we are at last recognizing the value of local/indigenous knowledge, rather than dismissing it as anecdotal, irrelevant, or merely a lesser form of knowledge, is clearly a positive development. But that we limit our valorization of knowledge largely to that which pertains to the natural world yet again consigns that knowledge to the irrelevancy of the ethnographic present, destined forever to fill what Trouillot has termed the "savage slot," an epistemological ghetto distinct from, and subordinate to, the forms of knowledge possessed by decision-makers.

Let us, for a moment, consider the domains of knowledge which are of concern to the Millennium Ecosystem Assessment. One of the strengths of the MA is not only that it is firmly science-driven, dedicated to producing and synthesizing reliable scientific data, but that it goes beyond this to identify trends, scenarios, tradeoffs and response options (Alcamo, et al 2003, Reid 2000). Central to the MA vision is that it provide information that is not only scientifically *credible*, but *salient* and *legitimate* as well. According to Walter Reid,

> Scientific information is *salient* if it is perceived to be relevant or of value to particular groups who might use it to change management approaches, behavior, or policy decisions… It is *legitimate* if the process of assembling the information is perceived to be fair and open to input from key political constituencies, such as the private sector, governments, and civil society. (Reid 2000)

Now the "what if" question. What if these three criteria were applied not only to objective scientific information, but to local and indigenous knowledge as well? What if, when we went out to seek information from our informants, we asked not only about their knowledge of the natural world, but sought their analyses of the political world as well? How might their analyses of drivers and their assessments of threats differ from our own? And what if we asked them about trends, scenarios, tradeoffs and response options? In other words, instead of treating our informants as reservoirs of local/indigenous knowledge, what if we treated them as political agents with their own ideas about the salience and legitimacy of various forms of knowledge? And what if we made a more systematic effort to incorporate that into MA outputs?

Let me provide a brief example of what I am getting at here. For several years in the 1980s and 1990s, I worked with various groups of Penan hunter-gatherers in the Malaysian state of Sarawak, on the island of Borneo. As traditionally nomadic hunter-gatherers, Penan depend on the forest for virtually every aspect of their existence. They exemplify the depth and richness of environmental knowledge that indigenous peoples hold, with a remarkable knowledge of trees, plants, and animals, and of the relations between them. Penan also possess a rich vocabulary for describing landscape, and an extensive knowledge of places in the landscape they inhabit. This landscape is more than simply a reservoir of detailed ecological knowledge or a setting in which they satisfy their nutritional needs. It is also a repository for the memory of past events, a vast mnemonic representation of social relationships and of society. For Penan, landscape, history and kinship -- the bonds linking individuals to households to communities to generations past and future -- are part of a larger whole.

If you have heard of Penan, it is most likely because in the late 1980s they became the subject of a high-profile transnational indigenous rights campaign focused on the issue of logging. Since the 1980s timber companies have expanded their reach throughout virtually every river valley occupied by Penan, and Penan have responded with intermittent blockades. During the first wave of blockades in 1987, images of Penan resisting the approach of logging companies traveled global environmental and indigenous rights circuits, producing an outpouring of support. I will not trace the history of their struggle here, as I have done this elsewhere (Brosius 1997a, 1997b, 1999, 2001,

2003a, 2003b). But Penan continue to assert their rights to land using every tool of persuasion available to them. Alas, their efforts have largely been futile. The official government view of Penan is that of a people who wander aimlessly through the forest in search of food, living a hand-to-mouth existence, a people without history and without a sense of place, utterly outside the "space of citizenship" (Painter and Philo 1995). To Malaysian officials, their way of life is little more than a form of vagrancy in which would-be subjects are able to evade the gaze of the state. The only way Penan can be heard, the only discourse audible to the state, is that of development. The overall effect of the campaign was that the government shifted the debate over logging in Sarawak from a focus on forest destruction and the rights of indigenous communities to an issue of sustainable forest management. The discursive contours of the debate were shifted away from the moral/political domain toward the domain of environmental management (Brosius 1999a). By the mid-1990s the momentum of the campaign had largely dissipated.

The question I want to pose is, in a "policy environment" characterized by dispossession, where the threats to local communities result from the actions of "decision-makers," of what relevance is indigenous knowledge of nature by itself, divorced from its significance with respect to the making of claims? What is needed, as I would argue, is a more expansive, less fixed, notion of knowledge. What matters is not how much Penan know about the landscape they inhabit, but how they position that knowledge, and themselves, within the broader contours of power.

Whether they are actively engaged in explicit acts of resistance or not, the topic of logging is one that consumes Penan, a matter they discuss endlessly. Their narratives recount confrontations between themselves and state authorities or company representatives: police, judges, government ministers, camp managers, and others. They recount the arguments put forth by themselves or others: why they decided to blockade, why they should not be blamed for those blockades, and who they believe to be ultimately responsible.

Any effort to understand Penan narratives of dispossession must begin with recognition of the variety of forms they take. Such narratives, and the forms of action they prescribe, exist on a continuum from the concrete to the aesthetic and oblique.

Many of the concerns they express are of a practical nature: for instance, the simple difficulty of making a living in a logged-over landscape. Penan describe in matter-of-fact terms the destruction of the forest and the hardship this has caused them. They speak of river siltation, the destruction of sago, rattan and fruit trees, and the depletion of game. At times, Penan make direct claims: they speak of boundaries and of the need to prohibit the entry of outsiders onto their lands. At other times Penan speak movingly about the qualities of the forest and their life within it. They speak of the heat, dust and desolation of logging over and against the coolness and cleanliness of the forest, the harsh sound of chainsaws versus the squeaking of trees rubbing in the wind. The words and images they employ are contrastive and tinged with nostalgia: what the forest was like before logging and after. And they speak of loss and pain – at seeing valuable fruit trees destroyed and the graves of loved ones bulldozed.

What is further striking about Penan commentaries on landscape and forest destruction is the degree to which the arguments they put forth are about *locality* and *biography*. Penan do not talk about the need to preserve rainforests as a generic abstraction, they talk about the need to preserve particular watersheds "from which we eat": watersheds full of past campsites, trees from which fruit was collected, graves of beloved deceased kin, and the like. It is the transgression of that densely biographical and genealogical locality that Penan find to be such a great injustice.

Often too, Penan speak in metaphors: linking the forest to a supermarket or a bank, and linking the act of driving a bulldozer through the forest to driving it through the house of the Chief Minister: such arguments are meant to appeal to what Penan presume is a shared sense of justice and respect. Penan are forever looking for just the right analogy, as if the problems confronting them are the result of people simply not understanding the situation they are facing. The arguments that Penan are putting forth should be viewed not exclusively as acts of resistance but simultaneously as efforts at *engagement*. In making their arguments to loggers, civil servants, environmentalists, or others, Penan are attempting to speak across difference, to *familiarize* themselves, to frame their arguments in ways that they hope will be recognizable to outsiders. Their purpose is to persuade. In other cases they are speaking among themselves, discussing

logging in the everyday flow of conversation, rehearsing or recounting the arguments put forth in encounters with others, or offering analyses of particular events.

In considering how Penan frame their struggle against logging, it is important to consider not merely the rhetorical elements of these narratives but the *forms* they take as well: letters addressed to government officials, verbal arguments with timber company managers, maps produced with the aid of local activists, videotaped interviews produced by Euroamerican documentary film-makers, and others. What happens when Penan claims are textualized in different ways? How do Penan conceptions of their audience condition the arguments they put forth and the forms of knowledge they deploy?

What this points to is the need to foreground notions of agency in narratives of landscape and dispossession. The questions of whom Penan believe to be responsible for their plight and whom they believe is in the best position to help them are as central to this whole domain of discourse as are statements about what is occurring and how it effects their everyday lives. These are as much narratives of culpability as narratives of place.

For instance, in asserting claims to land, arguing for the establishment of reserved areas, attempting to demarcate borders, or contesting the claims of timber companies, Penan – often with the help of NGO allies -- produce maps or written declarations. Penan see that loggers bring maps, show them official letters, and try to compel them to sign documents, and that all of these serve to validate company claims to Penan lands. Penan recognize that these are the single most effective way to assert their claims in a way that is meaningful to outsiders. Such documents cite the need for food and the products that the land provides, and often assert the historicity of a community's relation to a given piece of land. A 1988 letter prepared by the members of a settled Penan community illustrates this. The letter states: "These are all the names of previous headmen or Penghulu that have died. Because these are our ancestors, we know that this is our land. Many of these graves in the hills above deteriorated even before we came down to make longhouses. These are all the names of the hills and mountains where we lived before." This is followed by several brief lists: a list of mountains in the Baram and Patah river watersheds; another list of mountains in the Tutoh and Apoh river watersheds; a list of former Penan headmen in the Baram and Patah rivers; a list of former Penan

headmen in the Tutoh and Apoh rivers; a list of the "names of government" including *laja king*, *laja kuwin* (Queen), *laja beruk* (Brooke), several District Officers from the turn of the century; and a list of Native Officers from before WW II.

At the same time they are asserting their own claims to land, Penan deny the validity of maps produced by others. One nomadic headman, referring to map-making practices, described timber companies as "stealing [land] from open places"*;* that is, from the outside. He declared government maps a lie because they are made from high above, showing only the shape of the land. The fact that they make these maps from a distance is seen by Penan as an indication of duplicity. Penan contrast the way companies make maps from a distance with the way they themselves do: by walking through and over every valley and ridge, by filling the place with names, and by sustaining themselves on resources that have been passed down for generations. As one nomadic Penan man sarcastically said he would ask loggers, "If this is your land, why do you always ask us the names of rivers? Do you know the names of places? You and your people are always asking--what is the name of this river?, what is the name of that river? If you don't know these, you don't belong here."

Another matter concerns the need to foreground notions of agency in narratives of landscape and dispossession. The Penan response to logging is a product not only of the tangible effects of environmental degradation but also of the way they perceive themselves to have been treated by those with an interest in its continuation. An analysis of Penan land claims narratives must take into account how Penan subject those they believe are responsible for it to critique. Penan feel that they are looked down upon, ignored, and treated unjustly. They are responding not only to logging as an activity that directly affects their lives but also to the *agents* of logging. When Penan discuss why they erect blockades, one theme arises more than any other: they say they blockade because "the government does not hear what we say," repeatedly describing the government and companies as being "deaf." Company and government officials do not listen to them, Penan assert, because they do not respect *(mengadet)* them, and they interpret this as a form of insult. The point to be stressed here is the centrality of the notion of respect or regard in Penan social discourse generally and, in the present case, in statements about their relations with logging companies and the government. Further,

because they have made innumerable good-faith attempts at dialog, any action they might then take – most often blockades -- can no longer be considered their fault. In their attempts to place fault on those other than themselves, Penan are employing principles that are a feature of traditional moral discourse and ethnojurisprudence, principles that are employed in divorce proceedings and in other instances of dispute adjudication.

In recent years we have observed a florescence of scholarship focused on conceptions of landscape and "senses of place."[5] This literature has alerted us to the rich variety of narrative forms through which societies inscribe their presence in the landscape. What I am suggesting here is that, in listening to Penan statements about the forest and its destruction, we should be cautious about assuming that documenting Penan conceptions of landscape as some fixed entity – "indigenous knowledge" -- is ever enough. Rather, we need also to make an effort to discern how Penan conceptions of their audience condition the arguments they put forth. Penan recognize that the claims they are making in narratives of belonging are mostly illegible to outsiders, but the discursive forms they deploy in the effort to make those claims legible shift according to their perception of the audience they are addressing. Penan are not simply describing a rich, culturally-inscribed landscape and the affects upon it of logging. Rather, they are simultaneously making claims, and contesting other claims, about the salience and the legitimacy of claims on the land.

DISCUSSION: LOCAL KNOWLEDGE, INDIGENOUS PEOPLES AND ENVIRONMENTAL GOVERNANCE

In the past decade or so, it has become axiomatic to state that indigenous peoples "possess, in their ecological knowledge, an asset of incalculable value: a map to the biological diversity of the earth on which all life depends. Encoded in indigenous languages, customs, and practices may be as much understanding of nature as is stored in the libraries of modern science." (Durning 1992:7) This is all well and good, but how do you move between local knowledge and global science? That is the question that animates the present conference and the Millennium Ecosystem Assessment as a whole.

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[5]. Basso 1984, Feld 1982, Hirsch & O'Hanlon 1995, Myers 1991, Povinelli 1993, Rosaldo 1980, Roseman 1991, Weiner 1991, Zerner 2003.

In our efforts to bridge scales and epistemologies, we stand at a critical crossroad. For today we are confronted with two apparently contrary trends in the domain of environmental governance. On the one hand, we have witnessed a trend toward the valorization of indigenous/local forms of knowledge and the mobilization of indigenous peoples. The present conference, the outputs of the World Parks Congress, and the CBD/COP7 are three manifestations of this trend. On the other hand, in the last five years or so we have witnessed a decisive move by major conservation organizations toward cartographically-enabled regional land-use planning approaches under the rubric of ecoregional conservation (Olson 2000, 2001; TNC 2000, 2001; WWF 2000). Along with this, we have witnessed the emergence of the field of "conservation finance" (Bayon, et al 2000, Conservation Finance Alliance 2002, WWF 2001), and the proliferation of social science-based metrics and models designed to monitor and manage social and political processes in conservation (Brosius & Russell 2003). These three are linked discursively, strategically, and institutionally in a broader process of consolidation, and together they are reshaping the way conservation is conceptualized, planned and administered. The comprehensive visions being promoted and the proprietary databases being produced in the emerging complementarities of spatial planning, investment, and social metrics have the potential to reshape the contours of the relationship between humanity and nature for generations to come.

The World Parks Congress was, in essence, an exercise devoted to normalizing and reinforcing this tripartite scheme of complementarity. I left Durban feeling that an enormous weight of managerialism had descended over conservation, much as it once did on development, and that this state of affairs was in large part due to the efforts of major conservation organizations to consolidate their authority over global conservation practices. They are achieving this consolidation by establishing administrative technologies in which they are taken for granted as methodological gatekeepers. Increasingly conservation has become a gated community that one can only enter by accepting the methodological terms promulgated by major conservation organizations and donors. This has occurred as tools or approaches that originated as emancipatory moves became incorporated into the managerial apparatus of conservation. Once

incorporated, they become tied to the imperatives of funding cycles, scaling-up, accountability to donors, and more.

This is ironic, and it has major implications for integrating local and indigenous perspectives into conservation. Just when local voices and local forms of knowledge are being invoked as relevant to the setting of global conservation strategies and local conservation management, the institutional structures that are today emerging are preventing them from being meaningfully included. What then becomes of alternative forms of conservation that are informed by local ways of knowing?

This consolidation is being achieved by the shift in scale that I have described. As Neil Smith (1992) and David Harvey (1996) remind us, scale is always political. Left unspoken in contemporary conservation is the relation between scale and hierarchy. Ecoregional conservation is fundamentally *about* scale -- both enlarging the scale of environmental interventions and linking information created at different scales into a single strategic blueprint for the future at an extended temporal scale. All the talk about "scaling-up" in conservation is accompanied by a concern for improving "efficiencies" and reducing "transaction costs." Efficiencies and transaction costs, of course, are only salient to those who view the world from above. Scale then, is more than "a purely technical matter" (Harvey 1996:203). Higher-level scales of visualization require higher level structures of governance. Indigenous knowledge, when it moves up the scale, becomes both simplified and embedded in a range of other agendas.

Earlier I drew a distinction between two forms of locality: that mediated by the research activities of social scientists and that articulated by local/indigenous activists/advocates. One speaks in the passive voice of science – translating indigenous ways of knowing into forms intelligible to practitioners and decision-makers; the other speaks in the active voice of advocacy. Making this distinction draws our attention to the question of how local/indigenous perspectives and ways of knowing are elicited and translated between scales, and how the link is made between this knowledge and the policy domain. The former reifies the distinction between local or indigenous peoples living their lives in particular places, and policy-makers who are making sometimes momentous decisions about those peoples' lives.

Local/indigenous advocates, on the other hand, are refusing that distinction. Making meaningful progress in the future will entail a willingness on the part of conservation scientists and practitioners to work with indigenous and local communities in new ways; ways in which the tools of Western science are offered in support of local conservation priorities. What that means for how conservation initiatives are planned, implemented and governed is not yet clear, but it is an effort that we must take seriously. The challenge is to seek productive terms of engagement. We cannot afford to perpetuate the polemic that the goals of conservation and indigenous rights are at odds with each other, or that indigenous knowledge is something to be packaged and passed up to "decision-makers." The fate of biodiversity rests in part on how the conservation community responds to the challenge posed by indigenous and local communities, and whether it is able to embrace this as an opportunity to create new alliances for conservation.

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