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The Importance of Indigenous Knowledge and Good Governance to Ensuring Effective Public Participation in Environmental Impact Assessments

by G'Nece Jones */

An Environmental Impact Assessment (EIA) is a process by which the benefits of development are weighed against its environmental costs. Since indigenous communities are the principal environmental stewards of their land, it is imperative that they are consulted and play an active part in the EIA process.[i] Their input can help to correct a scientific analysis that "misrepresents the local context in which it is being applied."[ii] This idea is supported by Principle 10 of the *Rio Declaration on Environment and Development*, which states that "environmental issues are best handled with the participation of all concerned citizens at the relevant level". Similarly, *Rio*'s Principle 22 provides for the "effective participation of indigenous people and their communities"[iii] which contributes to sustainable development. Article 8(j) of the Convention on Biological Diversity requires parties to "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity."

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I. Baseline Information

The United Nations identified insufficient baseline data as a major constraint on the global use of EIAs.[iv] Researcher Seth Appiah-Opoku interviewed members of the Ashanti tribe in Ghana regarding various issues germane to natural resource management. Several members identified the lack of baseline data as an urgent obstacle to effective EIAs.[v] Similarly, in 1996 when the Australian Environmental Protection Agency listed the most crucial pieces of information that it needed to protect specific natural sites, it too identified the need for more baseline data.[vi]

Baseline data includes "past and current behaviour of local ecosystems and is fundamental to environmental assessments."[vii] It helps to determine if significant environmental damage is likely, what the damage might be and how this damage may affect other ecological functions.[viii] Adequate baseline data also assists pre- and post-development comparisons of the environmental health of an area, and thus is invaluable in mitigating risks and avoiding damage. This data is also an essential tool during the EIA follow-up and monitoring stages. The scarcity of adequate baseline data is partly explained by its expensive acquisition costs. It usually involves highly trained specialists whom undergo comprehensive data gathering operations.[ix] The costly nature of such operations compelled Appiah-Opoku to mention that the "lack of organized baseline data was attributed to the general economic decline in the country [Ghana]" between 1974 and the late 1980s.[x] Satisfactory baseline data may take the form of "large-scale and updated maps", yet these are either unavailable or of poor quality within the Ghanaian context.[xi] Even more distressing, is that information on "general groundwater and wetland ecosystems; soil, water and air quality; inventories of pollutants; and noise pollution are 'particularly absent' " in Ghana.[xii] These problems persist in other African countries and ultimately contribute to fundamentally flawed EIAs. Use of indigenous knowledge systems in environmental matters is a viable solution to the problem of inadequate baseline data.

Indigenous knowledge is quicker and cheaper to use than formal scientific operations. More importantly, indigenous knowledge is reliable because it is based on "analytical and experimental approaches to learning."[xiii] Native people depend heavily on nature for their subsistence, and consequently have gained generations worth of knowledge from close observation of environmental patterns and nuances. Thus, the depth of their knowledge is unmatched by technical experts. The indigenous knowledge base covers topics such as "plants, animals, natural phenomena and the development and use of appropriate technologies for primary resource utilization..."[xiv] For instance, indigenous farmers can determine the level of soil fertility by "observing the ratio of clay to sand and moisture, as well as the level of decayed organic matter..."[xv] If documented, these observations can be used as baseline data for comparisons of pre- and post-development soil samples. For example, if an area designated as a potential project site consistently had rich fertile soil before development activity began, yet post-development soil samples indicate infertility, it could be deduced that the industrial activity caused the degraded soil quality. Based on this information, appropriate monitoring and soil rehabilitation procedures could be implemented to reverse the damage. Gibbons' research in Sudan indicates that by relying on villagers' 'experiential knowledge' it was possible to undertake a perfectly satisfactory soil survey and mapping in a few days, whereas a formal scientific approach took several months."[xvi] Since the use of indigenous knowledge is quicker than its 'formal scientific' counterpart, it may also be less expensive since formal scientists may be hired on an hourly or daily basis. This supports the above-mentioned statement that indigenous knowledge is a cheaper and quicker alternative to the 'formal scientific approach'.

With regards to indigenous knowledge based on experimental approaches, take for instance the pastoralists in Mali whom:

> Observed that drinking a lot of tea made people nervous and irritable, and wondered whether the tea or the sugar was the causal agent. To find out, they poured water and sugar on the liver of a freshly slaughtered animal. There was no visible reaction. However, a similar experiment with tea and sugar gave a visible reaction. The pastoralists concluded rightly that the tea was the causal agent.[xvii]

The above example shows that indigenous knowledge is not merely based on passive observation; rather, it includes active scientific experimentation that can be replicated by others. Therefore, indigenous knowledge systems are scientifically reliable.

Indigenous hunters are experts on animal behaviour due to their hunting and observational prowess. By "mimicking their habitats or placing their favourite food around a trap", Ashanti hunters have gained "detailed experiential knowledge of the feeding ecology and behaviour of the species sought."[xviii] This is very useful in spotting abnormal behaviour resulting from intrusive development projects. For instance, indigenous peoples' involvement in the EIAs of the Beaufort Sea Hydrocarbon Production and Transportation Project, the Oldman River Dam, and the Norman Wells Oil Field Development and Pipeline projects in Canada allowed them to impart useful information in this regard.[xix] They expressed concern that "their ancestors never mentioned moose being as far north as Davis Inlet, yet in the last few years, moose are commonly seen there."[xx] Had there been further indigenous participation in those cases, observant hunters familiar with moose feeding habits, may have realised that its primary food source had become scarce due to project-related deforestation. Therefore, moose migration north to Davis Inlet may have been an attempt to find new grazing land. This potential discovery could have prompted conservation efforts aimed at strengthening moose populations. Appiah-Opoku admits that this type of information "…could not have been uncovered using only scientific methods."[xxi] This abundance of knowledge is priceless in the EIA process.[xxii] Thus, the involvement of local or indigenous people in environmental assessment is crucial… to reveal and evaluate non-technical" possibilities.[xxiii]

Richards, who conducted research in West Africa on indigenous awareness of the feeding and breeding habitat of the grasshopper (*Zonocerus Variegatus*), concluded that their knowledge "equalled that of western trained ecologists in sophistication and detail."[xxiv] This corroborates the aforementioned assertion that indigenous knowledge is a viable alternative to western formal approaches. Chambers took this idea one step further by purporting that indigenous understanding "of what will grow where may be much more accurate and cheaper to obtain than the elaborate outcomes…" of western research. [xxv]

II. Identification of Impacts Not Normally Considered

A. Socio-Religious

Indigenous people draw their spirituality from their environment, thus many aspects of the natural world are sacred to them.[xxvi] According to the Ashanti, humans aren't the only ones with souls (sasa).[xxvii] In fact, many things are believed to have sasa.[xxviii] Lesser gods or divinities are said to inhabit the earth and dwell in places like rivers, lakes, seas, rocks, trees, hills and certain animals[xxix], imbuing them with sasa. For instance, Lake Bosumtwi in Ghana is considered sacred and this status helps to ensure that it remains unpolluted.[xxx] The native people take great care in

upholding the integrity of the lake's sasa. In fact, "…tradition forbids the use of boats on the lake. Instead, fishermen sit on flat boards, rafts or pieces of wood when fishing."[xxxi] These aspects of indigenous belief systems must be considered when proponents discuss the possible impact significance of a proposed project if they wish to maintain a positive relationship with the community.[xxxii]

If a proponent wanted to construct an industrial project near Lake Bosumtwi, thereby threatening its purity and sanctity, it should consider the possible socio-religious and ecological impacts. These socio-religious factors need to be incorporated in the proponent's cost-benefit analysis. However, proponents could not possibly know of such factors if they did not consult the indigenous community beforehand.

In addition to having sasa of their own, some natural landscapes are sacred because they are the dwellings of beloved ancestors.[xxxiii] Ancestral worship is extremely important to the Ashanti and many other indigenous peoples.[xxxiv] The ancestors receive constant worship through libation and food sacrifices; and are believed to be omnipresent in their descendants' lives.[xxxv] Burial and ritual sites are kept as "sacred groves" in which "resource exploitation activities such as farming, hunting and tree cutting are prohibited…"[xxxvi] Again, knowledge of these practices could help EIA practitioners improve their impact significance analysis.[xxxvii] A report on the socio-religious significance of any potential industrial site is an obvious prerequisite to ethical development. If the proponent failed to do this, they run the risk of deeply insulting the native people and possibly igniting violent backlash from the community. Furthermore, the communities would be unwilling to impart any knowledge unto the developers in the form of useful, inexpensive baseline information. This would force the proponent to invest in the costly services of technical specialists. Development on sacred land would also heavily tarnish the image of the company; thereby creating negative public opinion and foreclosing the possibility of obtaining future construction permits.

Proponents may be unfamiliar with the concept of sacred sites, making it wise to hire an independent indigenous person as an advisor to proponents and government officials. The advisor could educate decision-makers on the esoteric belief systems of the indigenous community in relation to sacred areas near a proposed project site. This advisor should be in the boardroom with both proponents and government agents to provide guidance during the painstaking cost-benefit analysis process. Indigenous advisors could identify valuable religious sites and enhance agencies' reasoning on whether to approve construction permits in particular situations. Their input could also improve proponents' decisions on site location, design and implementation of projects by highlighting sacred areas as "off limits". If advisors are consulted sufficiently early in the EIA process, proponents could have enough time to search for suitable alternative sites without being pressured to meet permit application deadlines. Advisors could provide translation services as well as liaise between indigenous communities and proponents. This would enhance the inclusiveness of the environmental decisions being made. It is important that precautions are taken to maintain advisors' independence and to protect them from corruption and bribery. This is a real concern as Newmont Ghana Gold, Ltd. faces allegations that it "paid bribes to some Akyem chiefs to convince them to accept its plans to mine in the Ajenjua Bepo Forest Reserve."[xxxviii]

Advisors could also explain to decision-makers the concept of totems. Totems are "animals revered by members of the clan, and may be considered part of the extended family."[xxxix] Totems are believed to have "provided useful services to the ancestors in the past and are therefore not eaten, harmed, or destroyed".[xl] Destruction of these animals' habitats will threaten their survival and this will undoubtedly adversely impact the psyche of the related clans. Therefore, project proponents must also consider how environmental damage may affect certain clans' group

identity. In its EIA concerning mining operations in the Ajenjua Bepo Forest Reserve in Ghana, Newmont acknowledged that loss of forest acreage would have an emotional impact on the indigenous people as it "… may affect their sense of place and identity."[xli] This is why it is important to have effective public participation venues in the EIA process to allow for the consideration of important social factors in all levels of decision-making.

In failing to include indigenous values in their analyses, proponents and government agencies risk alienating community members. According to the Institute of Development Studies, alienation can catalyse "sabotage of development programmes."[xlii] The Institute mentions that this negative response may be caused by "...(ii) suspicion of the motives of the developers; and… (iii) opposition to project aims or even minor aspects of them."[xliii] It is easy to see why people whom regard certain natural landscapes as sacred would oppose a project that threatens to defile them. Furthermore, if the community is unsure about the proponents' developmental motives on their sacred land, then they will likely grow suspicious of the entire project; thus providing a motive for sabotage. Destruction of habitat or food resources of important totems could certainly give rise to strong feelings of resentment within the particular clan associated with that totem. It could also be seen as an affront to the clan's very identity. It is understandable how these factors could foment a violent backlash against a project. In the Niger Delta, oil spills and other environmental damage led to distrust, dissatisfaction, and eventually violence within communities.[xliv] Scarce natural resources are already an issue of local conflict in many African countries[xlv], thus development plans that threaten coveted resources will only exacerbate these conflicts; thereby provoking anger and sabotage. Violence against project facilities would likely be very expensive to repair. It would therefore be in the proponents' interest to provide adequate consultation opportunities, as this would help to avoid feelings of alienation within project-situated communities.

B. Medicinal Herbs

In addition to the socio-religious importance of natural landscapes, "the forest provides resource substitutes which are scarce or physically and economically inaccessible to rural communities."[xlvi] Such resources include firewood, medicine, tools, and food…"[xlvii] The availability of medicinal plants allows indigenous people to remain outside the costly healthcare system without jeopardising their health. Ghana's forests are home to over 2,100 plant species, and the aborigines put these resources to good use.[xlviii] "About sixty-four percent of traditional healers use between 10-20 plant species for health care, while eight percent use between 31-50 plant species."[xlix] In fact, "eighty-eight percent of farmers in the Ashanti region have detailed knowledge of two or more medicinal plants."[l] Healers are very efficient with forest resources in that they use almost all parts of the plant; "medications from the leaves, bark, stems, or roots of plants" are all used. [li]

Fairness would require communities be reimbursed for future medical costs incurred due to the destruction of medicinal plants resulting from project-related deforestation and pollution. The host of ailments forest resources provide treatments for, would equate to exorbitant medical costs for which proponents would be responsible. For instance:

> Fevers are treated with the leaves of the Nunum (*Ocimum gratissimum*) plant. The acqueous decoction of Otan-nuro (*Trichilia monadelpha*)… is used as a liniment for arthritis and for the treatment of yaws, sores and ulcers. Similarly, the roots and leaves of Kakapenpen (*African rauwolfia*)… are used as sedatives and tranquilizers for psychiatric conditions. The African pepper locally known as hwenteaa (*Xylopia aethiopia*)… is an antifungal agent and

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has broad spectrum antibiotic action…Nsusuaa (*Solanum torvum*)… is used as a haemostatic after childbirth and for coughs especially in children; Awonwene (*Vernonia amygdalina*)…is used as an analgesic and for treatment of upper respiratory tract infections; and Ananse nkatee (*Desmodium herb*)… is used for the prevention and treatment of asthmatic conditions.[lii]

Thus, the cost of covering medical treatment for an entire village whose natural remedies have been deforested, would be beyond uneconomical; it would be financially unfeasible.

Traditional healers also have specialised knowledge of plants. This makes their expertise useful to the EIA process since they can assist in identifying species that warrant conservation for medical reasons.[liii] Say for instance a village was plagued by a rare disease, for which a treatment depended on a plant species thriving in an area designated as a future development site. Indigenous knowledge in this situation would be crucial. Thus, without adequate public consultation, key medicinal plants may be destroyed.

III. Sustainability

Based on the above discussion, indigenous people clearly have spiritual, social, and sustenance related interests in a healthy environment. All three levels are associated with the concept of inter-generational equity and sustainable development. Spiritually, indigenous people believe "that the land has been given to them by their ancestors and the onus is on them to preserve it and hand it over to their descendants."[liv] The ancestors would likely disapprove of polluted and degraded land being inherited by future generations. Reckless hunters that hunt animals into extinction without regard for the food security of unborn generations may provoke the wrath of the ancestors; for they would be viewed as abandoning their sacred responsibilities. In this respect, indigenous people are motivated to manage their ecological resources responsibly and sustainably.

On a social level, the health and welfare of certain animal species are essential to upholding groups' identities. People naturally want to ensure their identities are preserved. Since clans draw their identities in large part from their totems, they would need to ensure that these animals are protected. This requires sustainable hunting and sustainable use of resources on which these animals depend.

In the Ashanti region of Ghana, indigenous "hunting and trapping are regulated by certain beliefs and taboos, most of which ensure humane and sustainable hunting practices."[lv] While conducting his field research, Appiah-Opoku found that "male hornbills feed the females while the eggs are incubating..." which is why "indigenous hunters do not kill these birds, neither male nor female during this period."[lvi] This hunting practice is unique because it recognises the important role of the male hornbill in the health of the unhatched egg.

The ruling in the Bering Fur Seals Arbitration only prohibited the killing of female seals whilst in the sea. Yet, it did not extend any protection to male seals whatsoever and left female seals located on land vulnerable to a dubious fate. In comparison to the Fur Seals Arbitration, the Ashanti practice is more protective since it guards both male and female hornbills during the incubation period. This hunting practice is more 'sustainable' than the holding of the Fur Seals Arbitration, because it protects the entire species.

"Hunters do not kill game when it is pregnant, nursing young ones, mating or drinking from a stream."[lvii] It is obvious how the first two hunting taboos listed above protect the unborn. The

prohibition on killing animals that are mating simply allows for the future generations to be conceived. The fourth aforementioned hunting taboo is an example of how the precautionary principle is a guiding ethos of the Ashanti. The precautionary principle is a foundational element of sustainable development. Perhaps this cautious attitude is caused by fear of upsetting the ancestors by hunting inhumanely and unfairly. However, a practical (non-spiritual) and scientific explanation is also plausible. If a species is hunted ruthlessly to the point that it cannot even drink from a stream without fearing predation, it may drink less thereby negatively impacting its health. This can jeopardise its ability to successfully procreate, thereby making the future of the species uncertain.

Unhealthy animals are less likely to attract a suitable mate, carry a fetus to full term, or (if it can pass these two hurdles) produce healthy offspring. These unfortunate possibilities reduce the likelihood a village will have enough healthy game to survive. In other words, these factors reduce the maximum sustainable yield (MSY) of the species and food availability in villages. Tribal knowledge of a seemingly "western" concept like MSY helps to refute the stereotype that indigenous ways of life reflect a primitive stage in human development.

By understanding the extent of indigenous people's ability to live sustainably, proponents and government agencies may be motivated to plan projects that are similarly sustainable. Understanding indigenous values and beliefs will assist proponents whom are considering developing in an area inhabited by indigenous people. As we will see later, consideration of these values is not only a necessary component to sustainable development, but is a prerequisite to achieving „good environmental decisions". Sound policy, especially those as far reaching as environmental decisions, must be guided by public concerns and interests. Principle 10 of the *Rio Declaration* holds especially true in this context.

VI. Good Governance: it's what good EIAs are made of

"…. A well conceived EIA mirrors many of the elements of good governance, namely transparency, sufficient information flows… and stakeholder participation."[lviii] According to Fox, "a consideration of legitimate public concerns represents the most basic means of strengthening the precepts of democracy."[lix] So when we look at public participation in EIAs, we are really looking at how democratic the country is.

VII. Transparency

Transparency is the heart beat of an effective EIA process. This is because transparency is essential in promoting an effective participation process. Bisset states that a "basic principle of EIAs is that it should be transparent, in that the process should have clear, easily understood requirements for EIA content and it should ensure public access to information…"[lx] By doing this, transparency fosters public involvement in both a direct and psychological way.

With regards to the direct way, "transparency assumes the availability of 'user friendly' information that is not misleading, cannot be misunderstood, nor is easily misinterpreted."[lxi] Information dissemination is a logical prerequisite to public participation, since people cannot be expected to effectively participate without first being informed. User-friendly information is also essential for participation since Hartley et. al, noted that the "inability to understand complex technical details was a major factor preventing the public from participating effectively."[lxii] Use of diagrams, maps and performing arts discussed earlier are ways in which participation can be improved. Diagrams stimulate "…participation and an exchange among local leaders, technical

officers, and outside elements" since many indigenous people "relate to visuals more readily than to written reports."[lxiii] For instance, in the case of the Mbusyani, Kenya self-help programmes, notes by technical officers indicated that the use of diagrams served to "encourage individuals who might otherwise have remained silent.[lxiv] Women at a public hearing noticed that a firewood calendar presented by technical officers was unrealistic.[lxv] Investigations into these allegations confirmed this and found that the actual situation was much more serious than technical calculations indicated.[lxvi] This type of community input is essential to more accurate project planning and decision-making. Furthermore, it is unlikely that this discrepancy would have been detected had the local people not been involved. Thus, transparency allows for effective public involvement by providing access to clear information necessary for critical assessments that provides meaningful feedback.

There is also a psychological aspect in which transparency promotes public participation. A "transparent process provides certainty in the EIA process through ensuring all obligations, opportunities and decisions in the procedure are clearly set out."[lxvii] "Transparency requires that all factors relevant to decision-making are clearly identified by the decision-makers. For example, the factors taken into account by the assessing authority in determining the appropriate form of assessment should be clearly defined"[lxviii] If the proponent is reluctant to publish or discuss relevant information, this suggests dishonesty. Mistrust will naturally follow and people will be hesitant to participate in a dishonest process, as they will believe that their voices will not be valued by decision makers. This is the essence of public alienation previously discussed. In the Maple Leaf development case in Canada, several community members remarked that, "my view was that things were already decided and participating isn't going to make a difference…"; "you had to accept that probably your feedback was not going to have any effect on anything"[lxix]. The above feelings of despair are classic examples of 'public alienation' caused by foregone conclusions.[lxx] Foregone conclusions are decisions that have already been pre-determined; thus there is no way of influencing them.[lxxi] As previously discussed, "influence on decision-making" is one of the 'evaluative criteria' for effective participation. Thus, transparency helps to create a will to participate by providing the psychological climate necessary for effective public involvement.

Similar to foregone conclusions, the "classifying of documents as confidential can prevent public dissemination; and the absence of transparency fosters mistrust and misunderstanding between project authorities and communities."[lxxii] Such negative feelings have been identified as instrumental in provoking sabotage of development projects.[lxxiii] Refusal to declassify documents prevents public dissemination, just as the untimely submission of information severely hinders effective public participation.[lxxiv] These factors will not only discourage involvement by the community, but they also contribute to feelings of mistrust and suspicion; precursors to sabotage.

VIII. Accountability

> *"I don't think that they do any meaningful public involvement… it is really just a sham to get approval…the problem is that there is no accountability, they have to do some public involvement so they just blindly get on with it."[lxxv]*

Transparency assists in making the decision-makers accountable to the public by promoting the visibility of officials who oversee the permit granting process. Community members may likely believe that these officials are at least concerned with maintaining their positive public opinion, and will therefore be personally motivated to account for public concerns. However, due to the rampant corruption in African governments[lxxvi], it is questionable whether failure to account for public concerns will equate to disciplinary action. Despite this caveat, it is human nature to have

more faith in a process where there is an easily identifiable person to blame if things go awry. The expectation that public officials will face consequences for ignoring their constituents" concerns, will bolster public belief that their concerns will be accounted for, and thus avoid feelings of public alienation. Additionally, transparency can improve accountability. The following quotation illustrates this:

> "The disclosure to the public of the EPA's recommendations and decision-making process essentially establishes a public expectation of EIA outcomes for a particular project which may make it politically difficult for the Minister to ignore or override without a good cause or explanation."[lxxvii]

Good governance and public participation have a symbiotic relationship. Whilst good governance promotes effective participation, effective participation simultaneously reinforces good governance. The ladder part of this equation is alluded to in the Preamble of the EC Directive 2003/35/EC.[lxxviii] The Directive says that "effective participation in the taking of decisions enables the public to express opinions...which may be relevant to those decisions, *thereby* increasing accountability and transparency.."[lxxix] The wording of this statement is important. According to the World English Dictionary, the word 'thereby' means: "because of that"[lxxx]. Thus, this preambulary statement of the 2003 EC Directive means that an increase in accountability and transparency is *because* of effective participation.

Another example of this mutually reinforcing relationship is found by the Kinhill Engineers, which states, "adequate and appropriate opportunities for participation are an essential contributor to transparency."lxxxi Similarly, in addressing the public on their website, the Canadian Environmental Assessment Agency states: "Your participation in the federal environmental assessment ensures an open, balanced process and strengthens the quality and credibility of Environmental Assessments."[lxxxii] Thus, appropriate opportunities for participation may include situations in which alternative forms of information dissemination such as diagrams, maps etc., were available for an illiterate population. Additionally, Appiah-Opoku noticed that indigenous farmers of the Ashanti region "observe traditional holidays during which the spirit of the Earth is believed to be resting."[lxxxiii] It is considered taboo to work on these days, thus farmers usually "seize the opportunity to tend to social and community issues."[lxxxiv] Appiah-Opoku believes that "taboo days offer a great opportunity for EIA public consultations…"[lxxxv] So too did Newmont Ghana Gold Ltd, a Canadian subsidiary of the Newmont Mining Corporation. The company's Public Consultation and Disclosure Plan, a document that formed part of its EIA for its proposed Akyem mine, noted that "in a move to make it easier for the people to take part, the [community] meeting dates were moved to coincide with non-farming or 'taboo' days."[lxxxvi]

Participation itself can also promote legitimacy, another aspect of good governance. The National Research Council identified some of the possible functions of participation. One of those was improving legitimacy by seeking consensus on problems and solutions to be addressed.[lxxxvii] Earlier discussions indicate that indigenous institutions have been identified as good tools to involve rural indigenous people in the EIA process, since these institutions operate on a transactive and mutual consensus basis. Participants whom are familiar with consensus building in the decision-making arena will likely enjoin government and proponents to also work towards a consensus amongst stakeholders in EIA processes. This is because their transparent and democratic indigenous institutions have instilled in them certain expectations of how decision-making processes should look, and they will likely place pressure on project proponents, whom seek their involvement, to live up to these same expectations. Thus, the EIA process can be enhanced in this way.

IX. Using Indigenous Institutions

The World Bank in 1992 identified four tactics for improving public participation in an EIA process; one of which was the "use of indigenous institutions that are already involved in managing natural resources."[lxxxviii] As we've discussed earlier, transparency allows for improved information sharing. Enhanced information sharing at all levels of decision-making is considered to be "a prerequisite to arrive at rational options and agreed choices". [lxxxix] In the Ashanti region of Ghana, "conflicts are resolved at the household level, through family, lineage, and eventually to the highest authority, the chief...The chief communicates through these channels down to the household. At each level, decisions made are based on the transactive theory and mutual consensus."[xc] The very idea of consensus implies a certain level of transparency. The concept of mutual consensus assumes there are open negotiations aimed at getting everyone in agreement; since negotiations between the different elders, representatives of lineages, and the chief, seem to inherently require open and transparent talks to allow for a comfortable compromise. Sustainable development also requires a compromise between different interests, namely environmental, social, and economic concerns. Thus, indigenous institutions can be used as a model for EIA public negotiations/discussions necessary to attain sustainable development goals. In 1973, Belshaw and Chambers suggested "three kinds of participation needed for effective rural management plans: 1) Taking account of local wishes 2) making use of local knowledge and 3) securing local contributions."[xci] According to Brown, local wishes in plan formulation can be mediated through existing representative institutions.[xcii] This finding is important since the above discussion shows that indigenous political institutions are in fact representative (representatives from lineages and chiefs and elders make decisions based on mutual consent). The democratic nature of indigenous institutions can be used to encourage "effective rural management plans" which will undoubtedly be sustainable due to indigenous input.

Including indigenous people in the decision-making process ensures the interests of vulnerable and marginalised people are considered. This allows for a more thorough analysis of possible socio-economic repercussions of development. Such an analysis is imperative in order to reach a sustainable decision. If indigenous people remain outside the EIA process, decisions will be reached which are devoid of their concerns. As a result, ostensibly sound environmental decisions may prove to be unsustainable once implemented.

X. Transactive theory, 'Local knowledge' and its contribution to Sustainable Development

As mentioned earlier, indigenous political institutions operate on the basis of mutual consensus and transactive theory.[xciii] The transactive theory "focuses less on field survey and more on experiential learning..." in a face-to-face context.[xciv] In 1983, Chambers identified "constraints pertaining to the use of survey questionnaires in developing countries."[xcv] He found that the surveys were "not good ways to explore social relationships or identify causal relationships in rural communities"[xcvi] Instead, field research with face to face interviewing and audio recordings within an informal interview setting "allow for the richness of explanation..." while contributing to an "understanding of societal actions and survival mechanisms"[xcvii] These methods have proven "particularly effective in exploring issues affecting the survival of the target population and their relationship with the local environment."[xcviii] In this way, transactive theory is an important tool in analysing a people's socio-economic and ecological relationships. This is important since integrated decision-making is the foundation of sustainability.

"In developing nations, Environmental Assessments will be more effective if they are carried out in an integrated manner, encompassing the social component which...decides the sustainability of the ecological component."[xcix] 'Cognitive mapping' are maps which help to elucidate complex

"linkages between the natural, social, physical and financial components…"[c] which impact lives. For example, "farming status influences the amount of land left fallow, which in turn affects the extent of land available for grazing."[ci] In India, participants explained how grazing area "influences herd size, which in turn affects the income of herders and thus the healthcare they can afford."[cii] We can then gain a detailed understanding of how various components are interrelated and how "the impact of any activity on any component will affect the other components connected to it…" in the cognitive map.[ciii] Thus, "when fallow land is converted for any non-agricultural use (i.e. industrial), the impact pathway follows the same route as above…"[civ] It is therefore important for policy-makers to understand these linkages. This is because a proposed project may require lots of farmland which will not only affect the ability of an agrarian society to feed itself, but may subsequently create health crises amongst poor farmers as described above. Newmont's Akyem gold mine also contributed to massive farmland loss. These socio-economic factors must all be taken into account, in order to achieve a sustainable decision. Declaration 19 of the World Summit on Sustainable development (WSSD) indicated that poverty and poor health undermine sustainable development.[cv] Thus, a health crisis amongst farmers due to an inadequate amount of farmland could frustrate future sustainable development efforts. Additionally, projects which threaten to desecrate sacred places will likely have a psychological impact on the community. Thus, mental health could also threaten sustainable development, and should be considered in decision-making processes.

Cognitive mapping and effective participation based on transparency and good governance are fundamental in 'encompassing the social component' needed to understand rural socio-economic/ecological linkages. We've seen that transparency in EIA ensures the utilization of 'user-friendly' information such as diagrams, allowing indigenous people to participate more effectively. Their participation is essential in gaining a deep understanding of complex social and ecological relationships. This is supported by Das and Rajaram's admission that "it is well-known that local knowledge is important in understanding local linkages…"[cvi] Therefore, sustainable development relies in part on the use of indigenous institutions since they are transparent by nature, host a wealth of local knowledge used to manage economic resources sustainably, and can provide information on ecological and socio-economic relationships.

Cognitive mapping "enhances the participatory component of resource management by considering stakeholders' experiences without the imposition of expert opinions and perceptions."[cvii]. Das and Rajaram explained that "by giving primary standing to local knowledge and perceptions, we hope to improve upon current expert-centred approaches…which are criticised as serving to perpetuate the techno-managerial elite's control over everyday life."[cviii] By focusing on the peoples" experiences rather than the elite's, project managers and governments can reduce feelings of mistrust and suspicion of the project and avoid violent backlash by indigenous communities. This is an additional way in which recognition of complex rural linkages promotes sustainability.

XI. 'Good Environmental Decisions' Promote Sustainability

Dietz's criterion for a 'good environmental decision' are strikingly similar to the elements of sustainable development. Dietz identified five criterion that all good environmental decisions must have: Firstly, they must "improve human well-being and environmental quality."[cix] An integrated EIA that considers the socio-economic and ecological linkages can help to promote sustainable development. These linkages represent the ways in which different factors combine to impact human wellbeing. The way in which the amount of fallow land impacts grazing land, which in turn affects the farmer's health care options, is a perfect example of how many different elements can affect overall wellbeing. Additionally, desecration of sacred places by pollution is

also known to affect psychological wellbeing. The WSSD Declaration has already acknowledged that threats on human well being such as abject poverty, chronic hunger, armed conflict, chronic diseases, etc. also "pose severe threats to sustainable development…"[cx] Therefore, the things that adversely affect wellbeing also undermine sustainable development.

Secondly, good environmental decisions are "competent in the use of both facts and values".[cxi] Awareness of indigenous socio-religious rituals and belief systems are imperative in making decisions that are respectful of their taboos and other unique values. Indigenous people have an abundance of information about their environment, which could be used as baseline data to conduct comparisons of pre and post-development environmental conditions. These types of comparisons assist in identifying and mitigating potential environmental damage before it reaches irrevocable proportions. This clearly has implications for sustainable development because it tries to reduce environmental damage so other generations can inherit a clean and abundant earth. In essence, it can be said that a good environmental decision should seriously consider "values and facts" held by indigenous people, which is an essential component of sustainable development.

Thirdly, Dietz says that „good environmental decisions" are "fair with regard to the process and outcome."[cxii] "When decision processes are judged as fair, participants are more likely to see the outcomes as fair or just, or at least to accept them. Acceptance of the decision resulting from a fair process is closely related to legitimacy…legitimacy is a major criteria identified for assessing the results of effective public participation."[cxiii] Transparency supports "fair processes" by requiring the public have access to understandable information. Transparency also makes sure that the public is aware of the determinative factors which decision-makers depend on to reach their decisions. "Psychological research has illuminated several characteristics of decision-making processes that people generally consider to be fair. These include: opportunity to voice opinions and concerns, neutrality of the forum, trustworthiness of authorities, and quality of treatment by authorities both formally and informally."[cxiv]

We know that the opportunity to voice opinions and the trustworthiness of authorities are influenced by the transparency. We could also argue that the neutrality of the forum is shaped by transparency. Genuine discussion and consideration of alternatives to environmentally hazardous projects in participatory venues can increase the neutrality of such forums. Arnstein showed that when more equitable options are ignored, real public participation cannot occur; rather it seems to be "only a sham to get approval".[cxv] If authorities involved in the EIA process are easily identifiable by the public, they are more likely to be held accountable for any problems. Therefore, the quality in which they execute their decision-making responsibilities will be markedly improved, than if they did not fear negative public opinion or losing their jobs. Thus, transparency in the environmental decision making process has a tendency to elicit beliefs that the ultimate decision is itself fair. Perception of fairness helps to support the legitimacy of the entire process and decision. Again, good governance, which all good environmental decisions should be based on, reduces sabotage and promotes sustainable development by promoting real participation.

Fourthly, Dietz says that good environmental decisions "rely on processes that avoid errors in cognition and decision-making."[cxvi] Our previous discussion on the use of diagrams, transects and other visual mediums of information dissemination, show that these tools can help to reduce errors. Thompson et al., discussed how the use of diagrams encouraged women to participate in public hearings and how the women identified unrealistic aspects of the project plan.[cxvii] This assisted in avoiding the errors from being included in the decision-making process. Errors may result in unsustainable outcomes if they fail to account for the many socioeconomic and ecological linkages previously discussed.

Fifthly, a good environmental decision provides a "chance to learn how to do things better."[cxviii] Again, indigenous institutions operate on a transactive basis and this allows for social learning. Public participation can create channels "for the type of open, honest two way communication which has been shown to help avoid worst case confrontation."[cxix]

Sustainable development is promoted by having more people involved in the consultation process. Lastly, good decisions "are efficient in the use of scarce resources."[cxx] The best way to find out what resources are scarce is to consult with indigenous people. Equipped with this knowledge, policy-makers are more informed and better prepared to make decisions that will protect these scarce resources and thus promote their sustainable use.

Conclusion

In conclusion, indigenous knowledge can provide viable and inexpensive baseline data, as well as improve proponent and government agencies' understanding of impact significance. However, in order to receive these benefits, indigenous people must first be appropriately consulted. Elements of good governance are essential in facilitating participatory programs, and sustainable environmental decisions. Thus, the best way to promote 'good environmental decisions' is to provide effective participatory opportunities that are both appropriate to and adequate for indigenous needs and culture. So long as we keep indigenous and local peoples outside of the realm of environmental decision-making, we will find that our natural resources will be grossly overexploited and mismanaged.

"Our survival has always depended on the careful management of the environment. Like our ancestors, we use our resources to meet our needs. Today, we draw on traditional knowledge and practices to guide us into the future." – Campo Kumeyaay Curators 2003

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