

Critical Community Engagements in Risk Society: Eco-Ethics in Comparative Perspectives¹

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This is a critical review to community engagement as well as an analysis of ethical aspects of sustainable development in the past several decades and its relation to efforts to promote ecological modernization for sustainability. In the 21st Century, the quest for sustainable development has been becoming the most important global development agenda. Governments and societies are being prompted to respond to the global challenge with different policy and local initiatives. To highlight sustainable development, this brief has delineated ethical dimensions and perspectives of global environmentalism. There is consideration of socio-eco-risk discourses, environmentalism and consequences of the modernity project, namely, the decoupling of the pre-modern integration and harmony between people, technology and nature, represented by the *Risk Society*. Our paper discusses the emerging *problematique* of the risks – shaping the alternative development agenda; and the eco-ethical advocacies at local, regional and global domains, for alternative ecological modernization, are discussed along with the socio-cultural embeddedness of alternative development model(s).

Key Words : Environmentalism, Ethics, Globalization, Risk Society, Sustainable Development

1. Community Engagement in Eco-Risk Society

When speaking of “community”, we may be referring to a number of concepts such as the individual family, the village, the state, country, region, or global community. This paper takes a broad and inclusive view of “community,” including socio-geo-cultural and virtual communities, whereby people live and communicate and participate in a shared space. In the paper we include examples of how the concept of community is understood by different groups in Asia and the Pacific, and how this affects community engagement.

Some of the key questions explored in this paper are:

- How can we engage communities in the decision-making process?
- Are communities being given a chance to articulate their environmental values?
- Do communities have adequate access to information on energy technologies and their risks

and benefits?

- What is the role of education in assisting communities to make decisions about their future?
- Are women and young people being engaged?
- What are the appropriate stages of an energy project for community consultation?
- Is there a trade-off between adequate consultation time and expedient implementation of a project?
- How the ‘not in my backyard’ view shapes the development of large-scale energy infrastructure?
- How can community engagement reflect the emerging paradigm shift from principles of paternalism through those of informed consent to informed choice?

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1.1 People - “Community” as Problematic?

In this paper the concept of community is generally taken to apply to the human community, although a second thread of ecocentrism is present. The objects and subjects of ethics can be viewed in terms of **ecocentric**, **biocentric** or **anthropocentric** concerns. Anthropocentric thinking is focused on the human individual or community as a whole.

Ecocentric concerns, that value the ecosystem as a whole, are used when expressing environmental concerns, but it is not so simple to engage non-humans in decisions regarding energy technologies. The reverence for all of life (Schweitzer, 1966) can apply to the whole ecosystem or to every member of it. In this case humans often speak on behalf of the ecosystem as a whole. There is a trend for more ecocentric views to be included in legislation, with protection of ecosystems for their own value.

People of all cultures have developed technologies as they live together with many species in the wider biological and social community. Some people are willing to sacrifice themselves for the environment. Examples such as the preservation of sacred groves in India for thousands of years, even during times of severe crisis and human death (Gupta and Guha, 2002), show that in some cultures almost all people are willing to die rather than damage that part of the environment they cherish. This behaviour is often linked to religious beliefs in the afterlife.

Biocentric thinking puts value on the individual organism, for example one tree or one animal. Particular endangered species are associated with some of the environmental movements or laws such as endangered species Acts that are discussed in this paper. There have been concerns expressed in some cultures, e.g. New Zealand, over the need to value the native fauna and flora, which is considered by many in the Maori community to be something to protect from harm, and even not to modify (New Zealand Royal Commission, 2002).

Any risks to the agricultural systems of rural communities also require assessment, as animal diseases transmitted by vectors are important to farming families. In addition, there may also be risks to wild animals in surrounding areas, which in some ecocentric environmental views have more intrinsic rights to be left undisturbed than farm animals (Rolston 1994). This calls for broad ecological understanding of the impacts beyond public health.

There are theories of ethics based on community, which argue that individuality, autonomy or rights of a person are not suited to the community structure of society. Community advocates argue that societies

need a commitment to general welfare and common purpose, and that this protects members against the abuses of individualism, which can be equated with selfish pursuit of liberty. MacIntyre (1984) argued that Aristotle considered local community practices and their corresponding virtues to have primacy over ethical theory in normative decision-making. These practices include parenting, teaching, governing, and healing.

1.2 Questioning Ethical Foundations of Community Engagement

The ethical mandate for provision of energy and development is balanced through a series of ethical principles. The principle that we should love the life given to us (self-love) (Macer, 1998) implies that each person should be given autonomy (self-rule) to work out how to balance the ethical dilemmas and choices themselves. The Universal Declaration of Human Rights of 1948 specifically set as a baseline that all human beings possess equal rights, and should be given a chance to exercise their autonomy.

Justice simply means that if we want others to recognize our autonomy, we have to recognize theirs as well. We cannot just be concerned about the life of individuals but we also have to consider the rights and welfare of the community. There are at least three different meanings of the concept of justice: compensatory justice - meaning that the individual, group, or community, should receive recompense in return for contribution; procedural justice - meaning that the procedure by which decisions about compensation and distribution are made is impartial and includes the majority of stakeholders; and distributive justice - meaning an equitable allocation of, and access to, resources and goods (Macer, 2006).

There are ethical questions about how a society should represent procedural justice when there are major divisions within the society on particular issues. The process of consensus building and reaching common ground may be preferable for many cultures rather than confrontations based on a direct referendum, as is sometimes used in Switzerland.

At present there is great inequality between rich and poor nations in the direction and priorities of research, access to technologies, and in the distribution of and access to benefits that might come from use of technologies and new insights in research. There is wide diversity in the risks that members of each community face from environmental policies and realities. Not only is the distribution of risks different by location, but also due to: individual genetic variation in resistance to hazardous

substances and stresses; a person's nutritional state and immediate environment; a family's economic situation; access to energy, nature and technology, for example. These variations can be regarded as a type of lottery. Working towards better global equity is a goal that attempts to even out the lottery that people are born into. This is ethically mandated by Rawlsian justice (Rawls, 1971), which argues that efforts should be made to minimize the variation in all social factors because no one knows before they are born into which situation they will be born, so everyone would wish for equal opportunity and equal exposure to risk. All should have a chance to be born and grow up in an environment free of infectious diseases, if that can be achieved.

The ethical principle of beneficence supports the development of science and technology, and its provision to those who need it. A universal ideal found throughout human history is that it is better to love doing good things than bad things, and to love our neighbour as ourselves. Humans have used technology in efforts to make their lives easier and better for thousands of years, and the ethical principle of beneficence argues that we should continue to make life better.

The ethical principle of non-maleficence, or do no harm, would make us reasonably cautious about premature use of a technology when the risks are not understood. Recently some have advocated a total precautionary principle for some forms of energy, which would mean that no technology with more than 0% risk should ever be attempted (Ho, 1998).

Because no human action has 0% risk, the principles of both benefit and risk are used to assess technology and are central to any public policy programme. The basic ethical principles of autonomy, justice, beneficence and non-maleficence can be applied to help decision-making in a range of bioethical dilemmas in environmental ethics.

1.3 From Ethics (Committees) to Community Development

There are many commentaries upon modernization. Commonly there is a concept that broader impact issues should be dealt with after a technology has been developed, or after the power plant is constructed. The extra social factors are sometimes called "externalities", however in the same way that direct risks need to be minimized by precautionary and preventive actions, so too should indirect risks. Resolving these issues needs long-term vision, which can be difficult if only a short time frame is taken for political or financial expediency. The ethics of

calculating market costs versus ethical concerns about different options need to be considered part of the choice of technology.

It is clear that not all local communities will share the modern scientific world view that industrialization and development is better for them, so there needs to be flexibility in the approaches available to provide energy services. In the past, paternalistic interventions were taken on the behalf of citizens; however, civil rights movements have empowered people to take these decisions themselves. This general social background could be considered the underlying basis for community engagement, consistent with the ethical principle of beneficence.

In most countries an intervention upon another person requires the consent of persons. This model of informed consent is familiar in medical encounters, but also applied in environmental treaties including for transfer of hazardous waste and movements of living modified organisms. In most countries approvals to develop a factory, power plant, build a house, or a host of other actions that affects others, requires government authorization. Many of these decisions are based upon committee advice. If the committee is making a decision about an ethical choice, we for simplicities sake can call the committee an ethics committee. There are many models (UNESCO, 2005b).

In an increasing number of countries, such committees are established by law and are charged with certain legal responsibilities, typically about the conduct of research or a practice at a local or national level. An ethics committee is a group of persons from a range of disciplines who meet to discuss the ethical issues of particular submitted procedures and review the benefits, risks and scientific merit of the application.

In a medical case, the committee usually requires that each human subject in a medical trial gives informed consent to be involved in the project. Most guidelines however are not sufficient for the broad questions of how to obtain informed consent for a large scale intervention involving thousands (or even millions) of persons. To consider the issue at a local level, as required for obtaining appropriate informed consent, it is essential that a local ethics committee open to participation from the affected communities involved is established.

The approaches developed for population genetics and HIV vaccine studies have provided some experience of community engagement that allows both the community and local authorities to be involved in the decision-making process. Prior informed consent requires information to be provided prior to

the construction of a power plant. The community needs to consent to the environmental risks of a new energy production facility if these represent potential harm to them, or other members of what they consider to be their community. Globally people vary in the importance they ascribe to the environment, or parts of it. Especially in areas where more traditional world views are found, we may see greater value given to parts of the environment that are forgotten in the modern industrial mindset. We also see variations between persons in all cultures as to their images and understanding of nature and life (Macer, 1994).

In the case of small scale energy production facilities, it may be possible to seek the consent of all persons in direct contact. However, with large scale facilities a large production facility may be developed. For example, within close proximity may be an area with a local population of 100 000 persons or more. In such a case it is unrealistic and unlikely that informed consent can be given by all people in the area. There will always be some people who are against any proposition, no matter how much others value it, but the opponents may not be moved from their houses (or in the case of dam construction, people who object may still be evicted from their houses if water will flood the area in the construction of the reservoir. So a procedure that is neither paternalistic nor paralytic needs to be developed. How can we resolve the conflict between not being paternalistic (which means asking all citizens for their consent) and the impracticality of waiting for every single person in a community to agree?

After the process of consultation and dialogue to seek informed consent, there still needs to be a procedure to supply relevant information to all persons in the area so that the minority who disagree with the construction of an energy plant that poses significant risk have the option to leave. In developing countries, achieving a broad social consensus may not be realistic. The mechanisms for social consensus are not well understood even in affluent countries. Public opinion studies suggest that people may respond differently to theoretical and real situations. There is therefore a need for further research in parallel to the trials, to optimise the methods for engaging different communities.

Although long-term socio-economic impacts of development are not always predictable, the participants should receive benefits from being involved. The concept of benefit sharing is important and related to compensatory justice, as well as to recognition of the persons themselves.

The rejection of energy plants or industry by

some members of a society, whether they are national regulatory authorities or isolated local community leaders, will create inequality of access to some in the community who wanted to use the services.

Any intervention may be subject to the philosophy “not in my backyard”. Socially powerful persons are generally more effective at preventing something that they perceive to be risky in their area, or, conversely, at attracting social resources towards themselves and away from weaker persons in the community. It is important that risks and benefits are shared equally, and one way to ensure this would be a commitment to the local community that, if the project/power plant is successful, they would have some benefit – e.g. cheaper electricity prices. In this way, any risks borne by a local population would subsequently be rewarded by that population being willing to host the complex.

In cases involving bilateral research collaboration, the most stringent ethical standards of the two countries should be applied. This creates problems for non-literate populations, and for populations whose common sense social assumptions are different. It is desirable that internationally agreed standards are developed. The ultimate decision procedure should be decided by the local ethics committee, but international consistency and guidance is the goal.

It is important to take contingencies into consideration when analyzing a development plan. In this case, the added expense in terms of finance and risks to the environment and health needs to be covered by insurance.

Any professional or organization is expected to give independent, balanced and professional technical advice that is suitable for local conditions. There are still questions to be resolved, such as “When should a professional body or expert offer alternative options beyond a list of two initial choices that the country requested help to choose between, when the options are equally viable and may reflect more the overall ethical mandate of a community and/or the ethical culture of the member country?”

Corruption is rife in many parts of the region, and energy projects typically involve large sums of money. There are some interesting parallels to the principles established in community engagement with regard to human genetics sampling. The Human Genome Organization (HUGO) Ethics Committee (1996, 2000) has recommended that the actual or future benefits discussed should not serve as an inducement to participation. Nor should there be any financial gain from participation in genetics research. This does not exclude, however, the

possibility of reimbursement for an individual's time, inconvenience and expenses (if any), even if there is a general distribution of benefits to the community. This is an issue that needs to be worked out before the trials begin. The same could be applied to energy technology projects.

1.4 Re-Engaging the Public – Education for Empowerment

The current energy system is largely based on the use of fossil fuels. This poses serious constraints on the actual capacity of the economic systems to comply with two related conditions of sustainability, in terms of pollution and scarcity of natural resources. There is now the need to reduce carbon dioxide emissions and avoid dangerous interference with the climate system by switching to alternative, carbon-free energy sources. Public opinion surveys in most countries support the need to search for alternatives; however actual practices see many people constrained by choice or familiarity with high energy consuming lifestyles. Community engagement would not only seek to find the opinions of persons, but also serve as an educational strategy to make people aware of practical alternatives, and link communities together to change as necessary.

While companies are investing heavily in so-called climate solutions the ordinary public must be engaged and clearly informed on how they can contribute to promote energy efficiency and cleaner energy. While scientific reports and media attention of the issues may to a certain extent raise public awareness, there is presently a conceptual vagueness leading to many misunderstandings and confusions leading to the larger public's inability to gauge the potential pitfalls of not setting concrete policy action and measures. Publicity campaigns need to be staged to bring about effective societal transition towards a different energy model that relies much more heavily on the use of renewable resources. Evidence of public apathy to change suggests that the road to transition is going to be difficult if the public is not systematically educated and empowered.

Empowerment would mean shifting the burden of responsibilities to the lay public so as to effectively involve them in efforts towards a sustainable future. Some elements of *social engineering is inevitably necessary* in order to achieve this. While the expression social engineering has negative connotations in current literature, many argue it is necessary because systematic public reform which involves precise agendas to fully inform, educate and empower, would make sustainable goals achievable. This makes the

issue of community engagement in climate change particularly challenging, because it counters the concepts of choice, and becomes more like a system of directed social consent. Discourses on policies and programmes to introduce communities to energy saving technologies is helpful in achieving this goal but the way towards more effective efforts is to invite the public to think about the 'problem' in the light of their fundamental value systems, be it religious or culturally determined. The pursuit of sustainable communities would only be successful if the people are made to realize that they are in themselves 'agents of change.'

As an example, the Malaysian Development Policy formulated almost two decades ago has reflected awareness on sustainable development issues when it expressed that:

"in the pursuit of economic development, adequate attention will be given to the protection of the environment and ecology so as to maintain the long term sustainability of the country's development [and that] Nature and natural resources conservation will be given priority through a responsible and well-balanced exploitation of natural resources which will safeguard the requirements of future generations" (Malaysia 1991).

Policy reforms towards notions of sustainability was subsequently evident in Malaysia in the National Policy on Biodiversity (1998), National Policy on the Environment (2002) and the Third National Agricultural Policy as well as the National Spatial Policy which incidentally demarcated environmentally sensitive areas. It is observed that particular states in the peninsula have begun championing sustainable development strategies since 2000. (Hezri and Hasan, 2004) Of course, most recently the Fuel Diversification Policy which promotes the use of renewable energy, biomass, biofuels, solar and hydro-aided energy systems and the use of cleaner production in manufacturing industries are clear indicators of government commitment (Malaysia 2003). Additionally, the adoption of the ISO14000 series by many companies throughout the nation also indicated non-governmental reforms in accordance with the sustainable development agenda (Lee, 2005). However, some writers have been rather sceptical and pointed out that national efforts to institutionalise concepts of sustainability has not been successful and has proven to be an uphill task for Malaysia. (Jomo *et al.* 2004, Nor, 1991)

It is worth noting that researchers in various universities in Malaysia are recently hopping on

to the bandwagon that promotes research in the area of what is newly-termed as “sustainability science”. Sustainability Science is recognised as ‘a rapidly developing trans-disciplinary, cross-faculty framework for studying multi-dimensional issues that interact with science and non-science elements including biodiversity, environment, socio-economic and technological concerns, with a time perspective beyond the present generation.’ Research groups gather scientists and humanities experts to consolidate efforts to bring about sustainable development in form of the creation and invention of cleaner technologies, the utilization of energy technologies, developing energy from bio-products and waste, designing environmentally friendly built environments and working towards the concept of sustainable communities.

1.5 Community Engagement in Islamic MAQASID AL-SHARIAH and FIQH

How then can we move societies to radically transform into larger groups of conscientious actors each taking care that their personal consumption habits become more sustainable? To quote the Koran: “*Truly, God does not change the condition of a people unless they change what is in themselves*” [Quran 13: 11]

The kind of societal changes to move to adopt alternative lifestyles would need concerted efforts towards realistic transition. The difficult central question to address is how best to reconcile economic and social progress while safeguarding global life support systems. We can ask how to achieve *bioethical maturity*, meaning the ability to balance benefits and risks of applications of biological and medical technologies (Macer, 1994). The same idea may be extended in community engagement and ethics of energy technologies. This is consistent with intrinsic values found in many traditions, and here there is an analysis of Islam.

To date Islamic philosophical debates that can be extracted to *inform, educate and empower* the people in regards to the ethics of energy technologies have not been forwarded with sufficient austerly. The *Fiqh* and the *Maqasid Al-Shariah* provide an ethical framework from which fruitful defense of energy technologies can be developed. The only way to make our values beneficial and relevant is to have a voice within pluralistic democratic society. Policy

makers will find such Islamic value systems useful. Dialogue with community partners may be imparted about how to maximise their participation, delineate responsibilities and jointly determine strategies to achieve a sustainable future.

Any community must be encouraged to participate in environmental projects that seek to do good but they must be firstly be equipped with basic knowledge on environmentally friendly technologies so as to empower themselves as capable agents of change. Benjamin S. Shen had distinguished among “practical,” “civic,” and “cultural” forms of Scientific Literacy (Shen, 1975). He emphasized the importance of civic scientific literacy: ‘there is a need to create an informed citizenry that is ready to participate intelligently in the political and social debates over controversial new technologies.’ School projects on renewable energy systems and efficient energy use would directly educate and move the younger generation to contribute significantly towards sustainable goals. Getting students to be engaged directly will substantially instil the necessary values to conserve energy. However, it is again stressed here that such actions should not be dissociated from Islamic values. Muslims are reminded that collective responsibility in the care of the environment and the belief that the earth is merely ‘on loan’ would propel people to safeguard the environment to sustain future generations. The role of individuals as *khalifahs* or stewards that are entrusted to manage the earth responsibly must be impressed on communities.² Effects of global warming and climate change is imminent if people do nothing to combat green house emissions.

The Maqasid al-Shariah

The *Maqasid al-Shariah* (purpose of Islamic law) seeks to protect among five values (other values are protection of the intellect, family lineage and religion), *human life and property* which includes the environment. Therefore, the Islamic teaching on the concept of *istihsan*, ‘to avoid evil, harm or sufferance and to seek benefits’ is of relevance here. Muslims ought to pursue energy technologies which have clear proven benefits for humankind.

An action of highest moral value in Islam is to give “*consideration of the benefit to others before considering one’s end.*” This is further illustrated in the rule *Sadd al-dhara’i* which basically contemplates preventing an evil before its occurrence. The Quranic statement related to this rule is “*God*

2 Naseef, Abdullah Omar. *Muslim Declaration on Nature, Asisi Declarations*. Cited from Francis, D. (1997). For the Muslim, humankind’s role on earth is that of a Khalifah - vicerent or trustee of Allah. Humans are Allah’s stewards and agents on Earth and not masters or owners. It belongs to God and He has entrusted us with its safekeeping. Our function as vicerents, Khalifahs, is only to oversee the trust. The khalifah is answerable for his/her actions, for the way in which he/she uses or abuses the trust of Allah.

intends you comfort and ease and He does not want to burden you with difficulties" [Quran 1: 185]. Furthermore, the Prophet (pbuh) was reported to have said, *'It is forbidden for anyone to cause hurt to himself or to any other human being.'*

The Methodology of the Fiqh

The *Fiqh* may be applied to offer practical contemplation of the Ethics of Energy Technologies. The assessment of risks and benefits associated with energy technologies may then be properly attended to. The principle of *Jalbu al masalih* is literally translated as 'the protection of public interest'. Communities must accept that climate change through greenhouse emissions and the problem of depleting fossil fuels are real problems. Gro Harlem Brundtland has remarked that 'climate change victimized everyone' and 'it [is] irresponsible, reckless and deeply amoral to [even] question the seriousness of the situation'. Public interest therefore overrides the self or individual interest. The individual cannot claim that it is the duty of the governments alone to solve environmental problems – it has now become the responsibility of every individual to protect public interest and common property when climatic change becomes a phenomenal threat.

The principle of *al-darurat tubihul al-mahzurat* means 'necessity takes precedence over that which has been prohibited.' There is the popular argument that it is unethical to direct food sources and food-producing lands to become sources of alternative energy (Tenenbaum, 2008). However if one understands clearly that climate change is harmful for a community, even the whole of humankind, it is now urgent to look for greener energy sources. Whole communities can become committed to accept that alternative energy systems are not only preferable but a moral imperative.

The principle of *dafu al-darar wa jalbu al-manfaat* or 'prevention of hardships and allowing the realization of benefits', is self-explanatory. Communities should allow change in human energy consumption habits to secure a sustainable future. The method of Islam of the *Fiqh* and the *magasid al shariah* would argue that dialogue is essential to promote community involvement towards environmental justice.

Experts have shown that alteration in climate conditions is closely related to the fact that human populations have grown from mere millions in pre-historic times to six billion today. Muslims make up one-fifth of the world population. If this community can be motivated to think that sustainability issues and the solution offered by energy technologies is

closely related to the Islamic concept of the good and moral life, wondrous and practical results can be achieved in our battle to cope with problems of climate change. The duty to protect lives and safeguard property (the environment) from disastrous harm and adopting responsibilities by assuming the role of guardians of the earth's resources and qualified agents of change are in consonance with the ethical framework as defined in the *maqasid al shariah* and the *fiqh*. According to Imam Ali, 'justice is the essence of people's welfare and the adherence to the Divine Shariah.' The Prophet (pbuh) has said that:

the deeds of justice performed by a leader for one day for his people is better than the deeds of a man who performs fifty or a hundred years with his family members in worship of Allah.

2. From Hyper-Modernization to Eco-Modernity?

In the last few decades, global development and concepts of community have been characterized by hyper-modernization in East Asia, the opening up Central and Eastern Europe since 1989 – even more so with the dynamism of the enlarging European Union (since May 2004), but there has been a stagnation in Africa and Latin Americas. In spite of the differential growth, the globalizing forces are more than evident in every parts of the world – which have been argued to reinforce global ecological problems. Hence, economic globalization is juxtaposed with ecological challenges at all levels of governance.

For sustainable development, the very fundamentals for development - scientific knowledge (in objectivity and rationality terms) - have been challenged not just by various socio-political mobilizations (ecological and anti-globalization movements, Lai 2004, 2008a/b/c), but also within the scientific communities (Lai 2003). This section will examine the contradictions of the so-called (scientific) sustainable development, by a focus on the specificities of hyper-industrialization and global environmental issues in the modernization process.

2.1 From *Gemeinschaft* – *Gesellschaft* to Risk Society

Industrialization is historico-structurally coupled with urbanization, which in turn shapes the changes in social life: transforming the communal life form (*Gemeinschaft* - Community) to a functionally organized modern society (*Gesellschaft* - Society). The genesis of environmental problems can materialize

at different stages of this transformation. There are contradictions between industrialization, urbanization, production, consumption, and environment.

Environmental problems and catastrophes can be people-made, e.g., hazardous industries, nuclear energy, production of CFC, noise and air pollution associated with traffic, as well as the wastes at the end of the products' life-cycle. Yet, social science theories have often neglected the intertwining of society and nature. The role of *Nature* in affecting people's world-view is becoming important, particularly now, given *Nature* has undergone an undeniable unprecedented rate of change which threatens the Earth's life support systems (Beck 1986, Lai 2003).

Since the early 1980s, more social scientists have been attempting to understand the relationships between society, people, ecological issues, and global sustainability. For instance, Ulrich Beck (1986)'s *Risikogesellschaft - auf dem Weg in eine andere Moderne* (now translated as *Risk Society - Towards a New Modernity*, 1992a) has not just brought the ecological debate back in social scientific mapping of global sustainability, but he has also challenged a very problematic aspect of our modernity itself. This new and emerging academic concern is the embeddedness of the scientific-technological global market system and the health of nature (Lai 2003).

In response to the irreversible development of macro issues such as global warming and ozone layer depletion, as well as to meso issues such as cross-border pollution, the dying of forests, and micro level issues, such as the increase of toxicity in the food chain and water cycle, there is a critical quest for environment protection and global sustainability in our historical time (Beck 1986, 1992a/b, 2006). The prelude of most recent explorations on the history of modernity has taken the form of critique on the *Enlightenment* or, the doubts upon the reflexivity of the modernity project; and more importantly, they have pointed to the de-coupling process between *People* (transformation from community to society: in Ferdinand Tönnies's terminology: *Gemeinschaft* to *Gesellschaft*), *Technology*, and *Nature* in the last century. In particular, environmental issues are so crucial for a new, post-cold war, world order. Francis Fukuyama (1992: 7) rightly pointed out that "The fantastic economic growth made possible by modern science had a dark side, for it has led to severe environmental damage to many parts of the planet, and raised the possibility of an eventual global ecological catastrophe".

Environmental degradation and the associated risks at global scale - the unintended consequences of the modernity project- are quite detrimental to

both socialist and capitalist states. For the specificity of this set of *Weltanschauung*, Durkheim, Weber and Marx had, respectively, highlighted the different yet inter-related spheres of dominance in their writings when the *De-Coupling* took place. At this historical conjuncture, there is a general consensus as represented in recent explorations. In socio-political philosophy, the *Problematic* is being thematized as: the moral justification for environmentalism (Katz 1983), environmental ethics and justice (Cooper & Palmer 1992; Nash 1989), the rationality and *Realpolitik* of the Greens' socio-political strategies for not just environmental protection but also beyond that (Atkinson 1991, Goodin 1992), the search for alternative forms of society, say, Eco-Socialism (Pepper 1993), and the reflexive modernization in the *Risk Society* (cf. Beck 1986, 1992a/b).

Yet, this orchestrated academic attempt is countered by the natural sciences' breakthrough in reproducing the very conditions of *Naturality*, namely, the bio-genetic and material science engineering through which objects, animals and people could be, in theory and in some praxis instances, *re-created*: the new form of socio-political articulation (Dalton & Kuelcher, eds.1990, Kitschelt 1989), the development direction for *Ecological Modernization*. In praxis, attempts are made for the socio-ecological sound development of the city.

2.2 Articulating Eco-Risk Paradigms for Future?

Environmental concerns have been articulated by those involved in the advancement of natural sciences, as most of them tend to agree that there is a limit to growth. Following the limit-to-growth thesis of the *Club of Rome*, it is argued that the rate and extent of environmental degradation are unacceptable in any of the accepted scientific, economic and societal standards (Meadows, et.al. 1972, 1992; WCED 1987). The critical concern of people is the actual and projected *scarcity* of resources linked to current global market systems. The thesis was also reinforced by the global *Oil Crisis* in 1973, and later contextualized in the urban fiscal crisis. Seemingly, the consequence of the Oil Crisis is the emergence of a *New Ecological [Environmental] Paradigm*, coined by Catton and Dunlap (1978, 1980; cf. Milbrath 1989), in developed countries.

On the other hand, the crisis of the Western sociology in the early 1970s fostered the new social science's conceptualization on the relationship between society and nature in the 1970s, which marked a major theoretical breakthrough, with sociological discourses from the *old* and *traditional*

socio-polity to the *new* one (cf. Bell 1973, Inglehart 1990), from the class to non-class based society (Gershuny 1978), from traditional class politics between capital and labour in the production to the new politics of production (cf. Conrad 1987, Dalton & Kuechler, eds.1990). The new politics, supported by the New Social Movements (NSMs), questioned both production and consumption processes in our modern world. Whilst, in the Eastern Bloc, the development of *Green Movements* within a socialist polity has provided certain utopian orientations and outlook for the experimentation of Red (socialist) plus Green (environmental) approach in eco-social compatible community development projects (Lai 2003).

Risks, in most cases, are embedded in the modern technologies that are structurally shaped by (yet also shaping) the societal linkages and community dynamics. The new configuration of risks, in contrast to natural disasters in the pre-modern time, is the involvement of people (as agency) and new technologies. In pre-modern time, natural disasters and the related human casualties were interpreted as a result of spiritual agency, say, by a God or Goddess. Obviously, *normal accidents* in the modern era are rarely explained in spiritual terms. The different conceptions and communication about risk are very much embedded in the time and location-specific cultural and community context (cf. Douglas & Wildavsky 1982) and in the modern world, the state agency's definition of risk acceptability (Clarke 1989). In short, risks and people-made disasters are the inevitability of the modern production and consumption system.

Risks manifested in the worst form as *Normal Accidents* (insightfully coined by Charles Perrow 1984) in technology disasters can only be explained by, and are managed within, a set of rational and scientific models in this phase of modernity. Yet, the related assumptions in managing environmental disasters, on the one hand, and the technological risks, on the other, are still within a paradigm full of *a priori* assumptions and reasoning. At this historical conjuncture, it is appropriate to describe our present form of civilization (i.e. modernity) as *Technology-cum-Risk society*. The contours of New Environment-cum-Risk Paradigm are in fact characterized by the *Technology-Risk-Environment (TRE) Syndrome* which is the invisibility, penetration power and global nature of risks, plus the multiplication of the techno-risks at geometrical rate and exponential scale (Beck 1986). For instance, in Chernobyl, people were deprived of most foods and water supplies in their daily lives for de-toxification purposes.

Societal responses to environmental risks are

quite diverse: location specific appeals for Not-In-My-Back Yard (NIMBY, cf. Mowrey & Redmond 1993), Not-In-Other's Back Yard (NIOBY, cf. Heiman 1990) and Best-Appropriate Back Yard (BABY). For the international agencies' initiatives, programs under the framework of the United Nations and European Union are becoming important (cf. McCromick 1989). The greening of the market may contribute to the individuals' commitment to *Save the World* under the motto of *Think Globally and Act Locally*, for their individual health and quality of life, or for their maximization of (consumer's) utility and profits (for producers). Under a new global green fashion, the quest for environmentalism and sustainable development has shaped the market conditions significantly (cf. Lai 2004, 2008a/b; Pepper 1993).

2.3 The Differential-Risks-driven Ending of Nature?

Over the years, there are various major conceptualizations on environmentalism, in accordance with their epistemology, whether they are: (1) Eco-centric, (2) Anthro-centric or (3) Techno-centric. Their distinctive epistemological foundation is much aligned with not just the differentiated scientific tradition, but also the world view of respective discourses (cf. Bramwell 1989; Drengson 1988; Martell 1994; Milton, ed. 1993; Naess 1989; Pepper 1993).

The Eco-centric perspective in the reasoning and conceptualization of *Synergy* refers to the intrinsic importance and vitality of *Nature*: environmental ethics (cf. Attfield 1991; Katz 1983; Pepper 1993), held by eco-fundamentalists or the eco-anarchists (cf. Bookchin 1990). As shown in new social movements, it is not unusual that eco-centric conceptualizations and interpretations have provided cognitive ammunition to different socio-political groups (e.g., anti-establishment, communist, anarchist, fascist, avant-garde, and feminist) for their differential "revolutionary" projects against the dominant pro-growth hegemony.

According to the degree and strength of the Eco-centredness, the Eco-centric perspective can be further classified in terms of the *Shallow*, *Deep*, and *Deepest Ecology* (cf. Miller 1991: Ch.1, Naess 1989). Shallow ecology, with its limited concern on incrementalism, focuses on how to deal with environmental pollution and resource depletion within the status quo; this perspective is usually associated with the dominant mode of environmental governance of the state and quasi-state organization with supports from natural scientists. In contrast,

the thesis of *Deep Ecology* articulates the intrinsic values of nature (say, animal or rock rights) with the notion of anti-domination, anti-hierarchy, and against the dualistic conception of people and nature. It also argues that the intrinsic value of nature is superior to mere human concerns. In many senses, the latter approach resembles a revolutionary mode of environmentalism, for individuals as well as for the socio-political system at large.

As *Deep Ecology* is concerned with the totality of nature and the related equality among different species, it attracts certain sympathy from the socialist community. With a collective (if not a full fledged communitarian) orientation, Eco-Socialism attempts to complete the unfinished project of modernity - a utopian promise for rational, equitable and equal distribution to all concerned species (*Homo Sapiens* as one of them), as well as coping with the ever emerging environmental crisis and the depletion of the conditions for (re)production. The Eco-Centric perspective on the nature and origins of, as well as their respective strategic agenda for, environmental problems has been significantly shaping the new configuration of social thoughts and ethics-socialism, anarchism and feminism in particular. For instance, one of the Eco-Centric conceptualizations being put into practice is the advocacy for *Bio-regionalism* (which is in fact difficult to define in the present mode of scientific know how, in spite of its emphasis on the role of the community) in which the community strives for its own survival: to have basic food and water supplies yet handling all the waste in recycling mode within the community (like the recent movement for Local Exchange Trading System). As a form of ecological commune, the bio-regionalist's utopia is the sustainable development of the community, without much inter-community exchange and spatially functionally specific exchange (such as global trade) which we used to have.

The bio-regionalists' alternative formula is quite simple if not primitive: only when people solve the resource and waste problems in their own community (i.e. no *exit* option available) will they care about their environment. In other words, the real socio-spatial unit for a *bio-regionalist* is the very existence and survival of the community (*Gemeinschaft*) and hence, advocacy is for a back-to-community movement (cf. Sale 1985, Pepper 1993: 176-194). To a large extent, the movement of *Bio-regionalism* resembles the advocacies of the anarcho-communism and libertarian environmentalism. Yet, the apolitical and over-romanticized nature of some variations of the *Deep Ecology* have limited their real power in actual socio-political articulation and mobilization.

Alternatively, the so-called anthropo-centric conceptualization of *Synergy* is referred to a set of theses which focus mainly, if not solely, on the concern of people's survival and the gratification of their needs rather than taking the relationship between people and nature holistically. In actuality, this orientation of scientific discourse is in line with those of the modernity project and is the best appropriation of nature by different forms of socio-technological set ups. For instance, anthropo-centric reasoning is also applicable for most so-called "liberal" ecological discourses. Collective social action might also be considered part of the so-called environmental movements (Lee and So, 1999).

For almost two centuries, aided by natural scientific hegemony, the most sophisticated developed perspective in environmental discourse is techno-centrism (cf. Thayer 1994). Techno-centrism involves a vulgarized technical analysis (in mathematical or computer-modeling terms) as if the manifestation of environmental problems are nothing more than technical faults. Gifted by the technology revolution, this techno-centric orientation is shared among natural scientists in general and environmental engineering professionals in particular (cf. Dietz & Rycroft 1987). The dominance of the Techno-centric offerings in environmental protection, particularly its engineering approach in protecting the environment with the *Technology Fix* solution, is problematic. Obviously, the logic behind the techno-centric reasoning and solutions in environmental discourse is in fact derived from or an extension of full-fledged development of technologies in most aspects of human social life. Yet, the techno-solutions offered were criticized as a further reinforcement of the trajectory towards (Bill McKibben's (1990) notion of) *The End of Nature*.

2.4 The Socio-Eco Ethics of/for Sustainability

Modernization has been enabling a secularization process, regarding symbiosis – mutually-dependent relationships between human beings and their natural milieu bringing on the emergence of the post-religious regime of comprehension of the universe without being post-spiritual. Spirituality of nature (animals, plants and their micro-biological living is being re-discovered and re-articulated in the public sphere more than ever. This is self-evident in the greening of public policies and global governances championed by mostly inter-governmental organizations (IGOs: like the UN, the World Bank, the EU and APEC), and international non-governmental organizations (iNGOs), like Greenpeace and People

for the Ethical Treatment of Animals (PeTA) (Lai 2004, 2008b).

Since early-to-mid last century, the dominant developmental model in Asia has been that of the Japanese model following their successful modernization resulting in the “Asian Miracle” with the newly industrialized economies (NIEs, like South Korea, Taiwan, Hong Kong and Singapore), ASEAN-4 (Indonesia, Malaysia, Thailand and the Philippines) and the Greater China. More specifically, in the early 1990s, most of the nation states had to champion its project for economic liberalization, for embracing the global free market capitalism. They adopted the international financial institutes (the World Bank and IMF) recipe for reform in macro economic policies, in order to make their economies more competitive. Their strategies were the deregulation of international capital flows and trades, and the re-making of the once protected or socially guaranteed labor market into a deregulated, less rigid, more dynamic and more flexible one (Navarro et al. 2004).

Like other industrialized economies, the success of Japanese modernization is path-dependent upon economic and technological structure and dynamics. Endowed with good technology, energy use is highly efficient in Japan, yet energy-wise it is one of the world's largest importers of energy in the world, and still very much dependent upon the global sourcing of energy, and the existing fossil fuels regime – and one of the few culprits for global warming, as well as nuclear power.

Far from the misconception about the limited energy resources in Asia-Pacific, Australia, Brunei and Indonesia have been major exporters of energy in and beyond the region. For instance, Australia is also a major supplier of energy resources in the region, liquefied natural gas and uranium. And turning northward, despite its energy deficits, the Chinese economy is still one of the major fossil fuel (coal and oil) producers in the world. Even in the developing economies like the ASEAN-4, the potential for alternative renewable energy (biomass, geothermal, solar, water and wind) are still under-exploited (Lidula, et.al. 2007).

Like other developed economies in history, the majority of the economies in Asia-Pacific have been dependent upon global supplies of energy: with an IGO policy narrative that they are mutually inter-dependent, but there is no sustainability (for eco-systems as a whole) nor self-sufficiency (for individual nation state and community). For this, below we consider a special, if not exceptional, energy user-actor, namely, the Kingdom of Bhutan.

2.5 Eco-Ethics for Self-Sufficiency: Bhutan in its Geo-Historical Place

Bhutan has not taken the hegemonic approach for development even though IGOs have encouraged such an agenda and the following of the modernization trajectory of Japan, Asia Miracle and ASEAN-4. Bhutan's alternative development approach attempted to mediate human wishes for the moral-religious pursuit of happiness, spiritual eternity and the preservation of natural environment. Traditionally Bhutan would be described as being under-developed in terms of pro-economic growth and export criteria and development of its abundant natural resources which includes hydropower and forest-based assets, but due to the cultural Buddhist presence, Bhutan has opted to pursue the “Middle Path” development strategy or the so-called Gross National Happiness (GNH). This alternative developmental regime which emphasizes the betterment and wellbeing of the people, poverty alleviation and sustainable development has yielded positive results (Uddin et al. 2007; Zurick 2006).

The developmental ethics within the realm of Gross National Happiness are articulated in terms of shared needs, and the wellbeing of *Homo sapiens*, which includes socio-economic factors as well as the emotion-spirituality of individuals, within a wider ecological milieu. This in turn, translates into policy for socio-ecologically sound development towards sustainability and self-sufficiency. The distinct ethic-normative aspects of this example are described well by Uddin, (et al., 2007):

“In the context of Bhutan, there are a number of conditions conducive to the development of GNH. These include: geographic setting as discussed earlier, size of the economy, the influence of Buddhism on the national culture, and support from the King and the Government. While Buddhism as a path of self transformation has to be taken on consciously by each individual concerned, historically it has played a significant role in developing conditions that have had a very positive impact on local culture and society.

GNH is rooted in the Buddhist philosophy and religion, which interprets nature as a living system rather than just a resource base to be exploited for material gain. In fact, the expression of GNH in Bhutan is essentially a summarization of the basic tenets of Vajrayana Buddhism, which encourages a culture of harmony and compassion. GNH also bridges the gap between values and development. Therefore,

the ideals of GNH place Bhutan on a footing, where it can exercise options and obtain judicious benefits from the process of liberalization and globalization taking environmental, social and cultural impacts into account. It is seen as the overarching philosophical underpinning and the ultimate guideline for the nation's future." (Uddin, et al. 2007: 2088).

To examine the Bhutan case in specific terms, three major eco-human development ethics stand out as alternative paradigms for sustainability (self-sufficiency within the bio-regionalism):

(1) Geo-territorial specificity for self-sufficiency: that is fundamental for bio-regionalism, in a geo-territorially closed system, following metaphorical life-cycle-analysis. Bhutan is a landlocked country, geo-politically enclosed by regional nuclear giants China and India. Its bio-diversity is much protected, if not isolated, by its unique geo-historic-political position.

(2) The practice of spiritual teachings of folklore and/or religion(s) in the Bhutan case results in the integration of Buddhism into daily socio-culturally-driven praxis. The Bhutanese integrate folklore, quasi-religious-informed daily practices with specific geo-cultural objects, like river and forest-wood assets, in a unique way which synergizes into enhanced survival skills which promote happiness and ecologically-sound energy use.

(3) The interfacing between social praxis and the modern form of policy governance: people's specific socio-cultural attachments to nature and its assets in exploiting natural resources in daily praxis on the one hand; the (derivatives of) policy learning, like the Clean Development Mechanism (CDM) from IGOs and donors in shaping national policy for natural resources exploitation and preservation.

Despite its emerging celebrity status in the global search for alternative development paradigms, Bhutan's experimentation is far from conclusive and in some instances, is highly questionable, not just about its transferability beyond the Himalayan localities, but also the very specificity of Bhutan, in that it is not a homogeneous society. Hence the singular Buddhist and socio-cultural appeals have the limits to convincing the non-or-less materialistic, pro-happiness approach for development; this is particularly the case when Bhutanese society has confronted globalization challenges, eco-and cultural tourism for instance (Zurick 2006: 663).

Ethical sourcing of alternative renewable energy has a geo-local dimension, for example, within the energy distribution networks, in this sense, the search for local energy self-sufficiency is a necessary condition for a sustainable strategy. The locality-fix, or sense of localness, and geo-spatial attachment are intertwined in liveable and sustainable socio-ecological systems.

The Bhutan experience highlights forgotten dimensions of feasibly coping and adapting to a system with different energy sources, with particular reference to the micro social level of individual household choices for energy.

There are three different yet inter-related domains of synergy, for enhancing individuals' experiential preference for certain renewable sources. Firstly, humans cannot separate themselves from experiencing their environment physically and necessarily, they, in their social praxis, become accustomed and comfortable to experiencing certain natural phenomena. Phenomena and elements of nature such as water, wind, and the sun evoke a sense of familiarity, security, and inter-dependency, which condition a sense of belonging. Preference for the development of these natural renewable energy resources results from the perception that they are fundamentally safer as they are familiar components of our physical environment and are inextricably integrated into our social environment and, therefore, are more readily understood in terms of energy. Conceptually, it is easy to conceive that these natural entities could be used as energy for we are familiar with the products produced under such energy. For example, wave action destroying a pier, wind blowing down a tree, and the understanding that sunshine is needed to grow crops are of the most basic kinds of events that demonstrate energy.

Secondly, related to the above it is the socio-cultural-religious and/or the pre-modern folklore 'framing' of the form and essence of renewal energies. Unlike fossil fuel (coal and petroleum) and nuclear (risk-ridden), for most of the renewable energies (like geothermal, water, wind, sun and biomass) users will be in direct contact with them in their daily life experience; and in some cases, their familiarity with renewable sources of energy is also spiritually reinforced by legends, mythology and folklore. God and Goddess-like figurative symbols are present for most natural resources (sun, wind and thunder alike).

Last but not least, it is the rejuvenated interest in the search of alternative energy, juxtaposing the new public policy (learning aided by new media of IGOs and iNGOs), narratives on global climate change energy crises, in global risk society of this

modernity. By the re-orientation of energy sources from fossil (eco-unsound) fuels to the new fuels, the greening of cultural standpoints on exploiting natural resources, like rivers and forests in a sustainable way becomes the norm. Here, the representations of healthiness of the nature and its reattachment with human beings are once again intertwined with other cultural-spiritual positions on natural phenomena, like sun (solar energy), wind (monsoonal typhoon) and wave, and thunder. In short, eco-ethics is structurally and historically embedded with indigenous cultures; yet they are also derivatives from modern international policy learning discourses, therefore in order to articulate eco-ethics for a sustainable future, insight into history and culture is necessary.

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