

*Sense of Place as Community Empowerment in Bioregional Planning Process: A  
Proposed Model*

Muhammad Farid Azizul\*<sup>1</sup>, Stephen Knight-Lenihan\*<sup>2</sup>, Marjorie van-Roon \*<sup>2</sup>

\*<sup>1</sup>University Technology Malaysia, Malaysia, \*<sup>2</sup>The University of Auckland,  
Auckland, New Zealand

0230

The Asian Conference on Sustainability, Energy & the Environment 2013

Official Conference Proceedings 2013



iafor

iafor  
The International Academic Forum  
[www.iafor.org](http://www.iafor.org)

## 1. Introduction

Landscape change, has increasingly been recognized within interdisciplinary perspectives to be a process that is inherently influenced by an interacting social-ecological system. This process is not deemed to be static, but rather it is a dynamic process of transaction between human values and functions that have evolved as a consequence of past resource use, policy and social response. The process of landscape creation as a human territorial region is described by Mumford (1938, p.367) as “a complex of geographic, economic and cultural elements. Not found as a finished product in nature, not solely the creations of human will... the region... is a collective work of art”. A human territorial region or a “place” is the sum of all interactions between human activity and preference, and biophysical resources, whereby a bioregion indicates a similar pattern of land use and ecosystem (Brunckhorst 2001; Slocombe, 1993) creating the social identity of that physical context (Shannon, 1998). Planning frameworks should embrace more pragmatic approaches towards the inclusion of values and meanings because planning decisions involve the negotiation of human habitation which can trigger uncertain future actions regarding land use. Stedman (2005) asserts that place attachment can be a catalyst determining the choice and activities in land use outcomes. In other words, negotiating the meaning of place by various social actors inevitably implies a different direction for future actions. Although it is indicated in some studies that while an attachment to a place substantially expresses a strong support to maintain the setting (e.g., Cheng et al., 2003), an understanding of the way in which the place should be perceived by various actors, may imply a different course of action that further determines the future of the spatial pattern (Stedman, 2005). The repositioning of our sense of place through bioregional thinking therefore is imperative, underlining its importance to nurture and empower human culture towards a positive landscape change.

Land use planning, resource and biodiversity conservation under these circumstances suggest that these activities not only manage biophysical components, but also the negotiation of human territorial regions, which are composed of complex values, interactions and meanings. The literature in land use change commonly developed a spatially explicit model to assess a range of human drivers for change, for example environmental aspects (e.g., Wu et al., 2008), economic (e.g., Irwin & Geoghegan, 2001), political and institutional influences (e.g., Clement et al., 2006), in addition to attitudinal considerations (e.g., Karali et al., 2011). While most of these factors recognized largely as involving definitive and measurable indicators, the less perceptible gauge of human well-being or satisfaction, the attachment to place, has received little attention. This type of value system is seen as less defensible as it is regarded as far more difficult to measure, with an “unseen” physical impact in managing sustainable land use practices. Simply, “it is easier to oppose land uses when there is hard evidence that these practices will have tangible, measurable, objective and widespread impacts” (Stedman, 2005, p.121). The focus of this paper is that the exploration of sense of place should be an imperative to better understand how humans reorganize their response to environmental impacts.

In this context, a question is posed- how are land use decisions rendered by the negotiation of the actors values, which then in turn shape the land use patterns and ecosystem services that will further be enjoyed by the communities at large? Landscape that embodies a multitude of values from amongst the social actors

predicts a different action outcome for land use decisions that subsequently shape future spatial patterning, influencing ecological functioning. In a study by Stedman (2005) these differences were observed whereby the impact of shoreline development on sense of place between two groups of property owners was assessed. The end result revealed that the degree of lakeshore development significantly influenced the resident's considerations about their lake. While the property owners on lightly developed lake shores associated their sense of place with that of a pristine, natural-based setting that is peaceful, this view for the residents on highly developed lake shores was held to a far lesser extent. The residents of highly developed lakes shores were more likely to consider their place as residential-suburbia, packed with related urban services and recreational opportunities with consequential pollution problems. The discrepancies between the different residents' beliefs assert that human cognitions have a pivotal and measurable impact on future land use pattern. In a similar manner, a study by Lerner (2005) examined how attachment to a place empowered a community for a positive change against a local contamination issue. The study concluded how sense of place defines us and the environment through the process of the creation of 'change maker', a person that is empowered to make positive changes in regards to local land use issues through active participation.

## **2. Bioregional Planning: Re-envisioning Humanities Role in Social-Ecological Systems**

The fundamental rethinking of natural resource management, conservation and reconciling human needs in land use planning has led to a paradigm shift from a rational planning approach towards alternative integrated planning approaches (Scrase & Sheate, 2002). In this age of complexity where the patterns of nature and society are interwoven into an interconnected web of domains and processes, many planning approaches struggle to frame the uncertainties of the future as a result of our actions today. Current advances in ecosystem sciences, sustainability sciences and other related disciplines acknowledge that socio-ecological systems are interlinked, creating an intertwined linkage of systems that are influenced by each other. Different approaches have been debated on how best to protect public interests. The failure of a traditional top-down planning approach has increasingly been noted by advocates in planning and environmental management fields (see for example; Blair, 1996; Scott, 1998). In particular, it has been critiqued as being overly relied on in regards to the aspect of growth projection (Loveridge, 1972), the inability of local government to solve trans-boundary environmental problems associated with urban sprawl (Godschalk et al., 1977) and disempowerment of local communities in decision-making (Harris, 1994).

More importantly, Diffenderfer & Birch (1997) claimed that these responses are rather symptomatic of the core issue of a centralized command and control approach, highlighting an inability to counteract against a utilitarian view of specific actors in satisfying their needs. Furthermore, public dissatisfaction with government, has led to mistrust in science as a base for political decision-making (see for example; Gauchat, 2012; Reynolds, 1969) which often does not reflect the concerns, values and needs of the communities (Moote & McClaran, 1997). Consequently this has necessitated a social restructuring of planning in order to manage effectively competing land use interests between various social actors (Frame et al., 2004). In the context of regional planning and conservation, bioregionalism offers an alternative approach for governance that involves both social and political restructuring. Birkeland (2008) and

Diffenderfer & Birch (1997) assert that the subsequent transformation of governance implies the need for a multi-faceted platform designed to achieve ecological conservation, which in turn facilitates social, ecological and economic sustainability.

A more overt approach for the inclusion of sense of place in planning and conservation through bioregional planning is needed as a means of addressing these concerns. While bioregions, as defined earlier, are patterns of land use and biophysical similarities, they also emphasize the “terrain of consciousness” – a place where the inhabitants are aware and have their own ideas regarding their existence or thoughts concerning how to live in that place (Relph, 1976; Tuan, 1977). This in turn distinguishes bioregionalism from the ecoregional approach that is to a greater extent directed towards biodiversity conservation. Relevantly, while earlier fragmented research and planning field’s isolated society from resource use, bioregionalism under these conditions expresses the self-reliant characteristics of several multi-faceted components in the planning system. Sale (1993) noted that the core foundation of bioregionalism is the in-depth understanding of a region’s resources and geography, in which dynamic social and economic development operates within the ecological carrying capacity. This philosophy underlines the importance of an ecological-planning approach so as to be responsive to people who inhabit the place (Thayer, 2003) and to enable community-empowerment in decision making (Harris, 1994) in order to facilitate and achieve long-term ecosystem conservation.

The bioregional planning approach that is conveyed in this article aims to provide an integrated framework that will relate ecological imperatives alongside the social systems. While discussion on bioregional planning as a framework for land use planning, conservation and social reorganization (see discussion in Brunckhorst (2002) and Miller (1996)) is beyond the scope of this paper, we acknowledge that the framework shares a common ground among the various definitions, that is, bioregional planning recognizes both the natural environment and human societies as dynamic components of the landscape. Subsequently, the implication for bioregional planning is as an integrated ecosystem management system, where plans for conservation and maintenance of ecological integrity depend on sustaining human processes and vice-versa through co-operative decision-making (Berkes & Folke, 1998; Bunch et al., 2011; Cumming, 2011).

The foundation of bioregional theory amalgamates human and ecological needs as applied in the ecological land use planning paradigm (McHarg, 1995). However, bioregions are also perceived as a place, acknowledging the influence of collective public vision in the development of place and accordingly desire to maintain the ecosystem (Brunckhorst, 2001). This paper proposes to elaborate further on the association between a sense of place as a social process and how this process influences social actions of conservation and development policies. The two main thematic notions of bioregions as a transformation of place, and environmental stewardship which empowers communities will be deconstructed and a conceptual model will be proposed that illustrates the role of people-place collaboration in achieving social and ecological sustainability within the context of bioregionalism.

### **3. Grounding a Sense of Place in Bioregional Planning**

A bioregional planning approach explicitly addresses the need for conservation planning in maintaining ecological processes and functions. Scientific knowledge of

landscape ecology underlines the set of principles used in modifying the spatial organization of the landscape when achieving balanced performance-based ecosystem outcomes. This may differ from the socio-cultural context, within which opinions, perceptions and values that are attached to particular landscapes are contingent on changes of the biophysical components. This dual perspective of conceptualizing the environment is crucial, as the scientific view of organizing the landscape is coupled with real community involvement in the planning process. In reality social opinion is not always aligned with the intended outcomes of conservation planning. Therefore, this poses a challenge for planners when considering the dualistic realm of an environmental model such as that described by Rappaport cited in Ndubisi (2002, pp. 111-112):

*“Two models of the environment are significant in ecological studies; the operational and cognitive. The operational model is that which the anthropologist (scientist, planner, designer) constructs through observation and measurement of ecological entities, events and material relationship. He takes this model to present analytical purposes, the physical world of the group he is studying.... The cognized model is the model of environment conceived by people who act in it...The important question concerning the cognized model, since it serves as guide to action, is not the extent to which it conforms to reality (is identical to operational model) but the extent to which it elicits behaviour that is appropriate to the material situation of the actors, and it is against this function and adaptive criterion that we may assess it”*

Humans enter into the ecological system by being incorporated as another set of values or determinants (Cosens, 2013; Uy & Shaw, 2013). The cognitive model reflects on how people conceptualize and participate in the landscape by creating a specific meaning or value associated with the idea of ‘ecosystem’. Within the context of this study, this phenomenon is underpinned by the “transactional concept” and the “interactionism perspective”. Zube (1987) coined the idea “transactional concept” in order to explain human-landscape relationships by suggesting the notion that “both the human and the landscape change as a function of the transactions” (p.38). He suggested that active social participation and exploration in nature, creates an experience that contributes to the attribution of value towards nature. From the discipline of sociology, Greider & Garkovich (1994, p. 1) argue that landscape is the process of social construction in nature and:

*“Are the symbolic environments created by human acts of conferring meaning to nature and the environment, of giving the environment definition and form from a particular angle of vision and through a special filter of values and beliefs”*

These theories conceptualize human-nature interaction where the human is an active participant in seeking, processing and making judgments about the landscape that generates affinity or attachment to a particular place manifested by a unique set of cultural, belief or norms.

Translating this interaction of human and nature within bioregionalism, these theories imply that societal outcomes when managing ecosystems are not dictated by the biophysical process, but rather are guided by the spatial organization of the landscape built upon ecosystem sciences in such a way that it fulfills both social and biophysical objectives. As a result of this developmental process, “sense of place” emerges as an overarching concept that encapsulates values and meanings that explain the intricate relationship between land and people. Planning considered as a process “founded on the need to deliver human experience” underlines the complexity of negotiating public values and meanings (Knopf, 1983, p. 229). The implications of ignoring this experience may include influencing the way people react or behave, either positively or negatively in that place setting. As bioregionalism stresses the notion of people knowing the “place” in which they live, it is crucial to understand the process of how a place is developed from the human interaction with biophysical components.

#### **4. Sense of Place**

The subject of place as an experiential place or ‘sense of place’ has been explored from various disciplinary perspectives bounded by their own epistemological foundation in conceptual understanding. Early development in geography indicated *place* as a *locale* of physical properties in a geographical context (Lew, 2008). Since then, humanistic geography studies have enriched the concept by suggesting that place is not merely a physical entity but it is composed of complex experiential and psychological dimensions attached to a particular physical continuum. This particular discourse is endowed by humanistic geographers such as Relph (1996) asserting that place is not just a mere connection to physical properties of the natural environment but rather “tightly interconnected assemblages of buildings, landscapes, communities, activities, and meanings which are constituted in diverse experiences of their inhabitants and visitors” (p. 907-8). Drawing upon this phenomenological experience, he further suggests that development of place not only evolves from individual-meaning, but is presented as a collective form of intersubjective, shared values communicated between inhabitants (Relph, 1996). Such complexity in conceiving and establishing clear development of place has been highlighted by Butz & Eyles (1997) as “rooted in theories of social organization and society, and as being variably and contingently ecologically emplaced” (p.1).

Considering these circumstances, ‘a sense of place’ is therefore associated with the idea of experience that turns the ecosystem space into a place. Tuan (1977) in his seminal work pointed out that space turns into place “as we get to know it better and endow it with value” (p. 6). In a similar manner, Relph (1996) suggests ‘a sense of place’ is an awareness of the “inherent and unique qualities of somewhere” (p. 909). Implicitly, this understanding imposes a dimension of awareness or sense that qualities (environment or social) can be achieved and maintained (Tuan, 1980). In other words, ‘sense of place’ is composed of “personal memory, community history, physical landscape appearance, and emotional attachment” (Galliano & Loeffler, 1999 p. 2). Places therefore, in addition to a physical setting, are an amalgamation of meanings and values, (Sampson & Goodrich, 2009) and socio-psychological processes (Gieryn, 2000; Stedman, 2002). Consequently, clarifying the qualities that can be classified as subjective to the meaning of anything – culture, own identity, imagination or memory and so physical or social properties when describing one’s ‘sense of place’ and therefore presents certain challenges.

Despite the complexity of theory and practice in place-related research, the theoretical construct of 'sense of place' has been divided into two main lines of inquiry. The first approach conceptualizes three components of 'sense of place', constructed as place dependence, place identity and place attachment that overlap each other in one instance and subsequently override each other in another (Proshansky et al., 1983; Vaske & Kobrin, 2001; Williams & Roggenbuck, 1989). Alternatively, others have viewed 'sense of place' as a tripartite of three multidimensional constructs, with each construct representing the component of cognitive, emotive and conative of human consciousness (Stedman, 2002; Jorgensen & Stedman, 2006). Organizing these constructs in alignment with human consciousness, place identity can be conceptualized as the cognitive component while place dependence is associated with the conative component and place attachment as the emotive component of sense of place. Place identity according to Proshansky (1978) refers to an intersection of personal values, beliefs and goals within the physical setting, and hence an idea of how a physical setting becomes purposeful and meaningful to life. While place dependence is a functional relationship illustrated when a place is instrumental in fulfilling certain needs of the individual (Stedman, 2002), place attachment on the other hand reflects the emotive part of awareness, thus positive bonding develops between the individual and their natural world (Altman & Low, 1992).

Environmental psychologists have used place attachment as the denominator for a sense of place in their theory development and practice and their approach presents a stark contrast to epistemological and research approaches (Graham et al., 2009, p.15). Their primary focus has been on investigating the psychological process of mental cognition/development of an individual's connection within the physical context. This range of researchers has emerged concurrently with the objective to inform the behavioural process in planning. Altman & Low (1992) define place attachment as "the symbolic relationship formed by people giving culturally shared emotional/affective meanings to a particular space or piece of land that provides the basis for the individual's and group's understanding of and relation to the environment" (p. 165). A symbolic relationship is experienced at the scale of individual, group or culture inculcation, through "interplay of affect and emotions, knowledge and beliefs, and behaviours and actions in reference to a place" (Altman & Low, 1992, p.4). However, the study of place attachment in environmental psychology has been criticized for its sole emphasis on the psychological process of development of place (Sime, 1995). In contrast, humanistic geography emphasizes the phenomenological experiences of how people understand places and shape the role places play in their life, while research into environmental psychology has tended to separate the composite experiential of place into discrete elements that are measured in a positivist approach.

Nonetheless, the contribution of place attachment and identity in environmental psychology has been widely accepted in planning practice due to its ability to conceptualize the emotive bonds between people and place- a subject that many planning realms strive hard to manage. Regardless of various disciplinary orientations in understanding place, they are underpinned by the core principle of human beings embedded in a particular environmental context that involves interaction of experience and physical components. Therefore it is intended that this article will employ 'sense of place' as a broad concept that is assumed to capture the tripartite construct of place attachment, place identity and place dependence rather than

articulating the constructs into distinct individual elements (e.g., Rollero & De Piccoli, 2010). Sense of place therefore refers to the people-place connection manifested via collective memories, values and history of culture as reflected by, and influencing, the physical context.

### **5. Bioregional Planning: Sense of Place Nurturing and Empowering Positive Landscape Change**

Environmental stewardship is a one of the core principles of community planning articulated in bioregionalism as people who live in a specific place, consciously developing their own idea and way of living in relation to that particular place. As outlined earlier, disintegration of people and place in the rational planning approaches disempowers community members from their civic role and responsibility towards the protection of their living environment. In contrast it is apparent that developing the competency of community-based-decision-making is founded on residential understanding of local resources availability. Bioregionalism under these circumstances becomes a decentralized planning exercise, underscoring the importance of economic and politic decision-making to be delegated at a local level, which inherently gives rise to personal and community empowerment (Harris, 1994). Moreover, community empowerment is translated into active participation in decision-making that fosters a shared learning process – a quality legitimated by the interaction between experiential and technical knowledge (Aberley, 1993; Diffenderfer & Birch, 1997).

Such mobilization of empowerment is determined importantly by understanding the connection of humans with their natural world and stewardship of the land. The emphasis on consideration of human connection and values in planning potentially can be the turning point for more directive actions towards a resilient social-ecological system. Concurring with bioregional thinking, it advocates the re-envisioning of people-place relationship translated into “repairing...the damage done to natural systems, and recreating human cultures capable of flourishing in an ecologically sustainable manner through time” (Plant & Plant cited in DePrez, 1997, p. 43). Human culture in this sense is parallel to the land ethics that Aldo Leopold espouses, which works toward intensifying the sense of care, commitment and concern of how the place should be. He eloquently suggests that in developing a land ethic, the role of humanity is transformed from conqueror of ecological system to an egalitarian view that a human is “just plain member and citizen of it” (Leopold, 1949, p.240). He further asserts that culture which then drives societal action can be assessed in relation to one’s connection or association to the natural world:

*“A thing is right when it tends to maintain the integrity, stability, and beauty of biotic community, it is wrong when it tends otherwise”*  
(Leopold, 1949, p. 266).

One of his supporters, Worrell & Appleby (2000) suggest that environmental stewardship is a form of land ethic, defining it as a deeply held moral obligation interpreted into actions of “responsible use (including conservation) of natural resources in a way that takes full and balanced account of the interests of society (and) future generations ... as well as private needs, and accepts significant answerability to society” (p. 269). Considering that society must confront multifaceted issues related to land management, a compelling question arises. In what



way are social actions directed towards achieving social, economic and ecological sustainability? It has been suggested that the land ethic should provide a conceptual foundation for environmental stewardship that can guide the action and response of society towards the threat of ecosystem degradation and resources depletion (Knight, 1996). This segment will articulate and characterize certain qualities promoted by ethical social action that would qualify as environmental stewardship, which is initiated from planning and conservation decisions.

The majority of research into planning, resource management, environment and behaviour have made connections between place-based values and stewardship, although in each case it has been explored within its own paradigm. Studies in landscape and urban planning for example, have explored the role of local resident attachment to rural and urban landscapes in determining their motivation for stewardship and land protection (Lokocz et al., 2011; Walker & Ryan, 2008). These studies have found strong connections between place attachment and stewardship engagement. This quality is manifested through several forms of supportive attitude towards conservation strategies that promote ecological stability. Inasmuch, this presents evidence that residents are more concerned about their connection to place by sustaining the local economic and landscape character. Studies have shown that social actions through several mechanisms in development planning directly contribute to social embeddedness in a physical context. Cantrill (1998) indicates that 'sense of place' constitutes a major role in influencing individual capacity and involvement in environmental advocacy for sustainable resource policies. Their ability to practice attitudes which heighten the protection of ecosystems is underlined by awareness of place-based knowledge. Kruger & Shannon (2000) assert that citizens who developed awareness of their local context seem to "grasp the opportunity to create knowledge, benefits, and new opportunities for social action" (p. 475).

Drawing on literature in environmental psychology and behaviour, volunteer motivation for engaging in stewardship programs have been demonstrated to depend on whether they can view it as a process of social learning, care-taking of the environment, as well as developing sense of belonging to that place, or not (Bramston et al., 2010). Over and above people-place relationship theory, other studies have explored this concept through the lens of community attachment – how socially based attachment determines attitudes about local environmental issues (Brehm et al, 2006; Stewart et al., 2004). This line of research distinguishes between socially based bonding relating to physical attachment, and the emphasis placed on community-level attachment on environmental concerns.

As the people-place connection is inextricably embedded in the ecosystem context, previous studies suggest emotional bonding with the place can mediate the way people respond and react to ecosystem change through several mechanisms. For example, people who exhibit a strong sense of place demonstrate more commitment to problem solving and are more likely to react to environmental issues. This is a predictor of a resilient characteristic of dynamic landscape change (Burley et al., 2007; Kaltenborn & Bjerke, 2002; Lai & Kreuter, 2012). These studies have suggested that the role of communities within themselves can participate and make clear how the policy should be oriented towards their needs. Pertinent to that, resident acceptance of proposed landscape changes are inclined to legitimize and enhance their meaning of place in the planning process (Stewart et al., 2004). This finding for

example, was underlined by Steadman (2002) where place-based values are incorporated into the decision-making process, where it creates a protective behaviour that seeks to maintain and enhance values attributed to place – actions that reveal the importance of the place. Similarly, Vaske & Kobkrin (2001) found that local attachment to natural resources could be a valuable mechanism to predict whether an individual acts in an environmentally responsible manner (or not). These studies, when applied within various fields related to environmental policy-making, have demonstrated that the people-place connection and community attachment have played a significant role in guiding specific social actor behavioural responses, either positively or negatively, to environmental decision-making.

## 6. Summary & Operationalization

Figure 1 proposes a conceptual model linking sense of place with social and ecological sustainability. This model illustrates sense of place as a concept of a social process that helps make conservation and development policies viable by acknowledging the values and meanings of humans. It captures the idea that ecosystem functioning evolves as a result of human understanding of the place across social structure and institutions; specifically, it is manifested in an amalgamation of social attitudes and behaviours in influencing land use outcomes. This article argues that individual and community empowerment is developed from the connection to the place within which they are embedded, and this serves as a basis for developing an ethical and moral responsibility for actions mobilized by stewardship to the land.

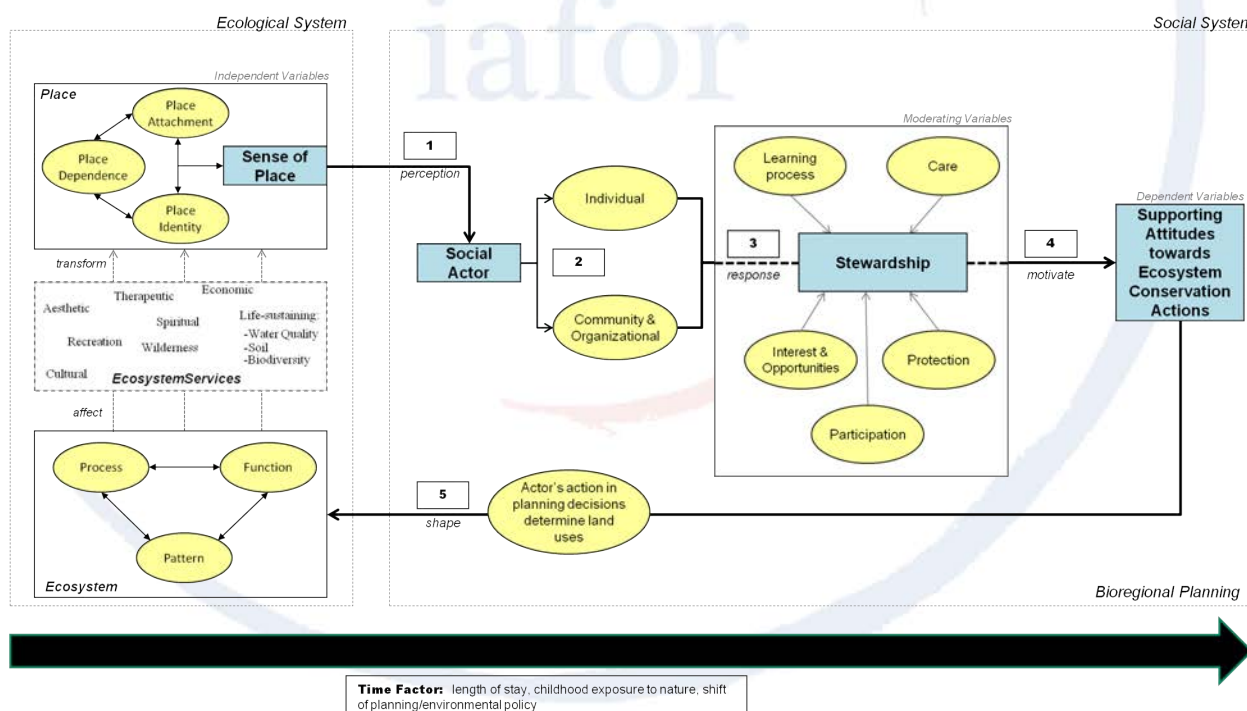


Figure 1: Conceptual model linking the core premise that the people-place relationship fulfils an important role in achieving social and ecological sustainability. An experience of a place might be developed over a given time period and changes of environmental.

Drawing upon this conceptual model, several compelling questions arise for further study; (1) How do individuals and communities develop a sense of place? (2) Is there any variance in the strength of sense of place among social actors, e.g., individuals,

professionals and other stakeholders in land management? (3) How do variations in the sense of place influence the effect of environmental stewardship? (4) How does environmental stewardship empower communities in their actions and attitudes towards environmental protection policies? (5) How do these responses feed back into the ecological system, through behavioural actions that determine the land use outcomes shaping the ecosystem functioning? As stressed in this article, bioregional planning envisions the place of people-place relationship in its core foundation to characterize specific emergence of social behavior in planning decisions. This repositions the human dimension in integrated ecosystem management, suggesting an alternative path to the sustainability of socio-ecological systems especially in dealing with the uncertain future of our plans today. The evolution of an ecosystem is partly but crucially determined by what we identify as important for the next generation to enjoy including the ecosystem services that we are experiencing now. In conclusion, a sense of place is a concept that people use to conceptualize themselves into the ecological system and plays a powerful role in influencing and distinguishing actions across social actors in land management.

## 7. Acknowledgement

The authors would like to acknowledge that this paper has substantial content in common with a similar paper published previously in the 50<sup>th</sup> International Federation of Landscape Architects 2013 proceedings. The authors would like to acknowledge the funding support of the Ministry of Higher Education Malaysia, University Technology Malaysia and The University of Auckland. This article forms part of the first author's doctoral thesis at The University of Auckland, New Zealand.

## 8. References

- Aberley, D. (1993). *Boundaries of home: mapping for local empowerment* / edited by Doug Aberley: Gabriola Island, B.C.: New Society Publishers, c1993.
- Altman, I., & Low, S. (1992). *Place Attachment*. New York: Plenum Press.
- Berkes, F., & Folke, C. (1998). Linking social and ecological system for resilience and sustainability. In Fikret Berkes, C. Folke, & with the editorial assistance of J. Colding. (Eds.), *Linking Social and Ecological Systems : Management Practices and Social Mechanisms for Building Resilience*. Cambridge, U.K. ; New York, USA: Cambridge University Press.
- Birkeland, J. (2008). *Positive Development: From Vicious Circles to Virtuous Cycles through Built Environment Design*. London: Taylor & Francis.
- Blair, H. W. (1996). Democracy, equity and common property resource management in the Indian subcontinent. *Development and Change*, 27, 475–499.
- Bramston, P., Pretty, G., & Zammit, C. (2010). Assessing Environmental Stewardship Motivation. *Environment And Behaviour*, 43(6), 776–788. doi:10.1177/0013916510382875
- Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2006). Community Attachments as Predictors of Local Environmental Concern: The Case for Multiple Dimensions of Attachment. *American Behavioural Scientist*, 50(2), 142–165. doi:10.1177/0002764206290630
- Brunckhorst, D. J. (2002). *Bioregional Planning: Resource Management Beyond the New Millennium*. London; New York: Routledge.
- Brunckhorst, D. J. (2001). Building capital through bioregional planning and biosphere reserves. *Ethics in Science and Environmental Politics*, 2001(1), 19–

32. Retrieved May 20, 2013, from <http://www.int-res.com/articles/esep/2001/article2.pdf>
- Bunch, M. J., Morrison, K. E., Parkes, M. W., & Venema, H. D. (2011). Promoting Health and Well-Being by Managing for Social – Ecological Resilience: the Potential of Integrating Ecohealth and Water Resources. *Ecology And Society*, 16(1). Retrieved July 6, 2013, from <http://www.ecologyandsociety.org/vol16/iss1/art6/ES-2010-3803.pdf>
- Burgess, J., & Gold, J. (1982). On the Significance of Valued Environments. In J. A. Gold, J. R., Burgess (Ed.), *Valued Environments* (pp. 1–9). London: George Allen & Unwin.
- Burley, D., Jenkins, P., Laska, S., & Davis, T. (2007). Place Attachment and Environmental Change in Coastal Louisiana. *Organization Environment*, 20(3), 347–366. doi:10.1177/10860266070305739
- Butz, D., & Eyles, J. (1997). Reconceptualizing Senses of Place: Social Relations, Ideology and Ecology. *Geografiska Annaler: Series B, Human Geography*, 79(1), 1-25. doi: 10.1111/j.0435-3684.1997.00002.x
- Cantrill, J. G. (1998). The environmental self and a sense of place: Communication foundations for regional ecosystem management. *Journal of Applied Communication Research*, 26(3), 301-318. doi: 10.1080/00909889809365509
- Cheng, A. S., Kruger, L. E., & Daniels, S. E. (2003). “Place” as an Integrating Concept in Natural Resource Politics: Propositions for a Social Science Research Agenda. *Society Natural Resources*, 16(March 2002), 87–104. doi:10.1080/08941920390174229
- Clement, F., Amezaga, J. M., Orange, D., Toan, T. D., Large, A. R. G., & Calder, I. R. (2006). Reforestation Policies and Upland Allocation in Northern Vietnam: An institutional approach for understanding farmer strategies and land use change. *International Symposium Towards Sustainable Livelihoods And Ecosystems In Mountainous Regions*. Retrieved July 5, 2013, from <http://www.iascp.org/bali/papers.html>
- Cosens, B. A. (2013). Legitimacy, Adaptation, and Resilience in Ecosystem Management. *Ecology and Society*, 18(1). doi:10.5751/ES-05093-180103
- Cumming, G. S. (2011). Spatial resilience: integrating landscape ecology, resilience, and sustainability. *Landscape Ecology*, 26(7), 899–909. doi:10.1007/s10980-011-9623-1
- DePrez, V. (1997). Bioregionalism : a state of mind, place, and heart. In C. Warwick (Ed.), *Proceedings Fifteenth North American Prairie Conference* (pp. 42–43). Natural Areas Association. Retrieved February 2, 2013, from <http://digital.library.wisc.edu/1711.dl/EcoNatRes.NAPC15>.
- Diffenderfer, M., & Birch, D. (1997). Bioregionalism: A comparative study of the Adirondacks and the Sierra Nevada. *Society Natural Resources*, 10(1), 3–16. doi:10.1080/08941929709381006
- Frame, T. M., Gunton, T., & Day, J. C. (2004). The role of collaboration in environmental management: an evaluation of land and resource planning in British Columbia. *Journal of Environmental Planning and Management*, 47(1), 59-82. doi: 10.1080/0964056042000189808
- Galliano, S. J., & Loeffler, G. M. (1999). *Place assessment: how people define ecosystems*. Portland, Or: U.S. Dept. of Agriculture, Forest Service, Pacific Northwest Research Station.

- Gauchat, G. (2012). Politicization of Science in the Public Sphere: A Study of Public Trust in the United States, 1974 to 2010. *American Sociological Review*, 77(2), 167–187. doi:10.1177/0003122412438225
- Gieryn, T. F. (2000). A Space for Place in Sociology. (Anonymous, Ed.) *Annual Review of Sociology*, 26(1), 463–496. doi:10.1146/annurev.soc.26.1.463
- Godschalk, D. R., Brower, D. J., McBennett, L. D., & Vestal, B. (1977). *Constitutional issues of growth management*. Chicago, NC: ASPO Press.
- Graham, H., Mason, R. & Newman, A. (2009). *Literature Review: Historic Environment, Sense of Place, and Social Capital*. Newcastle Upon Tyne: Newcastle University Commissioned for English Heritage. Retrieved February 20, 2013, from [http://www.englishheritage.org.uk/hc/upload/pdf/sense\\_of\\_place\\_lit\\_review\\_web.pdf?1257932683](http://www.englishheritage.org.uk/hc/upload/pdf/sense_of_place_lit_review_web.pdf?1257932683)
- Greider, T., & Garkovich, L. (1994). Landscapes: The Social Construction of Nature and the Environment. *Rural Sociology*, 59(1), 1–24. doi:10.1177/S0038038599000280
- Harris, G. (1994). The Adirondack Mountains: Wilderness preservation or bioregional vision? *Trumpeter*, 11(3), 117–120.
- Irwin, E. G., & Geoghegan, J. (2001). Theory, data, methods: developing spatially explicit economic models of land use change. *Agriculture, Ecosystems & Environment*, 85(1-3), 7–24. doi:10.1016/S0167-8809(01)00200-6
- Jorgensen, B. S., & Stedman, R. C. (2006). A comparative analysis of predictors of sense of place dimensions: attachment to, dependence on, and identification with lakeshore properties. *Journal of Environmental Management*, 79(3), 316–327. Retrieved May 3, 2013, from <http://www.ncbi.nlm.nih.gov/pubmed/16288828>
- Karali, E., Rounsevell, M. D. A., & Doherty, R. (2011). Integrating the diversity of farmers' decisions into studies of rural land-use change. *Procedia Environmental Sciences*, 6, 136–145. doi:10.1016/j.proenv.2011.05.014
- Kaltenborn, B. P., & Bjerke, T. (2002). Associations between environmental value orientations and landscape preferences. *Landscape and Urban Planning*, 59(1), 1-11. doi: 10.1016/s0169-2046(01)00243-2
- Knight, R. L. (1996). Aldo Leopold, the land ethic, and ecosystem management. *Journal of Wildlife Management*, 60(3), 471–474. Retrieved February 15, 2013, from <http://www.jstor.org/stable/3802064>
- Knopf, R. C. (1983). Recreational needs and behavior in natural settings. In I. Altman & J. F. Wohlwill (Eds.), *Behavior and the Natural Environment* (pp. 205–240). New York: Plenum Press.
- Kruger, L. E. & Shannon, M. A. (2000). Getting to know ourselves and our places through participation in civic social assessment. *Society & Natural Resources*, 13, 461–478.
- Lai, P-H., & Kreuter, U. P. (2012). Examining the direct and indirect effects of environmental change and place attachment on land management decisions in the Hill Country of Texas, USA. *Landscape and Urban Planning*, 104(3–4), 320–328. doi: 10.1016/j.landurbplan.2011.11.007
- Leopold, A. (1949). *A Sand County Almanac*. London; New York: Oxford Press.
- Lerner, J. M. (2005). *Stand in the Place Where You Live: Sense of Place, Values and Perceptions about Land Use in Tiverton, Rhode Island*. Brown University.
- Lew, A. A. (2008). What is geography? *Geography: USA*. Retrieved July 6, 2013, from <http://www.geog.nau.edu/courses/alew/gsp220/text/chapters/ch1.html>

- Lokocz, E., Ryan, R. L., & Sadler, A. J. (2011). Motivations for land protection and stewardship: Exploring place attachment and rural landscape character in Massachusetts. *Landscape and Urban Planning*, 99(2), 65-76. doi: 10.1016/j.landurbplan.2010.08.015
- Loveridge, R. O. (1972). The environment: New priorities and old politics. In H. Hahn (Ed.), *People and politics in urban society* (pp. 499–529). Beverly Hills, CA: Sage Publications.
- McHarg, I. L. (1995). *Design With Nature*: San Val, Incorporated.
- Miller, K. (1996). *Balancing the scales: guidelines for increasing biodiversity's chances through bioregional management*. Washington, DC: World Resources Institute.
- Moote, M. A., & McClaran, M. P. (1997). Viewpoint: Implications of participatory democracy for public land planning. *Journal Of Range Management*, 50(5), 473–481. Retrieved February 15, 2013, from <http://www.scopus.com/inward/record.url?eid=2-s2.0-0030854294&partnerID=40&md5=a02a0f2e088fc434c93443ee923d33b6>
- Mumford, L. (1938). *The Culture of Cities*. London: Seeker & Warburg.
- Ndubisi, F. (2002). *Ecological planning: a historical and comparative synthesis*. *Center books on contemporary landscape design* (p. 287). Johns Hopkins University Press. Retrieved January 12, 2013, from <http://books.google.com/books?id=VzzSulgl4qQC&pgis=1>.
- Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: physical world socialization of the self. *Journal of Environmental Psychology*, 3(1), 57–83. Retrieved February 20, 2013, from <http://psycnet.apa.org/psycinfo/1983-30076-001>
- Proshansky, H. M. (1978). The City and Self-Identity. *Environment And Behavior*, 10(2), 147–169. doi:10.1177/0013916578102002
- Relph, E. C. (1996). Place. In I. Douglass, R. Huggett, & M. Robinson (Eds.), *Companion Encyclopedia of Geography: the environment and humankind* (pp. 906–922). London: Routledge.
- Relph, E. C. (1976). *Place and placelessness*. London: Pion Press.
- Reynolds, J. P. (1969). Public participation in planning. *Town Plan. Rev*, 40, 131–148.
- Rollero, C., & De Piccoli, N. (2010). Place attachment, identification and environment perception: An empirical study. *Journal of Environmental Psychology*, 30(2), 198–205. doi:10.1016/j.jenvp.2009.12.003
- Sale, K. (1993). *The Green Revolution. The Environmental Movement 1962-1992*. New York: Hill & Wang.
- Sampson, K., & Goodrich, C. (2009). Making Place: Identity Construction and Community Formation through “Sense of Place” in Westland, New Zealand. *Society Natural Resources*, 22(10), 901–915. doi:10.1080/08941920802178172
- Scott, J. C. (1998). Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed. (J. C. Scott, Ed.) *Yale agrarian studies* (Vol. 1, p. xiv, 445 p.). Yale University Press. doi:10.1177/146499340100100213
- Scruse, J. I., & Sheate, W. R. (2002). Integration and integrated approaches to assessment: what do they mean for the environment? *Journal of Environmental Policy and Planning*, 4(4), 275–294. Retrieved July 6, 2013, from <http://dx.doi.org/10.1002/jep.117>
- Shannon, M. A. (1998). Understanding social organizations and institutions. In R. J. Naiman & R. E. Bilby (Eds.), *River ecology and management : lessons from the*

- Pacific coastal ecoregion* (pp. 529–551). New York: Springer. Retrieved June 20, 2013, from <http://books.google.com/books?id=yQeM-OUrLDUC&pgis=1>
- Sime, J. D. (1995). Creating places or designing spaces? In L. Groat (Ed.), *Giving Places Meaning. Readings in Environmental Psychology* (pp. 27–41). London: Academic Press.
- Slocombe, D. S. (1993). Implementing Ecosystem-Based Management. *Bioscience*, 43(9), 612-622.
- Stedman, R. C. (2005). Sense of place as an integrated framework for understanding human impacts of land use change. In S. J. Goetz, J. S. Shortle, & J. C. Bergstrom (Eds.), *Land use problems and conflicts : causes, consequences and solutions* (pp. 121–131). London; New York: Routledge. Retrieved June 25, 2013, from <http://www.loc.gov/catdir/enhancements/fy0651/2004050983-d.html>
- Stedman, R. C. (2002). Toward a Social Psychology of Place. *Environment and Behavior*, 34(5), 561-581. doi: 10.1177/0013916502034005001
- Stewart, W. P., Liebert, D., & Larkin, K. W. (2004). Community identities as visions for landscape change. *Landscape and Urban Planning*, 69(2-3), 315–334. doi:10.1016/j.landurbplan.2003.07.005
- Thayer, R. L. (2003). *LifePlace: Bioregional Thought and Practice*. Ewing, NJ: University of California Press.
- Tuan, Y.-f. (1980). Rootedness versus Sense of Place. *Landscape: A Magazine of Human Geography*, 24(1).
- Tuan, Y.-F. (1977). *Space and place: The perspective of experience*. London: Arnold.
- Uy, N., & Shaw, R. (2013). Ecosystem resilience and community values: Implications to ecosystem-based adaptation. *Journal of Disaster Research*, 8(1), 201–202. Retrieved July 6, 2013, from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84873436509&partnerID=40&md5=8df950b0d8fdd623ba390d61b44adeb2>
- Vaske, J. J., & Kobrin, K. C. (2001). Place Attachment and Environmentally Responsible Behavior. *The Journal of Environmental Education*, 32(4), 16-21. doi: 10.1080/00958960109598658
- Walker, A. J., & Ryan, R. L. (2008). Place attachment and landscape preservation in rural New England: A Maine case study. *Landscape and Urban Planning*, 86(2), 141-152. doi: 10.1016/j.landurbplan.2008.02.001
- Williams, D. R., & Roggenbuck, J. W. (1989). Measuring Place Attachment: Some Preliminary Results. *Session on Outdoor Planning and Management* (p. 7). Retrieved March 3, 2013, from <http://www.fs.fed.us/rm/value/docs/nrpa89.pdf>.
- Worrell, R., & Appleby, M. C. (2000). Stewardship of natural resources: Definition, ethical and practical aspects. *Journal of Agricultural and Environmental Ethics*, 12(3), 263–277. doi:10.1023/a:1009534214698
- Wu, X., Shen, Z., Liu, R., & Ding, X. (2008). Land Use/Cover Dynamics in Response to Changes in Environmental and Socio-Political Forces in the Upper Reaches of Yangtze River, China. *Sensors (Peterborough)*, 8(12), 8104–8122. doi:10.3390/s8128104
- Zube, E. H. (1987). Perceived land use patterns and landscape values. *Landscape Ecology*, 1(1), 37–45. doi:10.1007/BF02275264





