Sense Shaping Place: Interaction of Planning Actor's Values in Social-Ecological Resilience

Case Study of Urbanizing Coastal Rural Communities in Pontian, Malaysia

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Abstract

Drawing on the literature from bioregional planning that encapsulates theories on place, stewardship and conservation, this study explores the dynamics in the interaction between the various planning actors and how this contributes to the resilience of socio-ecological systems (SESs). Using the urbanizing coastal rural communities of Pontian as a case study, I have employed a mixed-methods approach to examine the sense of place held by three distinct planning actor groups involved in the local land use planning activities. The groups are Local Active Community, Civic and Institution, and Environmental and Cultural Advocacy. I analyzed qualitative interviews as well as quantitative surveys to elicit the sense of place structure across groups, the relationship between structures and stewardship attitudes and behaviors, and examined how these characteristics might shape the trajectories of landscape change. This study extends the examination of the people-place relationship and its impacts on resilience, as prior place research has focused on sense of place at the individual level but is limited when assessing group level outcomes. A number of distinctions were found. The sense of place structure was found to be comprised of four traits; place dependence, place identity, place attachment and community attachment. The latter appeared to emerge separately. The structure patterns were similar across groups in the survey, however, a more nuanced description in the interviews revealed that the place structure for each of the first two groups emphasized social and community aspect of place, while the latter emphasized functional aspect of place dependency. The relationship between sense of place, stewardship and visions was far more complex than reported in the literature, where stewardship was divided between affirmative and non-supportive attitudes towards rural landscape change. In contrast, in this study "place dependence" correlated with "concerned but supporting attitude" and was characteristic of the first two groups. The qualitative findings specified that this variability between groups is linked to specific worldviews and motivations and visions that are layered in social, cultural and political backgrounds. Multiple pathways to sustainability were observed from different place conception and attitudes among the groups, based on analysis that is grounded in a model of SES and resilience. The insights were critiqued in a bioregional planning context and justify further research on sense of place as an integrative concept for understanding societal impacts on ecosystems in a complex, rapidly changing world.

Keywords: bioregional planning, sense of place, environmental stewardship, socialecological resilience, landscape change.

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Chapter 1. Introduction

This thesis explores the sense of place concept, including the related attitudinal and behavioral aspects, from the viewpoints of multiple planning actor's perspectives. This allows for an assessment of the social drivers that determines the trajectory of future landscape change. The thesis focuses on how planning encompasses the uncertainties of social and ecological issues, from the perspective of social-ecological resilience.

This chapter begins with an overview of the uncertainties related to social and ecological issues in planning and conservation processes, before proceeding to the way social-ecological resilience offers a frame of reference to understand ecosystems dynamics. This includes the conceptualization of the human-nature relations bounded by the bioregional planning approach, which encapsulates the sense of place concept and social actions of conservation and development policies. Then, this context was summarized into a broad research interest and motivation to pursuing this study. The research idea section outlines the study's aim, questions, significance and program designed to investigate the interaction of the study topics. The following sections reflect on the relationships between the researcher and the research subjects and concluded by a description of the structure of this thesis.

1.1. Planning for Social-Ecological Resilience: Sense of Place as an Integrative Concept

The inherent complexity of ecosystems is receiving increasing recognition in interdisciplinary platforms within the planning and conservation realm. In the past decades, the considerable uncertainty in terms of ecosystem behavior that existed was complicated by the social and ecological issues that interwoven in the spatial matrix which has challenged the traditional assumption related to stability and equilibrium (Holling, 1978) to a more adaptive governance (Gunderson & Holling, 2002). In the modern world, planning faced these "wicked" problems (Rittel & Webber, 1973). This was a shift from apparently "tame" or clearly defined problems of the 1970s (Baum, 1977) such as infrastructure improvements, sanitization system and housing settlement. Such understandable problems are approachable by a technical and scientific solutions. While such approach remain applicable where appropriate, planners have been called upon to address more subtle social and cultural perception of land use choices that

are shaped by past land uses. Planning theories struggle to cope with these complexities of problems.

New modes of governance have been emerging as a result of the failure of the traditional rational planning approach (Blair, 1996; Scott, 1998). The legacy of this modernist paradigm has been debated on whether it is the best option to protect public interest as it has been critiqued for a certain over reliance on the aspect of growth projection (Loveridge, 1972), an inability of local government to solve trans-boundary environmental problems associated with urban sprawl (Godschalk, Brower, McBennett, & Vestal, 1977) and the disempowerment of local communities in decision-making (Harris, 1994). More importantly, Diffenderfer & Birch (1997) further reiterated that these were rather symptomatic responses to the core issue regarding the inability of the centralized and command and control approach to counteract utilitarian views of certain actors in satisfying their needs. This signifies the transition into social-ecological systems (SESs) (Gunderson & Holling, 2002) and resilience (Berkes & Folke, 1998) which offers a conceptual ground to frame the above issues. Analysis that is grounded in this framework offers a more comprehensive view regarding transformation that is sustainable. This perspective presents a new lens within which to examine planning as an interdisciplinary governance process to respond to the multiple dimensions of ecosystem management.

Landscape change as a result of the urbanization process, in the context of developing countries especially, has led to a fundamental shift in the places they live, and subsequently to their connection to the natural world. This process is not deemed to be static, 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". Pertinently, the shift presents not only disengagement of human to the natural world – placeless (Kunstler, 1993), also equally important is the threat to ecosystems services on which they depend socio-economically (Nkhata, Mosimane, Downsborough, Breen, & Roux, 2012). This brings forward the idea that in order to predict the uncertainty of social-ecological issues, planning must be able to embrace the relationship between societies and land, as this linking with sense of place could provide the basis to understand societal impacts on the evolution of ecosystems in our world which are experiencing rapid change.

As a result, a growing number of scholarly works have extended beyond the biophysical domain of ecosystem management, into having a more subtle societal influence on ecological transformation, particularly related to the cognitive and behavior dimensions. The governance of linked social-ecological systems underlines one of the key concepts that involve understanding human decisions regarding ecosystems that are shaped by their interaction with ecological systems. There is a growing amount of literature incorporating human behavior as key component (Bolte, Hulse, Gregory, & Smith, 2007) that progresses beyond the biophysical-scientific views in order to understand the dynamics of social-ecological change (Brunckhorst, 2005).

From a planning perspective, such movement saw the emerging approaches, in particular bioregionalism that attempts to reposition the human-nature relationship in land use planning and ecological conservation. The conceptualization of human-nature relations in bioregional thinking is underpinned by the sense of place, as a foundation that derives from an assemblage of literature in the fields of geography, environmental psychology and behavior and community-development related studies. The interdisciplinary orientation of bio-regionalism has been bridging over topics that are often fragmented even though it is imperative. These include environmental ethics (Leopold, 1949), resource management (Brunckhorst, 2002), social and community development (Roseland, 2000) and biological conservation (Balmford & Cowling, 2006), and humanism (Parsons, 1985). In the context of regional planning and conservation, bio-regionalism offers an alternative form of governance that involves social and political restructuring. Birkeland (2008) and Diffenderfer & Birch (1997) assert that the transformation of governance implies a multi-faceted platform that can be designed to achieve ecological conservation which contribute to meet social, ecological and economic sustainability. Significantly, this orientation provides a basis that informs the governance, so much so that planning is framed as managing, coupled or linked with the social-ecological system.

Substantive literature in the fields of environmental psychology and behaviors, ecosystem management, resource management and other related disciplines have indicated a strong relationship between sense of place and pro-environmental attitudes and behaviors to protect the place (e.g. Lokocz, Ryan, & Sadler, 2011). However, despite the claims that a positive relationship exists between sense of place and mobilization of stewardship actions, the various concepts of place have not been adequately explored from the point of view of multiple planning actor groups in the land use planning process. In addition, the interplay and possible

contradictory actor's values and behaviors pattern that shape the trajectory landscape change have not been fully explored, including the way planning guides and appraises this interaction and takes account of and measures the future social-ecological resilience.

1.2. Broad Research Interest and Motivation

The broad interest of this study lies on perspective of planning as managing socio-ecological resilience. This was conceptualized using a bioregional planning approach, which encapsulates people-environment relationships, conservation and development, and land stewardship. Specifically, this study is interested in manifestation of sense of place outcomes, with regards to specific attitudes and behaviors to openness or resistance to land use change, and visions among various planning actors in land use planning process. It is imperative that planning recognizes the intersection of these values and expectations, in which outcomes from land use planning process will generate a rippling effects on resilience of socio-ecological systems. As is explored in this study, this effect may be manifold; whether positive feedback and accepted positive changes as a result of protection of certain actor's values, or negative feedback and thus resistant to change as a result of diminishing and harm of another actor's values. This study seeks to emphasize the intersection and integrity of how they are recognized (or overlooked) and negotiated in the sphere of public participation process.

The motivation for me to pursuing this study came from an early exposure to undergraduate program in landscape architecture. As part of the program's module on man-environment relationships, I was introduced to the various theories of place, and it became substantial readings in our program's design-and-build school of thought. In our design studios, I became fascinated with how these theories played a role in guiding our design processes and how the design schemes proposed effects to overall place meanings. Although initially this exposures was mainly at site or project-level, I became inspired to undertake a broader examination of how planning grapples with human experience for existence, in which meanings embodied in the present landscape are an evolution of previous social, physical, cultural, economic and political experiences. This exposure led me to this study, in addition to my self-awareness of changing life experience with regard to the eroding cultural landscape and image falsification of development based on material world from my communications with rural communities.

1.3. The Research Idea

1.3.1. Aim, Questions and Significance

The overarching thesis aim explores how the concept of sense of place among planning actors shapes the resilience of social-ecological systems. This is examined through the interplay of actor's values and attitudes, how these intersect, and recognizing or repudiating the influence of the trajectory of landscape change in land use planning and conservation process. Here actors are separated into three groups that represent distinctive roles and capacities in the planning process. They are stakeholder and/or local steward of an individuals or a representative of an institution or organizations that partake on-the ground ecosystem management, whether directly or indirectly could facilitate or constraint practical implementation of conservation and land use planning.

The overarching thesis aim was approached by breaking it into three research questions that can be more readily assessed and synthesized using various theories of the overall theoretical framework (Section 2.1):

- Research Question 1: How different planning actor groups conceptualize sense of place in land use planning.
- Research Question 2: How a multitude of place values characterize stewardship attitudes and behaviors among the various planning actors.
- Research Question 3: How the trajectory of future landscape change and socialecological resilience are shaped by the interplay of these sense of place and the attitudinal characteristics.

The core of this study is underlined by theories on sense of place, which encapsulates the cognitive, affective and conative dimension of humankind's influence on the environment. This premise represents the key concept, in terms of a mechanism that integrates social-ecological systems and contributes to a further understanding of its impact on resilience. In relation to the notion of landscape change, understanding the way the different actors in planning perceive what their place means and what it would be in the future is imperative. It is because their attitudinal and behavioral responses will determine the trajectory of transformation, and will implicate resilience either by increasing or decreasing its vulnerability to disturbances. This study contributes to the understanding of social-ecological dynamics and resilience, from the

sense of place perspective that attempts to bridge interrelated theories into the context of land use planning and conservation.

This study is distinctive in and of itself because while sense of place is extensively covered in its own theoretical disciplines yet it is narrowly explored in terms of its application in understanding social-ecological dynamics in terms of land use planning and conservation. Research and practice of land use decisions have substantially relied upon tangible-economic based variables, with little attention placed on a socio-psychological framework. Particularly this is very important in the context of Malaysia, where rural and resource-dependent communities are ever receiving pressure for socio-ecological shift as a result of socio-economic orientations in tandem with urbanization. The positioning of this study in this context enables an extensive examination in the planning discourse that struggles to grapple with the uncertainties of landscape change as a result of planning actor's attitudes and behaviors that are extremely embedded in a pluralistic view of place. This study offers insights into the planning realm, as a platform for dialogue between actors' values that dictate the transformation of social-ecological systems.

1.3.2. Research Program

These central questions are investigated via a mixed method, case study approach that follows a sequential exploratory research design which allows for a triangulation of different methods. Specifically, the qualitative data from interviews inform the development of the quantitative survey and the convergence of results are examined within the single case study adopted. The research questions draws on three main theoretical backgrounds: sense of place, its application in planning and conservation realm, and resilience thinking. This exemplifies the interdisciplinary examinations which warrant an explorative study. Furthermore, the elusiveness and vague understanding of "place" within the different geographical context and planning instigate and call for a mixed approach to capture the subjective realm of place including the cognitive dimension within the lived experience of one's sense of place or sense in place (Relph, 1976; David Seamon, 2000; Tuan, 1977).

Malaysia, as a developing nation has undergone rapid economic development since its independence in 1957. This can be attributed to the utilization of its rich natural resources and

the development of human capital driven by the national agenda, in particular Vision 2020¹. The transformation of the country's landscape of biologically – diverse tropical forest has gone through several stages. From intensive agricultural commodities, it shifted to the opening of rural townships and new satellite towns to accommodate industrialization. The case study of the urbanizing rural coastal communities of Pontian was selected to illustrate the contextual reflection of socio-ecological systems dynamics, which received enormous pressure for landscape change corresponding to regional policy-making and shifting socio-demographic characteristics. Pontian, in which coastal mangrove ecosystems provide stability in terms of the southern Johore socio-ecological systems and to resource-dependent communities, is undergoing rapid pressure for urbanization. Located in the southern region of the Peninsula Malaysia, which is also partly of Iskandar Malaysia (IM), offers a contextual understanding of how regional development policies interact with local place values, attitudes and subsequently shape the trajectory of future landscape change (Barau & Qureshi, 2015).

An extensive review of the literature suggested sense of place as a "coupling" of the socialecological system that underlines the linkages of the way human cognition of the environment or "place" affects ecosystems and their services through a set of attitudinal and/or behavioral characteristics. This provides the foundation for this thesis, in particular, to delve into the way ecosystems evolved from specific conceptions of ecosystem as "place" among planning actors in the land use planning process. The case study provides the context of how this phenomenon is examined, firstly, through semi-structured interviews and then followed by a survey with planning actors involved in the land use planning processes categorized by three main groups: [a] Local active community members, [b] Members of civic and institutional organizations, and [c] Environmental and cultural advocacy.

1.4. On Personal Note about Pontian

Qualitative tradition in studying social phenomenon relies heavily on the subjective interpretations of the participants' own experience and evaluation of the subject. This may be influenced by the researcher's relationship with the subject (Creswell, 1998), thus it is

¹ An ideal proponed by the 4th Prime Minister of Malaysia – Dr. Mahathir Mohamad during the *Sixth Malaysia Plan* (1991) to achieve a developed-nation status by year 2020. See: http://www.epu.gov.my/en/wawasan-2020-1991-2020.

important to provide the reader with a personal reflection related to his/her particular background. In the spirit of open scholarship, I offer the following reflection.

I have lived about 50 kilometers east of Pontian, in the Johor Bahru district for over 20 years in a suburban home. Before that, I had grown up in Kluang, a rural town where my playgrounds were at a nearby waterfall and creeks. During this time also, most of my weekends and school holidays were spent at my parent's *kampong* in Malacca, where rubber-plantation, fish ponds and fruit orchards were at their backyard. After we moved to Johor Bahru, this experience was somehow "lost", as growing up in a large urban area, my personal contact with nature was very much spent at the bushes around my parent's home and the occasional trips back to Malacca and Kluang. I had never visited Pontian, despite usually crossing over its intersection while commuting on the local highways until in the early 90's when my parents brought me to their friend's *Durian* fruit orchard and occasional dinner outings at the mangrove floating restaurant.

Since then, I have become intrigued with Pontian, its rural landscape character and coastal ecosystems and from relationships with people from various cultural backgrounds who reside in and around the area of Pontian and with each other within the place. In fact, the location of the university and the bachelor degree that I pursued also coincidently led to my interest in Pontian. The university – University Technology Malaysia is located about 40 kilometers from Pontian, and in terms of my study, I perceived Pontian as a "*living laboratory*" in that it provides rich information of interest in regard to my studies. I began to closely follow any Pontian-related issues in the media, and kept track of social and environmental issues, especially when the RAMSAR status was accredited to part of its mangroves systems. Through my student activities, I became actively engaged in our mangrove conservation program as part of the student society, as well as participating in numerous case study field trips that were organized for local and international visitors who were coming to our university.

Immersed by these childhood and study-related experiences, I am aware that my perspective of Pontian reflected a cultural landscape that was ecologically fragile, which was a perspective I developed based on my interaction within the village setting, including its resources, ecosystems and memories. This image representation is somewhat privileged in my interpretation of Pontian, and what attracted me to conduct this study. This perspective also includes an understanding of the ways in which the resource-dependent rural communities interact with the ecosystems, with respect to place as a matter of survival and continuity, and these interactions have been included in my description of the dynamics between Pontian and

the local communities from the lens of three planning actor groups that affect and are affected by these interactions.

1.5. Thesis Structure

The corpus of this thesis is structured in seven chapters, in accordance with the traditional sequence of literature review, methodology, results presentation, discussion and conclusion. The following chapter, *Chapter Two*, employs the umbrella concept of bio-regionalism that binds the different disciplinary backgrounds into a theoretical framework that is divided into three domains. First, topics that underpin this framework are related to transformation of ecosystem to place, including various theories on dimension of place and research approaches. Second, theories on environmental values and their recognition in planning-related disciplines were examined to provide contextual understanding of how bioregional planning bridges conservation and reconciling human needs in land use planning. Third, sense of place is grounded in the resilience of social-ecological systems perspective through land stewardship theories that related to attitudes and behaviors as one of social driver for landscape change. Chapter Three presents the study area, before proceeding to the research design, methodologies, methods and implementation for the study. The results of the case study examined are presented in Chapter Four for the qualitative phase, while Chapter Five elaborates on the results of quantitative phase. The qualitative and quantitative findings were integrated and compared in Chapter Six. The concluding chapter - Chapter Seven discusses the interpreted results in terms of the theoretical and practical implications, limitations and offers suggestions for future research directions.

1.6. A Glossary

The following are a list of terms and brief definitions that will be used throughout this study. Further explanation and applicability in use of these terms will be discussed in Chapter 2.

Affection: The affection domain in psychology refers to experience of emotion or feeling based on interaction with stimuli.

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Bioregional planning: Planning approach that is responsive to geographical terrain (combination of biophysical features) as well as terrain of consciousness (social awareness of appreciation, aspiration and care).

Cognition: In psychology refers to mental processes of knowing, judgment and reasoning and decision-making whether consciously or subconsciously.

Conation: In psychology refers to the impulse or natural tendency of humans to act based on thoughts (cognitive) and feelings (affection).

Environmental stewardship: An ethic for responsible use and protection of environment through sustainable actions and conservation.

Mixed methods: The blending of multiple methods to provide a rigorous assessment of a research problem.

Resilience: Defined into three concepts: engineering, ecological and evolutionary. The ability of system to bounce back into equilibrium state (engineering resilience) or bounce forward while maintaining the efficacy of function (ecological resilience) after a shock. More recently, evolutionary resilience proposes systems that are adaptable and transformable with or without disturbance are better equipped of future shocks.

Sense of place: Awareness to a locale developed from experience either independently or interaction of its physical and social characteristics.

Socio-Ecological Systems (SESs): A system consisted of interconnected people and environment that dynamically interact, are interdependent, and co-evolve across spatial and temporal scales.

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