

URBAN DESIGN CONCEPTS FOR ACHIEVING A LIVABLE BALINESE TOWN

Tjokorda Nirarta Samadhi

ABSTRACT

This research considers the utilization of a number of Balinese cultural constants as basis of the development of urban design concepts for producing culturally liveable places in the Balinese town of Gianyar. The concept of 'livable place or city' connotes, among other, the need of a 'sense of place'. A pluralistic approach, by means of questionnaires and mental map sketching techniques was employed to reveal some cultural constants in the cultural landscapes of a contemporary Gianyar urban setting. This exploration aims at providing a ground for reconnecting urban design proposals with their cultural context, thus promoting the spatially expressed localism which originates from the diversity of cultures to ultimately produce 'a sense of place'.

The research concludes that to achieve culturally appropriate sense of place, hence a livable town, the design process has to acknowledge four core cultural constants in the design of Balinese townscapes: 1) attitude to human being-environment relationships; 2) the concept of center; 3) attitude to spatial organization and structure; 4) attitude to environmental design and management; and 5) attitude to symbols and meanings. Within the framework of urban design principles and town's identity elements, a series of urban design concepts is composed. Based upon such concepts, urban spatial organization, structure and form will significantly reflect the Balinese cultural identity.

I. INTRODUCTION

'Livable city or town' is a crucial concept, but one that is very difficult to grasp. Nonetheless, from the town resident's point of view, livable qualities of one's living space will obviously embrace the existence of a 'sense of place' or 'place identity'¹. One of the properties of such a concept is the local culture which takes form of both physical and non-physical elements of the urban built environments. As such, the cultural constant, that is the temporally continuous aspect of culture, is consequently acted as the basis of the formation of a sense of place or place identity.

The maintenance of places and place-making, in this case is advocated as the urban design strategy to cope with the desire to produce livable places or enhance the livability of a town. Such a claim stems

from the concept of *place* which renders the existence of distinct characters in a space generated by local culture and its operative customs and traditions (Trancik, 1986). Also from the philosophical notion that a place is the man's existential space which makes him belong to a social and cultural totality (Norberg-Schulz, 1971), one thing that is inherent when considering the livability of a built environment. Thus, the adoption of place approach in urban design process will give physical space an additional richness by thoughtfully incorporating unique forms and cultural details indigenous to its setting.

II. TRADITION AND CULTURAL CONSTANT

The concept of 'tradition' is dealt explicitly by Shils (1981) who defines it as 'that which is handed down':

Tradition... includes material objects, beliefs about all sort of things, images of persons, and events, practices and institutions. It includes buildings, monuments, landscapes, sculptures, paintings, books, tools, and machines. It includes all that a society at a given time possesses and which already existed when its present possessors came upon it ... (p. 12).

This definition emphasizes the continuity of tradition, its persistence in the present time or otherwise it would not be a 'tradition'. It is also important to note that the concept of tradition encompasses material objects as well as beliefs, which is particularly important if one begins to examine the implication for such a definition on the built environment. With respect to architecture and human settlement, tradition may be defined as 'the passing down of the elements of culture' (Oliver, 1989: 53-54), where, in the case of urban design, 'elements' may refer to patterns and principles for manipulating space into built environments

Each culture carries within it patterns or generalities that unify and specificity that distinguish. These generalities are underlying aspects and features that are evident within the cultural landscapes of a built environment through time, despite contextual changes, and as mentioned previously, are the elements that in part go towards forming a tradition. They are the cultural constants, and are to an extent, unconscious decisions that are taken for granted by the people local to the built environment.

In summary, space-manipulating traditions ensure that the complicated task of matching built environment to cultural need is successful and that a society's environment carries as much meaning as possible. Traditions can and should change constantly to improve that match, especially when the culture itself is changing. Thus, as long as the essential principles of the culture, hence

the cultural constants, are not threatened, existing built environments and traditions can be helpful to make sense of the new or to assist the process of producing ones. When there is no cultural and temporal continuity, the built environment loses its ability to perpetuate its cultural familiarity, thus hinders the people's effort to make sense of their world or to create their existential space, hence a place.

To illustrate these thoughts, it might be very useful to study the example of Bali, where traditions of placemaking seem to survive and, indeed, to have been reinvigorated by innovation despite rapid modernization. This is possible because the Balinese have a clear idea of what is essential in their life, which is the balance of life. The town of Gianyar, with a current population of 62,828, and once the seat of the ancient Gianyar Kingdom was chosen as a case study to be investigated. A pluralistic approach (Appleyard, 1976; Lynch, 1960; Rapoport, 1969, 1977) was adopted for the field survey, using questionnaires and mental map sketches. Such an approach put the popular accounts as the mechanism to extract current operative values and conceptions, hence the cultural constants, as the basis of building up localism in spatial planning and design. A sample of 100 individuals was employed that consisted of three groups, each representing: 1) town residents who were considered most knowledgeable in traditional-religious conceptions of space, 2) lay residents, and 3) residents who were considered most knowledgeable in formal or modern planning concepts. In-depth interviews with some key informants were conducted before, during and after the field survey for the purposes of developing the questionnaires and subsequently for canvassing more detailed information as well as reconfirming the findings. With sufficient background to understand the underlying principles of the Balinese culture, it should be possible to evaluate the urban design strategies for guiding the physical development of a Ba-

lines town with the ultimate purpose of creating a town that strongly projects the appropriate sense of place.

III. RELEVANT BALINESE TRADITIONAL-RELIGIOUS CONCEPT-IONS

Discussion on the Balinese traditional-religious conceptions has been widely published², therefore this article will not attempt to elaborate them except some necessary conceptions. Existence in the Balinese world, for both animate and inanimate objects, is a matter of occupying the right space at the right time; this participation is life. Additionally, for human beings, this conception is related to the concept of place as man's existential space which brings the notion of place as a vessel of the man's participation in the cosmological balancing process. In this respect, the object as a microcosm must be correctly composed of all its elements, and it must complete its own lifecycle of gestation, birth, maturation, decay, death, and return to nature. It is critical for the Balinese to assure life (and balance) in everything they come in contact with, so that their entire world works to perpetuate their way of life. To distort balance or to neglect to bring an object to life so it can participate is to invite misfortune or disaster.

The cosmoses are kept in a harmonious balance in Balinese architecture and environment by assigning attributes to the Balinese space, creating a matrix that is simultaneously hierarchical in religion (sacred/profane) and society (reflecting castes and kinship) as well as in physical arrangement. However, it should be noted that more sacred directions are not 'better' than more profane ones. In other words, it is to find the appropriate relative position for something or action which is considered to be of much greater importance.

The concept of center-hence middle or neutral, therefore, is important to the Bali-

nese as it is for most of the Southeast Asian tribes, not just in religious and cosmological terms but also in political realm (Tambiah, 1985). The physical manifestation of the concept of center in the Balinese environment has taken the form of a 'grand crossroad', *pampatan agung*, in which forces from the first world (*bhurloka*, the world of the gods) and third world (*swahloka*, the world of the demons), and from all wind rose directions (*kaja*, *kelod*, *kangin*, *kauh*, and their inter-cardinal directions) meet and greeted by human beings - the dwellers of the second world (*bhuwahloka*). The important Balinese settlement's functions such as the palace (*puri*), the priest's house (*griya*), the public meeting hall (*wantilan*), and the marketplace (*pasar*) are thus arranged in the surrounding areas of the crossroad as a way to accumulate the 'power' - religious, socio-economics, and political in nature - into one place. As such, this particular crossroad consequently becomes a landmark and identity maker for Balinese towns and settlements.

Another important concept to understand is the psycho-cosmic concept³ of the relationship between *bhuwana agung*, or macrocosm and *bhuwana alit*, or microcosm. Any place in Bali can be defined by its relative position to other places, and thus it is only understandable as an element in a larger cosmos. At the same time, every place or entity generates its own universe, a microcosm, composed of five basic elements or *panca mahabhua*, i.e. *pertiwi* (earth/solid substance), *apah* (water/fluid substance), *teja* (fire/light/heat), *bayu* (water), and *akasa* (space/ether). Thus a man sets up his own universe of order, as does the house compound he lives in, and the village beyond that compound, and the island of Bali, and finally the world. The ultimate goal of Balinese Hindu, *moksa* or spiritual liberation, urges that as a *bhuwana alit* (microcosm) a man should harmonize himself with the universe as a *bhuwana agung* (macrocosm), because, as has been mentioned,

the human body and the universe are originating from the same elements.

The concept of harmonious balance in the philosophy of the Balinese is believed to constitute the basis for achieving prosperity and welfare which, in its application, has developed and crystallized into the religious teaching of *Tri Hita Karana* or literally 'three causes of goodness' (Kaler, 1983; Surpha, 1991; Pitana: 1994). In architecture and settlement design this teaching is essentially intended to establish a harmonious relations between human beings and the God, human beings and the environment, and human beings among themselves. This concept can be clearly observed in Balinese housing compounds and *desa adat* settlements in the form of 1) spatial zoning, and 2) elements classification. The zoning divides the space into: sacred places (*parahyangan*), settlement areas (*pawongan*) and utilities/settlement supporting functions (*patemahan*); while the elements classification breaks it into: 1) *parahyangan* indicated by the three temples/*Tri Kahyangan* (representing the relationships between man and God, located on the sacred part of the area), 2) *pawongan* takes the form of the dwellers or *sima krama desa* (representing the relationships among men), and 3) *patemahan* or settlement territory (representing the relationships between man and the environment). This triad classification essentially signifies the three elements of *Tri Hita Karana*, that is the spirit (*aima*), the energy (*prana*) and the body/vessel (*sarira*) which will be found in all kinds of entity in this universe.

The placement of the three temples of the *Tri Kahyangan*⁴, is very similar to the siting of the eight temples in accordance with the principles of the *vastu-widya* in Indian towns, whereby the temples function as a *mandala* defining and sanctifying the space they enclose (Puri, 1995). In the Balinese case, the spatial area definition by way of the siting of *Tri Kahyangan* temples create a unit in which its population feel they be-

long to a *bhuwana agung*. The defined unit is called a *desa adat*⁵ (Kaler, 1983; Surpha, 1991; Pitana, 1994). In this unit the dichotomy of *kaja-keod*, or mountainward-seaward and *luan-teben* or upstream-downstream, and the spatial attribute differentiation of *Tri Angga*⁶ are applicable, creating a true symbolically independent spatial unit. In other words, a down-stream-located *desa adat* can find the most sacred end of its area located further down to the most profane part of a neighboring *desa adat*'s area without any disharmonious effect.

The spatially cohesive unit of a *desa adat* is also amplified by the fact that the *desa* dwellers serve a similar temple congregation and develop their local values and knowledge systems to be formulated in *awig-awig* (literally 'customary law'). Seen in this context as Egenter (1996: 215) concludes for the Japanese village, *desa adat* becomes an autonomous culture with all traits of a higher culture: harmonious philosophy, local ontology and value system, aesthetics, social hierarchy and so forth. Therefore, *desa adat* is the only Balinese settlement unit based on traditional-religious spatial conceptions.

Field observation in the town of Gianyar, Bali, Indonesia, in 1998-1999, investigated those cosmo-religious beliefs which embedded in the Balinese cultures in relation to the design of the Balinese urban settlement. A set of twenty-six cultural constants was uncovered as the generator of the formation of Balinese places, hence urban spaces with their recognizable Balinese cultural expressions: indigenous Balinese traditions and Balinese Hindu values. Five constant mainstreams were distilled from the set, and three Balinese urban form determinants were recognized as the above-mentioned generator.

These mainstream constants reflect the residents' attitude towards their living environments and spatial design. Consequently, they would be instrumental in future deve-

lopment of urban design objectives, which as has been shown in this research to have produced a culturally appropriate Balinese urban places (Samadhi 2000; forthcoming).

3.1 Attitude to Man-Environment Relationships

Relating to the Balinese Hindu psycho-cosmic concept the Balinese notion of man-environment relationship is one of maintaining harmonious balance between the microcosm (man) and the macrocosm (environment). Man attains this balance by conducting their lives in accordance to the Balinese Hindu conceptions within the confinement of a cosmic territorial system (the *desa adat*, or literally 'customary village')⁷ with its bounding *awig-awig desa adat* (*desa adat's* customary law). This parallelism between the microcosm and the macrocosm necessitates the practice of ritual ceremonies to maintain harmony between the world of the gods and the world of man.

3.2 The Concept of Center

The notion of the center for the Balinese is one of beginning, origin. In built form it does not necessarily mean the geometric center of a region (or a cosmic territory) but more of an existential center. The center is also considered as the symbolic materialization of the Balinese Hindu quest for cosmological balance, a special place where forces - from the first world (*bhurloka*) or third world (*swahloka*) - from all directions meet and are greeted by human beings - from the second world (*bhuwahloka*) - with religious rituals. Thus it is like the concept of 'habitabilis' (Wheatley, 1971), where a fixed point (village, town, or territory of a specific group) took its birth by being cosmicized, hence its habitation was sanctioned. To this end, the Balinese designated a particular spatial organization of land uses around a main crossroad, as the physical representation of the center, known as the *pampatan agung* - for the purpose of the fulfilling of such a role.

3.3 Attitude to Spatial Organization

The notion of spatial organization in Balinese tradition is in accordance with the spatial continuity between the two extremes of the sacred and the profane. As such, the Balinese space within the framework of a cosmic territory - is organized on the basis of the assigned attributes of space. The land use and settlement function configurations are the result of a worldview or local compass cardinal (*luan-teben, kajo-keled and kangin-kauh*) that evolve from the translation of each local-situation (*desa-kalapatra* or 'place-time-situation' dictum) into a set of principles of organization. Such a framework can be seen as reflecting the principles of spatial division known as the *Tri Angga* (the three-fold division) and the *Sanga Mandala* (the nine-fold division).

3.4 Attitude to Environmental Design

Referring to the attitude of man-environment relationship, the Balinese notion of environmental design is one of an effort to harmonize the relationship between man and his environment. In this respect the dweller of a cosmic territory - *a desa adat* - is obliged to participate in the processes of environmental design to ensure that his aspirations are accounted for and are in compatible relationship with others'. Thus, the participation exercise is a vehicle to establish a common goal for the whole community (*sima krama desa*) in manipulating their environment or cosmic territory (*palemahan desa*) within the framework of the traditional-religious regulations (*parahyangan desa*). The Balinese utilizes the public meeting (*sangkep or paruman desa adat*)⁸ mechanism to establish such a common goal.

3.5 Attitude to Symbol and Meanings

The Balinese tradition is a tradition of myth and symbol. The organization of a cosmic territory's elements configuration as a result of cosmo-religious beliefs evolves

from the translation of phenomena into a symbol system. The symbol system expresses these beliefs by abstracting and translating them into principles of organization. The organization is seen as: a) a cosmic diagram (such as in the *Sanga Mandala* spatial organization); b) a path of life (such as in the organization of the center's elements and the ritual of *tawur kesanga*⁹); and c) a center of the universe (such as in the construction of the *pampatan agung*).

The three urban form determinants observed from the research in the town of Gianyar as the results of the interplay between the cultural constants were:

1. The attitude to human being-environment relationship combined with the attitude to symbols and meanings assign the *desa adat* and its elements as one of the determinants, in this respect the elements are the territory (*palemahan*), the triad temples (*parahyangan*) and the dwellers (*pawongan*), or in other words, the embodiment of the *Tri Hita Karana* philosophy.
2. The concept of center coupled with the attitude to symbols and meanings assign *pampatan agung* or the great crossroad, being the center of the settlement and its elements: *puri* (traditional palace), *pampatan agung* (grand crossroads), *lapangan* (plain grassy open space with a number of banyan trees), and so forth as one of the determinants.
3. Attitude toward spatial organization combined with the attitude to symbols and meanings assign the *Sanga Mandala* principle of spatial division and the related conceptions of *luan-leben* dichotomy: *Tri Angga*, *kaja-kelod*, and *kangin-kauh* as one of the determinants.

These are important considerations in urban design strategy in the design processes of Bali's urban areas in which the dominant characteristics project the attributes of fixedness and permanency. The functional

form-giving elements such as street structure, parks, and open spaces will be covered in the above elements since to some extent they are derivation of those cultural-related elements.

IV. TOWN'S IDENTITY

Heidegger (1969) has written: 'Everywhere, wherever and however we are related to beings of every kind, identity makes its claim upon us' to emphasize the fundamental of identity in everyday life. For it is so fundamental that it seems generally agreed that identity is a concept that evades simple definition. However Rapoport (1981: 7-35) and Relph (1976:45) offer two most relevant meanings: 1) the persistent sameness and unity which allows that thing to be differentiated from others, and 2) the condition of being one thing and not another. Both definitions seem to be at the heart of the concept as it applies to the theme of this paper.

Addressing specifically the identity of a town, Lynch (1960: 6) defines it simply as that which provides its individuality or distinction from other towns and serves as the basis for its recognition as a separable entity. Drawing from the citizen experiences of places in their city, Lynch proposes five components of city image which eventually provides one with a town's identity; these are landmark, district, node, path and edge. In this sense, Lynch leads us to the notion of town or city as an accumulation of places¹⁰. Thus a town identity is somewhat experiential since it is generated from the experience of places which is 'primarily an experiential category and intangible to the core' (Dovey, 1985: 94), although its components are mostly a tangible one.

As such, each place or town has a unique address that it is identifiable. However, for any individual, there are many identities of place or town as there are people, for identity is in the experience of the beholder as much as in the physical appearance of the

place, town or landscape. But while every individual assigns self-consciously or unselfconsciously an identity to particular places or towns, these identities are nevertheless combined to form a common identity (Relph, 1976:45), which is also Lynch's conclusion (1960).

This notion is mostly correct within a cultural group, since their cultural values and norms underlie their consensual way to look for certain qualities of place meaningful to the group. Thus, aspects of the dominant culture are the most abstract lowest common denominator, of what so-called consensus identity of place or town which, materializes in the form of physical features and other verifiable components of places and towns. According to Steele (1981) the group's worldview is an important component of cultures which underlie the formation of a meaningful sense of place. However, Relph (1976: 59) urges that 'the identity of places and towns cannot be understood simply in terms of patterns of physical and observable features, nor just as products of attitudes, but as an indissociable combination of these'. Therefore, the identity of a town is an expression of the adaptation of assimilation, accommodation, and the socialization of knowledge (about patterns of physical and observable features, and products of attitudes toward them) to each other (Relph, 1976; Prohansky *et.al*, 1983; Dovey, 1985).

In his book, Relph (1976: 45-49) focuses on three basic elements which constitute the identity of towns: the physical setting, the activities, and the meanings. These elements are always interrelated and engaged in a series of dialectics that form one common structure. The physical setting embraces townscape and dimensions of urban form, which in this sense, pays attention to the visual qualities of the buildings in a settlement, the spaces they create, their relationship with natural features. The activities embrace vehicle and pedestrian flows and patterns of behaviors, while meanings

embrace public perceptions, evaluations and association, which obviously are culturally inspired. Physical setting and activities combine to provide locations and places; physical setting and meanings combine in the direct and empathetic experience of landscapes or townscapes; activities and meanings combine in many social acts and shared histories. According to Relph (1976), all of these dialectics are interrelated in a town, and it is their fusion that constitutes the identity of that town. Physical setting, activities, and meanings as can be observed in the towns' cultural landscapes are the raw materials of the identity of towns, and the dialectical links between them are the elementary structural relation of that identity. As such, the cultural core that survived and constantly found in the towns' cultural landscapes over time is essentially reflected their identity.

It has to be acknowledged that there is not only an identity of a place, but there is also an identity that a person or group has with that place, in particular whether one is experiencing it as an insider or as an outsider. For a Balinese Hindu, whose any kind of settlements or dwellings are considered as the extension of his existence, to be inside a place or town is to belong to it as his immediate macrocosm and to identify his cosmological balance with it. Thus, the more profoundly inside one is the stronger is this cosmological associated identity with the place or town. In a sense, this is analogous to what Cooper (1976) has noted as 'a house as a symbol of self, hence as noted previously, *desa adat* may act as the symbol of a Balinese self.

V. URBAN DESIGN PRINCIPLES

Since publication on this subject has been quite prolific, this subject will be covered briefly. There were a number of efforts to develop set of principles or 'commandments' as a basis for urban design during the course of its evolution. These attempts - to name a couple which are quite repre-

sentative of the views found within the planning/urban design theorists- include the American, Kevin Lynch's five performance dimensions: *vitality, sense, fit, access* and *control* and two meta-criteria, *efficiency* and *justice* (1980) and the British, Francis Tibbalds' essence of urban design: *places before buildings, contextualism, mixed uses, human scale, pedestrian comfort, access to facilities, legibility, robustness and adaptability, incremental growth and change* (1988). There are of course other approaches that also define various principles, however they basically overlap and cover those mentioned. The comparative analysis of these different approaches outlined below (**table 1**) will demonstrate how these two sets of criteria relate to each other and how a 'new' set based on their commonalities in addressing the issue of producing cultural identity can be established, particularly in the context of 'physical settings-activities-meanings' relationships as the base to create town image and identity (Relph, 1976: 46-49).

Table 1
Comparative Analysis of Urban Design Principles

CRITERIA	LYNCH	TIBBALDS
Access	access	pedestrian comfort, access to facilities
Compatibility	fit (adaptability)	mixed used, robustness and adaptability
Identity	views, sense	places before buildings, contextualism, Legibility
Livability	vitality, control	human scale

Activities: Access. Accessibility to places and facilities is a basic requirement to establish vital urban activities. Lynch's concept of vitality, for example, which is a measure of the environment's contribution to sustenance, safety, and consonance (1980: 118), is clearly comparable to Tibbalds' assessment of livability, with its 'pedestrian comfort' and 'access to facilities' (1988: 14).

Physical settings-activities: Compatibility. Fit between people various activities with urban physical settings represent a major area of convergence among the two approaches. Tibbalds' principles have a functional emphasis and focus on compatibility in terms of urban spaces mixed used or variety of place purposes (Tibbalds, 1988: 13-14). Lynch's (1980) performance criterion adds a behavioral and functional dimension to fit, regarding it as a measure of activities-physical settings congruence.

Physical setting-activities-meanings: Identity. Tibbalds (1988: 13) has specific criteria relating to identity and distinctiveness, in terms of contextualism and respect to history, tradition, and culture, whereas Lynch (1980) discusses identity as a dimension of sense (pp. 131-132). His explication of the sense criterion emphasizes the role of spatial form and quality along with culture in shaping perceptions and identity of the environments. However, all two approaches note the importance of physical as well as non-physical properties of urban built environments, such as architecture, aesthetic elements, events, and value for making the city 'visually comprehensible'.

Physical settings-activities-meanings: Livability. According to Shirvani (1985: 128), the rationale behind all urban design principles, regardless of the form they take, is to promote the 'livability' of the city. This is a crucial concept but as indicated earlier, such a concept devoid a simple definition. However, concepts of mixed use, fine grain, high density and permeability have come to be recognized as important sources of urban vitality as they are of factors of making places and towns livable. Livability encompasses opportunities to work, to be educated, identified with, and culturally enriched through events, places, and people. Whereas in the other, it concerns matters of controlling one's personal space and its personalization (see Bentley, et. al, 1985). Thus 'livability' is necessarily

accommodates a physical dimension that makes it the concern of urban design.

VI. DEVELOPMENT OF DESIGN CONCEPTS

An attempt will be made in this section to inherently define the interrelationship between design objectives and form determinants in the development of design concepts. As such, this will set the stage for the development of design concepts. These concepts, which act as the organizing force of the urban pattern, spring from the pattern-shaping qualities of the form determinants and the design goals that pertain within the design principles. To accomplish this, the form determinants were paired with the principles in a matrix relationship, so as to produce a set of Balinese urban design concepts.

The concepts presented in this section are broad ideas which attempt to recognize this set of interrelationships by suggesting techniques or strategies utilizing the forces exerted by the form determinants in the achievement of design objectives. This research proposed a set of twelve concepts, however only three that deal with 'livability' principle would be elaborated. Nonetheless, the design concepts described be-

low are not the actual frameworks, which guide the physical development, but they provide the conceptual basis for their creation.

Design Concept No. 10: Livability-Desa Adat. Any desa adat of the town is encouraged to manifest its uniqueness according to its *awig-awig desa adat* (traditional law of *desa adat*), thus the *desa adat* residents, through a *sangkep* mechanism will have a chance to personalize their immediate environments according to common values set up by the *awig-awig* (See figure 1).

Design Concept No.11: Livability-Center's Elements. The center of a *desa adat* is the hub of the local traditional-religious ritual activities, therefore it is a collective space that has to be conserved in order to sustain cultural continuation, enhance localism and sense of place (See figure 2).

Design Concept No. 12: Livability-Sanga Mandala. The opportunity to personalize the town space has to be conceived within the *Sanga Mandala* spatial division framework, meaning that within each *mandala* or space -whether it is the most profane one (*nistaning nista mandala*) or the sacred one (*utamaning utama mandala*), a similar spatial division applies (See figure 3).

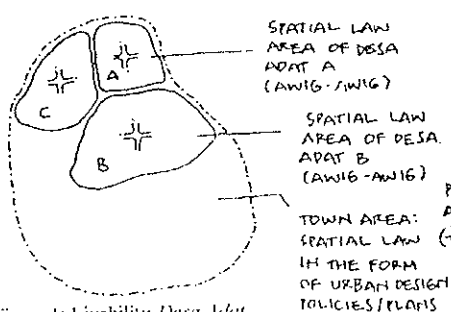


Figure 1: Livability-Desa Adat

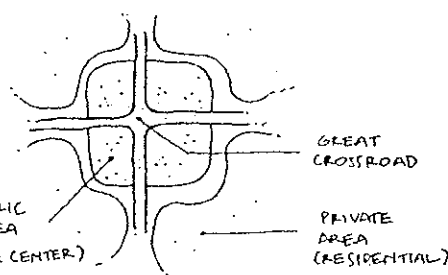


Figure 2: Livability-Pamputan Agung

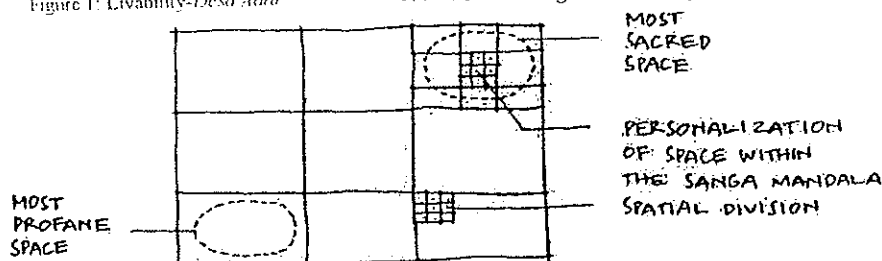


Figure 3: Livability-Sanga Mandala

VII. CONCLUSION

The proposed urban design concepts were developed based upon a pluralistic approach in the town of Gianyar. However, against the backdrop of the cultural homogeneity of Bali Island and similarity among the cultural landscapes of Balinese towns and settlements, the urban design issues generated by those cultural constants observed in the town of Gianyar should not be dissimilar to those of other Balinese towns and settlements. Apart from the natural (e.g. rivers and land contours) and man-made functional features (e.g. street network), in the context of urban design in the town of Gianyar, the cultural constants uncovered have indeed constituted the determinants of the town structure, or urban form-giving elements.

VIII. REFERENCE

- Appleyard, Donald. 1973. *Planning a Pluralist City: Conflicting Realities in Ciudad Guayana*. Cambridge: The MIT Press.
- Bentley, I., A. Alcock, P. Murrain, S. McGlynn, and G. Smith. 1985. *Responsive Environments: A Manual for Designers* (Oxford: Butterworth Architecture).
- Cooper, Clare. 1976. The House as Symbol of Self. In *Environmental Psychology*, eds. H. Prohansky, W.H. Ittelson and L.G. Rivlin. New York: Holt, Rinehart and Winston.
- Dovey, Kim. 1985. An ecology of place and placemaking: structures, processes, knots of meaning. In *Place and Placemaking: Proceeding of the PAPER 85 Conference, Melbourne 19-22 June 1985*, eds. K. Dovey, G. Misingham, and P. Downton. Melbourne: People and Physical Environment Research Association.
- Egenter, Nold. 1996. Architectural Anthropology. In *Architecture and Urban Conservation*, ed. Santosh Gosh, pp. 206-219. Calcutta: Center for Built Environment.
- Eiseman, Peter J. 1990. *Bali: Sekala and Niskala* Vol II. Singapore: Periplus Edition.
- Heidegger, Martin. 1962. *Being and Time*. New York: Harper and Row.
- IMCL. 2000. www.livablecities.org/conference.html, 14 November 2000, 09.17 PM.
- Kaler, Gusti Ketut. 1983. *Butir-butir Tercecer tentang Adat Bali*. Vol.II. Denpasar: Bali Agung.
- Lynch, Kevin. 1960. *The Image of the City*. Cambridge: The MIT Press.
- Lynch, Kevin. 1980. *Good City Form*. Cambridge: The MIT Press.
- Norberg-Schulz, Christian. 1971. *Existence, Space and Architecture*. New York: Praeger.
- Oliver, Paul. 1989. Handed Down Architecture: Tradition and Transmission. In *Dwellings, Settlements and Tradition: Cross-Cultural Perspectives*, eds. J.P. Bourdier and N. Alsayyad. Lanham: University Press of America.
- Pitana, Gde. 1994. Desa Adat Dalam Arus Modernisasi. In G. Pitana (ed.): *Dinamika Masyarakat dan Kebudayaan Bali*, pp. 137 – 169, ed. G. Pitana. Denpasar: Bali Post Press.
- Prohansky H.M., A.K. Fabian, and R.D. Kaminnoff. 1983. Place identity: physical world socialization of the self. *Journal of Environmental Psychology*, pp.57-83.
- Puri, B.B. 1995. *Vedic Architecture and Art of Living*. New Delhi: Vastu Oyan Publication.
- Rapoport, Amos. 1969. *House Form and Culture*. Englewood Cliffs: Prentice-Hall.
- Rapoport, Amos. 1977. *Human Aspects of the Built Form*. Oxford: Pergamon Press.
- Rapoport, Amos. 1981. Identity and Environment: A Cross-cultural Perspective. In *Housing and Identity: Cross-Cultural Perspectives*, ed. J.S. Duncan (London: Croom Helm).
- Relph, Edward. 1976. *Place and Placelessness*. London: Pion.
- Samadhi, T. Nirarta. 2000. Balinese Placemaking: Indigenous Conceptions and Institutions in Contemporary Urban Design. In *Proceedings of the World Congress on Environmental Design for the New Millennium, Seoul, 9 - 21 November 2000*.
- Samadhi, T. Nirarta (forthcoming). The urban design of a Balinese town: placemaking issues in the Balinese urban setting. *Habitat International*.
- Shils, Edward. 1981. *Tradition*. Chicago: The University of Chicago Press.
- Steele, Fritz. 1981. *The Sense of Place*. Boston: CBI Publishing.
- Surpha, Wayan. 1991. *Eksistensi Desa Adat di Bali*. Denpasar: Upada Sastra.

- Swellengrebel, J. L. 1960. Introduction to *Bali: Studies in Life, Thought, and Ritual*, ed. J.L. Swellengrebel. The Hague: W. van Hoeve Ltd.
- Tamblah, S.J. 1985. The Galactic Polity in Southeast Asia. In *Culture, Thought and Social Action: An Anthropological Perspective*, ed. S.J. Tambiah. Cambridge: Harvard University Press.
- Tibbalds, Francis. 1988. Mind the gap! *The Planner* March, pp. 11 – 15.
- Trancik, Roger. 1986. *Finding Lost Space: Theories of Urban Design*. New York: Van Nostrand Reinhold.
- Tuan, Yi-Fu 1977. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota Press.
- Vitruvius. 1960. *The Ten Books on Architecture*. Translated by Morris H. Morgan. New York: Dover Publication.
- Wheatley, Paul. 1971. *The Pivot of the Four Quarters: A Preliminary Enquiry into the Origin of the Ancient Chinese City*. Chicago: Aldine Publishing Company.

¹ See for instance Relph (1976) or Prohansky et al (1983)

² See for example Swellengrebel (1960), Lansing (1974), or Gelebet (1985, and Samadhi (2000)

³ Within a core-periphery continuum of the Balinese traditional-religious conceptions of space, according to 97% of the respondents, the psycho-cosmic concept is the core principle in the manipulation of the Balinese environments and cultural landscapes.

⁴ Consisting of *pura puseh* (navel temple), *pura desa* (village temple), and *pura dalem* (temple of the dead)

⁵ Such a bounded space has a more comprehensive meaning to the Balinese than a 'mythical space' as has been defined by Tuan (1977:85-89): '...functions as a component in a worldview or cosmology'.

⁶ The spatial quality division according to the *Tri Angga* principle comprises of *utama angga* (sacred space), *madya angga* (neutral space), and *nista angga* (profane space). In this respect, a place on the mountain ward (*kaja*) location, that is upstream, is deemed sacred against the one located to the sea ward direction, that is downstream (*kelod*).

⁷ For instance, a man always belongs to a *desa adat* even though he resides permanently outside this *desa adat* or even outside Bali. In such a case, he is expected to pay his due for *adat*-related rituals as well as pay homage to the village temple on the temple anniversary ceremony (*piodalan*).

⁸ *Sangkep desa adat* or *adat* village assembly, attended by family heads, are held every month, at the *pura puseh* or at the assembly hall (*bale agung*) nearby, during which matters of both ritual and secular importance are addressed.

⁹ A ritual of village or town cleansing, conducted in conjunction with *Nyepi* – when all the Balinese Hindu take a day of complete inactivity, thus contemplating at home – one day before the celebration of the most important ritual of the Balinese new *Caka* year.

¹⁰ This article employs the term 'place' and 'town or city' interchangeably within Lynch's notion.