

*CULTURAL HOUSING PREFERENCES IN LOW-INCOME RESETTLEMENT
COMMUNITIES IN BANGKOK, THAILAND*

Vimolsiddhi Horayangkura

ABSTRACT

This study examines the underlying factors that determine the type of housing unit generally preferred by low-income residents in Bangkok, Thailand. A comparative analysis is made between two resettlement communities in Bangkok, one with average plot sizes of 40 m² (square meters) and the other with an average plot size of 60 m². Data were collected using both quantitative and qualitative approaches from 106 families living in the two resettlement communities. Almost 60 percent of the total number of dwelling units on the smaller plots in the Lad Buakao community are single dwellings. All the units on the larger plots in the Bang Bua community are single dwellings. Given the socio-economic similarity between the residents of the two communities, preference for a particular type of housing unit can be attributed to other determining factors. Satisfaction with existing plot sizes and overcrowding concerns do not differ by variation in plot size. There are cultural values acting as determining factors in the choice of house form. The functional, environmental and social consequences of this preference for single-dwelling units built on substandard plots are discussed.

INTRODUCTION

Housing for the poor in the growing cities of developing countries typically becomes concentrated in high-density, low-rise developments. In attempting to reduce costs and to lower standards with a view of making more housing units available, the site-and-service scheme has become the principal approach to solving the housing shortage problem of the urban poor. Housing, conceived as a fundamental life activity (Verschure, 1979), is recognized as a process that demands the active participation of the occupants in the evolutionary, progressive or gradual construction of housing units.

Because of economic constraints, open plots, each with an area of only 40 m² or smaller, have been planned for some housing projects in Thailand. The more generally accepted plot sizes are in the order of 60-80 m². Some critics charge that the resulting settlements for low-income people on such minimum-size plots are merely creating planned slums. Proponents believe that if the developments are properly planned, with a high potential for appropriate subsequent construction of self-built dwellings, the settlements are "alterable and improvable" slums (Abrams, 1964, p. 181).

Vimolsiddhi Horayangkura is Associate Professor, Faculty of Architecture, Chulalongkorn University, Bangkok, Thailand. This is an amended and extended version of a paper presented at the 1986 annual conference of the Environmental Design and Research Association in Atlanta, Georgia (EDRA 17).

According to Turner (1979), the design of dwellings and neighborhoods is the least influential domain in the housing process. It is worth investigating, however, how the designers' concept matches that of the residents with regard to appropriate design for low-income housing built largely by the residents on substandard plots. The selection of design standards is based mainly on their affordability by the residents. Bertaud (The World Bank, Urban Development Department, 1981) developed a mathematical model, known as the "Bertaud Model" for analyzing plot sizes and other project parameters, especially land, infrastructure, housing costs and densities in relation to potential monthly payments.

However, form, or more specifically plot size as the basic design variable, and the type of housing unit as decided by the dwellers can be seen as an expression of fundamental socio-cultural issues. Rapoport (1969) considers socio-cultural influences as primary factors in determining house form as distinct from other, secondary factors such as climate, site, material, technology, etc. The question arises as to whether the socio-cultural values of the occupants, living in a rather tight space, are still the determining factors with regard to the housing environment.

OBJECTIVE OF STUDY

The main objective of this study is to investigate the preference for a particular type of housing unit, namely single-unit dwellings (as opposed to other housing types with attached units), in connection with minimum plot size. This study attempts to show that the local culture imposes certain covert demands with regard to the independence of housing units. An increase in plot size and the subsequent change in the type of housing unit should signify such individualistic values--something of which designers may be aware. An investigation of such psychological aspects as satisfaction with plot size and anticipation of overcrowding should provide the necessary confirmation.

This study also examines the negative consequences of such cultural determining factors. This should reveal the underlying "costs" to the occupants--the costs of a lack of awareness on the part of the designers that is due, in turn, to a lack of behavioral inquiry. A more appropriate design approach towards the physical aspects has yet to be proposed.

RESEARCH DESIGN

This study is an extended part of a research activity--the evaluation of two recent resettlement projects of the National Housing Authority (NHA) in Thailand. The two resettlement projects studied are the Lad Buakao and the Bang Bua communities in Bangkok, Thailand (Horayangkura et al., 1985a, 1985b). Subsequent information gained through this evaluative research provides the necessary basis for the specific research design of this study.

If the socio-economic characteristics of the residents of the two communities do not prove to be different to any significant extent, then by taking these characteristics into account as a primary control variable, it should be possible to draw a number of meaningful comparisons between the two communities with regard to certain psychological aspects and housing types. If there is no significant difference between the residents of the two communities with regard to such secondary control variables as satisfaction with existing plot size and anticipation of overcrowding, it should be possible to take the types of housing units into account as a dependent variable. That dependent variable should covary with plot size and reflect the determining values of the dwellers. The subsequent

problems arising from a cultural preference for a certain housing type are also investigated (see Figure 1).

RESEARCH DESIGN

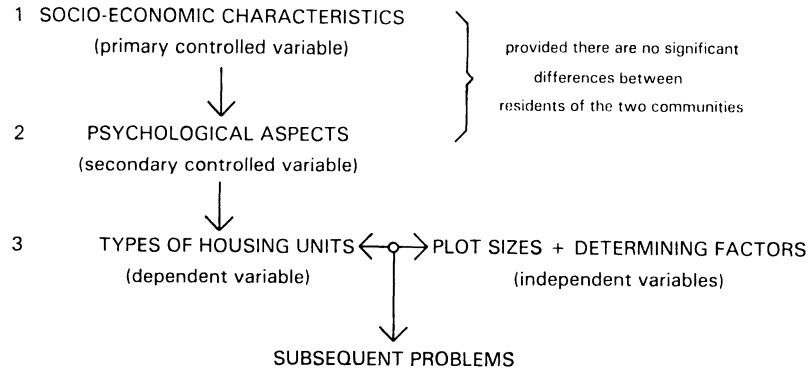


FIGURE 1. RESEARCH DESIGN SHOWING THE RELATIONSHIP OF VARIOUS RESEARCH VARIABLES

METHODS

In the initial stage of the data collection, the research team attempted to gradually develop an intimate relationship with the residents of the two communities, with the result that the researchers were finally recognized by the residents as members of an "in-group". All the data were collected after a period of residency, when construction of the dwelling units was either complete or substantially underway. Sixty-one families at the Lad Buakao community and 45 families at the Bang Bua community were available for intensive investigation. Three steps of data collection were undertaken (see Figure 2). They followed a qualitative-quantitative-qualitative sequence.

1. Unstructured interviews were conducted with members of the community committee and a number of key residents. The preliminary data obtained provided basic information for preparing a structured interview schedule.
2. Structured interviews were conducted with all the available families by using a prepared interview schedule. The quantitative data collected consisted of the residents' socio-economic status, psychological aspects in terms of satisfaction with the size of the plot occupied, and anticipation of overcrowding.
3. Specific, representative families were interviewed in-depth. Through sympathetic introspection, these interviews focused on eliciting how residents feel about their experiences. Data were

obtained on subsequent problems arising from a cultural preference for a particular housing type. Specifically, data related to functional-environmental and social impacts were gathered both through the interviews as well as on-the-spot observation.

DATA COLLECTION

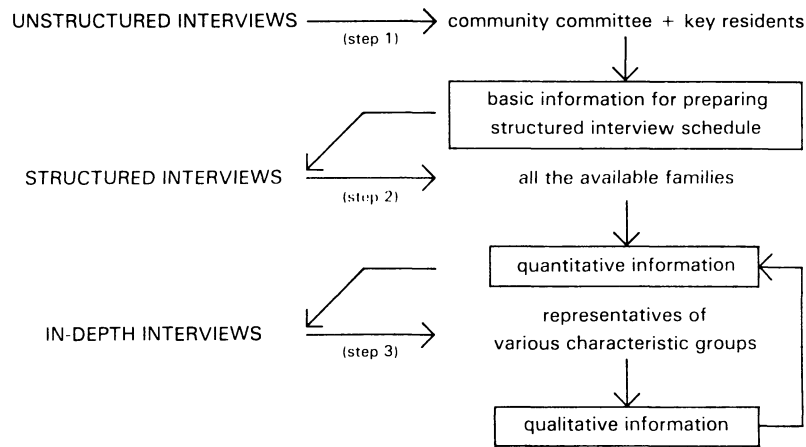


FIGURE 2. PROCEDURE OF DATA COLLECTION SHOWING THE SPECIFIC TECHNIQUES EMPLOYED, THE SUBJECTS, AND THE NATURE OF THE INFORMATION OBTAINED

More meaningful insights were expected to be gained through such sequencing of qualitative-quantitative-qualitative methods rather than the more general application of a mainly quantitative approach. The qualitative method was intended to help interpret correctly the facts or figures of the quantitative outputs. Both approaches complement each other in eliciting useful information (Reichardt and Cook, 1979).

THE SETTINGS

A. The Lad Buakao Community (LBC)

The LBC is located on the bank of the Chao Phraya River in the southern part of Bangkok. It is located in close proximity to urban centers of economic importance, which have the necessary facilities for the low-income population of Lad Buakao. Because of land sharing, only two rai (0.32 ha), or about one-fifth of the total land area, was allocated for the reconstruction of a low-income community for up to 67 families. In the remaining area, the landowner planned to build townhouses and shops for those in a higher income bracket. The site of

the new community is adjacent to a local school and a Buddhist temple that provide open spaces outside the confines of the very high-density community.

The NHA subdivided the trapezoid-shaped piece of land into a maximum number of small plots of approximately equal size. All the land was intended for housing units. Sixty-three rather equal plots were allocated to 67 families; there are four plots, each of which was subdivided into two smaller ones. The average size of the standard plots is approximately 40 m² (4x10 meters). The size of the smaller plots is only approximately 20 m². These plots, are, however, larger than those in the 'villas miserias' of Latin American cities (Mobogunje, Hardoy, and Misra, 1978).

Walkways three meters in width provide open space and the only circulation channel within the community. Additional unassigned open space is gained from a setback of not less than one meter in front of each dwelling unit. This front margin of semi-private domain was mutually agreed upon among the residents (see Figure 3A).

B. The Bang Bua Community (BBC)

The BBC is located in the outlying northern part of Bangkok, approximately 13 kilometers from the Soi Boonyoo slum in the inner city, from where the low-income residents were relocated. Unlike the LBC, the BBC is remote from the densely populated center of Bangkok.

The site of the BBC is behind the NHA's public-housing project for 1214 families. It is in close proximity to various public facilities. The BBC was planned primarily for residential purposes, as was the LBC. Oblong in shape, the settlement is 8.38 rai (1.34 ha) and approximately 40.50 meters in width. The oblong shape of the site, together with the community entrance located at the extremity, set certain limitations on the planning of alternative physical layouts. There could be only one main road with a total width of 5.50 meters along the strip of land. This road provides direct access to 109 outer plots. The remaining 59 inner plots are accessible through alleys with walkways that are two meters in width. The plots are of equal size, each covering an area of 60 m², either 6x10 meters or 5x12 meters. As in the case of the LBC, additional unassigned open space is gained from the setback of each housing unit (see Figure 3B).

FINDINGS

Socio-Economic Characteristics

It is found, upon a comparative analysis of the data, that the socio-economic characteristics of the residents of the Lad Buakao (LBC) and the Bang Bua (BBC) communities, especially in terms of family size, family age and family income, are quite similar (see Table 1). All t-values obtained are not significant, however ($p > 0.05$). It is thus possible to use these characteristics as control variables for further investigations with regard to psychological aspects and housing types.

Psychological Responses: Satisfaction with Plot Size and Anticipation of Overcrowding

The data show that about one-fourth of the families at the LBC express dissatisfaction with the plot size of 40 m² because it provides too confining a living space (see Table 2). At the BBC, where the plots are much larger, a proportionately larger number of families (about one-third) are not satisfied with

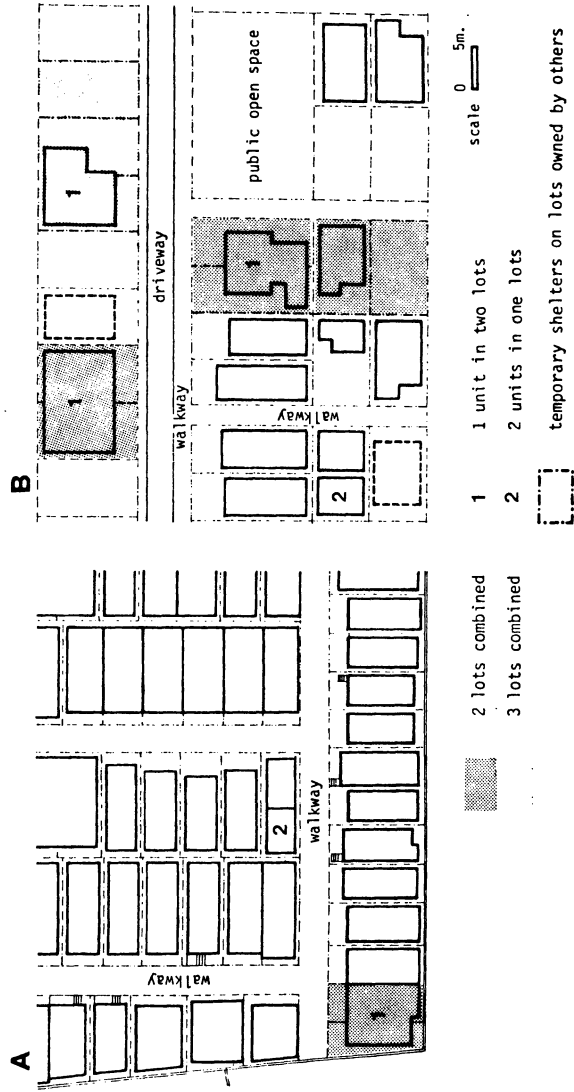


FIGURE 3. Pattern of Dwelling Units on Plots of Land Showing Housing Types and Some Users' Modifications of Plot Allotment at the LBC (A) and the BBC (B) Resettlement Communities

the larger plot sizes of 60 m² (see Table 2.1). Similarly, more BBC residents foresee problems concerning overcrowding due to insufficient space (see Table 2.2). Chi-square analysis, however, fails to show any significant ($p > 0.05$) relationship between the size of the plot occupied and incurred psychological responses.

Table 1. Statistical significance tests of differences in some socio-economic characteristics between the Lad Buakao and the Bang Bua residents

Variables	n	M	SD	df	t-value ^a
Family age					
Lad Buakao	59	147.254	67.727	100	-0.27
Bang Bua	43	150.884	67.678		
Family size					
Lad Buakao	59	6.085	2.979	100	-0.90
Bang Bua	43	6.605	2.735		
Family income					
Lad Buakao	59	4901.254	2697.906	98	0.66
Bang Bua	41	4545.976	2611.426		

^a All t-values obtained are not significant ($p > 0.05$)

Table 2. Satisfaction with existing plot sizes (2.1) and concern with regard to overcrowding in the future (2.2)

2.1	Lad Buakao (40 m ² plot)		Bang Bua (60 m ² plot)	
	No.	Percent	No.	Percent
Too small	15	24.59	16	35.56
About right	46	75.41	29	64.44
Too large	--	-----	--	-----
TOTAL	61	100	45	100

(Note: Corrected $\chi^2 = 1.518$, $df = 1$, $p > 0.05$)

2.2

	Lad Buakao		Bang Bua	
Foreseeing overcrowding	25	40.98	24	53.33
Anticipating no problems	17	27.87	16	35.56
No opinion	(19)	(31.15)	(5)	(11.11)

TOTAL 61 100 45 100

(Note: Corrected $\chi^2 = 0.051$, $df = 1$, $p > 0.05$ for the data from those two groups expressing opinions)

Types of Housing Units Constructed

On such small plots of 40 m² as those at the LBC, up to 60 percent of the total number of housing units are still single-dwelling units constructed as independent structures with tiny, unutilized spaces between them. The remaining dwelling units are either duplex or row-house units that utilize the limited plot size more fully.

On plots of 60 m² at the BBC, all the houses, despite a great diversity of physical form, are independently built as single-unit dwellings. Some of the units, however, should have been built as attached units in order to meet the spatial needs of those residents preferring open areas. Chi-square analysis shows a significant ($p < 0.001$) association between housing type and community of residence (see Table 3).

Table 3. Types of housing units constructed

	Lad Buakao (40 m ² plot)		Bang Bua (60 m ² plot)	
	No.	Percent	No.	Percent
Single houses	38	60.32	62	100
Duplex houses	12	19.05	--	---
Row houses	13	20.63	--	---
TOTAL	63	100	62	100

(Note: $\chi^2 = 30.752$, $df = 2$, $p < 0.001$)

Subsequent Problems Perceived by the Residents

Residents prefer the independent housing units because they feel these dwelling-types help them to not only express their individual identity, but also help them to avoid future disputes over the rights to party walls. The occupants of minimum-size plots at LBC are, however, more concerned with the wasted space between adjacent units, the close proximity of independent structures and the potential fire hazard this represents, and the disturbances from quarrelsome neighbors.

*DISCUSSION**Plot Size and Determining Factors As Regards Type of Housing Unit*

The 60 m² plots at the BBC are intermediate in size when compared with the plot size of 40 m² at the LBC and the more usual standard plot size of 80 m² at the Tung Song Hong site-and-services plot or the 84 m² at the new communities of Bang Plee and Lad Krabang.

In fact, 60 m² is the generally accepted norm for plot size in developing countries. For example, the largest portion, or 40 percent, of the total number of plots of the famous Dagat-Dagatan project in Manila are limited to 60 m² (National Housing Authority, Dagat-Dagatan Project Office, 1981). Likewise, 60 m² corresponds to the minimum standard plot size of 60-70 m² set by the "Instituto de Credito Territorial (ICT)" of Colombia (Williamson, 1982). The plot size of a small, two-room house known as a "pucca" house in India also varies from

50-60 m² (Mabogunje, Harody, and Misra, 1978).

The average plot size of approximately 40 m² at the LBC is, therefore, below the generally accepted standard. Because land values for such a community located in the inner part of an urban area are relatively high, the community had a mere 2 rai (0.32 ha) to parcel out. This relatively small piece of land was subdivided into small plots to house as many as 67 families.

The results of the study indicate that there is no positive relationship between satisfaction with plot size or anticipation of overcrowding and the size of the plot occupied. Occupants on plots of different sizes have similar socio-economic characteristics and psychological responses. Other determining factors, therefore, are involved in the dwellers' decisions as to the type of housing constructed.

While there are many attached dwellings built on the substandard-sized plots of 40 m² at the LBC, there are only single units on the moderate-sized plots of 60 m² at the BBC. The additional area of 20 m² is thus a contributory factor in the decision to construct single-dwelling units. It covaries with the intrinsic preference for independent units. In general, people in Thailand build single houses. Thai people value owning their own land and living at ground level. They also value living in single-dwelling units. Though not so commonly recognized, the preference for single-dwelling units is a reflection of the national characteristic of independence. The literal meaning of the word "Thai" is "independent".

The formal aspects of housing thus involve the expression of a particular cultural preference. According to Rapoport's (1969) basic hypothesis, it can be concluded that house form is a consequence of socio-cultural values acting as the primary or determining factors. Thus, housing can be defined in relation to certain cultural preferences, ways of life and expressions of human values. Such findings regarding the variety in individual dwellings reflect national variations in terms of housing types. According to Verschure (1986), there is great variety in housing types among Asian countries (such as Indonesia, Malaysia and Thailand) resulting from local socio-cultural, economic and physical variables.

The designers of the physical layout of the BBC failed to recognize this special concern for independent dwelling units. They originally proposed a row-house scheme with a "building-together" effort in mind. Their proposal was impractical, not only because of the differences in the residents' ability to afford building the structural framework during the early stages, but also because of the underlying cultural values. Architectural assistance, intended as part of an organized effort to support individual families, was ignored by the residents. For some residents, it was feasible to build only "separate units of shanties or "alterable and improvable" shelters in the early-settlement stage. Such independently-built dwelling units are certainly more responsive to changing conditions. As Turner (1979) points out, the higher the degree of independent variability and separateness of boundaries, networks and volumes (the three basic elements of built environments), the more responsive the physical environment is to change.

The Negative Consequences of Cultural Preference: An Evaluation

The following is a discussion of the problems that were subsequently observed in conjunction with the residents' own perceptions of their problems, as presented in the findings. Each of these problems imply the underlying "cost" to the occupants.

A. Functional-environmental implications (see Figures 3 and 4)

Independent structures were built on substandard-sized plots in accordance with each family's spatial needs. Consequently, there are extremely narrow and unutilized spaces (approximately 0.50-0.80 meters) between adjacent units on the side and the back of each plot. The atmosphere of "planned slums" may, in part, be attributed to the leftover spaces that have been left to deteriorate. The situation is particularly severe in the case of the LBC where the format of the plots is limited to a ratio of 1:2.5 and above, with an equal frontage of only four meters width. Such a practice of plot coverage is rendered possible because of a relaxation in the building regulations.

In addition to the fact that the occupants have to pay for those spaces that cannot be utilized, independent structures in extremely close proximity increase the danger of fire. Further, individual dwellings are usually made of highly combustible materials. Effective fire protection in such communities is difficult to achieve because residents cook on open stoves. Moreover, in such a hot and humid tropical climate, such shelters, with tight spaces and windowless walls between close, individual units, can hardly meet the needs for hygienic living with regard to cross-ventilation.

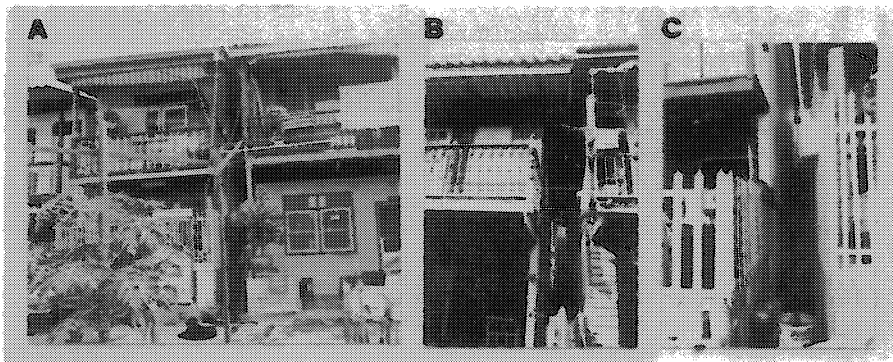


FIGURE 4. Preference for single-dwelling units constructed as independent structures on substandard-sized plots (A) and the consequences: Tiny, unutilized spaces between them (B and C).

Closer investigation indicates user modification of plot allotment. Two or three lots are sometimes combined in order to build single houses, mainly to gain more space for living and to avoid the unutilized space between separate lots. This is particularly evident at the BBC where more land is available for residents. The resulting plot configuration forms a less dense settlement (see Figure 3).

It is perhaps worthwhile for the NHA to propose another form of land ownership: cooperative and community ownership (or trusteeship). Turner (1981) endorses this form as a third alternative for the more general models of private ownership in a free market, or centrally planned public ownership. However, this proposed form of land ownership and the resulting alternative spatial

configuration, possibly through grouping of plots sharing common spaces and services, may not correspond to the underlying values concerning relations between neighbors as defined by local culture. The necessary privacy regulation between neighbors can hardly be maintained.

B. Social implications

Crowding is a generally agreed-upon subject of social concern with regard to housing conditions (United Nations Economic and Social Council, 1974). Research on the outcomes and cost of crowding is based primarily on laboratory studies and social pathologies in urban areas (Altman, 1975). The social impact of extraordinarily high-density living situations in low-income housing has yet to be specifically and critically investigated.

At the LBC, the circulation network (walkways) covers an area of only 20 percent of the total community land, while the general standard area for circulation covers 25 percent of the land (Caminos and Goethert, 1978). With an average plot size of 40 m², the resulting gross density of 33.5 families/rai (209.37 families/ha) is well above the density standard of the existing housing projects of NHA, including some of those involving public flats (20–25 families/ha). It should be noted that the population densities in Bangkok's slum areas are in the order of 20–30 families/rai (125–188 families/ha). The density of a similarly low-rise, site-and-services project at Tung Song Hong is only 11.30 families/rai. The BBC, with a total space for circulation network and assigned public area of 21.55 percent of the total area and with an equal plot size of 60 m², has a moderate gross density of 20.18 families/rai (126.12 families/ha).

In a very high-density environment such as that at the LBC, residents are inevitably faced with overcrowding problems, not only within individual housing units, but also in the narrow public walkway. As mentioned earlier, living at ground level is highly valued in the more traditional Thai lifestyle. Not only does living at ground level make it possible to secure land tenure, it also makes it easier to care for children, to interact with neighbors and, more importantly, to take advantage of any economic opportunities. Parts of the housing units incorporate such commercial spaces as grocery and food corners, hairdressing and dressmaking shops, and small cottage industries. Many of these activities tend to overflow into the public domain as an extension of the dwelling unit. Though such a situation may create a lively community environment, it may also have adverse social impacts. In such a vital, but tight, space, the Lad Buakao residents frequently suffer disturbances from quarrelsome neighbors. Such complaints, however, are not found among the Bang Bua residents.

CONCLUSIONS AND RECOMMENDATIONS

Plot size, especially of minimum standard, and the type of housing unit should be considered as complimentary elements in the design process. The designers of the physical layout of the LBC did not foresee that most of the residents would build single houses on the plots of substandard size. The preference for independent structures is the reflection of underlying Thai cultural values regarding independence. Such a deep-seated preference is evident in the fact that on the larger plots of 60 m², residents built only single units.

The plots of minimum size, together with the construction of independent structures, tend to have negative consequences in various respects. The minimum area, paid for by the low-income occupants themselves, cannot be fully and properly utilized. Dwellers in an extraordinarily high-density environment, as in the

case of the LBC, suffer overcrowding problems. An alternative form of land ownership--cooperative and community ownership or trusteeship--should be applied in such a manner that a new form of settlement, as suggested earlier, can be created. The only other solution would be to enlarge the size of the plots and, at the same time, provide each plot with a more appropriate format. However, in considering the need for cost recovery on such projects and for bringing land cost within the range of the residents' ability to pay, it is not feasible to reduce residential density. The potentiality of a cooperative or community approach to land ownership should be addressed in future research. Such a form of land ownership is likely to be incompatible with the basic cultural requirement of a single house on land owned by the dweller. However, such a form of land ownership could relieve such problems as potential fire hazards, overcrowding and waste of land if it results in the construction of attached units that share common public space and services.

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