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Title

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Journal

Berkeley Planning Journal, 14(1)

Author

Chang, Sishir

Publication Date

2000

DOI

10.5070/BP314112985

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A High-Rise Vernacular in Singapore's Housing Development Board Housing

Sishir Chang

Vernacular architecture is commonly believed to be a quaint representation of the history and traditions of a culture, built by average people using traditional technologies over a long period of time but in Singapore there are several indications that the Modernist high rise housing and new towns have become a new vernacular. The factors that support this point of view are: 1) the ubiquity of the high rise and new town way of life; 2) a shared value system and culture within the new towns that is shaped by and reflected in the architecture and planning of the new towns; 3) the importance of relationships between spaces in the new towns; 4) the ability of the architecture and planning of new towns to adapt to changes within Singaporean society; 5) the acceptance, legitimacy, and identification of the high-rise way of life by Singaporeans. A vernacular in Singapore based upon high-rise housing and new towns profoundly impacts the understanding of vernacular architecture, Modernist planning, and the industrialization of former Third World countries in response to the globalism.

Introduction

When one thinks of vernacular architecture the image of high-rise buildings and modern new towns rarely comes to mind but in the country of Singapore these elements are becoming a new vernacular (Fig. 1). This idea initially seems improbable as the nature of high rise housing violates the widely held conception of vernacular architecture as a quaint representation of the history and traditions of a culture, built by average people using traditional technologies developed over a long period of time. High-rise buildings in contrast are planned and constructed by a skilled and specialized labor force. These structures also embody intellectual "high style" design ideas developed over a short period of time by a design elite rather than over generations by average members of a culture. For many Singaporeans high-rise buildings remain a foreign typology that has no basis in any long held tradition in Singapore. Even with these problems there still are many factors in Singaporean high-rise housing that are indicative of vernacular architecture. Among these factors are the close to 90% of the population living a shared cultural and physical way of life in planned high rise new towns built by the Housing Development Board¹, an accepted typology of house forms, and the wide spread acceptance of high rise housing by Singaporeans.

The creation of a vernacular based upon high rise housing and

Figure 1: Singaporean High-Rise Housing



Source: Author's photo

Modernist planning is important for a country like Singapore which has transformed itself in the past forty years from a colonial city to a Third World city and finally to a First World economic power. Many have pointed out that Modernist planning has largely been spread by the world capitalist economy and the vestiges of imperialism to the Third World (King 1990, 38). Singapore's experience has been similar to other former colonial cities in that respect but the development of a vernacular shows the completeness of the transformation of Singaporean society and its own internalization of Modernist housing and planning.

It is important to recognize a vernacular in the high rises of Singapore because vernacular architecture is crucial to understanding a culture. It is a physical product of that culture that in architectural anthropologist Amos Rapoport's words represents the, "needs, dreams and ideals of a culture." Therefore changes in vernacular architecture will reflect changes in a society and the development of a new vernacular indicates a profound change in the culture. Henry Glassie writes, "Vernacular architecture records subtly but insistently the history of a people" (1990). Singapore's transformation into an industrial modern powerhouse can be traced in the change from the preexisting housing of Singapore to the HDB high rises and their acceptance as a vernacular. The development of a high-rise vernacular is important for the understanding of Modernist planning in general and the ability of societies to adapt and transform in response to global trends.

Vernacular Architecture

What is vernacular architecture? Amos Rapoport provides a fairly detailed definition of vernacular architecture in his 1969 book *House Form and Culture*, which was later refined in his 1990 work, "Defining Vernacular Design". According to Rapoport vernacular architecture consists of buildings that represent the folk tradition of a culture and relate directly to the daily lives of members of the culture that created them (1969, 2). He states that the folk tradition "is the direct and unselfconscious translation into physical form of a culture, its needs and values—as well as the desires, dreams and passions of a people" (1969, 2). Within a vernacular there are certain accepted forms which persists but are subject to change without changing their essential natures. As Rapoport states, "it is the individual specimens that are modified, not the type" (1969, 4). There is also an open-ended quality to these structures allowing them to change with the culture they are in. Relationships between built form and the daily lives of members of a respective culture are very important in vernacular architecture. These are expressed by traditions that act through the architecture as systems of collective control on the society. Vernacular architecture both facilitates and creates social norms of behavior by the members of that society (1969, 6). Rapoport also states that, "Vernacular is also characterized by the greater importance and significance of relationships between elements" (1969, 6). Rapoport is explaining the importance of relationships between structures in vernacular architecture compared to the importance often placed on singular objects in modern architecture. In determining what qualifies as vernacular architecture Rapoport advocates a polythetic approach that is based upon multiple characteristics to indicate a vernacular rather than a monothetic or "all or nothing" approach (1990).

One of the major pre-HDB housing types in Singapore provides a good example of vernacular architecture. The *kampong*—Malay for village—with its *attap*² houses are exemplar of what is traditionally thought of as vernacular architecture. In the *kampong* there was a clear understanding of what a house was because of an accepted typology with features common to all dwellings within the *kampong*. For instance every Malay house had a verandah, was raised off the ground, had a large living room for men in the front and a kitchen room for women in the back. These *attap* houses uniquely suited the cultural life of the *kampong* with features that facilitated social interactions between residents and functions essential to their lives such as cooking and sleeping. In turn the architecture of the *kampong* also created various norms of behavior by the residents such as the use of the verandah as a social area for men while the area in the back of the

house became a work and informal social area for women (Chua 1988, 15). These houses developed over generations and were intrinsically tied to the society that created them. The *attap* houses themselves were susceptible to change to meet the needs of the households occupying them. Rooms and other spaces could be added without changing the essential qualities of the house as a whole (Chua 1988, 15). The aesthetic of these houses also expressed the culture of the *kampong* through the use of elements that indicated the status and values of the households which dwelt in them. For instance the symmetrical layout of the Chinese houses reflected their belief in geomancy while the Malay houses emphasized gender differences in uneven layouts. The residents of these houses also richly decorated their houses to lend identity to their households (Chua 1988, 5). The *kampong* vernacular was one of continuous variations of a shared common house type that could be understood by the residents as individual elements and also as integral parts of the *kampong* identity.

The layout of the *kampong* also expressed the social values and organization of the culture they were created by. In the Malay *kampong* each house was laid out in respect to existing houses to not obstruct views and leave open space between them (Fig. 3). The arrangement reflected the varying levels of territoriality within the Malay community that emphasized informal public spaces (Chua 1988, 205). In contrast to the Malay *kampong*, the Chinese *kampongs* arranged

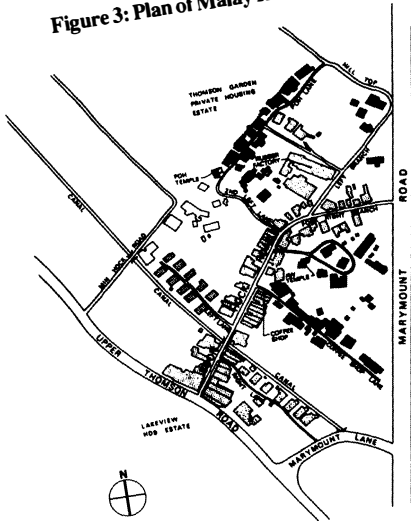
Figure 2: Kampong and Attap Houses from Bintan Island and Similar to Pre-Independence Singaporean Kampongs



Source: Author's photo

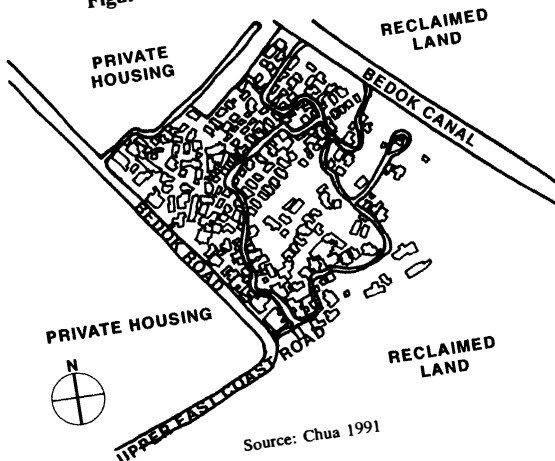
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Figure 3: Plan of Malay Kampong



Source: Chua 1991

Figure 4: Plan of Chinese Kampong



Source: Chua 1991

houses next to each other along set pathways and demarcated their property with fences illustrating a greater sense of territoriality than the Malays (Fig. 4) (Chua 1988, 206). In both cases the location of common public amenities such as worship halls, markets and *kopi tiam*³ also played a role in the layout of the *kampung*. These public spaces were shaped by, and in turn, reinforced behavior patterns in the *kampung* community. For example, women would follow daily patterns of shopping and would socialize as they shopped while men would frequent the *kopi tiam* at night to socialize. The overall arrangement of the *kampung* was just as important as the houses themselves in forming the identity of the *kampung* as each of the individual *kampungs* had highly varied layouts affected by settlement patterns and geography. Similar to the way *attap* houses were a common type with endless variations, each *kampung* shared similar features but also had their own distinct layouts.

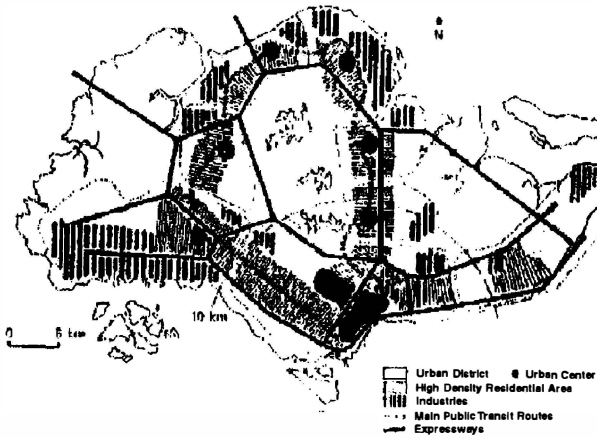
A New Vernacular Architecture

With the rapid modernization of Singapore the *kampung* and other preexisting vernaculars have been wiped out and replaced by the HDB new town. At the same time many of the same qualities that identified the *kampung* as a vernacular have arisen in the new towns and high rises. These qualities are the ubiquity of HDB, a culture and common value system intrinsic to HDB high-rises, standard typology of housing and acceptance and identification of high rise housing and new towns by Singaporean society.

High-rise housing and Modernist planning was first introduced in the waning days of British colonialism and was greatly expanded following Singapore's independence in 1965. At that time a new masterplan was developed for Singapore under the guidance of the UN Development Agency (Fig. 5). This plan emphasized industrialization, mass housing, and was based on the Western "International Style" movement. Like many other post-colonial cities Singapore was seen as a blank slate for creating a new planning vision (King 1990, 42). This plan was eagerly adopted and implemented by the Singaporean government. The change to industrialization in a former colonial country also created profound changes to that society. New institutions arise while others that had been established under colonialism take on new roles (King 1990, 39). In Singapore the government and bureaucratic system established under British rule became much more powerful while global capitalism and technology altered the populace from being backwards and poor to an efficient, educated, and affluent society. While this experience has been repeated in other countries, in Singapore the interaction between the society and the housing and planning brought by industrialization has created a new vernacular.

The first factor that indicates the development of a high-rise

Figure 5: Singapore's Long Term Concept Plan



Source: Castells *et al.* 1990

Figure 6: Attap House from Bintan Island near Singapore and Similar to Pre-Independence Singaporean Houses



Source: Author's photo

vernacular is the ubiquity of high-rise housing in Singapore. Close to 90% of the population dwell in HDB high rises and a fair percentage of the rest of the population dwell in private high-rises then the lifestyle and culture of high rises is the common living condition of the country. The Singaporean mass media also reinforces the ubiquity of high rises by portraying the average Singaporean as dwelling within an HDB high rise.⁴ In general Singaporeans recognize high-rises and new towns as the dominant living condition of their society.

HDB housing, and high-rise housing in general has existed in Singapore for almost forty years now. This amount of time may be short compared to the hundreds of years the *kampongs* existed but has been long enough to have at least one generation of Singaporeans grow up and have children in high rises. During that time an effective and pervasive common value system has developed among Singaporeans living in high-rise housing. This system is marked by a desire for the continuous material betterment of oneself and the maintenance of ones place in society, often referred to as *kiasu*⁵, respect for the physical environment, and a high level of tolerance of ethnic differences. This value system drives a distinct Singapore culture which although advocated by the state is also reinforced by social norms among the Singaporeans themselves (Wong and Yeh 1985, 476). HDB high-rise housing and new towns may not have initially been created by this value system but they reflect and enforce behavior consistent with it. For example, HDB housing reinforces the ethic of material gain by comparing the dilapidated state of housing in Singapore before HDB with present housing (Figs. 6, 7). Modern high-rise housing is clearly a material improvement in dwelling conditions from the cramped and primitive dwellings of before. Furthermore, the differences in size and quality of HDB flats encourage material striving because larger better quality flats have come to represent status in Singapore society (Chua 1996, 3). The dense vertical and horizontal structure of HDB housing reinforces other aspects of the culture. Living below, above and side by side other people requires tolerance of neighbors and a respect towards the environment of the housing estate for the good of all. Perhaps the most compelling evidence of a new value system is the self-enforcing norms of residents. While the state exerts strong sanctions on behavior, various research has shown that the residents themselves have established norms of behavior to maintain a peaceable society in high-rise housing (Wong and Yeh 1985, 480).

The culture that has developed in HDB housing has done so both in spite of and because of the HDB context. Though evolving from the previous cultures found in Singapore this culture is something new and different. Areas of particular importance such as family have changed in response to HDB life. For example, the large extended families that existed previously in Singaporean society have been broken apart and

now the focus of family life is in the nuclear family (Chua, Sim, and Low 1985, 356). This change was due in part to limited space in HDB housing and the emphasis on total community planning in HDB new towns which have greatly reduced the need for the support of an extended family. A similar thing has happened to clan and ethnic associations, which were strong in Singapore prior to HDB housing. With high-rise housing creating a heterogeneous environment of residents from different backgrounds living in close proximity it became difficult to maintain ethnic and clan ties without scrutiny and influence from outside elements. Living in close proximity with people of different backgrounds also fostered the need for a common language affectionately known as *Singlish*—a mix of English, Malay, and several dialects of Chinese—to communicate.

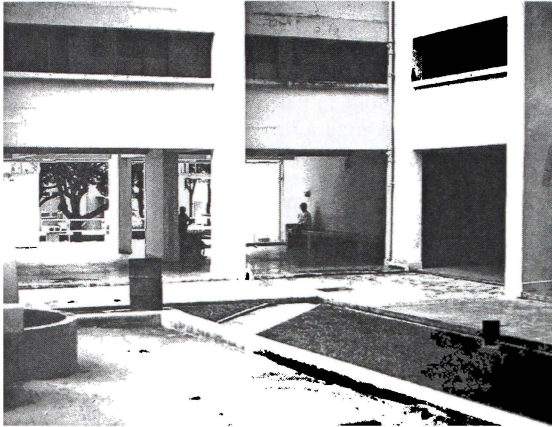
One area of the HDB new towns where Singaporean high-rise culture is best seen is in the use of the exposed areas at the base of HDB high-rises known as *void decks* (Fig. 8). These areas have become the settings for various distinct activities involving the residents including major ceremonies and daily socializing. The void decks are often the setting for Malay weddings and for Chinese funerals, both of which are communal activities that require a fair amount of space

Figure 7: Modern Singaporean Housing



Source: HDB 1996

Figure 8: A Void Deck



Source: Author's photo

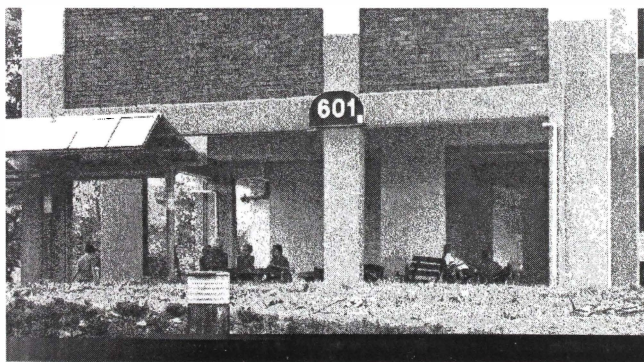
Figure 9: A Chinese Funeral Being Held in a Void Deck



Source: Author's photo

(Fig. 9). In these situations the void decks are elaborately decorated to accommodate the pageantry of these activities and after the ceremonies are completed residents will clean up after themselves and return the void deck to its normal state. These activities also illustrate the high amount of tolerance expressed by residents of other ethnicities living above the void decks because both of these activities generate a lot of noise and, in the case of the Chinese, funeral smoke and ash. Tolerance of these activities by other affected residents is important for maintaining harmony and has bred a sense that everyone must occasionally sacrifice for the long-term interests of their community (Lai 1995, 67). In addition to weddings and funerals the void decks are also the setting for various daily activities. One use of the void deck is as a departure and arrival point for residents. On an average day residents can be seen waiting for rides to work or sending their children to school. One activity unique to the void decks is as a social area for elderly, particularly women, residents. This has resulted in informal gatherings of elderly residents in what is known as the *old women's corner*, to socialize throughout the day (Fig. 10) (Chua, Sim, and Low 1985, 364). Social activity by the elderly also enforces behavior of other residents. Teenagers who may cause mischief in the void decks are often unwilling to loiter there because the elderly may criticize the younger residents for their behavior (Chua, Sim, and Low 1985, 364). Juveniles were afraid of being labeled "bad hats" by other residents and were also afraid of police sweeps in the void decks.

Figure 10: Old Women's Corner



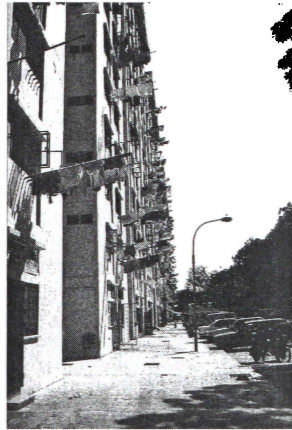
Source: Author's photo

**Figure 11: Corridor
in HDB Housing**



Source: Author's photo

**Figure 12: Clothes Drying
at HDB Housing**



Source: Author's photo

Vernacular in the New Town

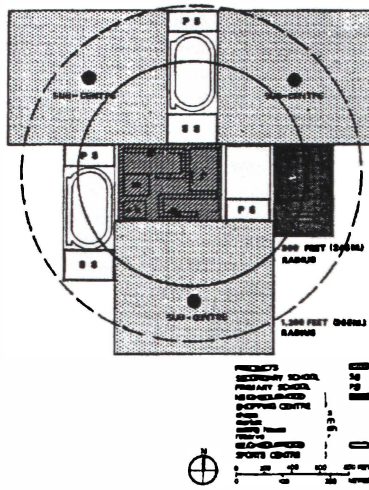
Besides the void decks other spaces in the new towns illustrate the vernacular qualities of Singaporean high-rise housing. One area is the shared spaces along corridors in front of and on the side of flats. Most residents personalize this space in various ways by setting out plants, shoe racks, and items of religious importance (Fig. 11). With limited space in the corridors conflicts occasionally arise between the residents. These are usually settled by the residents themselves with one party often deferring to the other, and though they may grumble privately, they will tolerate the neighbor's use of their space. In some instances one resident might defer almost all of their space to a neighbor. One particular example involving residents self-policing is the drying of clothes which are often hung on a pole cantilevered out from the flats (Fig. 12). Many residents have complained that wet clothes from upstairs will drip down on their own while drying. To solve this problem residents have developed schedules for drying clothes so they will not drip on each other's laundry (Wong and Yeh 1985, 480).

Like the *kampongs* the physical layout of the new towns reinforces the culture within them and they are carefully planned to provide needed services in convenient locations for the residents (Fig. 13). HDB new town planning uses hierarchical layouts to guarantee that services are within set distances from housing. One space particularly important is

the fresh produce markets known as *wet market* (Fig. 14). The busiest time, and consequently the only time many of them are open, is in the morning when housewives do their daily shopping. Friendships and associations are gradually developed from the familiarity among housewives going to the market at the same time every day. This socializing is reminiscent of the socializing done by women in the *kampongs* as they did their daily errands. The local schools also are an area for developing community relations because children socializing with each other help develop ties between their families. Parents who bring their children to school will encounter each other on a regular basis developing further interactions strengthening the community. One other area for socializing are the playgrounds set between housing blocks. At these spaces parents will usually gather to supervise their children playing and also to socialize with each other.

Another area which plays an important role in the daily lives of the residents are the eating areas known as *hawker centres* (Fig. 15). These spaces are open air food courts either set apart in their own area under a canopy or built into the void deck space of a housing block. A typical hawker centre will have several small food stands with coffee and drink stands interspersed among them along with open seating which is not restricted to particular food stalls. Food is usually ordered directly at the stand and then delivered to the table while drink vendors often roam around taking orders. Prices are fixed and quite reasonable in relation to average Singaporean salaries with most of the preparation done on the spot. The hawker centre has become an important social center for residents and because of its low prices and convenience has come to supplement, and in some cases even replace, home cooking. The hawker centre is usually at its busiest in the morning and evening when people leaving to work and people coming back will stop to eat. Since the centres are usually placed next to the wet market housewives will stop off to snack and socialize while they are shopping. Throughout the day various groups of men and women will gather to socialize and drink coffee while during the mid morning and mid afternoon vendors will socialize amongst themselves while prepping food for the meal time rush. At night it is not unusual to see stands open till midnight with men of all ages gathering to drink beer and socialize. These functions make the hawker centre integral to the community and culture of the HDB new towns. One other issue regarding the hawker centres is that they are one of the best examples of multi-culturalism within Singaporean society. At almost every hawker centre there will be a blend of stands selling Chinese, Malay, and even Western food; it is also not unusual to find vendors selling the food of another ethnicity such as Indians selling Malay food. Even with different religious dietary restrictions the different ethnicities of Singapore can be found coexisting and mingling within the hawker centre reinforcing

Figure 13: Concept Plan for New Town Neighborhood



Source: Yeh 1975

Figure 14: A Wet Market



Source: Author's photo

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Figure 15: A Hawker Centre



Source: Author's photo

Figure 16: HDB Housing Being Upgraded



Source: Author's photo

the value of tolerance. The hawker centres show that like the vernacular of the *kampong*, in the HDB new town there is a close relationship and mutual reinforcement between the culture and the planned environment.

The design and planning of HDB housing add to the qualities of a vernacular (Fig. 1). The often criticized “cookie cutter” appearance of HDB high rises help to define them as a dwelling type recognized and understood by all Singaporeans. Even the evolution of HDB designs share tendencies with changes in other vernacular architecture types. Thus the various upgrading exercises and refinements of HDB housing can be seen as the architecture’s reaction to changes in Singaporean society (Wong and Yeh 1985 p. 4) (Fig 16). One example is the building of multi-story car garages to reflect the greater affluence of Singaporeans allowing them to buy more cars. Another example is the switch from squat toilets to seated toilets that reflect a change in behavior by the culture to Western influence and better plumbing.

One factor that may lessen the vernacular qualities of HDB housing is HDB’s emphasis in the past twenty years on visual diversity and aesthetic design (Fig. 17). Highly varied visual designs would seem to diminish the shared typology of HDB housing except that they still reflect present day Singapore’s culture and value systems. The amount and type of designs of Singaporean housing also change in response to the value and quality of housing. Thus better quality more expensive

Figure 17: HDB Housing with Decorative Details



Source: Author's photo

housing will have more elaborate decoration. This situation is similar to how houses in the *kampong* would have richer decoration in relation to the status of their residents. Also the essential nature of HDB housing as high rises continues to persist with seemingly little possibility of major change even though the exterior decoration has changed. This is similar to the persistence of the *kampong attap* house, which existed in several variations but still maintained its essential qualities.

There is no doubt that HDB housing and planning is based upon a foreign Modernist model, particularly that of Le Corbusier's "Tower in the Park" scheme. This basis does not diminish Singaporean new town planning from relating to vernacular space planning because even though Modernist planning often emphasized the building as a distinct object HDB planning looks at the new town as a whole. As stated before the relationship of elements in vernacular architecture is very important; no vernacular house can truly be understood without the context it is in. In a similar manner no HDB high-rise building can be understood without the new town context it is in. HDB designs do not conceive of the housing blocks individually but relate them visually and functionally to the other elements of the new town (Fig. 13) (Wong and Yeh 1985, 112). Like the *kampong* houses built in relationship to circulation paths and the local *kopi tiam* HDB blocks relate closely to transit paths and commercial centers. Each housing tower is located in relation to other services and amenities.

Conclusion

Probably the most important issue regarding an architectural vernacular is the legitimacy of the housing type in the eyes of the residents. For many Singaporeans high rises are still new and they can recall a time before HDB. To them HDB housing may never gain the acceptance as the housing type most expressive of their culture and identity. At the time of this writing close to forty years have passed since the inception of HDB housing. One generation of Singaporeans has grown up knowing nothing but high-rise life. To them this way of life is an intrinsic part of their identity. One apocryphal instance of the identification of high rises in the culture was the response of a devout Muslim Malay university student who decried that some new HDB housing did not have void decks.⁶ She stated that this was a tragedy because the void decks are very important to her Malay culture even though they had not existed until the second half of her parents' lifetimes. As time progresses succeeding generations of Singaporeans will become even more socialized into high rise living until it will be difficult for them to conceive of daily life not in high rises. At that point questions about the foreign basis of high rises will be inconsequential because high rises will become completely and irrevocably part of the culture and history of Singapore. High-rise housing will be as intrinsic as the

kampong attap houses were to the previous generations of Singaporeans.

There still is a question whether a modern vernacular can be formed. The formation of a modern vernacular is not a wholly unique phenomenon. Rapoport cites the examples of recent vernaculars in the United States and Australia arising rapidly in comparison to more traditional vernaculars (Rapoport 1990). Therefore the existence of a Singaporean high-rise vernacular is quite plausible in a contemporary context. The development of this vernacular also relates to the overall success of Singapore's housing program in both being a result of that program and a contributor to the success of the housing program. This may lead to considering the growth and understanding of vernacular qualities in the design of housing programs for other nations.

There are still several questions regarding the creation of a high-rise vernacular in Singapore. The most critical one is the extremely institutional nature of HDB housing. HDB is a massive government run operation and this is the major criticism of HDB by both residents and outsiders alike. Institutionalization often leads to conservatism in design and heavy-handed dealings with residents. It is also believed that institutionalization leads to a gradual loss of the original culture and facilitates the decline of vernacular architecture (Rapoport 1969, 7). An even more critical issue is that the institutional nature of HDB housing and planning may have negative consequences towards its long-term acceptance by residents. Even with these problems HDB housing is still created by Singaporeans for Singaporeans. The adoption and internalization of HDB housing is complete in the society. Thus it is representative of Singaporean society. Problems with the institutional rigidity of HDB housing and planning reflect problems within the culture that creates them and not necessarily a failure of the vernacular idea. This is another issue that will be determined in time as future generations of Singaporeans grow up in HDB new towns and how accepting they are of that way of life.

A high-rise vernacular is something that may seem improbable at first but the example of Singapore shows it is possible. By creating an architecture that both reflects and reinforces the culture that uses it and is seen as legitimate by the society that created it a new vernacular is formed.

Endnotes

¹ HDB is an autonomous government corporation responsible for constructing public housing in Singapore.

² A type of plant whose leaves were employed in the construction of rural dwellings in Singapore (Fig. 2). This term has been expanded to include the whole rural house constructed from *attap* and other impermanent material.

³ Hokkein dialect term indicating a village coffee shop which sometimes served as a general store

⁴ In the popular TV show *Under One Roof*, a stereotypical Singaporean family's life is set in an HDB high rise similar to how many U.S. sitcoms have dramatized typical American families living in suburban houses

⁵ Hokkein dialect term for "fear to lose", which has been applied to the succeed at any cost attitude of modern Singaporeans

⁶ This was told to the author at a presentation by the author at the Architecture Department of the National University of Singapore

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