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THE CORE HOUSE CONCEPT AND ITS IMPLEMENTATION IN INDONESIA: PAST, PRESENT, FUTURE

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ABSTRACT

This paper clarifies the implementation of the core house concept in Indonesian housing developments from its inception until recently, and for its future implementation. The concept has been applied since the 1970s with several titles, but they share the same meaning of a house with minimum livable space which can be adjusted afterward incrementally by its occupants. It will still be an alternative for providing affordable shelter for lower income people in housing projects around the cities of less developed areas. As a self-provided incremental building process, the concept also needs to be promulgated to lower income communities since most of the housing demands are fulfilled by the community themselves.

Keywords: core house; self-help; starter house; low cost housing.

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Introduction

The Government of Indonesia has taken on the role of provider and enabler in the housing development sector. Various programs have been developed, which basically can be categorized as formal housing development through Indonesia's National Housing Corporation, *kampung* improvement programs, transmigration settlement development, restoration of village houses and neighborhoods, and enabling efforts through policies and acts. According to the Department of Settlement & Regional Infrastructure (2004), the housing sector in Indonesia is quantitatively facing the need to develop about 800,000 houses yearly due to population growth and there was a backlog of about 5.9 million houses in 2003 which is still growing. Qualitatively, there are indications of decreasing environmental quality, 14.5 million houses are not suitable to live in, and there are slum areas in many cities that have reached approximately 47,000 ha in about 10,000 locations which are occupied by about 17.2 million people.

The core house, provided in a mass development scheme, is a concept which has been taken up by the Indonesian government to fulfill the need for housing for lower income people especially in major cities. It has been implemented formally since the 1970s, mostly as a part of sites and services projects. This type of house is popular among Indonesian people, since it is more affordable for those in the lower income group and more appropriate for the Indonesian people's living style, as they are accustomed to live in a free standing landed house. On the other hand, challenges will be faced in implementing this concept in the future. Monotonous housing such as the core house appearance, possibilities of creating new slum areas, affordability for the target group which can lead to beneficiaries different from the target group, and estimation of land scarcity are several issues concerning the concept. Within this context, the development of the core house concept in Indonesia and its future implementation are clarified qualitatively. In the first step, understanding the origin of the core house concept is studied based on a literature review. The second step will review the core house concept implementation in Indonesia from its inception until recently. In the third step, possibilities for its future implementation are discussed through examining its strengths, weaknesses, opportunities, and threats, in order to form a more comprehensive point of view. At the end this paper closes with conclusions.

The Core House Concept and Its Meaning

The core house term and concept spread all over the world and became an important tool to develop the less developed area in the 1960's, after its implementation by several international organizations. This type of house is meant to be a dwelling that can provide a minimum livable space and has the ability to be extended subsequently in an incremental manner according to the occupants needs as they are able. As a

mass organized effort to fulfill housing needs in developing countries, the core house is implemented as a part of sites and services programs. Sites and services programs were introduced as a tool to fulfill housing needs in developing countries by the agency of United Nations and United States in the late 1940s (Harris, 1999a). It is result of the concern that many cities in these countries had become urbanized and occupied by lower income people who have limited capability. Within their limited capability, providing permanent housing in a conventional manner was considered to be a difficult task to fulfill the housing demand, unless a subsidy is given, while the government ability was also limited. The effect of this condition was the growth of illegal settlements in many cities of developing countries. In these illegal settlements the inhabitants built the houses themselves. Although overcrowded, unhygienic, and lacking basic services, it can provide affordable shelter for them. A proper house, in terms of building standards, is of lower priority than clean water, accessibility, and better employment for the inhabitants. Along with this situation, unemployment occurred and was increasing in the cities. This, on the other hand, could be seen as a resource which should be utilized. The provision of new plots of urbanized land in convenient locations, which were provided with basic supporting services to establish viable communities, were considered to provide many advantages regarding general resources' availability and the beneficiaries' ability to pay. Such projects were intended to supply plots with economical city infrastructure, reduce unplanned and uncontrolled city development patterns through new urbanized area development with a more efficient urban development pattern, improve employment opportunities, and provide adequate social services within a better general environment (World Bank, 1974). Within this context, the core house concept was intended to fulfill affordable housing needs in an organized and practical way with simple technology which could reasonably save expenses.

The motive behind the sites and services program in the developing countries is different compared with its origin. According to Harris (1999b) the sites and services concept came from European countries in the 1930s. At that time, the implementation motive was the need to fulfill housing for refugees and soldiers who returned after World War I. Greece was one of the countries which implemented the Sites and Services programs. It was used as one of several strategies of the Greek government to provide settlements for refugees after World War I through building sites and basic public services for individual families, and also provides land and mortgage loans to self-help cooperatives. The sites and services programs, in the context of developing countries, has several variants, starting with the simplest scheme which provided only planned plots, plots with infrastructure, and sites with infrastructure complemented with core houses (Mayo and Gross, 1987). The core house itself can be seen as a variant of several housing development techniques which have been done by communities regularly. First, the core house is a variant of installment building in the same manner as many communities have done previously. Lower income communities try to build their houses step by step. In the beginning they source the land and then they source the materials. After sufficient materials are available, they

start to build some part of the house. Once more materials can be provided again, they start to extend the house. This kind of building technique takes a longer time. The core house scheme rests on the premise that a family can occupy the house right away and then expand the house incrementally as they have time and funds (Abram, 1966). The extension of the core could be done by the inhabitant themselves or through other means. Therefore core house in this sense is a variant of self help. Self help is the production of dwellings by their subsequent occupants (Merrett, 1988) which can be organized in several ways, that is: mutual help where families work together in groups and often under supervision from project management; self help construction where the household hires a contractor to build the shelter; self help construction where the household hires and supervises individual laborers; and self help construction where the household uses its own labor to build their house (Keare and Parris, 1982). Basically this kind of concept has been used by communities to fulfill their need for houses. The difference is that in a modern and urbanized society, organizing self help which uses their own labor is difficult because usually there is not sufficient time available. Another thing that makes a difference is the need for government aid or subsidies to make the houses more affordable to lower income groups in cities. Aided self help refers to situations where governments have developed programs of assistance specifically for owner-builders (Abram, 1966). This kind of concept was firstly developed in Europe and only later applied in the Third World (Harris, 1999b).
Core house in developing countries` sites and services programs have been implemented as a tool to develop the under developed areas in the vicinity of cities. It is hoped that it could support growth in order to give direction to urban development. In this context, core house is not a substitute for the multi storey house, since each has different purpose. The multi storey house is a device for area intensification in developed area inside cities whereas core house is a device for area expansion. Therefore, availability of transportation and facilities are some of the prerequisites for core housing development in urban fringe areas. According to Abram (1966) there are several characteristics that should be met for a core house, that is: the house should have a livable minimum space which provides a good pattern for later extension; the construction should not depend on self-help exclusively; homeownership or hire purchase should be prerequisite since ownership will stimulate investment of funds and labor toward expanding the core; the lot should be efficient to permit extension according to one of several alternative plan; material used for the core should also lend themselves to house extension; and the house should respond to the climate condition. Currently the core house concept is still used under different terms and different types. The core house also use as post-disaster housing reconstruction programs in many countries such as India, Srilanka, and also Indonesia.

The Core House Concept In Indonesia: Past And Present

In the Indonesian context, the core house concept is more related and implemented within formal housing development which has a long history since before

independence until now. In order to have a comprehensive understanding of the core house concept's implementation in Indonesia, the review of its practice starts from the beginning of formal housing in the Pre Independence period, Old-Order period, New-Order period, and the Reformation period. Each period has its own contribution in formal housing development for the following period.

Pre Independence period (~1945)

Similar housing problems are faced by Indonesian cities today as existed in this period, even though they occurred on a smaller scale. These problems were recognized by the colonial government, especially by the local city officials. Housing needs of lower income natives and middle income European communities, the growth of slum areas occupied by native communities, and lack of land availability in cities were recognized as problems at the two housing related conferences which were held in 1922 and 1925 (Cobban, 1993). Several solutions to these problems were conducting *kampung* improvement programs and providing housing through formal development. The solution of land extension on the urban fringe with provided plots, houses, and facilities, similar to the sites and services concept, was done in several cities at that time (Cobban, 1993, Cote, 2004, Pratiwo, 2004). Yet, it is unclear whether the core house concept was implemented formally in this period. Semarang was a city with a long history of formal housing which was developed by the colonial government on undeveloped land as a solution to the lack of available land. Housing in Candi Baru was an example built on the hilly Southern suburb of Semarang City. Many types of houses from 17 m^2 to 70 m^2 were provided in this area, and they were intended as a new approach of housing provision based on economic class rather than by ethnic class which was usually used previously. This policy of housing development based on income bracket has continued until today. The colonial government also built several formal housing projects especially for government officials, of various types from 15 m^2 to 70 m^2, but these types of houses were not intended as a core house, which can be developed subsequently by the occupant (Yudohusodo et al, 1991). However, the Javanese traditional house already has a concept of an adaptable growth house which is similar to the core house concept. The house can be expanded and reduced as the occupant needs (Sari et al, 2006). The Javanese traditional house also can be moved to other places and developed internally through adding partitions to provide new rooms.

Early Post Independence and Old-Order Period (1945~1967)

Housing provision through the formal sector had not been developed in a great quantity in this period, yet several embryonic efforts to provide affordable housing had been made in this period. In August 1950, the Congress of Healthy Housing for Citizenry was held. One of its conclusions was for the minimum norm of 36 m^2 of house floor area with 2 bedrooms and additional pavilion of 17.5 m^2 for developing citizenry housing (Yudohusodo et al, 1991). In 1952, *Yayasan Kas Pembangunan*

Perumahan Rakyat (YKP) or Institution of Citizen's Housing Development Fund was formed, and it was the first government organization in housing development programs with the aim to provide houses that have a lower price than the market. When the operation was terminated in early 1960s due to serious inflation, the YKP had provided 13,120 houses (Dahmono et al., 1975). In 1953, the Building Research Institute was formed and later this organization became the UN Regional Housing Centre in 1955. Although the UN Regional Housing Centre has been setup, unlike other developing countries which already adopted the core house concept as a solution for the affordable housing shortage in this period introduced by the UN, Indonesia had not implemented the core house concept. However, this organization built some experimental simple and affordable housing in several locations, some of them for government officials (Yudohusodo et al, 1991). The Housing Center also did many studies, and the results were used as standards by Perum Perumnas when the company started to develop mass housing for lower income communities (Poerbo and Kartahardja, 1979).

New-Order Period (1968~1997)

In the New-Order period, within six of the Indonesia's five years development phase or *Pelita*, the core house concept as a part of formal housing provision in the sites and services program started to be implemented. Within this period the concept had been developed more extensively, although at the end of this period the housing sector had decreasing housing development activities due to the impact of the economic crisis in 1997.

Pelita I (1968~1972) was a preparation period of affordable mass housing development. The focus of this period was in the pioneering work of housing construction technology and engineering (Directorate General of Housing & Settlement, 2001). Technical experiments in developing simple mass housing was implemented in the P1000 Program, which built 1,000 units of various house types from 15 m^2 to 70 m^2 in several cities, using simple materials that were compatible with building and health standard (Marsono, 1995). There were several problems faced by the mass housing development programs in this period, that is: lack of technology, lack of material supplied, and insufficient project management (Poerbo and Kartahardja, 1979). A national meeting on housing development after the 1950's congress was held at the end of this phase. In 1972 the First National Housing Workshop was held, and the conclusions were followed up in the next development phase.

Pelita II (1973~1977) was the beginning of the core house concept implementation by the formal sector as a part of mass production of housing for lower income people in the site and services program, although the current orientation of the housing development sector was in housing rehabilitation through Kampung Improvement Program and restoration of village houses. Following up the conclusion of The First National

Housing Workshop and the results of a study done by the World Bank, several institutions were formed during this phase to support the mass housing development program for lower income people, that is: Housing Policy Board, and Perum Perumnas as a government owned corporation specialized in providing housing for middle and lower income people. Bank Tabungan Negara or BTN also designated as a bank that distributes the credit for subsidized housing with low interest for the middle and lower income people through the housing purchase system of *Kredit Pemilikan Rumah* (KPR) facilities or house ownership credit. The Jakarta Sites and Services Project was the first project to implement a core house and sites and services project in Indonesia. At the development locations of Depok in West Java and Klender in Jakarta, the provided core-houses had 20 m^2 of floor area and were built on an 80 m^2 to 140 m^2 plot of land (Kodiat and Djoekardi, 1975). In the earlier stage, subsidized low-cost mass housing projects were developed by Perum Perumnnas and intended for government officials, the Armed forces, and government owned corporation employees. It was not until the end of 1970s, in order to invite private sector involvement and to increase the amount of affordable housing provision, that housing ownership credit could be given to the middle low income people through private developers. Previously, members of Real Estate Indonesia (REI) as an organization of private developers which formed in 1972 still aimed at target markets of the higher income community. The concept of KTM or *Kapling Tanah Matang* (Mature Land Plot) also developed in Pelita II. KTM is large empty plots or blocks provided in sites and services projects which can be developed in cooperation with private developers with the target group of higher income people. Although still far from reaching the number of houses needed, according to the Presidential State of The Nation Address 1978 and 1983, the average number of developed housing for lower income people by the formal sector in Pelita II was about 6,000 units per year. This number continued to increase in the next Pelita phase. In Pelita III (1978~1982) the average number was about 39,000 units per year and in Pelita IV (1983~1987) the number increased to about 69,000 units per year (Directorate General of Housing and Settlement, 2001). Since the middle of the 1980`s the Indonesian Government encouraged cooperative involvement in the building of low cost houses and allowed private developers to build houses smaller than 36 m^2 in order to increase the supply of affordable houses for lower income people. Along with this policy, the concept of *Kapling Siap Bangun* (KSB) or Ready to Build On Plots and *Rumah Sederhana* (RS) or Simple Free Standing House was introduced for the lower income people. KSB is an empty plot in a sites and services project which can be paid in installments by low income people. The owner can build the house themselves according to their needs and capabilities. RS was a decent house with an affordable price for low and middle income people. The government had given technical guidance for developing RS through the Law of Public Works Ministerial Decree No. 20/KPTS/1986. In this guidance, a core house was defined as a dwelling which has one room with 12 m^2 minimum space and has the possibility to be developed into a complete house with minimum space of 36 m^2, on a 60 m^2 to 200 m^2 plot.

In Pelita V (1988~1992) the average number of developed low-cost housing reached about 48,000 units per year (Directorate General of Housing and Settlement, 2001). The concept of *Rumah Sangat Sederhana* (RSS) or Very Simple Free Standing House was developed in the fourth year of this phase. According to the technical guidance in Law of Public Works Ministerial Decree No. 54/PRT/1991, RSS housing was defined as a group of dwellings which was built with very low quality materials within a neighborhood provided with infrastructure, public utilities, and social facilities. The floor area of RSS is 12 m^2 to 36 m^2, built on the land area of 54 m^2 to 200 m^2. The difference between RS and RSS were not based on its floor area but rather based on the allowed maximum selling price. The impact of this policy was a down grade of materials and structure specifications that were applied. RSS housing projects can usually be recognized by the appearance of the house, with concrete bricks, no plaster walls, cement floor, no ceiling, and the use of corrugated asbestos roof. With no specific difference of floor area between RS, RSS, and core house, it seems that the policy of RSS was intended to increase the affordability for lower income people through decreasing the material specifications. The concept of Balanced House Type Ratio Development of 1:3:6 also developed in this phase. This concept urges the housing developers to built several types of houses with the ratio of 6 small type houses and 3 average type houses for each big or luxurious type house they build. It was intended to avoid target group exclusiveness by a certain income group.

In Pelita VI (1993~1997) by the fourth year of this development phase the number of low-cost housing developments increased to about 167,000 units per year (Ministry of Housing, 1997). In accordance with the changing role of government from provider to enabler, the actors involved in building low cost housing were varied. Besides Perum Perumnas, private developers, and cooperatives, the government also encouraged low-cost housing development based on community group participation or *Pembangunan Perumahan Bertumpu pada Kelompok* (P2BPK) since 1994 with earlier funding coming from UNDP. Several policies were implemented by the Indonesia government in this phase to create a supportive condition for citizen housing development, such as low interest installments for land acquisition, cutting the cost of RSS land certification, and the elimination of retribution costs for building permission. The RS-Plus concept was launched by private developers as a strategy to cope with several housing development conditions, such as decreasing demand for luxury and average houses, and increasing land prices. The land and building dimensions conformed with RS regulations, but the building specifications were different from the ordinary RS. It had better building materials specification, such as: ceramic tile floors, plastered and painted walls, and ceilings. Unfortunately this concept lead to the misuse of subsidized funds from the government which should have been given to lower income people. The RS-Plus was sold with KPR RS/RSS but purchased by the higher income people (Gunawan, 2003). At the end of 1997, Indonesia was struck by the monetary crisis, which resulted in a long economic crisis and also political and safety crisis. This condition had a negative impact on the housing development sector. Low cost as well as luxury and average housing developments decrease drastically.

Reformation Period (1998~)

The economic conditions slowly recovered, although not to pre-crisis levels. At the beginning of the Reformation Period the low cost housing development was decreasing and reached the lowest point in 2002 with the number of low cost housing built by formal sector only about 26,000 units, although in 2000 the number was able to reach about 97,000 units due to the implementation of the old scheme of housing subsidies (Simanungkalit, 2004). Several medium and small housing developers which have the same vision and commitment in developing housing for lower income people established APERSI (*Asosiasi Pengembang Rumah Sederhana/Sangat Sederhana Indonesia* or Association of Indonesian Simple-House and Very-Simple-House Developer) at the end of 1998. Later on this organization changed into *Asosiasi Pengembang Perumahan dan Permukiman Seluruh Indonesia* or Association of Indonesian Housing and Settlement Developer, and the members were also involved in low cost multi storey housing development for lower income people.

In this period, *Rumah Sederhana Sehat* (RSH) or Healthy Simple Free Standing House concept as a substitute for RS and RSS concept was introduced. The technical guidelines in the development of RSH were enacted in Law of Settlement & Regional Infrastructure Ministerial Decree No. 403/KPTS/ M/2002. RSH is defined as a dwelling that is decent and affordable for middle to low income people, with a proper floor space and plot for the dweller, and appropriate with the healthy house requirements. The house can be built with simple materials and construction as long as it is meets the minimum standards of health, safety, and convenience aspects. It also considers local aspects, such as: available materials, geology and climate conditions, local architecture, and life style. Emphasis on local aspects, especially the use of materials, is what makes this concept different from the previous concepts. In the RSH concept, the government made several supplements about types of RSH based on different materials for different areas of Indonesia, that is: brick house, half brick house, wooden house, and stilt wooden house. In this act, a core house is defined as a house with a substantial room or only roof and floor, further development depends on its occupant. It is a starter house which meets minimum decent housing requirements and is affordable for low income people. The house has 21 m^2 floor space built on a 72 m^2 to 90 m^2 plot, which can support the development of the house physically and socially. In relation to RSH development, the Indonesian Government provides the facility of Assistance on Infrastructure and Utilities in order to make the low cost housing neighborhoods become healthy, comfortable, and integrated settlements. The types of KPR subsidy also developed into the down payment subsidy and the interest rate subsidy, but both of them totaled the same amount of subsidy. The core house in this period was also used in housing reconstruction program after several disasters which happened in Indonesia, such as the Aceh-Nias tsunami in 2004, and the Central Java-Yogyakarta earthquake in 2006. The core-house was

provided in a mass development scheme on several locations as well as a stand alone house which was built on the beneficiaries' existing plot.

The Core House Concept In Indonesia: Future

Fulfilling the demand of housing for low income people will still be a challenge for Indonesia in the future. According to the KSNPP (*Kebijakan & Strategi Nasional Perumahan Permukiman* or National Policy and Strategy on Housing and Human Settlement) in 2002, 1.15 million houses needed to be built in order to fulfill the yearly housing demand because of population growth and to catch up the existing backlog through the year 2020. Core houses, whether built as a mass development project or a stand alone house, has its own strengths, opportunities, weaknesses and threats to be considered.

The first strength of the core house concept is its appropriateness for Indonesian peoples lifestyle, as they are accustomed to live in free standing or landed house (Nas, 1998). Starting from this appropriateness, the concept of core house should be considered as a solution toward fulfilling the vast housing needs, as it can be occupied right away and then extended afterwards by the occupant incrementally. In this context, the occupants do not have to move to another type of house along with the development of their family. According to Housing & Human Settlement Statistics (1995) the 21 m^2 type core house was preferred by 11.66 per cent of Indonesian people who live in the cities and do not have a house. This type of house was the third preferred house type after the complete house of 36 m^2 type (35.63 per cent) and 45 m^2 type (23.30 per cent). The provided floor area and plot, as it was regulated by RSH technical development guidance with minimum threshold standard of space adequacy 7.2 m^2 per person, is sufficient if it is meant for a household with 3 members. However consideration toward the average number of household members in each region needs to be given. According to Indonesian Statistics in 2005, the average number of household members in Indonesian provinces varied from 3.2 to 5.5. Unsuitability with the average household members of the targeted market could cause the extension of the house right after or even before the family started to live there. Through this effort, it is hoped that a waste of resources and government subsidy caused by unsuitability could be avoided. Based on a field survey toward 150 occupants of core house type of 21 m^2 in three housing locations of Banyumanik housing, Bumi Tlogosari housing, and Bukit Beringin Lestari housing in Semarang City in 2008, 43.2 per cent of them adjusted their house before or in the first year right after they started to live in it. One of the reasons is because of the need for larger space for their family members. Another technical strategy to avoid the unsuitability is by using easily knocked down building materials which are reusable, thus the house can be subsequently extended incrementally whenever needed without wasting resources. With readiness to extend by the occupant, whether through using building workers or with their own labor, the core house has a capability to generate

participation by the occupants in developing their houses. Through this participation, the occupant can express their needs and desires according to their capabilities. Therefore, the discrepancy between desires and reality can be avoided.

Core house also has strength in its simple design, ease of construction, and inexpensiveness, which means the core house can be build and extended without special skilled experts and in a short time. With this advantage, in the economic aspect the production of core house is more flexible and could be economical compared with a more sophisticated housing project such as flat or apartment. In a wider context of the economic aspect, core house project development, as well as other type of housing development project, is a tool to generate economic activity. It can create employment, directly and indirectly, through its labor intensive and by requiring many types of industry and services which can be provided locally.

Based on past experience, there are several weaknesses in the core house concept. Its uniform and monotonous appearance as a consequence of efforts to reduce the building cost which often occurs in core housing is a weakness from the design stand point. A house with an appropriate appearance and suitable with local character is certainly needed. However it seems like concern toward adaptability is a more suitable approach and more necessary for the core house context. The field survey in Banyumanik housing, Bumi Tlogosari housing, and Bukit Beringin Lestari housing of Semarang City in 2008 which have different core house styles and appearances, found that 58 percent of the occupants, from 150 samples of household, consider that their original core houses still did not have an aesthetic appearance. Through the adaptability of the core house, the occupants can adapt the rooms as well as change the appearance of their houses easily according to their needs and capabilities. Therefore in the dwelling process, the houses will have many kinds of appearances and layouts appropriate for the occupants desires. The possibility of core housing becoming a slum area also has to be considered by the core housing developer. Abram (1966) wrote that unless a house is planned as a core from the beginning, a core housing project may deteriorate into a slum. In doing so, the layout and placement of the houses must be planned for expansion, as well as provision of social and public facilities such as open spaces, playgrounds, parks and vegetation, etc. Attention towards the development of core housing neighborhood in the dwelling process must be taken by the inhabitants and the government, since many actors will be involved in this activity.

One of the core house weaknesses from a financial stand point is its increasing price following the increasing price of land and materials. Also, salary increases of the targeted lower income people are lower than the increasing house price. This imbalance could cause a weakening of the affordability for the targeted income group, which could lead to another threat of moving the target of the government subsidy from a lower income group to a higher income group who can afford to purchase the house. Actually these are common conditions which are also faced by other low cost

formal housing provision programs such as low cost multi storey housing. Availability of land, permits, and purchasing power of the targeted population are several obstacles faced in the development of *Rusunami* or low cost multi storey owned house (Ministry of Housing, 2008, Real Estat Indonesia, 2008). Therefore, the government's role as an enabler is more likely needed in housing developments for lower income people. The strength of the core house in flexibility to make savings in production costs could be an advantage in surmounting` these threats and weakness. Based on past experience, adjustments have been made through the reduction of house floor area and lowering building material specifications. The increasing price is also caused by the increasing price of land. The Indonesian government has been trying to solve this problem through the *Kawasan Siap Bangun* (KASIBA) or Ready to Build On Area program, and *Lingkungan Siap Bangun* (LISIBA) or Ready to Build On Site program. According to the KSNPP, large scale housing development will be channeled and organized in KASIBA which is already determined by the local government in specific locations. Currently there are 65 locations of KASIBA which already determined by the Government (Ministry of Housing, 2006). Only a few of these locations are on Java Island.

Another weakness of the core house concept is the inflexibility of material specifications which have been used as the standard in core house developments. Indonesia is a vast country and has many regions with different material availability. Innovation and adjusting building material specifications with each regions' potential, as it has been regulated in RSH Law, need to be done in an effort to overcome the increasing price of the core house.

The main opportunity of the core house as a tool to fulfilling housing needs is the great demand for affordable low-cost housing which is appropriate with Indonesian peoples' lifestyle. Overcoming this condition needs the government's commitment to support the housing development sector. A general supportive climate is needed for implementing the core house as a low cost housing provision. Participation and willingness of private developers, cooperatives, and community based organizations in core house development are also an opportunity that must be considered. They need a supportive climate to develop core houses, such as funding schemes, technical assistance, and readiness of land or area. About 68 percent of houses with owned tenure status are provided by the community themselves (BPS Statistics Indonesia, 2004). Increasing the building capacity of the community as the main actor in housing development needs to be taken. In this respect, the core house concept, as starter of a growth house which can be developed according to people's capabilities and preferences, needs to be promoted. Thus, people can build their own core house according to their needs and preferences. Building material technology which is getting more developed will support core house realization, whether by the community themselves or in an organized way, especially building material which suits local conditions.

The locations of core house developments, which has a purpose as a tool to develop the undeveloped areas around cities, will be located outside of Java island, even though most low cost housing demand is still in Jakarta and its surrounding provinces. Since Java is densely populated and mostly developed, core housing as a tool for development of undeveloped areas is likely not necessary. On Java Island, large scale core housing projects will face the obstacle of land provision. Therefore on this island core house might still be built to fulfill housing demand through small scale and individually built projects. The challenge is in the provision of appropriate infrastructure and facilities. Careful initial study about the implementation of the core house as a tool to develop undeveloped areas needs to be done in the beginning of the development process. Spatial planning regulations are needed to support the development of the core house to be more harmonious and integrated with other development sectors. Therefore its capability as a tool to develop areas will be more appropriate, effective, and directed.

The existence of core house development, with its own characteristics, needs to be put together in the wider context of low cost housing developments for lower income people, because the core house concept is only a part of it. The core house concept will be compatible with the other housing programs for lower income people such as Kampung Improvement Program and low cost multi storey housing, because each of them has their own characteristics. Therefore they need to be combined to complement each other in order to obtain the fulfillment of decent shelter for all.

Conclusion

The core house concept in Indonesia has the meaning as a starter house provided with basic rooms for lower income people that can be developed incrementally according to the preferences and capabilities of its occupants. Various designs have been developed with different floor areas and material specifications. With the target group of lower income people, the core house is sold in installments with the government subsidy. This type of house was firstly developed by Perum Perumnas as a tool to develop the undeveloped areas around cities in Indonesia. Currently, private developers, cooperatives, local governments, community based organizations, and community groups are involved in various scales of projects.

Combined with the other low cost housing programs, the core house as part of sites and services programs will still be a useful alternative tool in giving development growth direction for the cities which still need to develop its surrounding area. It is critical to adapt the form and specification of the core house according to local characteristic such as the number of household members and building material availability. On the other hand, since most of housing demand was fulfilled by the community itself, the core house concept which can be built individually needs to be promulgated to the community and supported by an enabling climate such as

accessible land in economic and transportation terms, availability of subsidized home ownership credit, and building materials.

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