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A Model of Environmental Harmony towards Sustainable Walk-up Flats Community in Kemayoran-Jakarta

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Abstract

How to create a sustainable community is the main problem in the urban settlement development. It is no exception for the walk-up flats development. The general objective of this research was to formulate the model of environmental harmony to create a sustainable walk-up flats community. There are three specific objectives. The first is to prove the effect of individual on the sustainability of community. It was used the survey method using questionnaire and the regression analysis to test the conceptual model. The second is to identify the effort to create a sustainable community. It was used the interview which directed to find it. The third is to recognize the characteristics of the model of environmental harmony. It was achieved by synthesize the output of the first and the second objectives. The results were: 1) the individual affects the sustainability of community significantly; 2) to create the community sustainability needs the law enforcement at the flats which depend on the local leadership; 3) the nature of the model is a dynamics which includes individual harmony, social harmony, and harmony with other elements of the walk-up flats environment which synergizes each other.

Keywords: environmental harmony, sustainable community, walk-up flats, elements of environment

1. Introduction

Until now the urban settlement development hasn't been directed to create a community yet (Tjahjono, 2008). To create a community and its sustainability has to be the main objectives in the urban settlement development. One of the requisites to achieve the sustainable community is a social harmony (Ife and Tesoriero, 2008), meanwhile a social harmony itself is one element of the environmental harmony that can't stand alone. Therefore, to achieve a sustainable community needs to know the model of environmental harmony. But this model hasn't been known yet.

Into the future to accommodate housing need in urban areas is directed to develop a vertical housing. To study the community life was chosen the walk-up flats that is occupied by the lower middle income for long time. There is no high rise for the lower middle income group in Indonesia which is occupied such a long time. The high rise apartment development for them began at 2007. Long term occupation is an important factor in building a community. One of the walk-up flats which occupied by the lower middle income group for more than twenty years located in Kemayoran area and was chosen to be studied. These flats were developed in urban renewal programme which had the target group was the community of slum areas around. One serious problems faced is the turn of the target group and the unit left then occupied by outsiders with different background. Almost fifty percent of the owned walk-up flats at Kemayoran inhabited by the new residents who are not the target group in the renewal programme. Social disharmony between the new comers and the target group is a challenge in creating a sustainable community in the flats at Kemayoran.

As a part of the living environment, human roles and status is important and has to be recognized to revise a living environment more harmonious. Values system and attitudes need to be developed to bring back to the harmony between man and society with natural and built environment (Salim, 1983). Based on Salim, it's important to recognize the roles of individuals in creating harmonious environment to create a sustainable community. Therefore, to develop a model of environmental harmony, there were three questions research needed to be answered: 1) how much the effect of individuals on the sustainable community?; 2) what kind of efforts needed to create a sustainable walk-up flats community?; 3) what are the characteristics of the model of the walk-up flats environmental harmony towards a sustainable community?

2. Theoretical Framework

To get the structure of the model was done by building the constructs/variables, propositions, and the relations among the propositions. Harmony is a universal law which guarantee the sustainability of the system. Diversity, interdependency, directing to a unity, and has a supreme value are the four key words to describe the meaning of

harmony. In this case, sustainable community was positioned as a supreme value in the model of environmental harmony. A sustainable community means the conditions where there is a balance among the aspects of social, economy, and ecology in seeing the problem as well as in solving it. The walk-up flats environment consists of individual, community, and other elements. So, the walk-up flats environmental harmony consists of individual harmony, social harmony, and harmony with other elements of the environment. See the box in the middle of the Figure 1.

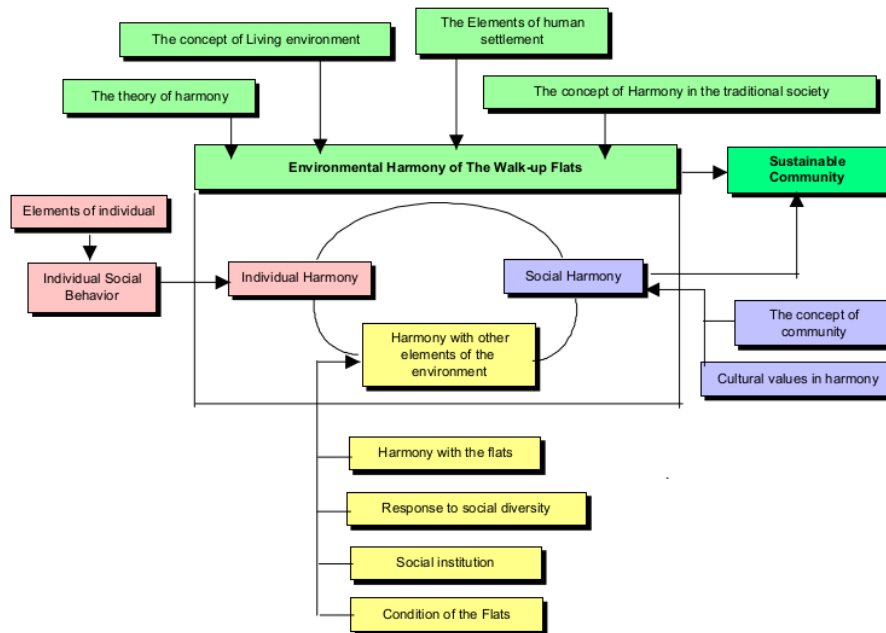


Figure 1. Theoretical Framework

Table 1 describes more detail the structure of the individual harmony, social harmony, and harmony with other elements of the flats environment. The three has the same pattern. All consists of three aspects: physical, psychological, and socio-cultural. Based on 1) the theory of harmony from Laitman (2007), 2) the concept of living environment (The Ministry of Environment, n.d.), 3) the elements of human settlement (Doxiadis, 1967; World Health Organization, 1961; Centre for Health Promotion, n.d.), and 4) the concept of harmony in the traditional society (Djiwa, 2007; Dwijendra, 2003), the environmental harmony has three dimensions, namely individual harmony, social harmony, and harmony with other elements of the environment (built/natural). Among these three dimensions are interrelated.

Table 1. The Elements of Environmental Harmony

	Physical	Psychological	Socio-cultural
Individual harmony	Social roles (9)	Existential wellbeing (10)	Values of neighborliness (7)
Social harmony	Harmony in action (7)	Harmony in feeling (11)	Harmony in values (10)
Harmony with other elements of the flats environment	Condition of the flats (7)	Response to social diversity (6); Harmony with the flats (14)	Social institution (12)

Description: the numbers in the brackets show the number of indicators/questions used to measures each variables

2.1 Individual Harmony

In triune human system (Cunningham, 1994), individual consists of three interrelated elements: body, soul, spirit. Individual harmony is one condition which shows a unity and balance among those three, so he is able to function properly as an individual, social, and spiritual creature. In a micro system, individuals develop interpersonal relationships, conduct social roles, and share activities with others (Maton & Salem in Dalton, Elias, and Wandersman, 2007). To describe an individual harmony was used *individual social behaviour* that it showed his attention towards surrounding which affect the harmony of social as well as environmental.

Individual harmony can be seen in three dimensions: values, feeling, and actions. Therefore, individual social behavior includes three subconstructs: values of neighborliness, existential well-being, and social roles. Social roles represented the physical dimension of individual. It is manifested by activities doing regularly to function himself in building the ties with other members of his community or his participation in common activities. The existential wellbeing represented for the psychological dimension, it describes one's condition related to adaptation to himself, community, and surroundings, including attention to his goals and satisfaction of life (Paloutzian and Ellison, 1982). Values of neighborliness is one's values in his social life which describes his power of giving (spend his resources to fulfil of common or other's interest). See the numbers in the brackets in the Table 1 that shows the number of questions used in a questionnaire to measure the variables of its kind.

2.2 Social Harmony

To formulate the construct of social harmony was traced by the concept of community which stated by Hillery (Poplin, 1979) and Koentjaraningrat (1977). Community is a group of people living in the same territorial which has a socio-psycho-cultural ties among its members. Social harmony is the condition of relation among the members of community directing to a unity so that the community can function properly. Social harmony includes three dimensions of ties, namely a sociocultural, sociopsychological, and sociophysical ties. A sociocultural ties was measured by the construct of harmony in values; a sociopsychological ties was measured by the construct of harmony in feeling; and a sociophysical ties was measured by the construct of harmony in action (i.e common activities as functions of a community). Harmony in values is the cultural values of harmony which dig up from: a) Scottish Inter Faith Council (2009); b) Dempsey (2009); c) Philosophy of Harmony (2006); d) UNESCO – APNIEVE (1998); e) Pranarka (1985). Based on those resources was gotten ten values of cultural harmony which is used as indicators to measure harmony in values among the member of a community. Those ten values are: love, compassion, respect, justice, mercy, forgiveness, humility, respect for community, respect for nature/ecology, concern for other people. Harmony in feeling was measured by be or no bounded to others' feeling which manifested by the sense of we-ness or there is community sentiment, there is dependency with each other, as well as there is a feeling of obligations towards a group. Harmony in action was manifested by doing common activities in community.

2.3 Harmony with Other Elements of The Walk-up Flats Environment

'Harmony with other elements of the walk-up flats environment' includes harmony with the flats, a response to social diversity, social institution, and condition of the flats. See the below section in the Figure 1. Definition of each constructs is as follows:

1. *Harmony with the flats* is the suitability of the residents to condition of walk-up flats environment where he lives. Harmony with the flats which effect social harmony can be explained by the concepts of resident's satisfaction, adaptation, or adjustment (Gifford, 2007; Turner, 2007). In this research, it was measured by stay/feel like home (secure and comfort), affordability to housing cost, adaptive behaviour, as well as investment in housing (such as spending money for repairing his unit/house).
2. *A response to social diversity* is one's response about the effect of differences of socioeconomic background (such as level of education, level of income, occupation, religion, age, and ethnic) on social relation among the flats inhabitants, it was assumed as interfere or not.
3. *Social institution* is an institutional which consists of values, norms, groups, and organizations that direct the community to be working.
4. *Condition of the flats* is the condition of the elements of the walk-up flats environment which facilitates interaction among occupants, including the size of housing, the common space, the common facilities, utilities, and the density of residents.

Those four elements are intervening variables in the relation between individual harmony and social harmony.

The problem of social harmony emerge in the context of social diversity. Generally, social diversity is assumed as an obstacles in creating social harmony. Man disposes to be together with others who has the same characteristics or background. The effect of diversity on harmony can be interpreted as positive (Page, 2002) or negative (Putnam in Page, 2002). Therefore, construct of 'response to social diversity' is lain between individual harmony and social harmony. The results of the researchs by Tian Ye, Bi Xiang, & Li Dexiang (2006); Cole & Goodchild (2001); Guest, Kubrin, & Cover (2008); Arthurson (2002, 2008); Picone & Bonafede (2008); Aral (2002); Fainstein (2005); Tunstall & Fenton (2006) are related to the effect of social diversity on social harmony. 'A response to social diversity' is a construct to describe a response of residents about effect of social diversity on social relations.

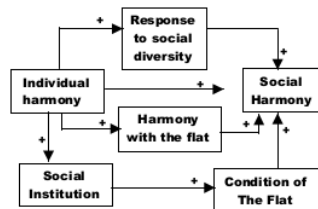


Figure 2. The Conceptual Framework of The Walk-up Flats Environmental Harmony

Condition of the flats includes physical condition which can facilitate or inhibit the residents in doing activities, doesn't determine or create activities (Rapoport, 1997). The positive environment can support the residents to develop to the positive way, and the other way (Erikson in Lewis, 1987). The elements of condition of the flats which affect social relation are the nearness, the size of housing unit, density, crowding, layout, and the social facilities. Condition of the flats is possible to facilitate a social harmony to come.

Social institution affects the condition of the flats. Social institution has two meaning: 1) institution as a group/organization and 2) institution as a regulation systems which includes values, norms, and regulation. In this research, the meaning of social institution included both. For example, there is local organization of the flats occupants which takes care of maintaining condition of the flats. To run this organization depends on the roles of individuals. Therefore, social institution and the flats conditions together are laid in the relation between individual harmony and social harmony. See it in the Figure 2.

2.4 The Conceptual Framework of The Walk-up Flats Environmental Harmony

To create a sustainable community needs a social harmony (Ife & Tesoriero, 2008) and to create a social harmony needs an individual harmony (Laitman, 2007; Confucius in Mahalo Learn Anything, 2011; Sha, 2009; Fromm, 1995; Burns, Baumgartner & Devlie, 1987; Budiman, 1986). Only human soul is the cause for social and environmental disharmony (Laitman, 2007). In other words, only human soul can create a social and an environmental harmony. As a part of the living environment, individual's values system, attitudes, and roles are the important factors in building an environmental harmony and sustainable community and has to be recognized to revise condition of the living environment more harmonious. Therefore an individual harmony was posed as an exogenous variable in the conceptual framework of the model of the walk-up flats environmental harmony as it's shown in the Figure 2. It is fit with answering the first question research, namely to find the effect of individual on sustainable community which was represented by the effect of the individual harmony on social harmony.

In relation between individual harmony and social harmony, there are four elements of environment which affect that relation. So, there are eight propositions in the conceptual framework of the environmental harmony. To find the effect of individual harmony on social harmony, it had to be tested. As mentioned before, social harmony is one aspect of the three aspects of the sustainable community. Therefore, if individual harmony effects social harmony significantly, it can be meant also that individuals affect the community sustainability. So, the conceptual framework in Figure 2 has to be proved.

3. Research Methodology

There were three objectives needed to be achieved to build the model of walk-up flats environmental harmony towards sustainable community. The first objective was to prove the effect of individual on sustainable community. It is a quantitative in nature. It was used the method of survey design using a questionnaire. The scope of questionnaire included individual harmony, social harmony, harmony with the flats, response to social diversity, social institution, and condition of the flats. To measure these variables used a number of indicators and each indicator has one or more questions. The number of questions to measure each variables was shown in Table 1. The questionnaire used the Likert's scale. The respondents are the member of the household who knows best among other members about the life of neighborliness where he lives. To test the conceptual model was used the regression analysis by SmartPLS software. This PLS (partial least square) is component based predictive mode, different from the covariance based structural equation modeling. PLS is an analysis method that isn't base on many assumptions such as multivariate normal distribution, but it's still powerful. This method can be applied to sample with little number of cases, data from different scale, and data of hundred intangible variables and thousands of indicators. To achieve the second objective was used the interview which dug up the elements of the walk-up flats environment which effects individual harmony and cause the social disharmony and to find the local effort to overcome it. The third objective was to set the model which was synthesized from the output of the first and the second objectives. Research location was the owned walk-up flats in Kemayoran area, in the centre of Jakarta, Indonesia. Population is the flats environment at the neighborhood scale. Samples

are the neighborhood from the four clusters: F-18, F-21, F-36, and F-42.

4. The Walk-up Flats at Kemayoran Area-Jakarta

Kemayoran located in the central area of Jakarta and easy to reach from different directions. As one area of urban renewal programme, it was constructed to accommodate the inhabitants of slum areas where their quality of housing areas need to be improved. It had done around 1989-1995. There are four types of owned flats namely F-18, F-21, F-36, F-42. The numbers show the unit size of the flats in square meter. After more than twenty years inhabited almost fifty percent of the units was left and occupied by new comers from different socio-economic background. The more the new comers come, the more divers. It is one of the caused of social disharmony at the flats which contributes to unsustainability of this community.

5. Result

The majority of respondents were the head of household, have maximum age of sixty, moslem, Javanese, works as an entrepreneurs and at private sectors, trading as a side job at the flats, level of household income between (1,5-2,3) millions rupiahs per month, and the level of education is high school.

Table 2. The Criteria for Validity and Reliability of Constructs in the Conceptual Model of the Walk-up Flats Environmental Harmony

The Flats type	Construct	AVE	Composite Reliability	R Square	Cronbachs Alpha	Communality	Redundancy
F-18	IH	0,648	0,965		0,965	0,948	
	HWF	0,602	0,602	0,068	1,000	1,000	0,003
	SH	0,448*	0,823	0,744#	0,864	0,896	0,015
	SI	0,606	0,857	0,716	0,897	0,947	0,050
	COF	0,704	0,826	0,613	0,827	0,983	0,045
	RSD	0,296	0,627	0,066	0,950	0,997	0,001
F-21	IH	0,478*	0,819		0,852	0,956	
	HWF	0,405	0,730	0,141	0,691	0,958	0,003
	SH	0,466*	0,904	0,673#	0,903	0,947	0,008
	SI	0,545	0,855	0,351	0,856	0,971	0,012
	COF	0,505	0,830	0,348	0,635	0,891	0,016
	RSD	0,427	0,686	0,128	0,764	0,965	0,003
F-36	IH	0,449*	0,927		0,938	0,911	
	HWF	0,666	0,853	0,208	0,714	0,941	0,013
	SH	0,512	0,806	0,500#	0,842	0,970	0,007
	SI	0,749	0,854	0,214	0,878	0,988	0,011
	COF	0,514	0,514	0,036	1,000	1,000	0,001
	RSD	0,475*	0,475	0,107	1,000	1,000	0,003
F-42	IH	0,682	0,956		0,911	0,832	
	HWF	0,546	0,875	0,149	0,779	0,879	0,005
	SH	0,586	0,933	0,657#	0,908	0,941	0,009
	SI	0,598	0,811	0,398	0,526	0,913	0,018
	COF	0,686	0,861	0,344	0,542	0,908	0,019
	RSD	0,579	0,840	0,000	0,876	0,949	0,000

Description: AVE (Average Variance Extracted) with the sign* has the value 0,5 if rounding off, so it fulfils the criteria. F= the flats type; IH= Individual harmony; HWF= Harmony with the flats; SH= Social harmony; SI= Social institution; COF= Condition of the flats; RSD= Response to social diversity; the sign # = R² for social harmony.

The criteria of goodness of fit by software SmartPLS with level of significance 95%: AVE > 0,5; composite reliability > 0,6; Cronbach apha > 0,6; communality > 0,5; redundancy > 0; R² > 0,67 (good model); R² > 0,33 (moderate model) (Source: Gozhali, 2008).

In Table 2 it is shown the result of the regression analysis test on the conceptual model as it was shown in the Figure 2. Based on the criteria of goodness of fit used in SmartPLS software (shown in the bottom of the Table 2), the effect of individuals on social harmony is valid and reliable as well as powerful to predict the community sustainability (which measured by social harmony) with level of significance 95% in all types of the walk-up

flats (F-18, F-21, F-36, F-42). According to the tested model, individuals has the role in creating the sustainable community. See the values of R square (see the sign #). The 7 of the four are classified as the good model (R^2 are 0,74; 0,67; 0,66). Only one model is more than moderate ($R^2=0,50$).

As it can be seen in the Table 2, the type F-18 is the smallest type and has the highest value of R square for social harmony. Occupants of the smaller housing get easier in social interaction than the bigger one as stated by Sinnett, Sachson & Eddy (1972 in Gifford, 2007). The condition of the broad veranda in the type of F-18 is also support the occupants to meet together. See the differences of the condition of the veranda between the type F-18 and the rest, as it is shown in the Figure 3.



Figure 3. The Veranda at Four Types of The Owned Walk-up Flats in Kemayoran, Jakarta

Other elements of the walk-up flats environment such as the *condition of the flats* (the element of physical environment), the *social institution* (the element of sociocultural environment), as well as the *response to social diversity* and *harmony with the flats* (the elements of psychological environment) facilitates to strengthen the relation between individual harmony and social harmony. With these elements come into consideration, the effect of individual harmony on social harmony is higher than without. Availability of the common spaces (the element of the flats condition) accomodates for meeting among the residents. Supply of the public facilities is an important aspect which guarantee for the harmonious community (Hashim, 2005). The housing size which is suitable for the household need for space is an element of *harmony with the flats*. This element relates to the residents' feel like home, comfort, safety, and affordability which affects the sustainability of community. *Social institution* relates to involvement of the residents in maintaining the condition of flats and social relation. The problem faced by the residents from the smaller types is the limitation of financing, meanwhile by the residents of the bigger ones is the small involvement of the new comers in maintaining the condition of the flats. They compensate togetherness in maintaining the flats (called 'kerja bakti') with the spending more money for maintenance cost. One of the local leader stated that the social values was replaced by economic price.

Response to social diversity is not connected with the age, sex, the status in household, the level of education, religion, ethnic, the occupation, and the length of stay. It's an individual harmony which affects the response to social diversity. The higher individual harmony take place is the less respond to the social diversity negatively.

The first findings showed that the individual harmony affected the community sustainability. Therefore, to formulate the effort to achieve the sustainable community needed to complete the tested conceptual model with the elements which affects individual harmony. Individual harmony is no longer as an exogenous variable. The elements that effect individual harmony were dug by conducting interview. The result of the interview is shown in the hypothetical model outside the box in the Figure 4.

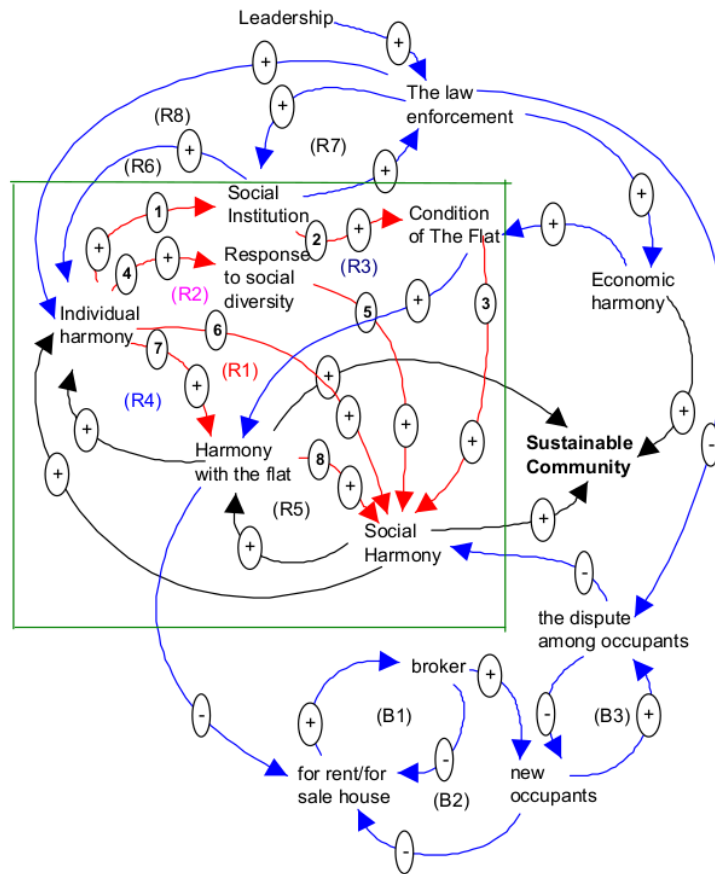


Figure 4. The Hypothetical Model of The Walk-up Flats Environmental Harmony towards Sustainable Community (R= Reinforcing loop, B= Balancing loop)

Based on the theoretical review and the result of the interview, individual harmony is affected by social institution (such as values and norms), social harmony (such as common activities), harmony with the flats, and the law enforcement. Social values and norms affect the individual harmony by process of socialization and internalization. Also, common activities such as *arisan* (the regular social gathering) and *pengajian* (recitation) affect individual harmony to more concern for togetherness. Harmony with the flats affects also individual harmony. Positive environment supports the occupants towards positive direction and vice versa. The law enforcement is the effort to direct local values and norms be function as a guidance for directing individual social behaviour more harmonious.

In the hypothetical model (Figure 4), inside the box there are eight propositions tested, see the arrow with the number from 1 to 8. Meanwhile the rest arrow in the box was gotten from the theoretical bases. Outside the box are the new elements gotten from the interview. Houses for rent/sale, brokers, new occupants, the dispute among occupants are the elements which contributes to rise social disharmony at the flats so that they reduce the sustainability of community. Other element such as economic harmony will rise a sustainability of community. The economic harmony means there is the conformance between the level of income and the level of necessities of life in the flats. Based on the interview, in the hypothetical model can be shown that the law enforcement and leadership are the elements of intervention to make the community more sustainable.

The *law enforcement* at the flats is an important element to create the sustainable community. Besides it affects individual harmony, social institution, and economic harmony directly, also affects harmony with the flats and social harmony indirectly. To conduct the law enforcement to build the harmony between the old and the new

residents needs directing and controlling, as well as implementing the rules and sanctions by firmness of the local leader. It is determined by the local leadership. So, the local leadership is the leverage to create a sustainable community.

The hypothetical model of the walk-up flats environmental harmony towards sustainable community as is shown in Figure 4 has several characteristics as follows:

1. The model of environmental harmony consists of individual harmony, social harmony, as well as harmony with other elements of the walk-up flats environment and there is interdependencies among them. All of them has three dimensions: the physical, psychological, and socio-cultural which is interrelated each other.
2. In the model there are two sides of human dimension needed to be focused in the urban settlement development, namely as an individual and as a collective/community. So, in developing human settlement has to direct to develop of both in other to achieve a sustainable community. E.g abandoning the individual harmony or the social harmony in the human settlement development can cause social disharmony or social conflict which can threat the sustainability of the community.
3. To achieve the environmental harmony and its community sustainability needs the balancing among the three: a) among the harmony of individual, social, and other elements; b) among social, economy, and ecology; as well as c) among the physical, psychological, and socio-cultural dimensions.

6. Discussion

The regression model has proved that the individuals affect the sustainability of community significantly. It means that the individual cannot be abandoned when there is a need to achieve the sustainable community. Based on the concept of community, building a sustainable community means it's important in maintaining and strengthening the ties which bounding among the members. In the construct of individual harmony is shown the working of the law of altruism which indicates one attentions to the broader common interest. Strengthening the ties in the community is determined by individual social behaviour of its members. Therefore, in discussing the ties in community it cannot be abandoned the individuals.

Guest, Kubrin, & Cover (2008) stated that the effect of diversity of ethnicity on the relation among residents is not clear or weak, can be positive or negative. They also stated that the religion is a factor for making a unity divided. But in this research, individual harmony (which measured by individual social behaviour) make the negative effects of social diversity on social harmony is not effective. Empirical data in this study showed that individual harmony is not connected with the level of income, religion, ethnic, level of education, as well as occupation. Therefore, the housing segregation in urban settlement development based on the similarity of socioeconomic background need to be evaluated. It is contrary to the fact that human is divers and housing has to accommodate this human diversity from the building scale to the city scale to hinder the social disharmony. Arthurson (2002) stated that a balance of social diversity is the requisite to develop a cohesive and sustainable community. So, the principal of unity in diversity (in Indonesia is stated as *bhineka tunggal ika*) need to apply in the housing development.

To create the sustainable community, the challenge faced by the local leader in the walk-up flats management is how to create the social harmony among the residents which more divers who are living together in the compact form of vertical housing with changing occupants any time with the new one. It needs directing continuously to cultivate the values of harmony. It can be done by the leader who is firm, capable, has the broad insight, and inclusive.

Almost all of the regulation concerning development of the built environment only concentrates on one dimension (physical aspect), only a few regulations touching a psychological dimension (e.g. comfort, accessibility, etc.), and none or rare touching a socio-cultural dimension. The physical development of the urban settlement has to be directed to develop also the psychological and socio-cultural dimensions.

7. Conclusion

In the model of environmental harmony towards sustainable walk-up flat community in Kemayoran-Jakarta could be proved that individual affect community sustainability directly and indirectly through the elements of the walk-up flats environment. Based on the hypothetical model resulted, to create a sustainable community needs the law enforcement at the flats which is determined by the local leaderships. In general, the nature of the model are: a) dynamic; b) includes three elements: individual harmony, social harmony, and harmony with other elements of environment which are interrelated each other; c) those three elements consist of three aspects: social, economy, and ecology which are also interrelated; d) includes three parts: the *loop* which rises a social harmony; the *loop* which supresses a social harmony; as well as the elements of intervention to achieve a sustainable community. This model also showed that the law enforcement effects the sustainability of community, meanwhile the law enforcement is affected by the local leaderships, thus the local leaderships is the leverage to create the sustainable walk-up flats community.

Based on the conclusions above, *this research proved that to develop environmental harmony in the walk-up flats which can guarantee its community sustainability is the need for unity among individual harmony, social harmony, and harmony with other element of the environment which synergize each other.*

8. Future Research

Based on the resulted model, it can be conducted several future researchs such as: to test the dynamics of the hypothetical model of environmental harmony as a whole (all elements inside and outside the box in the Figure 4); to test the model in other cases such as in the high rise apartment for the lower middle income; and to test the model for landed housing with changing the questions of indicators of two variables namely the flats condition and harmony with the flats with the more adaptive ones which suitable for/represented the landed housing conditions.

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