DWELLING ADAPTATION ELEMENT TECHNIC OF A MADURESE MIGRANT AT KOTALAMA SETTLEMENT - MALANG

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ABSTRACT
Human adaptation to their place of dwelling is an effort to adapt to physical condition of a limited habitation environment. Environmental adaptation has three basic elements, which consist of physical (ecology/environment and human) and non-physical (culture and behavior or interaction between human-environment) elements. Adaptation concept includes behavioral and functional aspects, which are reflected on activities of the adaptation agent, as well as structural aspect, which is reflected on physical-spatial layout of the environment. Settlement development of the Madurese migrant since 1950s up to the present time has indicated the adaptation process. Study on the dwelling adaptation element of the Madurese migrant at the studied area was intended to find out what adaptation element used by the Madurese migrant in interacting with their settlement environment. This study used descriptive qualitative method and inductive analysis. Object of the study was determined following the literature study on Madurese settling concept that relates to adaptation element and adaptation process. Data was obtained through observation on settlement environment, residential unit, behavior of the Madurese migrant who live at the settlement area in socializing and interacting with others, as well as indepth interview with the keyperson that relates to the observed object. Results of the study showed that
the dwelling adaptation elements consist of physical elements that include in structural aspect in the form of space configuration and space types; as well as non-physical elements that include in behavioral aspects, such as behavior in interacting by showing identity marker as Madurese migrant, and in functional aspect of activities that form territoriality, personal space, and build a house unit, which is based on the spirit of place that relates to their origin.

**Keywords:** Dwelling adaptation element, Madurese migrant, Urban settlement, Malang


1. INTRODUCTION

Interrelationship between human and environment will always take place in life. Basically, human is a part of nature, and in its development, human is getting closer to artificial environment than natural environment, which will affect on the way of thinking, how to behave, and to take action (Bhonsle & Adane, 2013). This concept relates to psychological and physical features, as well as variables that relate to feeling, emotion, and bond, which are built up by human and the dwelling.

Human adaptation to their place of dwelling is an effort to adapt to physical condition of a limited habitation environment. In order to survive, human, both individual and group, always strive to adapt to physical and social environments, therefore it requires proper strategy, which is useful for such adaptation. Adaptation in human dimension context from global change usually refers to process, take action or result in a system (household, society, group, sector, region, country) that must be better to overcome, manage, or adapt to any change of condition, stress, danger, risk or opportunity (Smit & Wandel, 2006). Adaptation is defined, both implicitly and explicitly, as strength to make a change.

Environmental adaptation has three basic elements that consists of ecology, culture, and behavior (Berry, 2005) or human, environment, and human-environment interaction (Schultz, 2009). Each element is aqueous and dynamic. Any change in each element may affect other elements. Those three elements are categorized into physical elements (ecology/environment and human) and non-physical elements (culture or human-environment interaction). The adaptation concept consists of behavioral and functional aspects, which reflect on activities of the adaptation agent, as well as structural aspect, which reflects on physical-spatial layout of the environment (Kusliansjah, 2015), that occur on temporal, spatial, social, and political scales (Reyes-García, et al, 2016). In adaptation process on a settlement, human’s acts frequently change the spatial structure of the settlement pattern (Kabir, 2012). Adaptation process in a house can be done through expansion by adding more rooms, and developing the family room by equipping it with furnishings and other elements (Reynoso, et al, 2016).

Wandering has become tradition of most tribes in Indonesia, such as Minangkabau, Bugis, and Madurese. Madurese wanderers have the greatest number, which spread over on many regions in Indonesia along with diverse kinds of profession. The Madurese migrants spread on almost the whole provinces in Indonesia. Migration pattern of these Madurese peoples comes to the Eastern area of Java Island indicates that they come to their destination in small group, 10-15 peoples, in which they pass through Sumenep-Kalianget, and then cross the Madura Strait and layover in Panarukan Port (Hartono, 2010). During mobilization, they always
emphasize on kinship. Most communities, which are tied by their origin, will be able to maintain strong bond with communities where they come from, build new community that based on native custom or do both simultaneously (Berry, 1980 & Schultz, 2009).

Madurese migrants, who live in East Java, particularly at the Eastern part, are homogenous because they are formed through their own community or they live in group, so that they live as in their place of origin (Syamsudin, 2007). Most of the migrants from Bangkalan move to Surabaya, Malang, Kediri, Madiun, and Bojonegoro. While the migrants from Sampang move to Pasuruan, Probolinggo, and Lumajang, and the peoples from Pamekasan move to Jember, Bondowoso, and Banyuwangi (Jonge, 1989). Especially for Malang as one of destinations of the Madurese migrants, They do not only come from Bangkalan, but also from Sampang and Pamekasan (Soetjipto, 2008; Uabidillah, 2014 & Ma’arif, 2015).

Due to Madurese migrants are easily found in urban areas around Indonesia, most of them interact with their environment in order to create settlement. Urban settlements in Malang are occupied by more than 90% ethnic Madurese, which was started to grow in 1950s and keep growing up to now. Settlement development of the Madurese migrants has taken relatively longer, and it indicates that they have passed through specific adaptation process with their settlement. Therefore, the dwelling adaptation element of the Madurese migrants should be reviewed in interacting with their settlement(Moehadjir, 1992 & Moleong, 2016). By finding out their adaptation element, settlements for Madurese migrants in urban area will be able to be built by considering existence of the element, so that the dwelling adaptation process will be run well.

2. METHODOLOGY
Object of the study is settlement of the Madurese migrant at the District of Kotalama, Kedungkandang Subdistrict of Malang (Figure 1). The study was intended to find out what kind of adaptation element that has been applied by Madurese migrant during interaction process with their settlement. The study used descriptive qualitative method and inductive analysis. It was begun by studying settlements of the Madurese, in general, in Madura Island and settlements in Pamekasan particularly as the place of their origin, and settlement concept of the Madurese migrant in East Java, as well as in Malang through literature study, which relates to adaptation element in adaptation process between human and the environment. The results will be used to determine physical object of building and environment as a study case, which is potential to present any adaptation element that has been used by the Madurese migrants to adapt to their new environment. Data was collected through observation on a given object and indepth interview with the keyperson that relate to the observed object. The observed objects include settlement environment and the available dwelling unit of the Madurese migrants, as well as behavior of the Madurese migrants who live at the settlement in socialization and interaction. The keypersons in this study were the persons who give information about the beginning formation of the observed settlement object, initial area of the settlement, as well as the formation agent. The collected data will be analyzed with results of the study about Madurese community that conform to their origins in Madura Island and the related literature.
3. RESULTS AND DISCUSSION
This settlement locates at the former area of Tionghoa (Chinese) interment in accordance with the land use during Dutch colonialism, which had developed since 1950s when the Tionghoa interment was still functioning and keep growing up to now. Since 1990s, the Chinese interment was no longer used; however, the tombs were relocated to other interment by their families and the former interment was turned into settlement area. Based on the study, the Madurese migrants in this settlement use physical and non-physical elements in adapting to their environment.

3.1. Physical Element
Physical elements in environmental adaptation consist of ecology/environment and human as the agent of the adaptation process as well as structural aspect which reflect on physical spatial arrangement of the environment. Settlement pattern of tanean lanjheng is realization of indigenous culture, which is considered as typical architectural characteristic of Madura that has specific arrangement. Tanean lanjheng is total reflection of the Madurese peoples in applying Islamic thinking. On settlement environment of the Madurese migrants in Kotalama settlement, the pattern does not indicate clustered settlement pattern (nucleated village)/tanean lanjheng pattern as mostly found in Madura (Figure 2) due to the migration is not done in one cluster of (nuclear) family. But, it is always be endeavored to form propinquity of houses with family.

Houses as dwelling space, which are used as object of the study, show efforts to stay closer with family (Figure 3). The house owner stay at the house, which is inherited from their grandfather, and next to the house, at the left side, is their parents house that is occupied by his/her brother/sister. Both houses use mutual kitchen (dapor) in front of their houses, which is separated by path. The right side of the house is expansion of the main house, which is rented to others, Madurese migrants. The house owner has livestock breed and sells canary. The canary cages are put in front of the house, which is separated by path, and next to dapor (Figure 4). It is similar to tanean lanjheng pattern: kitchen or stable as service function are separated from the house, they locate next to the house or in front of the house, which is separated by tanean lanjheng as communal space. It is due to different geographical
conditions of the land and the origin, which is used as settlement area that has contour and limited width. The path in front of the house is also used as communal space of both families, therefore, it can be functioned as tanean lanjheng in Madurese settlement.

![Figure 2 Tanean lanjheng pattern of Madurese settlement](image)

Houses at Kotalama settlement are the smallest center of family’s activities, which are mostly used by women and children. Moreover, most of men’s activities are outside the settlement, where they have economic activities. Such condition is almost similar to settlement pattern of tanean lanjheng in Madura, in which the house is considered as space for women and children. In tanean lanjheng pattern, men’s activities are mostly performed in mushola, following their activities outside their houses (unirrigated field, farm, trade). It is different from the condition in this settlement, whereas after doing activities outside their houses, the men will join the women and the children in their houses. Activities inside the house are performed in some rooms, in which the rooms have tangible and intangible dividers. Mushola as the main facility in tanean lanjheng pattern is provided by environmental mushola or overlay sajadah at the amper part of each house.

![Figure 3 Observed house](image)
Study on house as object of the study consists of two kinds, a house that was initially a single room, and then it was divided into several rooms, and a house that has several rooms with tangible divider. Based on the process steps of the architectural space dynamic at Kotalama settlement (Asikin, et al, 2016a), a house that is initially a single space has experienced some steps, such as labeling process - bordering process - marking/identity expression process - environmental change process. Furthermore, a house, which has been divided into some rooms with tangible divider, has experienced some spatial dynamic steps, such as privatism process - categorization process - labeling process - marking/identity expression process. At the beginning, a house has single room that accommodates 3 basic functions, such as family room – bedroom – kitchen. The supporting facilities include bathroom (jedhingan) and well, which was initially considered as mutual facility in an environment. During its development, the house is not only divided by tangible divider among spatial functions, but also equipped with bathroom (Figure 5).
3.2. Non-Physical Element

Non-physical element in adaptation process between human and environment include culture and behavior to interact with others. Social character in a built-environment on cultural context can be seen from dwelling tradition, kinship system, and cultural space, which is formed as a result of social tradition activities that based on formal and informal activities of the society (Jenkins, 1997). In Kotalama settlement, the identity expression as Madurese people is indicated by language, which they usually use to communicate with other Madurese in daily life or, at least, they speak using Javanese with Madurese dialect even though they live in Malang, in which majority of the peoples use Javanese. Ability of the Madurese migrant in mastering Javanese is one of a adaptive strategy to integrate with local environment of Malang. Behavior to interact, which still indicates their identity as Madurese migrants, shows that the ethnical identity expression has become non-physical adaptation element in behavioral aspect.

The spirit of place has become their spatial experience, which they reflect on behaviors to interact with the environment. Formation of the settlement territorial as Madurese migrant settlement is based on similarity as Madurese migrants, and not based on family cluster. These relate to basic character of the Madurese peoples, who are tolerant (a part of ejhin character), loyal and consistent (a part of koko character). Limited area for settlement may force them to share the land with other Madurese migrants, so that the settlement area has turned into personal space of the Madurese migrants. It relates to basic character of the Madurese people, ejhin, which indicate tolerant, friendship and self-support (Hidayat, 2009). Different formation process of personal space on settlement in Kotalama and Madura (in general) is due to different dimension. In Kotalama settlement, the personal space is formed in a building unit, while in Madura, the personal space is formed from several building units. Activities in building house gradually from single space into several spaces show that the behavior has still follow or adjust to what the Madurese peoples do. The building process of the house was done by local workers or they were brought from Madura. Such bulding activities of settlement that based on spirit of place is considered as non-physical adaptation element in functional aspect.

4. CONCLUSION

Based on results of the research, dwelling adaptation elements applied by the Madurese migrant at Kotalama settlement in interacting with the environment are divided into physical and non-physical elements. The physical elements are included in structural aspects, such as configuration of house and space function as the smallest personal space in settlement environment. Basic configuration of a house is a single room or some spaces that function as amper – kamar – dapor and jedhingan as variation. Moreover, non-physical elements in adaptation include activities that form territoriality, create personal space, and build house unit, which is based on spirit of place. Cultural values of Madurese that show identity as Madurese migrant are basic characters; such tolerant, loyal, trust and consistence in socialization among them using Madurese language or dialect in communication are also considered as non-physical adaptation element in behavioral aspect. Such non-physical elements are included in functional and behavioral aspects.

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REFERENCES


