The settlement of kampong Lawas Maspati Surabaya based on ekistics

D Lesmana*, Antariksa, L D Wulandari and H Santosa
Department of Architecture, Faculty of Engineering, Brawijaya University, Malang, Indonesia
*diyan_lesmana@yahoo.com

Abstract. The settlement of Kampong Lawas Maspati is in the urban area of Surabaya, Indonesia, about 500 meters away from the Heroes Monument. Located in Gang V and VI, community unit (RW) VIII, Bubutan, the area is considered unique from various perspectives. Having five neighborhood units (RT), Kampong Lawas Maspati is surrounded by modern buildings with the ancient buildings, local wisdom, cultural traditions, and residing traditions that are maintained. This study examined the viability and adjustment of the community of Kampong Lawas Maspati by examining the settlement conditions based on the principles of ekistics theory (people, society, nature, networks, shells). This qualitative research used an applied research approach. The results showed that the elements contributing most to the viability over the last 50 years (1969–2019) and in accordance with the Law of Cultural Heritage in Kampung Lawas Maspati were Shells, People, and Nature. The elements of Nature, Society, and Networks adjusted to the development of the city.

1. Introduction
An old village or (henceforth, old kampong and kampong) is a distinctive settlement area, which shows potential development. It requires a systematic knowledge of human settlement, known as ekistics, to study the future development of urban areas. Human Settlements aim to meet the needs of human life as a place to live and provide security [1,2]. Doxiadis also stated that human settlements have five interrelated elements that work together, i.e. people, nature, networks, shells, and society [1]. The balance of these five elements is an indicator of the sustainability of a settlement [3].

Natural and Manmade Containers are places for humans (people and society) with all their complex activities. Therefore, to achieve sustainability, both at the level of a house and at the level of large urban settlements, the five elements must reach a point of balance.

Kampong Lawas Maspati in Bubutan, Surabaya, is a settlement that has historical value and well-maintained kampong traditions, ancient buildings, culture, and local wisdom [4,5]. It is also an indigenous settlement with the majority of Javanese ethnicity. From a historical point of view, Kampong Lawas Maspati is a Javanese noble kampong. Several passageways divide the area into so-called time passages that bring pedestrians into contact with the past. There lie places that have historical nuances, such as a place where it used to be the homestead of the Patih of the Mataram Kingdom and the royal horse stables, as well as the terrace of the house of Raden Soemomihardjo, the figure of the Surakarta Keraton, who was called “Ndoro Mantri” by the Maspati residents. There is also a former school, the “Ongko Loro”, that was built during the Dutch occupation. There is also a building from the time of
Indonesia’s struggle for independence, a former bakery owned by Haji Iskak, which became public kitchens during the historic battle of 10 November 1945. With antique floor tiles and unique details, the building changed its function to “Asri” Inn in 1958. There are also other colonial heritage buildings with indies and eclectic architectural styles.

The Mayor of Surabaya, Tri Rismaharini, inaugurated the term Kampong Lawas Maspati on 24 January 2016. Kampong Lawas Maspati was popularized as a community-based educational tourism kampong with historical relics and cultural heritage buildings that were protected and preserved by the government [6,7]. It is also stated that the brand essence and consumer insight could determine the brand proposition, becoming the message: Kampong Lawas Maspati tourism is a tour of the past [8].

Kampong Lawas Maspati is located in the urban area of Surabaya, about 500 meters from the Heroes Monument. This kampong is located on Gang V and VI, RW VIII, Bubutan Village. This village, consisting of five neighborhood units (RT) is surrounded by modern buildings, but the ancient buildings, culture, local wisdom, and village traditions are still maintained. The location and position of Kampong Lawas Maspati, gang V and VI, is simulated in Figure 1 below:

![Figure 1. Position, location, condition and map of Kampong Lawas Maspati of Surabaya City, Indonesia (Source: Mapping Results 2019).](image)

The community in Kampong Lawas Maspati also maintains a livelihood as craftspeople, which has been passed down for generations. There are more than 300 densely inhabited houses located in alleys that are inaccessible for cars. Most of the inhabitants are families of Indonesia’s veterans who participated in the battle of Surabaya in 1945. They have been living in the old and original houses and thus we can see the ancient buildings everywhere in the kampong. The buildings and historical relics from the Mataram kingdom, such as the punden (shrine) of Raden Karyo Sentono and Mbah Buyut Suruh who are the grandparents of Sawunggaling, are also well-preserved. The existence of this original building is inseparable from Kampong Lawas Maspati community, which consists of 1,350 people inhabitants and 350 families.

The existence of the kampong amid the hustle and bustle of trade and urban arteries is unique. According to the city spatial plans (RTRW), Bubutan district has been designated as a Cultural Heritage Area, meaning it plays an important role in the historical development of the city of Surabaya [9-11]. In some parts, Kampong Lawas Maspati has potential characters shown through the Colonial Architecture that represents the relation between the tradition of living and the environment that has past culture.

The city has developed and accordingly the acculturation process began. The traditions in the kampong could change to be a legacy in the form of the surviving socio-cultural continuity [12-14]. As time goes by, the kampong traditions, ancient buildings, culture, and local wisdom in Kampong Maspati
could also change and disappear. The condition that the development of the city affects the balance of the ekistics in the Kampong Lawas Maspati becomes the main concern in this research. This study also aimed to identify the conditions of Kampong Lawas Maspati based on the principles of ekistics with an objective assessment of five elements (people, society, nature, networks, shells) to assess the kampong’s viability in response to the developments of the city.

2. Material and methods
There were two approaches to the concept of resilience (human and natural), which develop together as a socio-ecological system [15-17]. Also, the response of the system to change is unpredictable. The resilience concept is important in disasters, social studies, and planning.

Resilience had three elements (persistence, adaptability, ability to transform), which are considered from the local scale to the global scale [18,19]. Some factors influence resilience, i.e. institutional, political, cultural, social, environmental, human, economic, and physical factors [20].

“Resilience” is a dynamic development process involving efforts to maintain coping, that is an individual's way of solving problems, adjusting to changes, and responding to threatening situations [19,21]. Roychansyah and Diwangkari’s study found that the mixed land use pattern in the kampong has provided an efficient alternative as a form of resilience by representing the concept of the compact city (population density, land-use efficiency, and facility-infrastructure) [22]. A mixing of residential and non-residential land uses, including commercial activities in the village, guarantees the sustainability of the kampong and creates livable conditions in the city [22,23].

A kampong is a complex and dynamic social system as a result of citizens that have different religions, incomes, education, employment, ethnicities, and political views. It has become a kind of mini collage of citizens that allows them to continuously develop the principles of diversity, tolerance, and solidarity. Furthermore, a kampong is also a dynamic and important economic system because it becomes the location of home-based enterprises [11]. Study showed that around 80% of houses in the kampong were used for the productive activities of the residents [24].

Based on the formulation of the problem and the objectives, this research used a qualitative research with an applied research approach. Applied research is conducted to gain information that can practically solve the problems and therefore the current study focused on the viability and adjustments to change, and the developments of the city, with an analysis using the elements of ekistics elements (people, society, nature, networks, and shells). This research also employs purposive sampling to college the research sample [25].

This research was carried out in Kampong Lawas Maspati, Surabaya. Data collection included: questionnaires, interviews, observation, documentation, and literature studies. The data analysis process uses frequency count and percentages to determine the opinions of Kampong Lawas Maspati community on the viability and the ekistics adjustments in Kampong Lawas Maspati. There were several variables used in previous ekistics research [26,27], such as physical conditions of housing and settlements (shells), economic, education, economic, education and age (people), house environment (nature), social conditions (society), and facilities and infrastructure (network).

3. Results

3.1. A Discussion of ekistics elements (shells, nature, network, society, people)
The results of observations and interviews with 78 families in Kampong Lawas Maspati are shown in Table 1.
| Table 1. The results of observation of ekistics elements. |
|-----------------------------|-----------------|-----------------------------|
| **Ekistics Elements** | **Variable** | **Study Parameter** | **The Results of Observations & Interviews** |
| **Shells** | Physical Condition of Houses and Settlements | a. Residence Mastery | Most inherited houses resided by families from generation to generation. |
| | | b. Physical Condition of the Buildings | The houses built in the 1940s are still well-maintained, even though some elements/materials have been replaced. |
| **People** | Economic, Education, and Age Capacity | a. Livelihood | Most of the community are a culinary and craftmanship entrepreneur, so they have sufficient income |
| | | b. Education | The dominant educational background is high school graduates and associates or bachelor’s degrees. |
| | | c. Age | The average age of the head of the family is above 50 years old, indicating that they have been living here for a long time. |
| **Nature** | Environmental Condition | a. Public Open and Closed Space | The public open space (road corridors/alleys) is used as a place for interaction and for planting trees. The public closed spaces are a meeting hall for social activities, prayer rooms for worship, schools for the children, and the library or a reading house. There is also a punden (shrine) of the husband and wife Raden Karyo Sentono and Mbah Buyut Suruh who are the grandparents of Sawunggaling. |
| | | b. Ancient or Inheritance Building | Several residential houses with Colonial, Indies/eclectic architecture. |
| **Society** | Socio-Religious Condition | a. Socio-Religious Organization | There is a pengajian (communal Quran reading for the mothers and fathers, the sinoman (a group of young people who helps their neighbors who are in need by becoming guest servants, especially in the countryside), karang taruna (youth organization), PKK/Dasa Wisma (Family Welfare Movement) for the mothers. There are 350 families, consisting of 1,350 people, living in Maspati Old Village |
| | | b. The Number of Families | |
| **Network** | The Condition of Facilities and Equipment for Settlement Infrastructure | a. Facilities | Facilities found in Kampong Lawas Maspati were a meeting hall, mushola (prayer room), school, and reading house |
| | | b. Infrastructure: Roads/alleys: Electricity and Street Lighting, Clean Water/City Water Service (PDAM), Sewers, temporary trash disposal site (TPA) | The passageways that have a width of 2.50 m are accessible for motorcycles, but not for cars. Electricity and clean water are also available. Channels for liquid waste are in the form of a planted system so do not reduce the road body/alley. Waste facilities are available in the form of trash cans that are cleaned regularly. |
3.2. The viability and adjustment capability based on ekistics elements

From the results of interviews and field observations, we used 11 parameters to measure the viability of Kampong Lawas Maspati from the ekistics elements. Table 1 shows that Kampong Lawas Maspati was “Viable” as shown by:

- Shells: the residential buildings established in the 1940s were inherited houses resided in by families for generations. Hence, they tend to keep the old buildings because they were part of the family heritage.
- People: the family heads residing in Kampong Lawas Maspati were above 50 years of age. This indicated that the residents had been living in Kampong Maspati for many years.
- Nature: the ancient buildings or relics had not changed their shape and appearance (style) showing that these buildings were still able to withstand changes from current development.

The results of interviews and field observations revealed that there were several parameters that could be used to measure the “Adjustment” based on the ekistics elements in Kampong Lawas Maspati. Table 1 shows that Kampong Lawas Maspati has “adjusted” as shown by:

- “People”: the community in Kampong Lawas Maspati worked as traditional culinary entrepreneurs and craftsmen to earn money. This indicated an adjustment to the economic needs and conditions.
- Another adjustment is the open and closed public spaces. Public open space includes the utilization of passageways for Pengajian. The cultivation of medicinal plants (TOGA) on the side of the passageways can make the kampong look greener. Besides, TOGA is also useful to make Traditional Herbal Drinks. This showed that the community of Kampong Lawas Maspati has been accustomed to independently adjust and creatively gain benefits from the environment.
- The restoration of the shrine showed adjustment in respect for the ancestors so that the history of Kampong Lawas Maspati keeps being remembered. In public closed spaces, the early-childhood education institution and the library provided places to gain and increase knowledge for the community, indicating the adjustment to the demands of current needs.
- The “Nature” indicated that there was a function adjustment through a former residence now being used as a place of business to fulfill economic needs.

4. Conclusion

In conclusion, there was a “Viability” in Kampong Lawas Maspati. This study shows that there are the “Shells” element shown by the houses inherited by families for generations; the “People” element shown by the average age of family heads being above 50 years of age; and the “Nature” element shown by the unchanging ancient buildings. The “Adjustment” in Kampong Lawas Maspati was also presented through the “People” element, with entrepreneur being the main livelihood; the “Nature” element, with public open spaces for socio-culture, religious traditions, and environmental quality improvement activities; and public closed spaces as a means of education. The “Nature” element also showed changes in the function of ancient buildings to fulfill economic needs. Besides, several adjustments were exhibited in the “Society” element with the socio-religion organization that reflected local traditions and culture; the “Network” elements with the facilities and the use of passageways to improve the quality of activities and visual aesthetics under the present trends.
In addition to what this study has investigated, the following studies could discuss the management of Kampong Lawas Maspati by bringing up the cultural values and local traditions of Arek Suroboyo. Also, the next study could focus more on the existence of ancient buildings as a heritage from the past, so that it can be the urban heritage.

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