

## **Conflict of Economic Space and Domestic Space at Ceramic Productive Homes in Dinoyo Malang**

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### **ABSTRACT**

Dinoyo ceramic kampong is a center of ceramics-folk-industry that faces space conflicts in developing its economic activity. It occurred in productive homes, caused by a clash between the interests of the use of space for economic activities and domestic ones. As a result, economic activities are difficult to grow while domestic activities disrupted. This research aimed to identify the space conflict of economic space and domestic space. By using behavioral observation method, researchers had identified the use of space for domestic and economic activities. Behavioral observation data was translated into behavioral maps. Structured analysis is performed to obtain the spatial behavioral-pattern. From the recorded behavioral pattern, it was determined the space conflicts. The results showed that the space conflicts occurred especially in the living room and family room (semi-public area) that also used for packaging place. This conflict occurred because the person was a family member (usually mother) who conducts economic activities while performing domestic activities. The results of this study can be used to develop a model of the spatial arrangement of productive homes for increasing its economic activities without ignoring the interest of domestic ones.

**KEYWORDS:** space conflicts, economic activity, domestic activity, productive homes

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### **INTRODUCTION**

According to El Demery [1], sustainable development requires balancing of environmental aspect, economic and society. Economic growth should be in line with social progress and environmental protection. Economic activities require efficiency of resource utilizing, creating of added value, expansion of market while ensuring the safety, welfare, and health workers, as well as improving quality of life.

Related to the above issue, one of the challenges of the small industries in the city is the scarcity of space. The utilization of domestic space (home) for small industrial economic activities caused the problem. Ideally, there is a 'boundary' between private and semi-private space used for domestic (household) activities and those for economic ones. Several studies have shown a change in the concept of space due to the use of domestic space for economic activities [2][3]. Social value changes were in line with the changes of spatial concepts. In the other hand, economic activities can hardly develop if there is not enough space available for its need. Spatial pattern of the house will affect the pattern of economic activities of home industries and its characteristics, and finally will affect to its development [4]. Murtini [5] found that space conflict of domestic and economic activities in productive homes in Kampong Kauman Semarang, managed by using the same space in different time. The actors of economic activity were women. Nevertheless, it would be difficult to apply the same method in larger home industries with both men and women actors.

Home industries need to increase its economic activity without disrupting its domestic activities. Even, from sustainable development point of view, economic activities have to be increased by using the existing resources - including space - without obeying the social value and the quality of life. Therefore, it is important to understand the utilization of space and its conflicts in order to optimizing resources for designing better place for both domestic and economic activities.

Dinoyo ceramic kampong is the centre of ceramics home industries defined as a tourist destination by the Municipality of Malang. Efforts to improve home-based economic activity in the kampong face declining of social life value due to the use of domestic space for economic activities. This study tried to identify space conflicts that occur in the productive homes. Previous studies about space of home industries focused on the spatial changes [2][3]; the dynamics of economic activities caused by spatial arrangement changes and economic characteristics changes [4]; and space-management of productive homes in which the actors are women [5]. This study focused on space conflicts: where and why the conflicts happened, and what are the activities that cause space conflicts? The results of this study could be developed to create a model of productive homes that increasing its economic activity without disrupting domestic ones.

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## MATERIALS AND METHODS

### Territory Space in Formation of Spatial Formation

Territory is one of the crucial factors in managing the environment based on the functions that should be accommodated [6][7]. Territory relates to a geographic area because of the motive or the need claimed as the property of individuals or groups. Furthermore, the owner of the territory has a mechanism of control over certain areas to mark their territory and defend it from invasion others. Nevertheless, in a condition that there is not enough space available, for example in a density housing, people will create communal space multivalent. It is a key to using land more efficiently, creating quality living environments for residents, and fostering connectedness and a sense of community [8][9]. In Kidul Dalem, one of density housing in Malang, Indonesia, the used of communal space as space sharing based on mutual aid as the basic principles of social life [10]. The communal space could be private or public, depends on its activity, user, and time. Sometimes, somebody forced to hit other's territory when used it for his need. However, caused by mutual respect and strong togetherness that live in their social way of life, it will not be a matter. This is what Pattinson [8] called connectedness and sense of community. According to Rapoport [11], culture has significant role in form a spatial formation of an environment, although it is not the only one. In urban space, sometimes the concept of urban open space as communal space interpreted different way by community, and the territory could be wider and uncontrolled. It could harm and eroded the character of space that also becomes an identity of the community [12].

Territory has a hierarchy that shows the level of personalization, different ownership and control over the space. Territory hierarchy begins with the central territory, which is highly personal (private area). Supporting territory is a semi-private or semi-public area which tends to be owned due to some linkage (semi-private). Peripheral territory is an area that can be used by individuals or groups but cannot be owned or claimed personally. It is also called a public area. Lawson [13] and Madanipour [14] noticed that the territory is not only related to the spatial aspect, but also a social phenomenon. Determination of the territory will intersect with the territory of others so that it should have clear boundaries and markers.

### House as Domestic and Economic Space

The ideal function of house as a 'private space' requires a region with markers as its territory [14]. The house is a centre for the formation of an individual's social identity in it as well as a centre for the creation of a harmonious social relation [14]. Man that has cultural power and social capital has big role in changing his community to be more productive by using his house as place for running creative production. They have to keep the character of their home industry that has close interaction between its users in transforming knowledge as well as interaction between family members in a house. When the spatial pattern changes and territorial boundaries become more formal, the interaction will change too. Those changes will affect to learning opportunity and continuance of home industry as happened in Pagarsih, Bandung Indonesia [4].

Private and semi-private space is defined from how individuals make sense of space. In marking territory of public and private space, people use many tools as space-divider. It can be fixed, semi-fixed, or non-fixed materials, for example wall, furniture, curtain, or others. The divider used to impede movement, noise, and sight from public space to private space. In mass production house for low to middle economic society, as in Sawojajar, Malang, people made any innovation by add space divider to make their private space more comfort [15]. It shows that marking territory and boundaries to separate public space and private space is very important in a house. Then, in productive house, domestic activity that is private has to be separated from economic activity that is public.

Conflict often occurs when the home bear the need for economic activity. Several studies point out a shift of space due to using the domestic space (home) for economic activities. Soegiono [2] identified the conflict of space as well as changes the spatial patterns either through the use of space for multifunctional activities, the addition of space, and a modification of the space due to the economic activity in the home. Discomfort occurs in both activities because conflict solution is not optimum.

Taufikurrahman [3] found that the changes that occur in the spatial pattern due to type and character of the activity, tools used, characteristics of workers and their relationship with the family, as well as social factors such as education level, income, family structure, and age of the head family. With a different perspective, Muqoffa [16] see a change in the spatial concept that impact on a change of conception and spatial pattern due to economic activities that in fact done by women. Murtini [5] found that efforts to use domestic space for economic activity without changing the pattern of physical space occurred in the village of Kauman Semarang. Time becomes a factor that is set to change the role and function of the space of domestic activities into economic activity and vice versa. Space in the industry home can function as an economic space in the daytime, but will return to the domestic sphere in the night.

## RESEARCH METHODS

This study is an exploratory study to determine space conflicts that occur in residential environment, particularly productive homes. The study is conducted by a qualitative approach with method of field observation and unstructured interviews to get an idea of how the practice of space held by residents who do business economics at their homes.

This study is located in *Rukun Warga* 3, Dinoyo, Lowokwaru District, Malang, precisely in the neighbourhoods around M.T Haryono Street, corridor 9 and 11.

### Data Collection Methods

Total of ceramics entrepreneurs at the sites are 34 people consisting of ceramic craftsmen, gypsum craftsmen and ceramics sellers, with 13 residential homes which is used as a place of business with the following details.

Table 1 Classification of Business-Dwelling in Dinoyo Ceramic Kampong

Type	Description	Quantity	Number of Floors	
			1	2
1	Residence which is also as the place of production and sale	3 units	1 unit	2 units
2	Residence which is also as the place of production, while a separate outlet in other location	5 units	5 units	-
3	Residence which is also as the outlet of ceramics/gypsum	5 units	-	5 units
<b>Total</b>		13 units	6 units	7 units

Selection of the samples (unit of observation) is conducted by purposive sampling method. A criterion of selection is ceramics craftsman homes which are a dwelling place and a business one located at one location. The number of samples as the unit of observation is determined as much as 25% or 4 units with details:

- Two cases represent type 1 (storey buildings 1 and 2),
- One case represents type 2, and
- One case represents type 3.

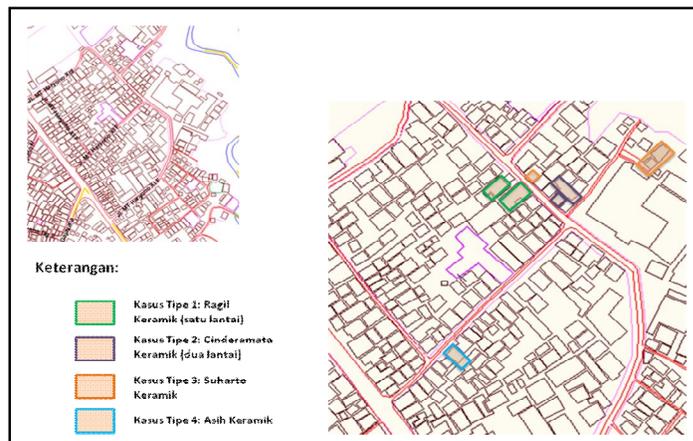


Figure 1 Map of Samples

The variables in this research are described as follows:

Table 2 Research Variable

No.	Component	Variables
1	Subject and activities	1. Subject 2. Activities carried out
2	Physical Environment	3. Element of spatial formation 4. Dimension of space
3	Linkage	5. Pattern of spatial utilizing
4	Time	6. Time of spatial utilizing

Data is obtained from primary sources, namely subject of activities in the dwelling units and the physical condition. Data collection technique used is passive participant observation, unstructured interviews, and field measurements. The data needed in this study include primary data consist of plan a residential unit and its environment, data of domestic, economic, and other activities conducted in the dwelling units and the subject of

activities. Secondary data includes district maps of the study area, profile of the study area and data related to socio-cultural activities of living.

**Procedures of the Research**

The stages of this study are described as follows:

- Preliminary observations to determine the residential units will be observation units and approach to the subject of activities in the units.
- Field measurement and redrawing maps of the district and each observation unit.
- Analysis and synthesis of data to find space conflicts.

**Method of Analysis**

Data analysis was carried out in several stages, namely:

- Translating the field observation data into maps of behaviour.
- Structured analysis through graphical analysis maps of the behaviour and content analysis based on patterns of spatial behaviour by looking at Barker’s four components of background behaviour.
- From behavioural patterns recorded, indications that lead to the practice of spatial utilizing is sought to find space conflicts occurred.

**RESULTS AND DISCUSSION**

**Identification Spatial Utilizing for Domestic and Economic Activities**

From these observations, it can be identified patterns of spatial utilizing for economic and domestic activities in the above cases as follows:

a. Case 1

- The building consists of one floor with two masses. Mass 1 for mixing domestic and economic activities whiles the mass 2 only for the production of ceramics with separate access to each mass. Connector of two masses is a transitional space where drying, car parking and storage are taken place.
- Subjects of production activities are employees coming from a surrounding environment.
- In the first mass, economic activities are carried out in the front (for showroom) and in the family room (for packaging activities).
- Space conflicts in the first mass occur in the family room converted to be the room for packing and stacking ordered goods (economic space). Subject of this activities are female workers (housewives and female employees) working from morning till afternoon, and can be continued until evening if necessary. This activity is done while watching television.
- Visual conflict occurs in the showroom due to furniture arrangement that does not cover a view to the living room. Functional conflicts happen because of parking of owner motorcycle; and accumulation of ordered items in the back area of shelf so that the showroom is messy.
- In the second mass spatial arrangement and furniture layout are not based on the flow of the production process so that the circulation is not effective. There is an accumulation of tools, materials, and manufactured goods which are ready to be finished on the shelves. Warehouse capacity and inappropriate storing cause an area outside the warehouse was filled with piles of cardboard boxes.

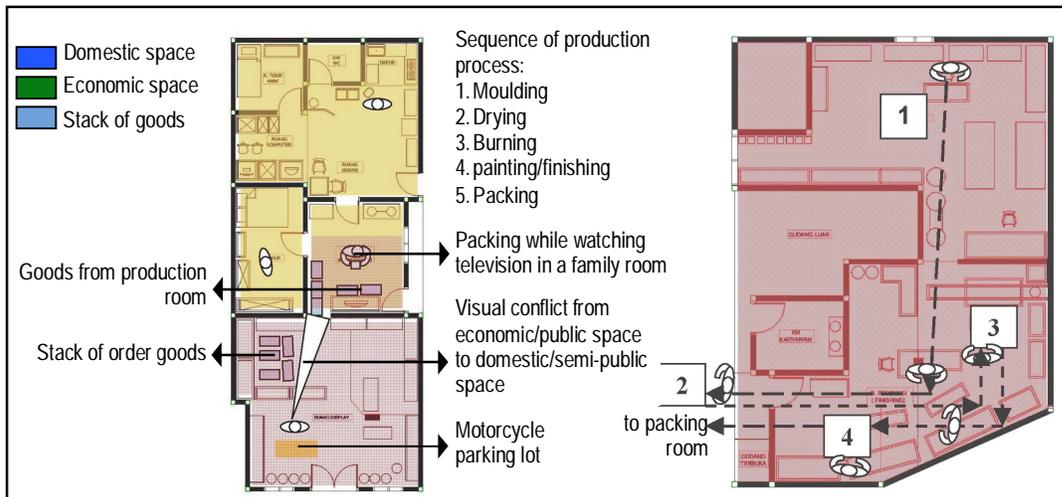


Figure 2 Behavior Map and Spatial Utilizing in Case 1 (Building 1 and 2)

b. Case 2

- The building consists of two floors. Floor 1 for production to packaging, while the second floor exclusively for domestic activities. The owners also have another house in the same kampong so that some domestic activities, such as cooking, are not done in this place.
- There is ineffectiveness in arrangement of production space, where is divided into two sections, namely moulding and drying rooms in the east and combustion chamber, and finishing in the west.
- Subjects of production activities are employees coming from neighbours. During a break, the employees go home for lunch.
- Showroom is maintained by the business owner.
- The house is inhabited by owner son who is married and has a child. He is working during the day and going home in the afternoon when the production has been completed. Owner grandchild, around 5 years old, is inhabited a bedroom located on the 1st floor.
- The above bedroom located in the area between the showroom and production space. In this area, a visual conflict potentially occurs between showroom and bedroom. A door functions as a visual barrier to minimize the conflict.
- In the moulding and drying rooms there is a workshop. If it is not utilized, the space is converted to be a motorcycle parking lot.
- The showroom temporarily is also used as a meeting room because the owner is a chairman of the Ceramics Craftsman Association in this place. Meeting activities are generally conducted at night. Functional change of the room is carried out without a lot of shifting furniture, just only add a mat or carpet.
- In the showroom there is a pile of boxes filled with ordered items that is not laid out neatly orders.
- A circulation conflict happens in the painting room having an access to a passive domestic area on the second floor.
- There is storage, as a passive economic area, on the rear second floor. It has a landing of stair to separate the economic area and a domestic one.

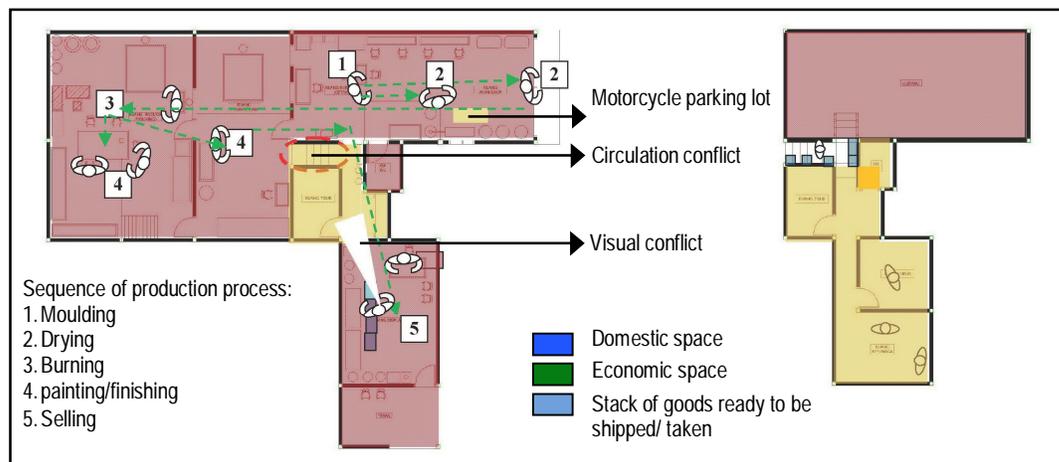


Figure 3 Behavior Map and Spatial Utilizing in Case 2 (Floor 1 and 2)

c. Case 3

- The house consists of two floors with the first floor is for ceramic and gypsum production space equipped a kitchen as a domestic space.
- Subjects of economic activities are owner family (a couple and son), the younger brother of the owner (living in a different house), and four neighbour employees.
- Production activities up to the ceramics finishing are carried out by the owner and his employees. While gypsum painting is done by the son. Owner wife packs the products in the showroom located separate from the house.
- The employees get lunch which is done in the kitchen or area of production room.
- Circulation conflicts potentially occur because access to employee toilet passes through the kitchen. The conflict happens especially when owner wife cooks in the kitchen along with working hours, from 08:00 to 11:00. Beyond that time, the possibility of conflict is still possible.
- Near the kitchen there are two toilets used by the employees and residents. Both are free to use them so that space conflict possible happens.
- In the production room there are unorganized piles of materials, equipment, and goods that have been moulded or burned on the shelves.

- There is a special circulation for workers so that the production process does not interfere with domestic activities in the kitchen located adjacent to the production room.
- Painting of ceramics is done by the employee in the production room, whereas gypsum painting is carried out in the family room or dining room.
- Gypsum does not require combustion in the production process, just dried it. The dried gypsum is placed on the terrace. From this place, it is brought into the living room or dining room to be painted.
- Space conflict happened on the second floor which is a domestic space because several space - the terrace, living room and family room - are used for economic activities. Terrace is used to store piles manufactured goods so that the motor is parked in the living room. The size of the living room becomes narrower because it is used for parking motorcycle and storing production goods.
- Finishing activities are undertaken by son of the owner in the family room activities. This activity is generally at 9:00 to 15:00, and in the evening when needed.

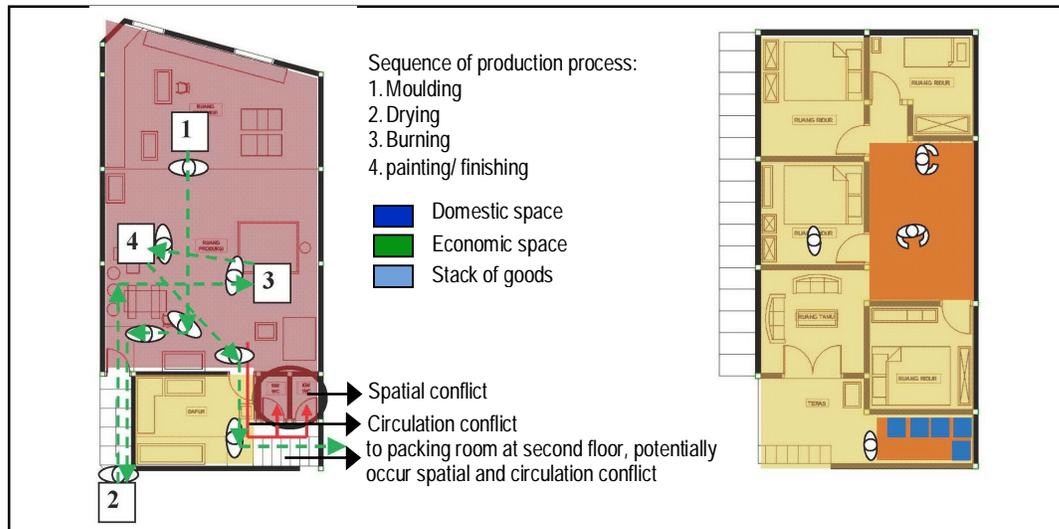


Figure 4 Behavior Map and Spatial Utilizing in Case 3

#### d. Case 4

- The house consists of two floors; the first floor fronts for the sale while the second one for domestic activities.
- On the first floor there is a living room while the second floor has a family room that is also used to receive familiar known guests.
- Salesroom is also used as a motorcycle parking lot.
- In the room of sales racks are arranged come alongside of the room, window displays are put on an area where bound a terrace and the sales room. Behind the displays there is a pile of ordered items. Stacks of ordered goods are also found in the packaging area.
- On the terrace there is a pile of boxes that will be used to pack orders.
- On the first floor space conflict occurred in the living room that also functions as a packaging room.
- Circulation conflict happens in a domestic area behind the living room because there are a stair leading to the second floor and a toilet for dwellers and workers.
- Separation of economic space and domestic one on the first floor is a wall and a door so it does not conflict visually.
- On the second floor there is no space conflict, circulation conflict, as well as visual one because the floor is specifically for domestic activities only and private. No random people can access this space.

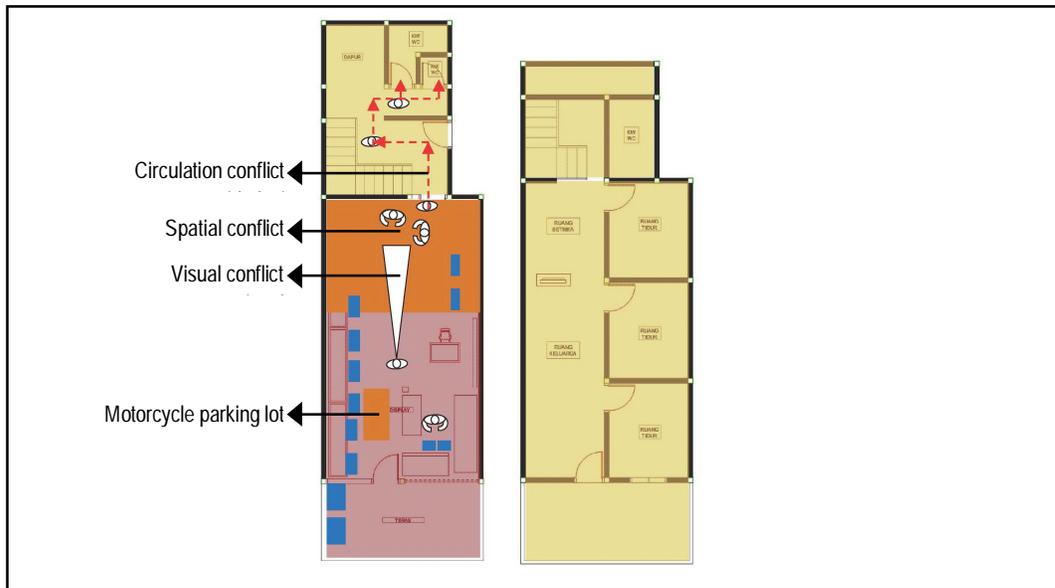


Figure 5 Behavior Map and Spatial Utilizing in Case 4

- domestic space
- economic space
- stack of goods

### Space conflicts in Ceramic Productive Home of Dinoyo

From the identification of the spatial utilizing mentioned above, it can be seen that:

In terms of the identification of the use of space above it can be seen that

- a. Subjects of economic activities in the ceramics home industry are described as follows:
  - Production activities in the form of raw material processing, moulding, drying up to burning is done by male workers during working hours from 7.30 to 15.30.
  - Production activities in the form of finishing (painting) are carried out by male and female workers during working hours from 07.30 to 15.30.
  - Post-production activities (packaging) is completed by female workers, usually housewives. This activity is carried out while doing domestic activities at night.
- b. Conflicts of activities that occur in all cases can be divided into three types:
  - Complete economic activity: the conflict at the time of post-production.
  - Partial economic activity (sale only): conflict during packing.
  - Partial economic activity (production only): conflict during finishing.
- c. Regarding the space, it can be found that:
  - There is awareness of the owner to separate the residential space and the economic space for production and sale.
  - The conflicts between economic and domestic activities take place in the living and family room.
- d. Space conflicts are caused by several factors, i.e.:
  - None or not yet available space for economic activities.
  - Limitations of supporting facilities, such as warehouse racks and storage, so that the accumulation of goods occurred. As a result, atmosphere of the space is not conducive for both economic and domestic activities.
  - Subjects of post-production economic activities are dominated of female workers (housewives) who finalize their main job while doing side activities (gathering, watching TV, chatting).
- e. Finishing or packaging activities can take place outside of working hours.
- f. As results of the conflict are:
  - Goods that are in the economic and domestic space are not/less organized.
  - Existence of the goods and the subject of activities led to obstruction of circulation.
  - Narrowing of the space for economic and domestic activities, as well as disruption of economic and domestic activities.

## CONCLUSION

From the discussion above, the following conclusions can be drawn:

- Space conflict found mostly in the living room and family room
- There were separation of space for domestic activities and economic activities, either horizontally or vertically, in order to minimize space conflict between economic and domestic activities
- Space conflict between the domestic and economic activities occur due to the unavailability of space for economic activities (finishing, packaging, storage), subjects of activities who were also the residents, and economic activity which is done while performing domestic activities.

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## REFERENCES

1. El Demery, Ibrahim Mostafa. 2010. "Sustainable Architectural Design: Reviving Traditional Design and Adapting Modern Solution", *Arch Net-IJAR International Journal of Architectural Research*. Vol. 4, issue 1 March 2010.
2. Soegiono, Bagus Soeprijono. 2011. Transformasi Penggunaan Ruang Hunian Akibat Usaha Berbasis Rumah Tangga. *Master thesis*. Surabaya: Surabaya: 10 November Institute of Technology.
3. Taufikurrahman. 2010. Perubahan Pola Tatanan Ruang Rumah Tinggal sebagai Akibat Kegiatan Industri Rumah Tangga (Studi Kasus: Pengrajin Logam di Desa Ngingas Kecamatan Waru Sidoarjo). *Master thesis*. Surabaya: Surabaya: 10 November Institute of Technology.
4. Suhaeni, Heni. 2011. "Sistem Spasial Berbasis Budaya Menghasilkan Ruang Produktif untuk Industri Kreatif", *Jurnal Permukiman*. vol. 6. No. 1. April 2011. pp. 53-59. ISSN 1907-4352.
5. Murtini, Titien Woro. 2011. "Peran Perempuan dalam Pemanfaatan Ruang pada Rumah Tinggal sebagai Ruang Ekonomi", *Scientific Journal of Urban Design and Housing*, 10(1).
6. Gifford, Robert. 2007. *Environmental Psychology: Principles and Practice* (4th Ed.). Colville, WA: Optimal Books.
7. Omata, Kenji. 1995. "Territoriality in the House and Its Relationship to the Use of Rooms and the Psychological Well-Being of Japanese Married Women", *Journal of Environmental Psychology*. vol. 15, issue 2 June 1995. pp. 147-154.
8. Pattinson, Stephen John. 2011. "Common Ground: Creating Sustainable Neighbourhoods by Making Communal Space Multivalent in Medium Density Housing", *The International Journal of Environmental, Cultural, Economic and Social Sustainability*. Vol 7, issue 5, pp. 79-104. ISSN: 1832-2077.
9. Saptorini, Hastuti. 2006. "Teritorialitas Permukiman Tepi Sungai Code", *Dimensi. Journal of Architecture and Built Environment*. Vol. 34 No. 1, July 2006. pp. 31-39.
10. Titisari, Ema Y. 2012. "Meaning of Alley as Comunal Space in Kampung Kidul Dalem Malang", *Journal of Basic and Applied Scientific Research*, vol. 2 October 2012. part II, pp. 10087-10094.
11. Rapoport, Amos. 2008. "Some Further Thoughts of Culture and Environment", *Arch net-IJAR International Journal of Architectural Research*. vol. 2, issue 1. March 2008. pp. 16-39.
12. Wulandari, Lisa Dwi. 2010. "Space Metaphor Concept, in Urban Open Space, a Case Study of Malang City Square", *International Journal of Academic Research*. vol. 2. No. 6. November 2010 part II. pp. 311-314.
13. Lawson, Bryan. 2012. *The Language of Space*. Oxford: Architectural Press.
14. Madanipour, Ali. 2003. *Public and Private Space of the City*. New York: Routledge.
15. Triyosoputri, Etikawati. 2009. "Peranan dan Pengaruh Nilai Islam pada Rumah Tinggal di Malang; Kajian Terhadap Elemen Pembatas Ruang Publik-Privat", *Jurnal Online Kearifan Lokal, Local Wisdom*. vol. 1. no. 1. November 2009. pp. 01-09. ISSN: 2086-3764. www.localwisdom.ucoz.com.
16. Muqoffa, Muhammad. 2005. "Mengkonstruksikan Ruang Gender Rumah Jawa di Surakarta dalam Perspektif Kiwari Penghuninya", *Dimensi. Journal of Architecture and Built Environment*. vol. 33. No. 2. pp. 87-93.