

マツカーサル市郊外におけるプサ・ニャーガ・ダイ ヤ・マーケットとその周辺における混合利用に関する研究

ハリサ, アフィファ
九州大学大学院人間環境学府都市共生デザイン専攻博士後期課程

有馬, 隆文
九州大学大学院人間環境学研究院都市・建築学部門

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Analysis of Mixed Use Neighborhood and Building of the Pusat Niaga Daya Market and the Surrounding Areas in Suburban Makassar

アフイファ ハリサ, 有馬隆文

Afifah HARISAH* and Takafumi ARIMA**

The aim of this study is to elucidate the distinctive characteristics of the Pusat Niaga Daya market and surroundings in suburban area in Makassar City which contain mixed use buildings, neighborhoods, and a picturesque structure formation process. The outputs found that mixed use neighborhoods and buildings of the location had been developed with two types of processes: 1) Intensification Process by constructors or by government controlled companies, and 2) Evolution Process; step by step procedures based on the occupants' activities. Therefore, the combination of those two types of processes has created a very picturesque and off the cuff mixed use of buildings in the area.

Keywords: *Mixed Use Neighborhood, Mixed Use Building, Market, Suburban and Makassar City*
混合用途地区, 混合用途建築物, 市場, 郊外, マッカーサル市

1. Introduction

1.1 Study Background

In pursuance of Jaabareen¹⁾, there are seven design concepts of sustainable urban form to wit: compactness, sustainable transport, density, mixed land uses, diversity, passive solar design and greening. This far, these concepts have made at least four types of sustainable urban form such as neo-traditional development or new urbanism, urban containment, compact city, and eco city.

Mixed land use indicates the diversity of functional land uses or mixed use, including residential, commercial, industrial, and institutional areas. If we connect it to the case of Makassar, the concept of mixed land use is very interesting to explore for two reasons: Makassar tends to be developed without any mature planning and in practice, and several sub-districts with some facilities have been developed naturally.

Furthermore, as the largest city outside of Java in eastern Indonesia, Makassar is in rapid development. The city is known for its trade, industry and education. Urbanization in the city has been quite rapid. In 2009, the population in Makassar reached 1, 272,349 which occupied an area of 175.77 km².

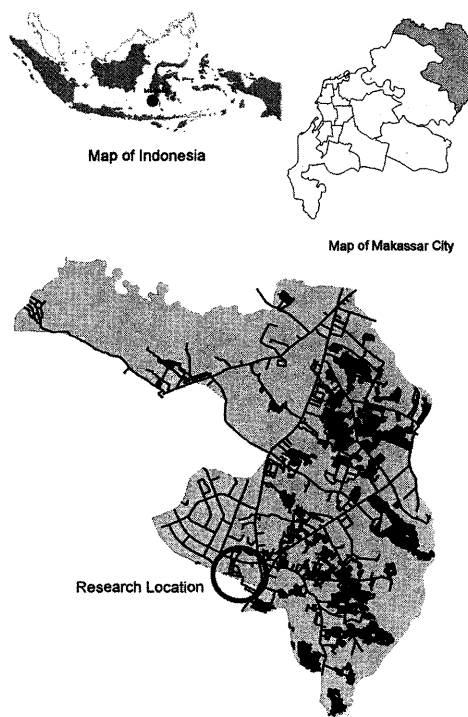


Fig.1 Map of Biringkanaya sub-district

Its average population growth is 1.63 % percent per year^{*)}. Worryingly, Makassar City is dominated by horizontal development of other cities such as Jakarta, Bogor, Depok, Tangerang, and Bekasi. As the result of

*都市共生デザイン専攻 博士後期課程

**都市・建築学部門

Bogor, Depok, Tangerang, and Bekasi. As the result of the horizontal development, suburban areas were targeted to be used for buildings because they were still being used for agricultural land, which prices were still affordable by migrants. Currently, Makassar has begun to become blended with its surroundings such as Gowa Regency in the south and Maros Regency in the north.

Horizontal developments in the suburban part of Makassar have resulted in a lot of changes, including the change of land use from land being used for agricultural purposes to being used for residential land, provision of infrastructure such as roads, water, electricity, transportation and telephone lines. Since most of the infrastructure has been built further away from the center of the city, access requires a lot energy and time to reach the downtown areas. However, regardless of these problems, there are efforts to strengthen the facilities in the suburban areas itself, either in a planned manner or not. Attempts to complement the suburban area itself can be seen from the variety of existing developments in the suburban Makassar.

One of the highlights of the developments in the suburban areas of Makassar, especially in the north and south, is the number of buildings used for mixed and various purposes to cover the needs of the population in the suburban area. The phenomenon is found in Biringkanaya, one of the suburban areas of Makassar City. Biringkanaya sub-district (Fig.1) which has an area of 48.22 km² (27.43 % of the size of Makassar). Its population growth is around 3.57 % per year^{*2)}. This is the highest ratio in suburban Makassar.

The Biringkanaya sub-district has two populated areas: the PND Market and the old Daya Market. These places are adjacent (as is the location of this study) to the center of the Biringkanaya sub-district, and a part of the circle in Fig. 1 is the Tamalanrea sub-district. The Tamalanrea sub-district mainly consists of educational buildings and residential areas. This location is a very vital location and is also a place to transit between Makassar City and Maros Regency. Also, the location has room and potential to integrate spatial planning and transportation systems in order to reduce mobility in the suburban area^{*3)}. In this location, there are also many buildings used for multiple purposes. Based on the previous research^{*4)}, there are at least five types of 'mixed use' buildings: kiosk/house, shop/house, workshop/shop/house, office/house, and office/kiosk/house. Since these mixed use buildings contribute to the mixed usage of neighborhoods, the

unique quality which they have made is worthwhile to explore.

1.2 Study Purpose

This research tried to clarify the peculiar characteristics of the 'mixed use' of the PND market in two points. Primarily, this research aimed to understand the forming processes of 'mixed usage' of neighborhoods and buildings in the PND market and surrounding areas in suburban Makassar. Also, through describing the past and present situation of 'mixed usage' there, this research attempted to see whether the unique 'mixed usage' of the area could contribute to the sustainability of the city or not.

1.3 Study Method

To conduct this research, two methods were utilized: on-the-spot survey and semi-structured interview. Survey was for scanning the location, to know the formation of 'mixed use' in neighborhoods. In total, 2196 buildings have been surveyed, and their occupants have been casualty interviewed in order to learn about the function of the buildings when they were built. In addition, semi-structured interview was conducted in order to find out about the history of the urban morphology and building transformations; this interview was conducted toward some key developers, the officers of the Indonesian government, and the owners of the buildings.

2. Literature Review

2.1 Previous Study

Research about 'mixed use' has been conducted by Matsushita et.al²⁾. They determined the formation process of a 'Multi-ethnic network in urban mixed use districts by ethnic minorities living in mixed use buildings' in Wanchai, Hongkong. They focused on multi-ethnic formations using mixed use buildings, including public spaces. Also, research was done by Ariga³⁾, Ariga explained about the sustainable evaluation morphology of inner urban neighborhoods in San Francisco. Ariga concluded that adaptable neighborhoods were formed from integration of traditional mixed use neighborhoods and individually-planned non-small scale buildings. Ariga focused on mixed use neighborhoods.

Research about the mixture of urban land use has been compiled by Kyakuno⁴⁾ in his paper: 'Qualitative Representation of Distribution and Mixture of Urban Land Use through Spatial Autocorrelation and Informal Entropy'. He used two methods to classify land use classes based on GIS data. Lee⁵⁾ researched mixed use

under the title of: 'Quality of Life and Semipublic Spaces in High-Rise Mixed-Use Housing Complexes in South Korea'. He examined the quality of life of people living in high-rise mixed use housing and its impact of semipublic space of high-rise mixed use housing.

Research on mixed use theories, concepts and also in practice has been done by Hirt⁶⁾ under the title of: 'the Mixed Use Trend: Planning Attitudes and Practice in Northeast Ohio'. She explored the extent to which encouraging mixed use has become in a trend in practice, as it has in theory, and she also reviewed planning regulations and mixed use projects in the 59 locales of Cuyahoga County in Northeast Ohio. Hoppenbrouwer and Louw⁷⁾ researched about 'Mixed Use Development: Theory and Practice in Amsterdam's Eastern Docklands'. They revealed the typology of mixed use development and applied it to the case: 'Eastern Docklands in Amsterdam'. Rowley⁸⁾ also researched about 'Mixed Use Development: Concept and Realities'. He explored some property related issues surrounding mixed use development.

Adding to those researches about mixed use, this research tried to clarify two levels of 'mixed use': mixed use neighborhoods and mixed use buildings in the Pusat Niaga Daya Market and its surrounding areas in suburban Makassar. Also, the research target area has its uniqueness in location, and this research tried to identify some characteristics of the 'mixed use' in the context of Makassar, Indonesia. This study also clarifies the typology of mixed use building, including the transformation in building level with some examples of building.

2.2 Previous Theories and Concepts

According to Lock⁹⁾, the philosophy of urban village, an example of sustainable urbanism, is the achievements of 'mixed use neighborhoods integrating: work, service and living function; as much as possible'. This opinion is the same as Roger and Power's one¹⁰⁾. They said that one of the characteristics of a cohesive city is a city offering proximity and mixed uses.

Murray¹¹⁾ explained about the fundamentals of good mixed use. According to him, good mixed use has some principles: 1) permeability; meaning a place can be reached and utilized without avoiding public and private interest, connectivity, integration and direct access to local facilities 2) variety, concentration, and proximity. This means to reach a variety of uses and activities, comfortable walking, use of public transportation, possibility of housing, jobs, shopping, entertainment,

education and civic institutions are needed. This is similar to Murray's opinion. Kathleen and Lynn¹²⁾ explained that mixed use type areas are not a form of chaos, but rather they represent complexity. The complexity includes different features such as the built environment and atmosphere (e.g., vegetation, sidewalk, safety etc), the social aspects (e.g., social interaction, friendly etc), the level of diversity (e.g., ethnically, socially, economically, architecturally, etc) mixed uses (e.g., school, retail, restaurant, recreation), and civic

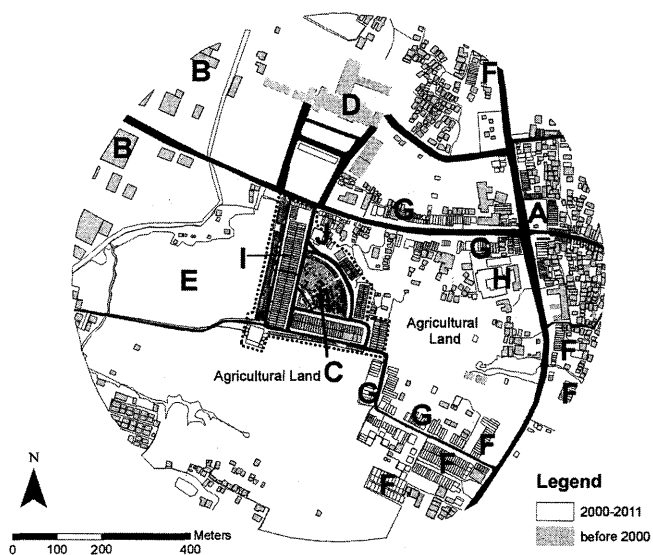


Fig.2 Building development of the PND Market and surrounding areas



Fig.3 Building category of the PND Market and surrounding areas

engagement (e.g., civic mindedness, community pride, political activity etc).

3. Mixed Use Neighborhood of the Pusat Niaga Daya Market and Surrounding Areas

Fig.2 indicates the beginning point of diversification of lands in the Pusat Niaga Daya Market (the PND Market) in 2000. It clearly shows that there has been land transition from agricultural land, such as paddy fields, and empty land to commercial zones. Currently, the eastern part of the PND Market includes residential area, the old Daya Market, and some facilities such as ward offices, health centers, and elementary schools. Mixed use in neighborhood scale in the PND Market and its surroundings occurs step by step:

- 1) Makassar Industrial Estate (B) was founded around 1970, and was planned by the Indonesian government. In the first phase, the land size was 203 ha, and in 2003 the land size reached 228.28 ha. Another 200 ha will be added in the second phase, and then, in the final phase, lands will be added till its size reaches to the overall 703 ha in accordance with a plan. This industrial center can accommodate both large and middle sized industries. These areas provide lots of services for the industrial areas: factory construction supervision, land for factory, rental warehouse, rental heavy equipment and automotive centers. This area has various infrastructures present, including the provision of electric energy, waste treatment and residential real estate such as houses and 24 ha of shop area. Currently, this area has accommodated 27 large industries and 40 middle industries. This area is 60% owned by the central government, 30% owned by the provincial government and the remaining 10% owned by the Makassar municipal government.
- 2) The New Daya Markets, called the Pusat Niaga Daya Market or the PND Market (C) was founded in 1997. This market consists of 180 shop/houses, 74 front shops, 500 kiosks and 100 formal lods (small selling unit). There are also many informal kiosks and lods attached to the market. The PND Market is managed by two management firms: PD Pasar Daya and PT KIK. They are responsible for the cleanliness and security of the market. Development of The PND Market is very quick, especially with the contribution of street vendors. The PND Market has additional semi-permanent and non-permanent buildings such as kiosks and lods in the south and in the west.
- 3) The Inter-City Bus Terminal (D) was founded in 1997. The bus terminal consists of 216 private parking lots,

60 taxi lots, 60 *pete-pete* or small public car lots, 45 lots for small intercity buses, 45 lots for middle intercity buses, 60 lots for big intercity buses and 50 lots for big inter province buses. The bus terminal is occupied by 100 *lods* and 30 kiosks. Since the terminal has been used as the place for those lods and kiosks, many buses are parked informally outside of the terminal, especially on the highway, and the situation is very bad for transportation in the area.

- 4) Grocer Market (E), located in the western part of the PND Market, is now under construction. Construction started in 2011. The market consists of 733 shop/houses, 138 kiosks, 400 houses, and warehouses covering about 23 ha. The building complex is being developed by PT Niaga Daya Cemerlang and managed by PT Mutiara Property as a private company.
- 5) From 2000 to 2011, there were many buildings constructed by individuals, such as small shop house complexes (F), individual shop houses (G), health facilities (H), informal kiosks and *lods* (I), and a mosque (J).
- 6) Now, agricultural land has turned into unproductive land.
- 7) Regarding the formation of mixed use buildings, many buildings have evolved and many buildings functions have changed individually.

Fig.2 shows that the development tends to be like an urban sprawl phenomenon: widespread, horizontal (low rise buildings) and sporadic. Many wild lots are without good infrastructure, such as roads, electricity, drainage, and garbage management. There isn't a clear boundary between the agricultural land and buildings. Meanwhile, the PND market is a magnet for attracting commercial industry. Many shop houses were built individually near the PND market, but still there is the weakness of the infrastructure development, and it cannot be a good example of planning.

In addition to the above, Fig. 2 also shows the number of alleys formed around dense settlements that are only accessible on foot or by motorcycle. This limitation is advantageous because motorcyclists and people can interact easily each other, but on the other hand, it makes the work for firefighters practically impossible in the case of a fire. It means it is not good in terms of permeability (see back Murrain opinion).

In the planning of Makassar City, the land use was originally designed for integrated industrial area, integrated airport area, integrated educational area and integrated housing area ^{*5)}, but in actual fact, there are no

integrated areas. The area has been developed with an uncontrolled process; it has grown gradually, with many buildings being built without any mature planning, including the infrastructure, such as water, electricity, green space, public space and roads. This situation is not good and has a tendency to become unsustainable in the future unless preventive steps are taken to improve the quality of the environment.

Comparing with the concept of Murrain, in this area, there are no entertainment facilities, but only facilities for education, religion, and health. Therefore, a variety of facilities is lacking. Also, the PND market is far from the majority of housing, so many people need to use vehicles to reach the market.

Fig.3 shows the mixed use neighborhood of the Pusat Niaga Daya Market and surrounding areas (current condition) focusing on building functions. From that figure, we can find three building categories: mixed use building (residential and commercial building), residential building and non-residential building. Mixed use buildings were concentrated in the middle of the circle; non-residential buildings were concentrated on two main streets: Perintis Kemerdekaan Street and Kapasa Raya Street. Meanwhile, residential buildings were concentrated in the north and the east of the circle. Apart from those, there are other residential buildings which are scattered near the Pusat Niaga Daya Market and in the southern part of the circle.

There is too much concentration in the middle of the circle. Therefore, it can be said that the composition of the building plan is not working well, and that resulted in the difficulty of reaching the mixed use buildings and other facilities from the outside of the circle. In short, the connection with outside of the circle is not good.

Fig. 4 shows building percentages based on building function it is dominated by commercial buildings (50.5 %), housing (21.22%), and mixed use buildings (25.32%). However, 28.96% of the mixed use buildings are not being used (161 out of 556). Also, 20.38% of the commercial buildings are not being used (266 out of 1109). This situation of unused buildings is actually not desirable for businesses. Although on the other hand, because there is a grocery market being constructed on a big scale this year, the commercial area will become more competitive than before. If this situation (many buildings are not being used) continues in the future, then discontinuation and lack of sustainability could prevail.

Besides the history above, Fig.5 indicates the classified development processes of the unique mixed use in the PND Market and the surroundings. Accordingly, it

was revealed that the occurrence of mixed use buildings and neighborhoods in the PND Market and surrounding areas has been caused by two things: through intensification and evolution. Intensification means the planning conducted by the formal sector such as private developers handling construction of complex buildings on both small and big scale on empty land or paddy fields. Evolution process means that the process which individuals take to build and change the function of their buildings, such as changing a house into shop/house, kiosk/house, house/workshop, etc. Also, sometimes shop/houses provided by the developer are converted into offices or office/houses by individuals. This process occurred based on the needs of occupants.

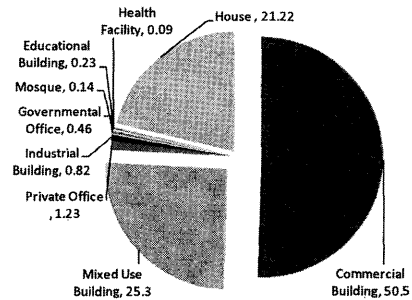


Fig.4 Composition of building function (%) of the PND Market and surrounding areas

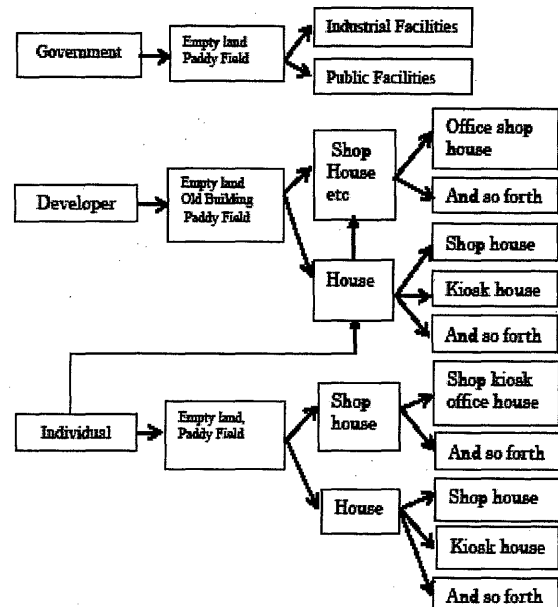


Fig.5 Intensification and evolution process of mixed use neighborhood and building in the PND Market and surrounding areas

4. Mixed Use Building in the Pusat Niaga Daya Market and Surrounding Areas

As you can see from the examples of mixed use buildings with the PND Market and surrounding areas in Fig.6 and Table 1, some buildings have changed from house to shop/house or other types. Of course, there are some buildings that were built with the intended use of 'mixed use' from the beginning. As mentioned above, there are 2196 buildings in the area, and 556 buildings are mixed use ones. 161 of those buildings are unused. So in fact, the real number of mixed use buildings in use is 395. From those 395 buildings, we extracted some samples to represent mixed use buildings in the area. These samples were categorized into six categories: 'additional wall and function' (type 1: 6 or 1.5 %), 'additional wall and function expansive - from non mixed use building to mixed used building' (type 2: 35 or 8.9%), 'additional wall, function, separated-from mixed use building to mixed use building' (type 3: 113 or 28.6%), 'additional wall and function expansive - from mixed use building to mixed use building' (type 4: 17 or 4.3%), 'united buildings with additional function-from mixed use building to mixed use building' (type 5: 28 or 7.1%), and finally 'no change-from mixed use building to mixed use building' (type 6: 196 or 49.6%).

Type 1 is a *rumah panggung*^{*4)}, located in a traditional settlement. The house was inhabited by nine people; the ethnic of inhabitant was Bugis Makassar, migrants from outside of Makassar. The inhabitants consisted of six men and three women. The original plan was to consist of two bedrooms, a toilet, kitchen, dining room and a living room. It was changed from a non mixed use building (house) to a mixed use building with an additional wall on the first floor (kiosk and store room) while the second floor didn't change. They changed their house because of their personal needs and to open their small business.

Type 1 is a representation of a *rumah panggung*. In general, usually the first floor in a *rumah panggung* is used for things like sitting, raising and hanging clothes and so on. However, in this case, the owner tried to take advantage of the existing space by adding walls so that the bottom of the *rumah panggung* could be utilized as a kiosk or for working; this causes change in their lifestyle too. On the other hand, the air flow on the first floor of the house is not very good. It's very hot during the dry season, because the

wall is made from zinc. The zinc wall made the room hotter than it was before. The addition of the zinc wall was not a problem in terms of safety, so the mixed use Type 1, only had the problem of the material used. If they had constructed a wooden or bamboo wall instead, the condition of the room would better than before. From an urban perspective, additional walls in this case mean additional building coverage; it also means the density of the building increases.

Type 2, this is a brick and concrete house, a permanent building located near the old Daya Market. Its surroundings consist of houses and some stalls. The stalls provide traditional Bugis, Makassar and Java food. The house was inhabited by four people: migrants from Bugis Makassar. The inhabitants consisted of three men and a woman. The original plan of the building was a house consisting of 3 bedrooms, a toilet, kitchen, dining room, family room, and a living room. The house was changed from a non-mixed use building (house) to a mixed use building (shop house) with additional rooms such as a shop, store room, and another bedroom. They changed their house because of their needs and to open their business for selling daily things such as gas, food packaging, etc.

For Type 2, crowding around the house is commonly conducted by residents to open a shop/house. This type is a representation of many houses that have changed from a mixed use building into a shop/house to attract consumers because of the proximity to the old Daya Market. From an urban perspective, the structure allows many consumers to surround the shop/house, and the location is convenient for them as they do not have to go

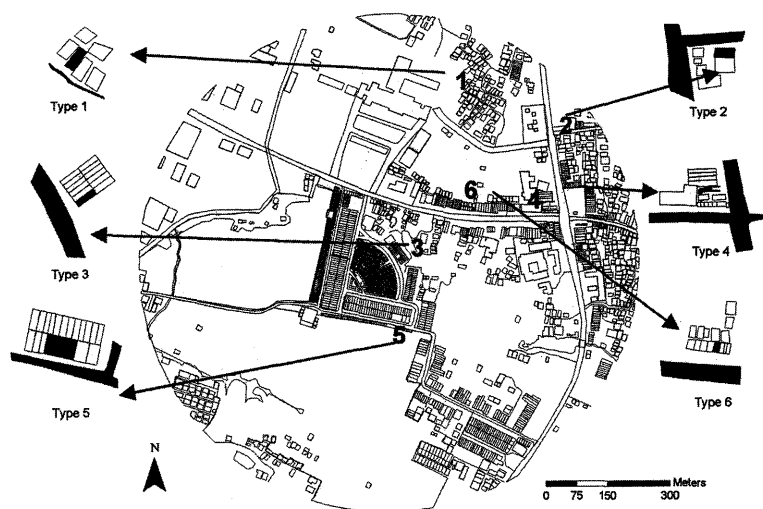


Fig.6 Location of mixed use buildings

too far to get what they need. Adding space is not problematic structurally wise, as it is built adjacent to the same building. Also, there is still enough space for air circulation and opening a new shop creates employment opportunities for locals. There is no negative risk for this type. As the same as Type 1, additional space means additional building coverage; which means the density of the building increases.

Type 3, this is a permanent building, a brick and concrete shop/house, located in the PND Market shop/house block. The house was inhabited by seven people; migrants from Bugis, outside of Makassar. They changed their house from a shop/house to an office/shop/house via an additional wall on the first floor. On the second floor there is an office, storage room, kitchen and a bedroom. They changed their house to adapt to their business of selling household appliances.

For type 3, developers minimized the space to separate the various activities carried out in various shop houses. The owners then changed their houses by adding walls. There are several risks that must be taken into account to do this. The first is the lighting, and the second is the air circulation, and the last is that the space has become narrower than before. For this type, there are two problems: the air ventilation system is no longer cross ventilation; and now the house requires artificial lighting twenty four hours a day to overcome the darkness in the hallway and the stairs, which is a waste of energy. On the other hand, adding walls to increase privacy is also important for the owner. As a note, the original plan is not flexible enough to adapt to the change. So there are both positive and negative points for this type.

Type 4, this is a brick and concrete shop/house/office (permanent building). It is like a mini-market, but uses a bargaining system. Its surroundings consist of other shop houses. The house was inhabited by five people with five servants; migrants from Bugis area. The original plan was a building to consist of four bedrooms, a kitchen, toilet, watching room, dining room, living room, and a shop office. They changed their house from a shop/house to a shop/kiosk/office/house with an additional kiosk in front of their house. They made this change because of their needs and the development of their business.

Type 4 is basically breaking the rules of demarcation because the kiosks are in front of the building, taking up the space that is usually used for parking. This causes a conflict of interest among street vendors, consumers, and people who drive on the streets. From an urban perspective, as the same as Type 1 and Type 2, additional kiosks in the front of buildings means additional building

coverage; which in turn means a higher building density than before.

Type 5, these consist of five shop/houses made from brick and concrete (permanent building). They are located in the PND Market and its surroundings consist of shop/houses, too. The building was inhabited by three people and a personal driver; migrants from Bugis, Makassar. The original plan was a building consisting of five shop/houses with five toilets. The house was changed from a 'mixed use building' to a 'mixed use building with some changes with its function'; from shop/house to shop/office/house. The first floor has two offices, a waiting room, guest room, car showroom, and five toilets. The second floor has an office, staff room, director's room, two bed rooms, living room, watching room, guest room, dining room, kitchen, and five toilets. They changed their shop/house because of their needs and to develop their business of selling cars. So in this case, they united five shop/houses into one building.


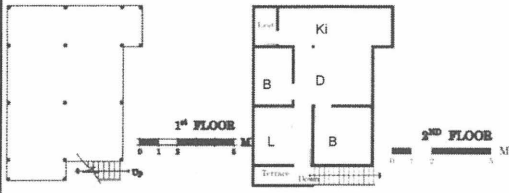
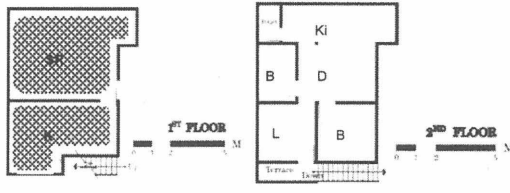

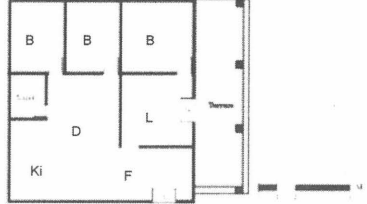
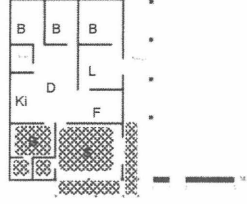

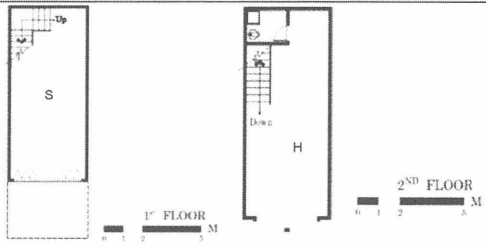
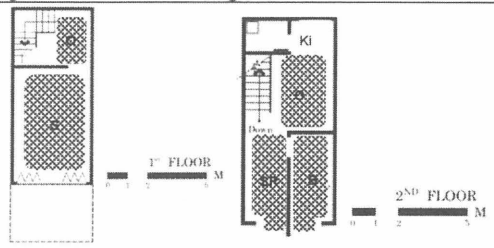

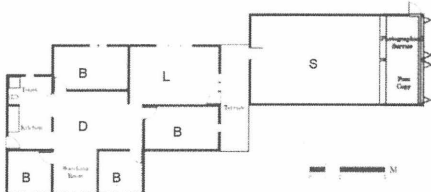
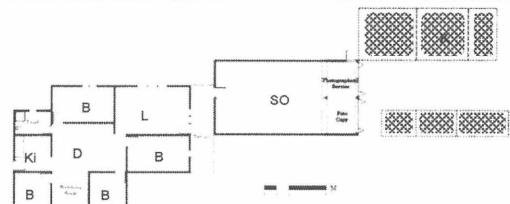

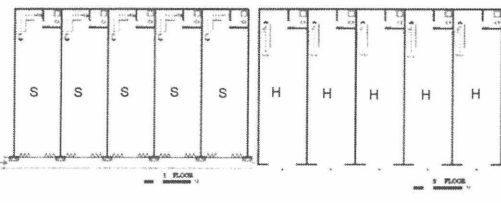
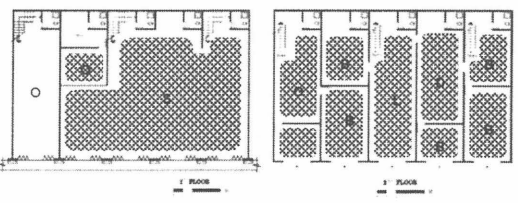

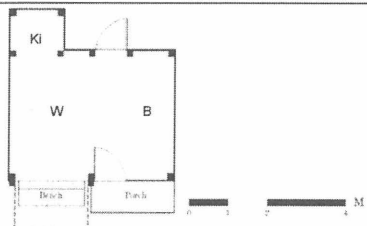
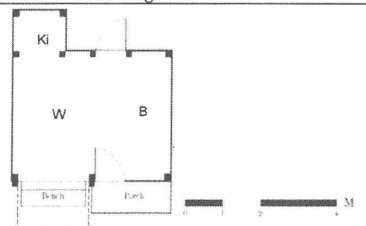

For Type 5, uniting five shop/houses by adding new functions requires caution, especially if the walls are demolished. There are no significant problems with this kind of building because it uses concrete in its structural columns and beams.

On one hand, additional walls on the second floor caused problems to the lighting and air ventilation system. Artificial lighting and ventilation is needed to make the rooms comfortable during the daytime. This can be thought as a waste of energy. On the other hand, reducing the wall on the first floor is very important to accommodate their business expansions. Also, it reduces the need for more buildings in this area. As same as Type 3, the original plan was not flexible enough to adapt to these changes. Therefore, there are positive and negative arguments for this type.

Type 6, this workshop/house is a semi-permanent building made from wood and zinc. The house was inhabited by three people; migrants from Bugis. They didn't make any changes to their house since the building was constructed as a mixed use building (workshop/house) from the beginning. There is a workshop, kitchen and a bedroom.

Many Type 6 buildings are built around the PND Market, especially by traders with little capital. They do not have enough money to build a permanent building so they lease plots of land for several years and build their workshop/house or kiosk/house. They often calculate the initial and minimum needs so that no additional space or walls are needed. As in Type 1, the use of zinc material in this type is basically not suitable for a tropical climate,

Table 1 Typology of mixed use building of the PND Market and surrounding areas

Model	Original Plan	Current Plan
		
Type 1, additional wall and function	House	Kiosk-House
From non mixed use building to mixed use building		
		
Type 2, Additional wall and function, expansive	House	Shop-House
From non mixed use building to mixed use building		
		
Type 3, additional wall and function, separated	Shop House	Office-Shop-House
From mixed use building to mixed use building		
		
Type 4, additional wall and function, expansive	Shop-House	Shop-Kiosk-Office-House
From mixed use building to mixed use building		
		
Type 5, united buildings, additional function	Shop-House	Shop-Office-House
From mixed use building to mixed use building		
		
Type 6, no change	Workshop-House	Workshop-House
From mixed use building to mixed use building		
<p>Note :  change of spaces, Ki: kitchen, B: bed room, D: dining room, L: living room, SR: storage room, K: kiosk, F: family room, S: shop, H: house, O: office, W: Warehouse, SO: shop office</p>		

even though it is cheap. This type is a low quality building, but they had no choice, as it is the only way they know to make a living.

To conclude this section, it is underlined that mixed use buildings occurred via individual process from three ways: the first way is that they changed their non-mixed use building to a mixed use building because of their needs and changes in their lifestyle. The second way is that they designed it from the beginning as a mixed use building or they bought it from a developer as shop/house, and then they changed their shop/house based on their needs with adding more functions, such as office/shop/house. The third way: is to make no change to the function of the building. Also, there are four major problems caused by the changes made to these buildings: problems in building material, building quality, the lighting system and the ventilation system. Nevertheless, in the area, the mixed use buildings have been developed and constructed while fulfilling the residents' needs, providing some jobs for people, and making the market and its surrounding areas more active. Considering the residents' needs, it is natural for them to redesign their buildings, and fortunately, the legal situation allows people do it. Certainly, the off-the-cuff of mixed use buildings is one of the characteristics which created the uniqueness of the area's mixed use situation.

5. Conclusion

The PND Market and surrounding areas (showed in the fig.3) in Suburban Makassar were developed horizontally with a lot of new buildings while the lands had been converted. Agricultural land was converted into commercial buildings, industrial buildings, and mixed use buildings. This phenomenon was like an urban sprawl; there is no clear boundary between the agricultural lands and the others. The buildings were developed by individuals, developers, and/or the Indonesian government. Consequently, the distinctive mixed use neighborhood of the PND Market and surrounding areas occurred because of both intensification processes and evolution processes. There are some reasons why the mixed use situation occurred in the area, but the strongest factor has been the interests and needs of each individual, government, and developers. The mixed use of the area has not been completed yet because there are neither entertainment facilities nor any public facilities, such as public open spaces or parks. Also, in particular with mixed use buildings, many buildings are redesigned because they are not suitable for the current inhabitants' needs.

Redesigning buildings made on an individual basis is essentially a reflection of the uniqueness in design even though they have weaknesses in design. In a spontaneous manner, there have been the mixed use developments of neighborhoods and buildings in the PND Market and surrounding areas. Surely, there are some problems to be solved, but the area also has the potential of creating a sustainable neighborhood unintentionally supported by the residents' needs, the immaturity of buildings which accept changes in their spatial designs, and the legal circumstance which allows people to conduct redesigning their buildings easily.

Notes

- *1) The population growth of Biringkanaya is the highest in Suburban Makassar City; see Central Statistics Bureau of Makassar (Biro Pusat Statistik Makassar), 2010, <http://bahasa.makassarkota.go.id/>
- *2) See back *1)
- *3) See Wunas and Natalia, they proposed this location as a part of TOD in the north Makassar because of mixed land use and artery road of Perintis Kemerdekaan, Integrated Spatial Planning and Transportation System to reduce Mobility in Suburban Area, the 14th international Symposium, Pekanbaru, 11-12 November, 2011.
- *4) See Harisah and Arima, Diversity Concept of the Traditional Markets and Surroundings in Suburban Makassar, Asian Urban Research Group 2012, table 1.
- *5) See back <http://bahasa.makassarkota.go.id/> map planning of Makassar City 2016.
- *6) Rumah Panggung is a type of wooden house, this house can be moved from one place to another place, but in this case this house is not use wood for wall, the material is from zinc.

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