

The role of the informal sector in contributing to the urban landscape in Yogyakarta – Indonesia concerning on the urban heat island issue

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1 ABSTRACT

In developing countries including Indonesia, the informal sector is rapidly a growing factor in the age of contemporary urbanization. It is an urgent need to encourage more researches on the crucial segment of the urban informal sector. Many scholars discuss informal sector focusing on characteristics, magnitude, social-economy approaches, impact on traffic-environment, spatial arrangement and building design. However, researches on the role of the informal sector in shaping the urban landscapes are very limited to be conducted. This paper examines the role of informal sectors in influencing the quality of urban landscapes in integrating the economy infrastructure within the built environment in urban areas. Unfortunately, many urban governments do not realize that the growth of informal sector in urban areas is increasing for now and the future. This trend constitutes a crucial factor to determine public spaces are look like, particularly the existence of street vendors and small business where they easily use and occupy public spaces, such as side walk or pedestrian way, shopping arcade, street right of way, town square for trading their commodities, such as cooked food or other merchandise. Most street trading does not care that many people have some complaints for what they are doing is generating some impacts on urban landscape performance, including traffic jam, crowded pedestrian way or arcade, messy, and untidy urban spaces. This is the way how informal sectors currently changes land uses and urban landscapes. On one hand, the existence of the informal sector in urban area could contribute in reducing employment problems. On the other hand the way how the informal sector uses public spaces, particularly street vendors, is disturbing public activities in urban areas. Street vendors should consider other urban community activities that similarly need convenient for working and living in urban areas. Therefore, the role of the informal sector in urban landscape is crucial to contribute and develop the quality of public spaces and the urban landscape. The research suggests that the most informal sector in urban areas, particularly street vendors, do not promote a better quality of the urban landscape, particularly the aspect of natural environment such as grass and trees. The existence of informal trading does not encourage the number of vegetation in public spaces increased. The limitation of vegetation will increase the temperature of the urban areas as an impact of “urban heat island” (UHI). The vegetation is crucial to reduces negative effect of UHI. The more informal sector the more vegetation or green garden in urban areas, and this statement are important to balance the natural and man made environment as the basic of the healthy urban landscape. The research also found that the limited capacity of local government to provide alternative sites or spaces for the urban informal sector, particularly street vendors. As a result, the unstructured informal sector in urban spaces has created unexpected quality of urban landscape. The other finding is that the existence of the informal trading in public spaces does not have any role to lessen and mitigate the negative effect of the Urban Heat Island phenomenon. In fact, the informal sector brings more the man made artifact instead of the natural environment. Recommendations in arranging the urban informal sector could be focused on collaborative formal-informal sector interplay between the landscape, building constructions and infrastructure in the context of urban management. To promote the role of the informal sector in shaping the urban landscape is very limited effort, because the informal sector community has a limited liability. Therefore, the collaboration between the government, NGO, university experts, community of the informal sector, and community leaders to manage the existence of the informal sector operating in urban areas is crucial to develop a better quality of the urban landscape.

2 INTRODUCTION

To discuss the informal sector in urban areas, many papers emphasizes on different ways, such as the character and typology (De-Soto, 1989; ILO, 1991; Ikaputra & Rochmad, 2004), growth, location (Bhowmik, 2005; Deguchi, 2005), and some on models of spatial arrangement (Rukayah, 2005; Rustriningsih, 2006; Suparwoko and Sriyana, 2006). Due to lack of gainful employment and poverty in rural areas, more people have move out of their villages in search of a better life in urban areas. Most migrants do not have the skills or the education to enable them to find better paid, secure employment in the formal

sector so that they have to work in the informal sector. The other reason why people settle to work in the informal sector is that they lost their formal jobs because of closures, down-sizing or mergers in the industries they worked in and they or their family members had to seek more-paid work in the informal sector to survive. The first category, as low skilled rural migrants, exist in most poorer Asian countries such as India, Bangladesh, Nepal, Cambodia, Indonesia, and Vietnam. These countries did not provide a strong industrial bases, the urban workforce was engaged mainly in the informal sector. The second category, as workers who were earlier in the formal sector, exists in countries such as Philippines, South Korea, Thailand, Malaysia, Indonesia and India because of a variety of reasons, such as outsourcing of work to the informal sector, mergers of some of the corporations, downsizing of the production units, etc. This has resulted in large scale unemployment in these countries (Bhowmik, 2005). This paper discusses the informal sector in the city of Yogyakarta in Indonesia and focus on street trading as a growing phenomenon and problem faced by most cities in this Asian country.

The existence of the informal sector, particularly street vendors, in urban areas could be parts of activity support because one of the elements of urban physical form in the context of urban design is activity supports. The activity support includes all the uses and activities strengthening urban public spaces or any activities and physical spaces that have been complementary to each other. The activity support will attract specific locations, uses, and activities because of having the form, location, uses, and activities. In this respect, the interdependency of space and use is a crucial element of urban design. This will be the basic issue of how to design an urban landscape and environment that may or may not attract a large number of uses and activities (Shirvani, 1985) and the design objective in urban design context should be the allocation of the major activity hubs to the most functionally attractive places (City of Charlotte, 1978). However, increasing urban population and activities on one hand, encourages the number of building construction and pavement, and on the other hand it reduces urban vegetation. This phenomenon will lessen the quality of the urban landscape do to imbalance between the natural and man made environment.

Due to Yogyakarta as educational and tourism destination, most businesses in this region relating to students and tourism are run by formal and informal sectors. Many of street vendors as parts of the informal sectors in Yogyakarta serve to provide cooked food for students and tourism. On Malioboro street, particularly on arcade and pedestrian ways, many street vendors sell for food (during the night) and souvenirs or crafts (Aunurrohman, 2007). Many street vendors during the night sell for cooked food for students in several places closed to universities such as Babarsari and Kaliurang street (Suparwoko and Sriyana, 2006). Therefore, the research will focus on some crucial amenities in Yogyakarta urban areas, such as Malioboro Street, the town square, and Kaliurang Street where many people coming and enjoying to shop, have some food and drink. The primary data were collected by using questionnaires, photographs, sketches, and interviews taken in 2007 up to 2009. The secondary data were gathered from the internet, the government documents and the literatures.

3 THE INFORMAL SECTOR AND THE URBAN LANDSCAPE

Informal is anything that is conducted without formality or ceremony. Sector is a subdivision of society (Webster, 1999). The informal sector is any business activities in the community that is conducted without formality aspect relating to the government, such as tax, regulation, location permit, license, etc. The 'informal', can also be seen as an important form of resistance, both in its practical organization and ideological substance (Nesvag, 2000). Rukayah (2005) and Suparwoko (2005) say that demolition of street vendors to relocate them to other places is not a suitable method because the action is merely based on the western standard of spatial urban structure and the existence of street vendors in public spaces is assumed as breaking the law. She suggests that informal and formal sectors should be side by side in urban area as base of urban spatial structure and design that is socially and economically valuable. The character and the potential of places or activities to pull people coming to the places are crucial consideration to allocate street vendors in urban areas (Suparwoko, 2008). In this respect, informal sector is relating to street vendors or any informal traders who locate their activities to sell their commodities in public spaces or pedestrian ways. Street trading or the street vendor is probably one of the most visible and economically important manifestations of the 'informal' economy, particularly informal trading or street vendors operating in urban areas in Yogyakarta. Street vendors as the main part of the informal sector in urban areas offers a means of earning an income for growing numbers of the unemployed and contributes to development and urban

revenues. Street vendors are clearly a visible and distinctive part of the urban landscape. They are offering a range of goods and services such as small informal stalls, mats on the pavement, baskets that they carry on their heads, pushcarts, or wares in baskets on poles on their shoulder (Long Beach Redevelopment Agency, 1980; ILO, 2002; Bhowmik, 2005).

Some key aspects of urban design have been developed with specific reference to regeneration and development issues and provide a basis for starting to think about a site or area as part of urban landscape. The key aspects of urban design introduced by the English Partnership (2005) include Places for People, Enrich the Existing, Make Connections, Work with the Landscape, Mix Uses and Forms, Manage the Investment, Design for Change (see Table 1). Therefore, the role of the informal sector in contributing to urban landscape could be analyzed by using the key aspects of urban design.

Places for People	For places to be well-used and well-loved, they must be safe, comfortable, varied and attractive. They also need to be distinctive, and offer variety, choice and fun. Vibrant places offer opportunities for meeting people and playing in the street. The crucial indicator of the design aspect is (1) quality of the public realm and (2) continuity and enclosure that can create an environment where every one is able to access and benefit from the full range of opportunities available to members of society
Work with the Landscape	Places that strike a balance between the natural and man made environment and utilize each site's intrinsic resources - the climate, landform, landscape and ecology - to maximize energy conservation and amenity. This aspect will be indicated by design using natural harmony

Table 1. Crucial Aspects of Fundamental Urban Design. Source: Adopted from English Partnerships, 2005

This paper is important to limit the scope of analysis and considers more several relevant aspects to analysis the role of informal sector in contributing urban landscape. The scope of the analysis includes the aspects of Places for People, Enrich the existing, Mixed uses and form, Work with the landscape, and Managing the investment. To analysis the urban landscape in Yogyakarta, some crucial aspects that will be use to assess the existing data are (1) places for people and (2) work with the landscape (English Partnership, 2005). Those aspects are very close to the people and the main context of the urban landscape. Mea wile, the aspect of place for people focuses on the quality of the public realm as the urban landscape concerns to public activities. The aspect of work with the landscape will focus on the issue of a balance between the natural and man made environment (See Table 1). "Urban Heat Island" (UHI) refers to the tendency for a city to remain warmer than its surroundings. This effect is caused mostly by the lack of vegetation (Solecki *et al*, 2004). Urban heat island effects increase the demand for cooling energy and accelerate the formation of smog. UHI effects are created when natural vegetation is replaced by heat-absorbing surfaces such as building roofs and walls, parking lots, and streets. Through the implementation of measures designed to mitigate the UHI, communities can decrease their demand for energy and effectively "cooler" the urban landscape (Gorsevski *et al*, 1998). The analysis of the UHI issues will focus on the natural aspect of environment particularly vegetation, that is crucial component of the cooler urban landscape and it is able to reduce the demand of cooling energy when it is placed on the proper area in the urban landscape.

4 THE INFORMAL SECTOR: SPATIAL AND SOCIAL ECONOMY APPROACH

Informal is anything that is conducted or carryout without formality or ceremony. Sector is a subdivision of society (Webster, 1999). Informal sector is any business activities in the community that is conducted without formality aspect relating to the government, such as tax, regulation, location permit, license, etc. The informal sector is relating to street vendors or any informal traders or activities that locate their activities to sell their goods or services in public spaces or pedestrian ways. Street trading, especially in the major urban areas, is probably one of the most visible and economically important manifestations of the 'informal' economy. The 'informal', can also be seen as an important form of resistance, both in its practical organization and ideological substance (Nesvag, 2000; Suparwoko, 2008).

The street vendors or street market economy has an important role to play in the future *because* they can contribute a vital key to the social problems such as unemployment (See Table 2), housing, education, the persistence of a culture of non-payment for services, crime etc. by creating jobs and incomes, and supplying a cheap and wide range of goods and services to the urban poor. An enterprise in the informal sector is smaller in scale compared to an enterprise in the formal sector. A market trader may consider the maintenance of a stable set of buyers and long term relationships with other traders in protecting the location.

A massive number of marginalized communities will continue to commute or settle down in urban areas in the future (Varcin, 2000). Based on Table 2, the existence of the informal sector is crucial to be considered in developing a sustainable urban economy and landscape.

	2000	2001	2002	2003	2004
Trade Opportunity	14.789.587	19.758.527	17.795.030	16.846.995	19.116.156
Formal	4.553.855	4.448.279	3.902.501	3.583.839	4.978.261
Informal	10,235,732	15,310,248	13,892,529	13,263,156	14,137,895

Table 2. Work Opportunities on Formal and Informal Trading Sector in Indonesia, 2000-2004. Source: Adopted from Effendi, 2006

To simulate land-use change patterns with high spatial accuracy, the different behavior of migrating households and entrepreneurs have to be considered. This behavior can be modeled by means of a multi agent system which simulates the allocation decisions of households and companies. A model allows the simulation of land-use change based on in-migration and commercial start-ups (Loibl & Tötzer, 2003). Loibl & Tötzer' thought inspires that the urban landscape quality is changed and based on the behavior of the migrants in using the private and public land in urban area. In Yogyakarta, many of street vendors are migrants from other districts and provinces. For example, migrants of street vendors on Kaliurang Street in the Sleman urban area are bigger than Sleman Vendors itself (See Table 3). Their behaviors responding to the street landscape based on the vendor carriages' placement are different. For example, on Kaliurang Street urban area, more than 35% of street vendors just leave their trading carriage on the side of the street (See Table 4). The local government said that to keep the street orderliness, the street vendors have to store their trading carriage at home or at the rental private yard.¹

Location of Urban area in Sleman at the Gajah Mada University Campus	Non Migrants	Migrants					No answers	Σ
	Sleman	Yogya karta Province	Central Java	East Java	West Java	Out Side Java		
Kaliurang Street Km 4 to Km 15	47	44	42	17	5	3	69	227
Percent (%)	20.70	19.38	18.50	7.49	2.20	1.32	30.40	100

Table 3. Origins of Street Vendors on Kaliurang Streets Km 4 to Km 15, Sleman. Source: Survey on Kaliurang Street, July 2007

The quality of living in a healthy environment is one of the basic demands of the modern society, particularly in urban areas where the opportunities for contact with green urban public spaces or landscape are sparse. An informed design of urban green landscapes can have major influence on developing quality experiential and restorative everyday landscapes as 'nearby nature' for urban people. The need for quality nearby nature should be considered in the greener urban landscape design process. An urban public space is more likely to acquire the role of a restorative environment if designed as a complex, coherent landscape in which users would already visually recognize potentials for the variety of uses, related to their contact with natural elements (Simonic, 2006). Therefore, storing the trading carriage on the side of the street means that street vendors do not support the modern society to promote green urban public spaces or landscape of streets in urban areas.

Street Vendor trading location	Place to Store tents and carriages				Σ
	home	Private Rental yard	Side of the street	No answers	
Kaliurang Street Km 4 to Km 15	70	72	81	4	227
Percent (%)	30.84	31.72	35.68	1.76	100

Table 4. Street Vendors' Behaviours concerning to store the tent and carriage influence the landscape quality of the street (aesthetically). Source: Survey on July, 2007

¹ Interview to the local authority, July 2007

Note: Bringing home the trading carriage and storing the trading carriage on the private rental side by side of the street will influence the quality of the landscape of the street, particularly the aesthetic and orderliness aspects.

Spatial organization of urban landscape includes urban morphologies, Views and vistas streets, regular composition or organic fabric, and the moving scenery. Natural elements in the landscape scene are perceived also as a spatial system (Simonic, 2003), since their spatial organization influence preferences for those landscapes. Structural articulation and spatial complexity are the essentials for diversity of landscape experience. Nature is perceived also in its spatial-temporal dimension, through which its dynamics is well acknowledged (Nassauer, 1997). Urban landscapes with a high content of vegetation elements in particular, have thus potentials to perform a variety of social functions and as such to establish or regain a role of healthy, desirable and restorative urban landscapes (Hartig *et al*, 2003). Therefore, this paper will assess the natural environment by the existence of the vegetation as the main component natural landscape in the urban areas, particularly in the study area.

5 ANALYSING THE ROLE OF THE INFORMAL SECTOR IN CONTRIBUTING ON THE QUALITY OF URBAN LANDSCAPE

The basic analysis to assess the role of informal trading to contribute to the quality of urban landscape includes the quality of public realm and the balance between the natural and man made environment and utilize each site's intrinsic resources - the climate, landform, landscape and ecology - to maximize energy conservation and amenity. This aspect will be indicated by design using natural harmony. Some cases studies in Yogyakarta urban areas include Malioboro street, Jalan Kaliurang Street and Yogyakarta Town Town Square (*Alun-alun*, particularly the north *alun-alun* as the downtown Yogyakarta has two town square which are the north alun-alun and the south alun-alun).

5.1 Malioboro Street

Malioboro street is located in the Malioboro down town of Yogyakarta Municipality. The Malioboro street has a non-motorized line providing parking space. Some traditional transportation vehicle (such as pedicabs and horse-drawn baggies) are enjoyed by tourists. However some horse-drawn buggies park on side of way.

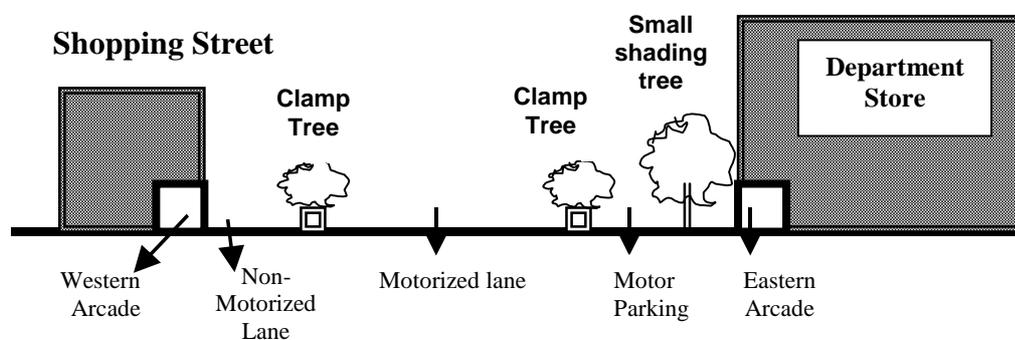


Figure 1. Landscape Section of the Malioboro Street in the downtown Yogyakarta



Figure 2. Some views of the landscape of Malioboro Street based on the Figure 1

Based on the data in Table 4, the existence of street trading on the Malioboro Shopping Arcade support the aspect the place for people delivered by the English Partnership (2005), where Figure 2 shows many people are on the arcade interact with the vendors. This is also supported by the number of motorcycle parking on

the eastern side of Malioboro street. However, the placement of street vendors on both side of the shopping arcade does not comply with the concept of the place for people that must be comfortable (English Partnership, 2005).

Indicator: Quality of Public Realm			
A. The arcade of Malioboro Shopping street has a 3 m meters wide, however, this wide has 2 sides of vendors that reduces the movement space. The impact is that walking people on the arcade feel uncomfortable because of the density of vendors and consumers (See Figure 2A)	B. The non-motorize lane gives space for parking on the west side, however some pedicabs and horse-drawn baggies park on the right of way and this reduces the flow of non motorize traffic and creates unorganized street as a public space (See Figure 2B)	C. In the 1980s, the Yogyakarta Government established a pedestrian lane on eastern side of the Malioboro Street, however because the need of motorcycle parking space is more urgent therefore this pedestrian way has been used as motor parking space. This action decreases the comfort of the public space (See Figure 2C)	D. No informal trading of street vendors on this Maloboro Mall arcade and this creates the pedestrian flow is more smooth. The Malioboro mall is a department store on the Malioboro Street (See Figure 2D)
Indicator: Work with Landscape focusing on the balance between natural and man made environment			
A. The existence of street vendors on the arcade contribute to man made environment instead of natural environment (See Figure 2A)	B. The existence of street vendors on the Malioboro arcades support the number of motors parking. This tends to increase man made environment (See Figure 2B)	C. The existence of street vendors on the Malioboro arcades support the number of motors parking. This tends to increase man made environment (See Figure 2C)	D. No street vendors on the arcade support the man made environment more comfortable for people to walk (See Figure 2D)

Table 4. The Landscape Assessment based on the aspect of the aspect of Quality of Public Realm and Work with the Landscape

On one hand the existence of the street trading is able to pull people to come to the urban centre, on the other hand the existence does not promote greenery aspect or working with the landscape (English Partnership, 2005). Figure 1, Figure 2, and Table 4 show that the streetscape of Malioboro has not enough trees to support the natural environment. Since the number of the informal trading grew fast in 1980s (Aunurrohman, 2007), this allowed land-use change in Yogyakarta urban areas and now the fast growing area in Yogyakarta is called “Yogyakarta Urban Agglomeration” enabling to draw rural people migrate to the city.

5.2 Yogyakarta Town Square.

The Yogyakarta Town Square is called “alun-alun” and located in the front of the Sultan Place of Yogyakarta Mataram Kingdom in the Yogyakarta Municipality. The town square has an importance to the existence of the Kingdom and the traditional and cultural event of the “sekaten”.

“These days, the “Sekati” gamelan sounds day and night, only to be replaced by the Kyai Munggang gamelan on the night before the Gerebeg Maulud, celebrating the birth of the Prophet Muhammad. The Sultan, protected by his golden umbrella, and accompanied by his sons and brothers, other princes, and several elements², proceeds to the Great Mosque for prayer.” (Beek, 1990:79)

This square is about 900 m² and is naturally an outdoor plane grassed yard with a twin tree in the centre (see Figure 3). From the square centre to the north, the path is in line with the Malioboro street as downtown Yogyakarta. However, the grass does not grow well. The existence of street vendors on the town square (see Table 5) supports the aspect the place for people delivered by the English Partnership (2005). Figure 2 shows many street vendors operate and occupy some public spaces surrounding to the square for living. This informal trading is able to attract people coming around to the town square during the evening particularly. However, the placement of informal vendors on the pedestrian way does not comply with the concept of the place for people that must be comfortable (English Partnership, 2005). The existence of the informal trading in the square does not allow the grass to grow well, and this also supported by the traditional activity of the

² People high rank

Sekaten by using the square for trading, exhibition, and recreation. This activity significantly does not encourage the fundamental aspect of working with the landscape (English Partnership, 2005).

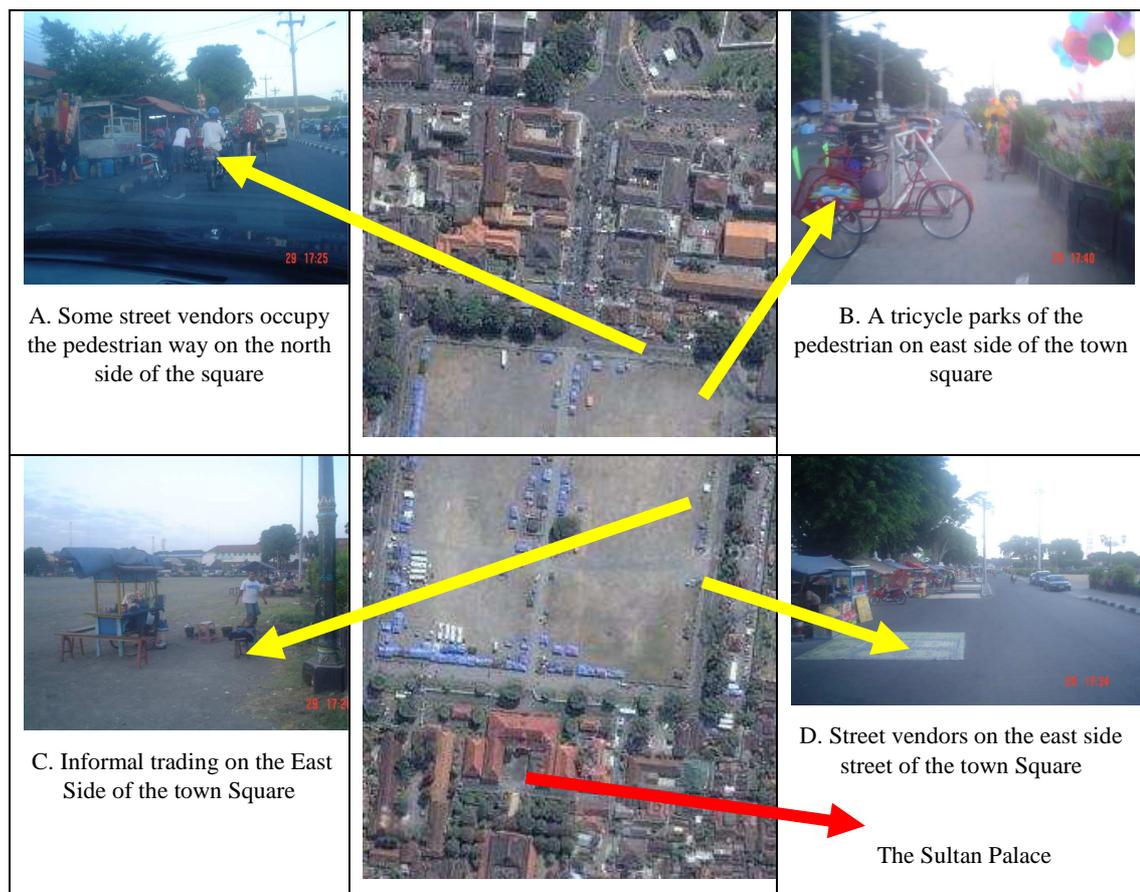


Figure 3: ogjakarta Town Square with some informal trading (street vendors)

Place for people focusing on the Quality of Public Realm	Work with the Landscape based on the balance of the natural and man made environment
A. Street vendors occupy the northern part and inside edge of the town square that create the town square more dynamic in social function. However unorganized vendor's cook equipments create the landscape massy (see Figure 3A)	D. The placement of street vendors on the pedestrian way on the north side of the square does not support the natural environment and this occupation blocks the pedestrian movement and increase man made environment component (see Figure 3A)
B. To wait and offer the passengers some tricycles (as informal public transport) parks on the pedestrian way on the north side of the town square. This placement of the pedicab reduces the wide of the wide of the pedestrian way and this will disturb the people walk on the path (see Figure 3B).	B. The placement pedicab on the pedestrian way is a proof that the informal transport promotes the man made environment in the urban landscape and reduces the quality of natural environment because the tricycle is a part of the man made environment (see Figure 3B).
C. The utilization of the eastern part of the town square to set some informal trading enriches the function of the square. This utilization of the square with the informal trading strengthen the vendors as activity supports on the town square. However, this utilization makes the grass does not grow well on the square (see Figure 3C).	C. Most parts of the informal trading are man made components. Therefore, the placement of the informal trading on the eastern part of the square does not support the natural environment of the square. Event the existence of the carriage with others components (such as chairs and cook ware) do not allow the grass growing (see Figure 3C).
D. In the evening, stalls of street vendor occupy a half of the east side street of town square. This placement support the town square more dynamic in social economic function, however the different construction form and color create the unorganized spatial arrangement (see Figure 3D)	D. The placement of street vendors on the eastern part of the street does not increase the natural component on the square environment, however the streets vendors does not so much block the traffic flow and this activity support man made environment, particularly tourism (see Figure 3D).

Table 5. Landscape Assessment of the town square based on the aspect of Quality Public Realm and the Work with the Landscape (see Figure 3).

Figure 3 and Table 5 show that the informal trading has not enough vegetation to support the natural environment. This means that the town square with the informal trading does not support the work with landscape theory delivered by English Partnership (2005). Both the existence of the informal trading sector operating on the Malioboro arcade and on surrounding the town square support the theory of the simulation of land-use change based on in-migration and commercial start-ups where the land use change dynamically will relate the spatial-temporal dimension and the natural elements of the urban landscape (Loibl & Tötzer, 2003 and Nassauer, 1997). This phenomenon has created the problem where the informal sector has been growing and they need to have some appropriate public and private spaces for trading and for living. Based on the issue of global warming, the vegetation is an important component to be promoted, however, the existence of the informal trading in public spaces and urban landscape does not have any role to lessen and mitigate the negative effect of the Urban Heat Island phenomenon because the informal sector encourages more the man made environment instead of the natural one.

To solve the problem of the informal traders using public spaces, the government needs to dialog with the city council, community leaders, non-government organization, street vendor community, investors, and universities (Kompas Jawa Barat, March 15, 2006). An approach to conduct a spatial arrangement to use the public space of a town square was done by the government of Purworejo, Central Java. The government worked together with the Gajah Mada University Yogyakarta in the occasion of student field work. The collaboration between the university and the Purworejo district government including the lecturers, the students, the public work, the planning and development were to work on some stages of planning and design, construction and monitoring, and evaluation of the spatial arrangement of street vendors to utilize the public space of the Purworejo town square. This experience has created the positive role of the informal trading in developing the urban landscape of the Purworejo town square. In this regard, the accumulation resources (such as the green square, the garden, the street, the pedestrian way and the street traders) were combined together to be the basic design of the existence of the town square landscape to balance the natural and the man made environment³. The special landscape performance of the Purworejo town square is that the grass grows well and covers all surfaces of the town square and all edges of the square are structured with pedestrian ways and trees. The informal trading is placed on the east and west side of the square. This development performs the square as a place for people and harmonizes the balance between the natural and man made environment.

6 CONCLUSIONS

The informal sector, particularly street vendors operating in Yogyakarta urban areas, supports the aspect the place for people that is a crucial aspects of the fundamental urban design. Informal trading in the case study areas (including Malioboro Street, Yogyakarta town square, and Kalirang Street) are able to attract not only local people, but also regional and international visitors. However, the placement of many street vendors on the pedestrian way does not comply with the concept of the “place for people” that must be smooth and convenient in nature. Therefore, research and development on this case is very crucial to be conducted by working together among stakeholders including the related local government offices, NGO, related university experts, informal trading community, and people leaders. The role of the informal vendors operating in the public spaces does not encourage and motivate the development of a balance urban landscape in promoting the natural element to the urban environment. This suggest that the informal trading significantly does not comply with the indicator “working with the landscape” as an important aspect of the fundamental urban design (English Partnership, 2005). The existence of the informal trading sector operating in the Yogyakarta urban areas, particularly in public spaces, in line with the theory of the simulation of land-use change based on the rural migration to the urban areas for economic reasons where the land use change dynamically will relate the spatial-temporal dimension and the natural elements of the urban landscape.

Significant growing numbers of the informal sector in urban has generated the urban landscape problem particularly the role of the informal trading not encouraging some aspects of the fundamental of urban design. Therefore, it is crucial to speed up some actions to respond to the problem and to provide some

³ Field observation and interview with a staff of the Planning board of the Purworejo district, October 2008

action programs. The issue is how the public and private land and structure to harmonize the formal and informal businesses to be side by side to increase the quality of the urban landscape. This program must be under collaboration between the government, private, and the community including universities. The role of the university is to advocate the informal sector communit in working together with the government and investors. Due to the issue of global warming, the natural and sustainable approach is crucial concept to design a complex, coherent urban landscape in which users would already visually recognize potentials for the variety of uses, related to their contact with natural element, particularly vegetation component. This will promote the work with the urban landscape together with the informal sector development in urban areas in the near future. Therefore, the existence of the informal trading or natural component, particularly vegetation, has to lessen and mitigate the negative effect of the UHI phenomenon because the informal sector encourages more the man made environment instead of the natural one. For example, to reduce the ambient surface temperatures as an impact of the UHI in urban area, the Green Toronto Standard 2006 suggests to provide cover, including trees, that shades at least 30% of hardscape, such as surface parking areas, walkways and other hard surfaces (Policy and Research-City Planning Division, 2007) and this standard complies with the Indonesian Law regarding the green open space in urban area to have at least 30% of the urban area (Dirjen Penataan Ruang – Departemen Pekerjaan Umum, 2006).

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