
Design Influence on Squatter Trading: Case Study of Jimeta Ultra Modern Market Yola, Adamawa State Nigeria

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ABSTRACT

Concerted efforts have been done by several Architects to provide sustainable design initiatives to solve the menace of Squatter settlements in Urban Centres through various means that includes relocation, upgrading, or transformation. But little has been done to integrate squatter traders in urban markets, most of the research works done on squatter settlement were on housing giving a little consideration to urban markets which are also flooded with squatter traders. This research is geared toward reviewing the spatial organisation of urban markets with the sole aim of finding how the design of market influences squatter trading. The research is conducted through direct observation, structured questioners, interviews and extensive use of related literatures in order to find out the opinion of traders, (legal and Squatters), customers, and local authorities concerned. Result provided an analysis of the market layout, a partial typology of the existing shops and the trader's perception on the design influence on Squatting and a possible holistic approach toward squatter traders' integration in market design.

Key words: Urban Market, Design, Squatters, Traders, Integration.

INTRODUCTION

One of the important Architectural design tasks is related to space layout and the problem it addresses, concerted efforts were made by several Architects to provide sustainable design initiatives to solve spatial problem using several concepts, but for an architect to provide a functional and satisfying design he needs to put himself in the shoes of the building end users so he can understand the mode of use (*modus operandi*) of the building. Thus the understanding of user behaviour is

very critical, as is noted that without the knowledge of how spatial configuration functions one can only produce form and just hope it will work (Kim, Park and Seo 2013). Thus from the above we can assert that the essential task of an Architectural design involves architects in a direct physical considerations of factors on ground, putting them in the best position to tackle design challenges in a holistic manner. Markets been a product of Architectural design like cities are complex entities and need solutions that may address and

resolve, multiple requirements from economic, socio cultural, infrastructural, technological and environmental viewpoints, this will lead to an acceptable design for all or an inclusive design whereby no category of users are excluded. However failure to address any of the above requirements effectively in design leads to user dissatisfaction which will manifest on building inform of design modification, alteration, and by extension squatting in case of a market design.

Various Markets of different architectural design and functions exist such as Shopping Mall, Departmental stores, street markets with stalls along one or more public streets as well as Urban Markets, with the later being more heterogeneous in nature mainly as a result of its nature in accommodating different type of traders in terms of socio economic background and non centralised ownership, they also serves as one of the major employment source to the teeming urban population, this comprises of various traders with different socio-cultural and economic backgrounds. Oyango (2013) Defined Marketplaces as locations where vendors gather periodically to sell merchandise either indoors or outdoors he further noted that they have been central to historical political, economic, and social revolution in cities around the world, while Omole et'al (2013) defines market as a

geographical space for the distribution of commodities and services. The size of an urban area is a function of Market size or type, the bigger the urban Centre the larger the Market. The rapid growth of Jimeta the Adamawa state capital has tremendously boost commercial activities in the town seeing the emergence of several markets and increase in number of traders in the existing ones such as Jimeta Ultra Modern market which was rebuilt and occupied in 2009 with over 3500 shops is now occupied by large number of squatter traders covering a large portion meant for parking lots, vehicular access, and pedestrian circulations. Squatting can be defined as an act of occupying an abandoned or unoccupied space or building, that the squatter does not own, rent or otherwise have permission to use (<http://www.Wikipedia.org/wiki/squatting>). Thus from the above assertions we can define squatter trader as a trader who occupies an area which is not originally intended for the purpose he is using it in a market. The issue of Squatter traders is one of the major challenges in Nigerian urban markets as noted that an African market is a terribly contested space, with squatter traders occupying a major portion of the sidewalk, often forcing customers to share the street with vehicles Gerald (2008). Cardosi (2012) also pointed out that Squatter traders emerge spontaneously as a result of

complex urban dynamics, Squatting is always associated with crowding; yielding very high population densities thus the design factors that leads to Squatter traders in urban markets shall be understood so as to tackle them right from design stage as long as an overall healthy living environment is required.

Most research works on squatter settlements lay emphases on Housing, researchers such as Dessalew(2015) has given emphases on the impact of squatter Settlements on urban amenities he noted that the major problem of Tilli as an urban area is squatter settlements which led to unlimited horizontal expansion of the town and these create serious problems like illegality, poor housing conditions, lack of basic infrastructures and services, flooding problems, poor environmental Conditions, segregation, land dispute, deforestation and sprawl. Cardosi (2012) looked into integrating squatter markets in to an urban environment, where he note that squatter or informal open markets are integral part of cities thus constitute a large junk of Squatter settlement within a city, thus he focuses on the squatter traders and the city at large not the squatter traders within a formal market setting. Ali and Suleiman (2006) also wrote extensively on squatter settlement focusing on its causes and consequence to urban environment which he attributed to

urbanization where he noted that about 70% of the population of Zanzibar lives in Informal settlements. There is an inadequacy of literature on squatter traders in urban markets and how to integrate them properly right from design stage of the Market. Unlike in urban Squatter settlement of housing that are normally found on the fringes and sides of urban centers the Squatter traders are located at the midst of the formal traders thus posing a lot of impact on the traders, customers satisfaction, and the Buildings at large. Thus this research is geared to finding out how Architectural design influences the act of squatter trading in Jimeta Ultra Modern Market, (JUMM) Adamawa state.

Problem Statement

One interesting finding is different categories of traders cohabits Market, and tends to have different view on spatial characteristics of market and place different emphasis on different needs. It prompts an obvious suspicion on whether a certain design characteristics essential for all traders, or perhaps some designs are appropriate only for specific traders. This is an area worth to look into and research further.

It is indeed very difficult to facilitate any positive change in market environment without systematic understanding of interaction process between various

traders and shop environmental setting. The knowledge about the interaction between built environment and its people is suppose to be understood by architects, since design processes alone nowadays are insufficient in resolving multifaceted problems involving people in various environments (Jawdeh 2013). To make the situation even worse is decisions making power about market facilities tend to be in the hand of few people who are not direct users. Building an Integrated and functional Market shall require direct input from those who actually use the space such as the different categories of traders and customers. So the best way to understand the design aspect of a Market will be assessing users about how they perceive and use the environment.

Aim

The main aim of the study is to find out how architectural design of Jimeta Ultra Modern Market influences Squatter trading activities.

Objectives

The specific objectives of this study are to:

1. Identify the squatter settlement and distribution on facilities
2. Assess factors contributing to the growth and spread of squatter Traders.

3. Assess the adverse effects of squatting on the spatial quality of a market.
4. Find out the factors necessary to consider for an Inclusive design.

Research Questions

On the basis of the stated specific objectives, the following research questions were raised in the study; and tried to find out the solution or the responses.

What factors contribute to the emergence of squatter Traders in the study area?

What is the pattern of squatter Trader settlement in the study area?

What are the major impacts of Squatter Traders on legal shop owners and the Market area in general?

Theoretical framework

The theoretical framework of this research is based on the idea of Constructionist Epistemology since it's geared towards gaining the understanding of person's interpretation of reality derived from social interaction and interpersonal relationship, as written by Losantos (2016) that social Constructionist theories are a product of society at a given time and in a given context. He further noted that such a kind of research is characterized by a purpose to discover the interpretation of reality within a particular social/Cultural setting. Thus in such a situation the researcher usually provides various

details pertaining the background of the participants, and the context in which they are being studied Mertens (1998).

Mertens (1998) noted that there is a range of methodologies and methods used in a constructionist Epistemology, although it is noted that it tend to be more of qualitative research but it cannot be totally excluded from the use of quantitative method to gain information relating to the study Wiersma (1991). Thus the researcher approaching a problem from a constructionist epistemology usually applies a notion of triangulation, which involves the use of multiple methods and multiple data sources to support the strength of interpretation and conclusion Mertens (1998). In this respect data is gathered from multiple samples through various methods. This is done purposely to evaluate the consistency of data gathered from various sources and a possible difference that may arise as a result of a particular setting and context in which the research is undertaken can be noted. Thus this method includes interviews; personal observation and review of related literature.

METHODOLOGY

The study will use descriptive survey research design. This is in line with the fact that objectives of the study is focused towards opinion seeking of the accessible respondents (Shop owners/Squatter Traders and

Customers) on the Influence of design on squatter trading in JUMM, Adamawa state Nigeria. Akuezilo and Agu (2007) wrote that a descriptive survey research design is one which seeks the opinion of respondents about a given situation using questionnaire and sampling method. It is a scientific method which involves observing and describing behaviour of a subject without influencing it in any way .It helps the researcher to collect detailed description of existing phenomenon. Primary and secondary data were used in the study. Primary data collection involved the use of direct structured questionnaire and interview, under this arrangement Jimeta Ultra Modern Market was divided in to two segments separated by its major access road from Gate three, in which a total of 150 respondents were randomly sampled 75 along each segment which comprises three types of questionnaires 25 each directed to Shop owners, Squatter Traders, and customers respectively. Also 10 respondents which include two market leaders, two official of Ministry of commerce, and three traders from each segment of the market so that consistency in the data gathered from various sources can be evaluated and the possible difference can be attributed to a particular settings and contexts in which the research take place can be noted. To have an in-depth understanding on how design

influences squatter trading in the market, extensive review of literature pertaining the subject was also conducted which helps in giving a general overview of the study.

Study Area: Jimeta Ultra Modern Market (JUMM)

Boosting of over 6000 traders Jimeta Ultra Modern Market (JUMM) stands as the largest planned market in Adamawa state, with a history dating back to early 1980s when it became popular, shortly after the Maitasine crisis which caused a severe damage of one of the major markets of then popularly known as Jimeta Shopping Complex. However the market was totally demolished planned constructed and occupied in 2009 it serves as the major

urban market in the state with customers from all over the state and beyond. located centrally in Jimeta the state Capital, it is bordered by three major roads as shown in **Plate 1** that defines the entry points to the market such as Gate One on the North along Muhammadu Mustapha way, Gate two on its Southern axis along Bishop street and Gate three on the West along Galadima Aminu way, for easy entry and exit of the market especially during peak periods such as the closing time, later on three other gates were added in 2016. The market has a total of 3800 shops comprising of only two types of shops the open and Lockups, ware houses, a police station, clinic, restaurants, banks, parking spaces and public convenience (18 September 2009 <http://www.dailytrust.com.ng>).

Plate 1



Satellite Image of JUMM showing its grid layout of shops. Source: (Google Imagery 2016)

Its design can be described as grid pattern (as indicated in Plate 1 above) as noted by (chen 2010) that grid pattern can be expressed as a rectangular arrangement of shops that generally run parallel to one another with a circulation access in between as illustrated in figure three. He noted that such a design provides consumers with flexibility and speed in finding out required product in a given store. Each block of shop is designed to accommodate a row of shops both on its back and front oriented North and

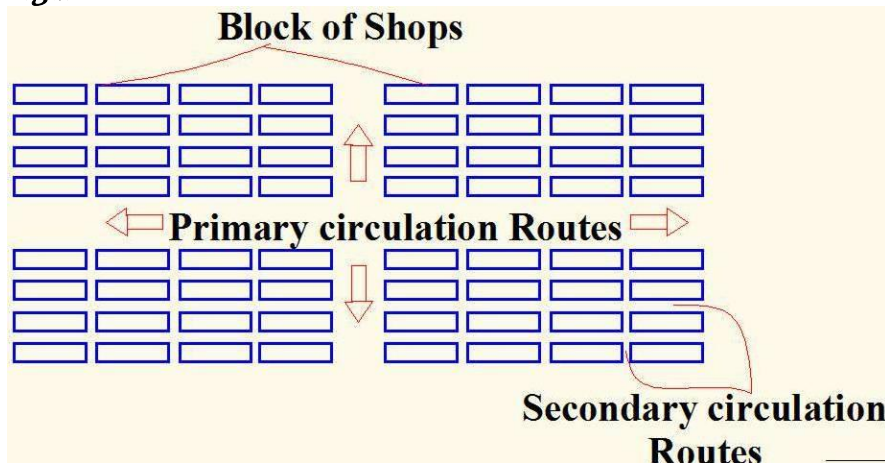
south with the two extreme ends of the block East and West left blank, which serves as favourable location of squatter traders.

The market is divided centrally north and south by a large access road from gate three as indicated in Plate 1 above, with a large parking lot near each of its three gates, with utilities that comprised of public convenience, restaurants, police station and banks near the parking lots. In JUMM market roads have been well planned to accommodate people and handcarts

but unfortunately the occupation of the secondary roads indicated in figure one by squatter traders and parking of

cars in the primary roads tend to narrow the roads and makes it difficult for passage.

Figure 1



A Typical Layout of Grid Style Market Showing the Primary and Secondary Circulation Routes. Source:(Author's Sketch 2016)

Shortly after its occupation, squatter traders known as (Yan Attachment) whom derived their name from attaching their stalls on the two blank

side walls of a block of shops as shown in figure two overflow the market thus narrowing the secondary circulation routes.



Figure 2

A typical Block of shops in JUMM showing the orientation of shops and two blank side walls. Source: (Author's Sketch 2016)

Plate II.



A scene of Squatter Traders (Yan Attachment) attached to blank sidewalls of block of shops along Secondary circulation routes in JUMM Source :(Author 2016)

The customer parking areas are also invaded by the Squatter trades as shown in plate IV, refuse collection centre is also occupied by meat sellers

as shown in Plate III below thus leading to the dumping of refuse on some parts of the remaining parking lots near gate two.

Plate III



Narrow passage way in Meat Sellers occupying space planned for Refuse Dump Source :(Authors field work 2016).

Plate IV



Squatter traders occupying the parking lot near gate three in JUMM. *Source: (author 2016)*

LITERATURE REVIEW

There are various physical design layout of markets such as Grid pattern, free form, racetrack and serpentine layouts (Chen 2010). However Grid design as shown in figure one is more common in planned markets in Nigeria. It can be expressed as a rectangular arrangement of shops that generally run parallel to one another with a circulation or access in between, this provides consumers with flexibility and speed in finding out required product in a given store. Studies shows that ease of movement in markets has a positive role in customer perception for example (Chen 2010)

observed that Utilization of floor space has an effect on potential customers, a well designed passage way and structure facilitates shoppers browsing and checking out the merchandise as well as balanced traffic flow density of the passages provides a comfortable and safe shopping environment. He further warns that overcrowded passages can confuse and depress customers.

Various researcher such as (Omole, Lukman and Baki 2013), (Ogeah and Omofonmwan 2013) identified that markets in Nigeria are designed with mainly two types of retail spaces the Lock up shops and the open shops, giving less emphasis

to the provision of more flexible and smaller retail units for low income earners whom are also part of the original occupants of a market, thus rendering a significant part of the traders without stalls there by reducing them to squatting, some of the major characteristics of squatter traders were identified by various researchers such as (Cardosi 2012) who described some of the characteristics of Squatter traders in Toi Market as organized in sections of small stalls with irregular shape and size, which appeared as a chaotic and dense labyrinth of cardboard, polyethylene, and iron sheets structures arranged next to each other as an agglomeration of barracks. He further noted that Roof extensions created dark passages, difficult to identify merchandise, with limited air and light. Ogeah and Omofonmwan (2013) describe Squatter trader's stalls as crude shelters constructed by the sellers themselves consisting of a roof of thatched materials supported by wooden poles. Omole et'al (2013) noted that squatter traders and Hawkers will continue to exist in markets centres so long as the need of all and sundry particularly as it affects the provision of market shops/stalls/stores cannot be met, while Gerald, S (2008) studied shops located on streets in South Africa's informal settlements focusing mainly on the factors responsible for their location.

Thus it can be noted that the design of urban markets mainly provide limited type of retail spaces that caters for few traders and there by living many without a suitable space that support the type of their trade or wares or unaffordable to them thus they resort to squatting within the market premises. This research work is aimed at finding out how does a design of a market influences squatter trading activities within it, so as to understand how to integrate various categories of traders with the aim of integrating them right from the design stage of a market in order to solve the problems of squatter traders in urban markets.

RESULT AND DISCUSSION

Spatial planning of Markets just like that of a city should integrate a variety of interest and ensure some level of balance so as to enhance sustainability. To solve the occurrence of squatter traders in markets requires that architect should not only rely on specified design standards but undertake detailed market survey of traders to determine the shop/stall-needs requirements, on basis of income, type of commodity, zoning arrangement and many more, so as to provide a market design that will integrate the various type of traders in a sustainable and functional market environment.

The design of shops in the markets has elicited concern especially

as it relates to issues of storage of goods overnight and the visibility of traders/wares to the customers. One therefore finds scenarios where some shops are abandoned in the market due to these concerns. The other issue is the large number of traders who want to use the markets; well beyond the capacity to accommodate them.

Below is a result of survey conducted on squatter traders in JUMM.

Table 1. Location of squatter Stalls, a total of 150 questionnaires' were distributed which is about 10 percent of the registered squatter traders in JUMM although 137 were retrieved below is a breakdown of the

various squatter locations, As indicated in the table below about (48.9%) the squatter stalls are located by the side of block of Shops/Secondary Circulation roads averaging about eight, four in each side of the block of shops, which narrows the circulation routes thus leading to congestion, poor visibility as narrated by many shop owners and customers when interviewed. And also (20.3%) are found around the parking lots thus reducing the number of car parks which leads the customers to drive and park along the circulation routes thus leading to congestion

Table 1: Location of Squatter Stalls

Type of Location	Number of Respondents	% of Respondents
Parking Lot	36	20.3
Side of Shop/ Secondary Circulation routes	67	48.9
In front of Shops	12	8.7
Open Space	13	9.5
Large Covered Shade	19	13.8
Total	137	100

Source: Author Survey (2016)

It has been noted that only (8.7%) of the traders squat in front of shops by the permission of the shop owner which leads to an obstruction of view in to the main shop by customers browsing through while the remaining (13.8%) and (9.5%) stays in large covered shades and open spaces respectively. Our interaction with Squatter traders in the market

indicates that they would prefer to have their stalls incorporated within the main blocks of shop instead of zoning them to a particular side of the market this will help in addressing the space needs of majority of the traders.

Establishing a good retail image through the provision of adequate parking lots, good circulation spaces, easy and convenient access for

loading and offloading of goods is an important aspect in maximizing customer satisfaction. Based on the customers' point of view they would like the shopping process to be easy and satisfying thus prefer a pleasant

shopping environment where the aisles are wide, and the view of the merchandise is clear (chen, 2010). As noted by Amao F.L (2012) that Visual satisfaction has a profound effect on the psychological nature of man.

Table 2: Construction Materials used for Squatter Stalls

Type of Material	Number of Respondents	% of Respondents
Wood table Covered by Canopy of Polythene	32	23.3
Corrugated Iron Roofing Sheets and wood	86	62.7
Movable Cart	11	8
Direct Display on Ground	08	5.8
Total	137	100

Source: Author Survey (2016)

Table 2 above shows the type of materials used in the construction of the Squatter stall in which 62.7% of the stalls are constructed of Corrugated Iron Roofing Sheets and wood which is totally in contrast with the market architecture which is made up of bricks roofed by red aluminium roofing sheets which really affects the beauty and harmony of the designed setting of the market, 23.3 percent are made up of tables shaded by a large polythene canopy, 8% are using movable carts thus they tend to move around from one circulation route to the other but are mainly concentrated along high traffic areas, 5.8% of the squatters display their goods directly on ground without any form of shelter.

Thus it can be noted that the stalls are makeshift structures of varying type of materials that are not durable and highly combustible in nature which negates the philosophy of use of bricks as a good material for prevention of fire spread. It has been found that most squatter traders belong to the low income groups in the market that are either new trying to settle in the market thus engage in squatting which in essence lacks legal title thus suffer from uncertainty of eviction or demolition by authority thus does not invest on providing a befitting retail space as a result they live in a substandard shelter such as those mentioned above which gives the market a poor aesthetic quality. The

traders undertake the design and construction of their stalls informally

Table 3: Type of Goods traded by Squatter Traders

Type of Goods	Number of Respondents	% of Respondents
Clothes and Wears	35	25.5
Meat and Fish	43	31.3
Vegetable and Fruits	38	27.7
Provisions	8	5.8
Electronics	13	9.4
Total	137	100

Source: Author Survey (2016)

Table three shows the various types of goods traded by the squatters in the market in which (31.3%) of the respondent are involved in meat and fish selling, (27.7%) were involved in Vegetable and fruit selling they mentioned in an interview that the types of space allocated to them after the completion of the market construction were open shops which totally do not suit their need thus they decide to seek for an open space which was granted to them and they

converted it to a large shade that they occupy today, while the latter are found around parking lots and along major circulation routes in which they stated that their goods are mainly patronised by customers during their exit from the market after shopping thus informed their location another significant number of respondent comprising of (25.5%) are selling clothes and wears, (5.8%) provisions and (9.4%) electronics attribute their reason for squatting to inability to rent a shop due to their low capital.

Table 4. Involvement of traders in market design

Item	Category	No. of Respondents	% of Respondents
Have you been involved in the design of this market	Yes	-	-
	No	137	100
Total		137	100

Source: Author Survey (2016)

As indicated in table 4 above all the respondent were not consulted during the design of the market, thus

reaffirming the Preliminary survey conducted by the researcher which indicates that the level of community

involvement is minimal in the design of most markets, thus allowing only the architect who is not a direct user of the facility to use professional standards, no wonder whenever local authorities announce its intention to provide new market facility it faces a lot of opposition from the traders, this is a clear indication that the traders are not involved in the decisions that leads to the production of the market design thus afraid of exclusion after the practical completion of the project.

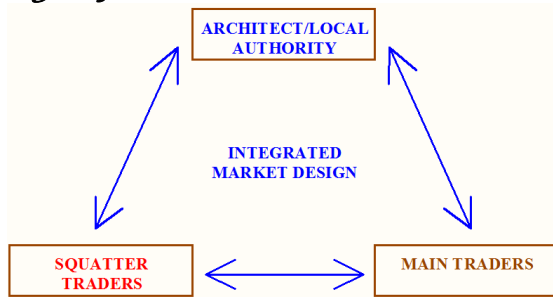
The market should be a product of its occupants not its occupants being its product thus Design process that would place the traders at the center stage of a decision-making process complimented by the architect and government. Applying such a kind of approach would make more effective use of scarce resources such as land by unlocking the previously unacknowledged resource of the traders themselves, and result in more responsive and appropriate trading environments (Kellett and Napier 1995; Turner 1972).

It is indeed important to understand the configuration of squatter trader's stalls but not overlook its defects so as to have

knowledge of how to integrate it in a sustainable market design.

The most obvious problem with the approach in design of markets is that it has failed to accommodate the ways of life of the majority of traders in rapidly growing and largely poor and urban markets, and has often directly contributed to social and spatial marginalization. A report by UN-Habitat (2009) recommends a three-step process for effectively responding to urban informality: first, recognizing the positive role played by urban informal development; second, adopting revisions to policies, laws and regulations to facilitate informal-sector operations; and, third, strengthening the legitimacy of planning and regulatory systems. The first two steps are particularly important to this study; finding options to forced eviction of squatter traders such as design integration of the squatters and provision of flexible designs figure 3 below indicates how a sustainable market design should be generated based on the findings of the research conducted on JUMM.

Figure 3



Schematic diagram of integrated Market design. *Source (Author Sketch)*

CONCLUSION

Design has in many ways influenced Squatting activities in Jimeta Ultra Modern market the design factors such as provision of only two type of shops that include the open and lockups shops has left many traders without any option than to squat, this is largely as a result of several factors that includes incompatibility of the provided space to some goods traded such as vegetables, Meat, where the traders resorted to construction of their own shelter within the market. Also some traders have a little capital which makes them not able to rent a shop.

The Architecture of JUMM has a direct influence on Squatting, in the design layout of block of shops a blank wall (as shown in figure 2 earlier) that is on the east and west of the block are intentionally created to avoid climatic element like direct solar irradiation and rain with the shops designed to face north and south, this blank walls serves as an excellent site for squatting as it can be noted in the survey conducted by the researchers on

the location of squatter traders in the market, about 48.9% of the squatters are located there, and the fact that their stalls are oriented towards east and west they make use of large umbrellas, canopy, or a polythene cover which causes poor visibility, accessibility, congestion to customers and fire fighting machines during emergency.

It has also been noted that the design of the JUMM market and most markets in Nigeria are done without consulting the traders on their needs and requirement instead it is done by professionals using formal design standards which doesn't take into cognisance of the categories of traders that constitutes a market thus forcing the traders to be a product of the market design instead of the design to be their own product, thus leading a good number of traders that has not been considered while designing to squat within the available one.

RECOMMENDATIONS

Small Stalls either temporary or permanent erected in the market should be in cooperated within the block of shops so that it will no longer be an obstruction to major or secondary circulation routes. It should also be expressive architecturally of their temporary nature. They should also be simple in form, colour, and materials to place emphasis on the activities taking place. They should be designed to complement, and contrast with, the architectural character of permanent buildings within the market.

Provision of blank walls on secondary circulation routes should be avoided instead incorporate small stalls there, so that it will no longer serve as a squatting ground and result to congestion on circulation routes, thus maximum and efficient utilization of the market spaces will be attained.

Some factors that influences market Design such as size and use of selling space, its relationship to traffic circulation and parking, Space utilisation and Space requirement by traders should be carefully addressed by the architect when designing a public market.

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