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CRIME PREVENTION THROUGH THE INTEGRATION OF NATURAL SURVEILLANCE CHARACTERISTICS IN HOUSE DESIGN: PERCEPTION OF POTENTIAL HOUSEBUYERS

■ **ABSTRACT:**
Consciousness among potential housebuyers' regarding crime prevention through the integration of natural surveillance characteristic assist to reduce proportion of crime in our country. Natural surveillance is about crime prevention through environmental design which limits the opportunity for crime by taking steps to increase the perception that people can be seen around the housing area. In the design, natural surveillance involves the placement of physical features such as windows, lighting, and landscaping of the house in such a way as to maximize visibility and foster positive social interaction among legitimate users of the house and its surrounding area. In light of the rising crime rate in this country, the integration of natural surveillance characteristics into the design of houses can only add to the security features of the houses. This study is attempted to investigate the perception and behavioural profiles of the housebuyers towards surveillance characteristics in their houses. The respondents in this study are potential housebuyers attending a property fair in Sungai Petani, Kedah in June 2008. In all, 208 respondents were involved in this research. The results indicated that the respondents have a high tendency towards accepting natural surveillance design as one of the crime prevention efforts.

INTRODUCTION

Proportion of crime in Malaysia housing was increased and so does the number of legal and illegal foreigner workers. According to Utusan Malaysia (2008), statistics showed that compared to 33, 599 houses burgled in 2007, was increase 4,727 compare with 2006 total cases 28,872. In the first fourth quarters 2008, the police predicted that house crimes will increase. House crime cases will increase every year because total number of residents also increased. The government and the police are concerned about this issue; they are interested to find solutions on how to solve it. However, cooperation from the public to prevent house crimes is needed. Napier (1998) found that safety and security are often the first priority of the urban poor in both developed and developing countries. Cozens (2002) noted that in consideration of the apparently extensive crime and deprivation experienced in certain existing housing estates, the criminogenic potential of new-build housing developments is of paramount importance. Many cases showed that burglars enter to the house through the same way namely doors and windows. Table 1 shows that the point of entry to the house for burglary has happened before. Entry though rear

window was the highest (29%) and entry through rear door was the second highest (15%). From point of view show that rear window and door the main entry to burglary enter because occupant seldom used it. Desyllas et al., (2003) noted that some of the supposed relationships are obvious such as the level of `target hardening' in the design of doors and window locks to make access to properties more difficult.

Table 1: Homes Point of burglars entry

Point of Entry	Percentage of cases in which point of entry was used
Rear Window	29%
Rear Door	15%
Front Door	10%
Patio Door	2%

Source: Armitage (2000)

Ellsworth (2002) stated that while research and experience repeatedly demonstrates that crime prevention is the most effective and efficient means of reducing crime. Crime prevention continues to lag behind reactionary approaches to crime reduction. Desyllas et al., (2003) stated that a key distinction is who is considered to be the agent of surveillance and what is the object of surveillance. Broadly, previous writers have suggested two types: the surveillance

provided by occupants of buildings and the surveillance provided by members of the public on the street. The research looks into the natural surveillance characteristics and compare with profile of Sungai Petani housebuyers and also look to how far respondents in this issues. It will basically be focused on answering the following objectives which are as follows: (i) to identify the house buyers' needs of natural surveillance for their housing area; (ii) to identify the house buyers' agreeability to practice of natural surveillance design in their homes; and (iii) to look of criteria of house buyers, who want to practice natural surveillance?

PRINCIPAL OF CRIME PROBLEMS

Poyner (2006) suggests that the process of incorporating crime prevention into the design of residential areas is not a single strand of thought but is rather recognition of the need to develop strategies against four principal crime problems:

i. Burglary - a strategy is needed to discourage people from trying to break into houses;
ii. Car crime - a strategy for providing a safe place to park cars;
iii. Theft around the home - a strategy for protecting the front of the house, and items in gardens, sheds and garages;
iv. Criminal damage - a strategy to minimise malicious damage to property

The principal of crime problems need developer to know how they can apply in design of housing development. Crimes happened because some affect from poor design. Schneider and Kitchen (2007) noted that in order to make natural surveillance effective, there is a need to improve street lighting because it makes people see the surroundings clearly. Targets (people or property) that encounter crimes in the normal, everyday course of their lives become part of templates, Schneider and Kitchen (2007). The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life (Crowe, 2000). Cozens (2002) mentioned that activity support can be enhanced by physical design whereby encouraging legitimate activity in public space can help to discourage crime. Activities which involve the community can be organized in specific locations in order to define and promote the preferred use. For example, a basketball court in a public park may provide recreational space for the young while also making strangers more obvious by increasing natural surveillance and a sense of ownership.

DEFINITION OF NATURAL SURVEILLANCE

Cozens (2002) defined natural surveillance as a crucial dimension since criminals do not generally wish to be observed, much less apprehended. The configuration of physical features, activities and people, in ways that maximise opportunities for surveillance can act to discourage crime. Desyllas and Connoly (2003) also defined natural surveillance as the overlooking of public space by members of the public in the course of

their day-to-day lives. In the case of burglary, for example, such cues might include the perceived ease of entry based on the sturdiness of the door frame, or the risk of being spotted based on the likelihood that neighbours can see from their own windows or yard to the target entry point (natural surveillance), (Schneider and Kitchen, 2007). Many types of crime prevention procedures have been done to ensure housing safety always. Natural surveillance was practised in Crime Prevention through Environmental Design (CPTED), Secured by Design (SBD) and Defensible Space (DS). Natural surveillance is very important in our housing scheme, detail about natural surveillance. Cozens (2002) demonstrated in the UK, Secured By Design (SBD) is an initiative developed in 1989 by the Association of Chief Police Officers (ACPO) and supported by the Home Office Crime Prevention Unit whereby new-build housing developments utilise 'defensible space' and CPTED ideas to reduce opportunities for criminality.

DEFINITION OF CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

"The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and improvement in the quality of life" National Crime Prevention Institute (NCPI) 1986. The growing Crime Prevention through Environmental Design' movement (International CPTED Association, 2003) is based on the idea that the design and layout of communities can themselves influence crime risk (Desyllas and Connoly, 2003).

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) STRATEGIES

CPTED strategies to make surrounding safe during the day and public will know what was happen in housing area. Crowe (2000) notes that element into space design and management:

❖ Natural access control. Space should give some natural indication of where people are allowed and are not allowed. Don't depend just on locks and guards, but make security part of the layout.
❖ Natural surveillance. Again, traditional factors like good lighting are important, but don't overlook a natural factor such as a strategically placed window or the placement of an employee work station.
❖ Territorial reinforcement. This is an umbrella concept, embodying all natural surveillance and access control principles. It emphasizes the enhancement of ownership and proprietary behaviours.

Natural surveillance by Crowe (2000) also stated that what need to follow to make sure housing area and house in safe every time. In the bellow show the elements should follow:

i. Provide magnet for watches, or gatekeepers, by increased outdoor use of space (e.g., porches, yard assignment, and gardening).
ii. Reduce light pollution on bedroom windows to influence residents to leave curtains and blind

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open or partially open to create the reality and perception of surveillance.

iii. *Install windows in dead walls on the sides of buildings.*

iv. *Install automatically controlled porch lights to create a sea of light at the human scale to allow for better visual identification of faces, and intensity of overhead mast-mounted lights.*

v. *Place car parking in line-of-sight of units, or preferably, immediately in front.*

vi. *Install central HVAC to eliminate the use of window units that block natural surveillance and audio monitoring of outdoor activities; this also significantly improves the quality of life.*

vii. *Remove walls and hedgerows that produce impediments to natural surveillance; replace dumpster enclosures and perimeter fencing with transparent materials.*

Type Agent of surveillance Object of surveillance Mechanism of surveillance by Desyllas and Connoly (2003):

❖ *Building occupants public space users and building occupants see public local properties space and other properties from windows and building entrances; and*

❖ *Public space users other public space users passing members of public and local properties provide `virtual' community and see access points to buildings.*

SECURED BY DESIGN

Armitage (2000) noted that SBD estates are designed to achieve maximum natural surveillance without compromising the need for privacy. The informal social control which emerges from the design of SBD estates is accentuated through ensuring that each estate contains a mix of dwellings designed for the needs of a variety of resident types. In doing so, the likelihood that at least one neighbour will be at home throughout the day and night is increased.

DEFINITION OF DEFENSIBLE SPACE

Newman (1973) claims that 'Defensible Space' is "a means for restructuring the residential environments of our cities so they can again become livable and controlled not by police, but by a community of people sharing a common terrain" cited by Desyllas and Connoly (2003). Brunson et al. (2001) defined Defensible Space (DS) interventions involve making physical changes to the areas around residences to make them less vulnerable to crime and more supportive of the development of community among residents. Brunson et al., (2001) said one factor that DS theory posits may be important in the success of defensible spaces is the extent to which residents defend and in other ways appropriate near-home space. If residents intervene when inappropriate or unsafe behaviours occur in near-home space, if they spend time there, if they interact with neighbours and participate in caretaking activities, DS theory asserts that community life should flourish, and safety should be maintained. If these types of physical, social, and territorial appropriation are inhibited, DS theory

predicts that community life may be disrupted and that neighbourhoods will become unsafe.

CONSUMER BEHAVIOR

In this study look to relationship between demographic of housebuyers with the integration of natural surveillance characteristics in house design for crime prevention. Donelly (1988) indicates that among American samples, age is positively related to fear of crime. Income is, however, inversely related to fear of crime even when race, age, and gender are held constant (Sundeen & Mathieu, 1976), probably because high-income earners live in presumably safe neighbourhoods (Skogan & Maxfield, 1981). Cozens (2002) said multiple dwelling units (flats) were consistently perceived to be more criminogenic and associated with fear and also to be less 'defensible' than the single dwelling units (SDUs). However, the socio-economic associations relating to the residents and the level of maintenance were also crucial determinants in the perception of each design.

RESEARCH METHOD

A survey was conducted during the property fair held from 5th June 2008 until 8th June 2008 in Central Square shopping complex at Sungai Petani which is located in Kedah State. Structured questionnaires were administered face-to-face to potential house buyers attending the property fair. Total questionnaires was distributed are 500 and the questionnaires was divided two part. Questions for part A focus on respondents demographic and part B more focus on natural surveillance characteristic. In all, 208 questionnaires were answered by the respondents and analyzed by using the crosstab analysis.

RESULTS ANALYSIS

Results in this study show that all house buyers in Sungai Petani agree about the need of natural surveillance in their homes. The results showed that natural surveillance is very important to them. Figure 1 shows a comparison between age and the need of natural surveillance among house buyers.
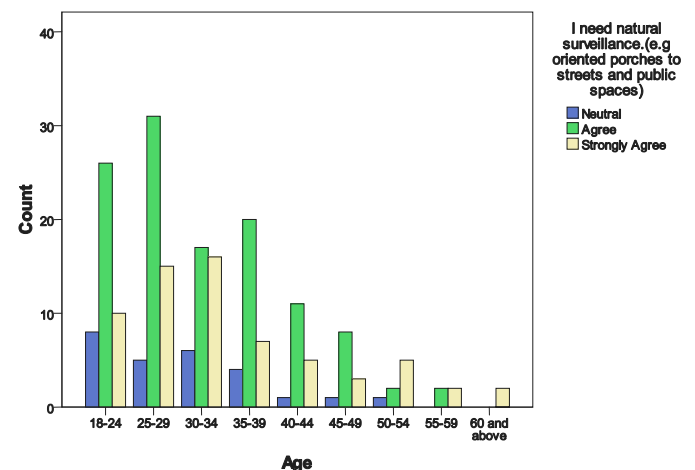

Figure 1: Comparison between age and the need of natural surveillance in the housing among housebuyers

The highest respondents involved in this study were aged between 25-29. Around 2% of them were neutral in their opinions about natural surveillance, 15% agreed, and 7% strongly agreed to have natural surveillance in their homes. For age above 60 years old 1% from total of respondents said strongly agreed to have natural surveillance in their homes.

Figure 2 shows that respondents monthly income, the highest monthly income involved in this survey is RM 1,501-RM 2,500 around 25% follow by monthly income below RM 1,500 around 23% from total respondents. Around 88% respondents agreed and (10%) strongly agreed to have natural surveillance in their houses and other 12% neutral regarding this issues.
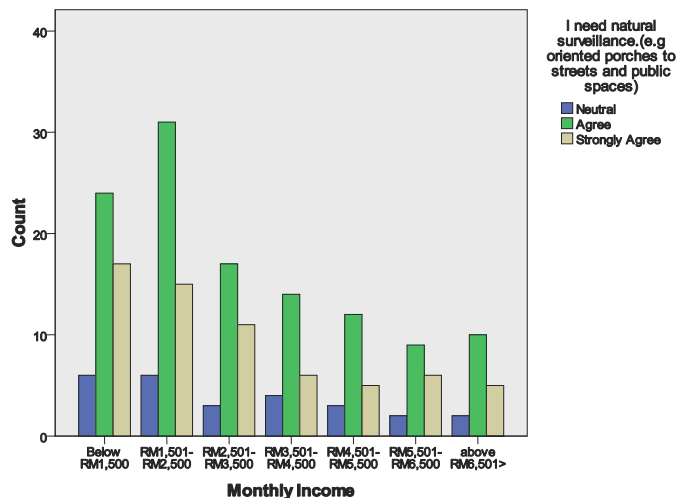

Figure 2: Comparison between monthly income and the need of natural surveillance in the housing among housebuyers

Figure 3 shows that the highest respondents involved this study live in single storey terraced houses, 40% of them agreed and strongly agreed to have natural surveillance and other than that 6% Most of types of houses agreed and strongly agreed to have natural surveillance and balance from them neutral.
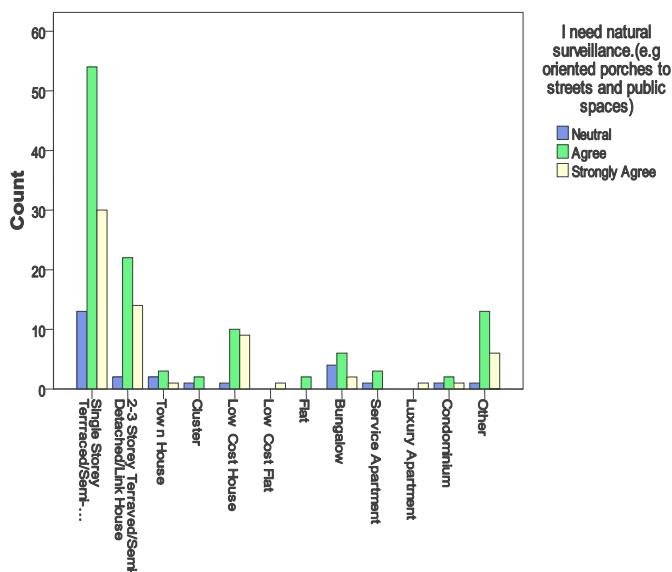

Figure 3: Comparison between house type and the need of natural surveillance in the house among housebuyers in Sungai Petani

DISCUSSION

Based on the findings showed that age, monthly income and house types are related positive fear to crime and its look true that was present on the literature. Many type of natural surveillance that can be apply in house design and that parallel to consciousness of potential housebuyers which can practices to their homes.

CONCLUSION

The results indicate that the respondents have a high tendency towards accepting natural surveillance design as one of the crime prevention efforts. This study showed that housebuyers in Sungai Petani (88%) agreed and strongly agreed to have natural surveillance in their homes and others 12% neutral for these issues because some of them did not know clearly about the natural surveillance and how to it is practiced in housing scheme. Young housebuyers age between 25-29, monthly income range between RM1,501-RM2,500 and single storey terraced houses are the highest range involved in this study and also agree to have natural surveillance. The literature review said people fear and think seriously about safety but in this study, it can be shown that all categories of respondents are happy to have natural surveillance in their homes because of security and safety matters. Developers need to know that house buyers in Sungai Petani like to have natural surveillance in their homes because it can be made their housing more attractive to house buyers. Further investigations are needed to look more into what kind of natural surveillance should be practices in housing design.

REFERENCES

[1.] Armitage, R. (2000). An Evaluation Of Secured By Design Housing Within West Yorkshire Home Office Building A safe and Tolerant Society, Briefing Note 7/00.

[2.] Brunson, L., Kuo, F.E. and Sullivan, W.C. (2001). Resident Appropriation of Defensible Space In Public Housing Implications For Safety And Community Environment and Behaviour, 33 (5), 626-652.

[3.] Cozens, P. M. (2002). Sustainable Urban Development and Crime Prevention Through Environmental Design for the British City. Towards an Effective Urban Environmentalism for the 21st Century.

[4.] Crowe, T. (2000). Crime Prevention through Environmental Design: Applications of Architectural Design and Space Management Concepts, 2nd ed., Butterworth-Heinemann, Oxford.

[5.] Desyllas, J., Connoly, P., and Hebbert, F. (2003). Modelling natural surveillance. Environment and Planning **B**: Planning and Design 2003, 30, 643 – 655.

[6.] Donnelly, P.G. (1988). Individual and neighbourhood influences on fear of crime. Sociological Focus, 22(1), 69-85.

[7.] Ellsworth, J. (2002). "Embedding prevention in policy and practice", Report on the National Crime Prevention Council's Conference of State Partners, Phoenix, AZ, April, 14-16.

[8.] Napier, M., Plessis, C.D., Liebermann, S., Kruger, T., Shaw, M., Louw, A. and Oppler, S. (1998). Environmental Design for Safer Communities in South Africa, Volume 1 and 2, Council for Scientific and Industrial Research, Pretoria.

[9.] National Crime Prevention Institute (1986). Understanding Crime Prevention, Stoneham, MA: Butterworth publishers.

[10.] Newman, O. (1973). Defensible Space People and Design in the Violent City, Architectural Press, London.

[11.] Poyner, B. (2006). Crime-Free Housing in the 21st Century, UCL Jill Dando Institute of Crime Science, London.

[12.] Schneider, R.H. and Kitchen, T. (2007). Crime Prevention and the Built Environment.

[13.] Skogan, W.G., & Maxfield, M.G. (1980). Coping with crime: Victimization, fear and reactions to crime in three American cities. Beverly Hills, CA: Sage.

[14.] Sundeen, R.A. (1984). Explaining the fear of crime among international students from developing countries: A revised model. Criminal Justice Review, 2, 7-13.

[15.] Utusan Malaysia (2004). Make sure your home leave in safely, Issues: Malaysia Security Force, Section: Malaysian Weekly News.

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