

Security Optimisation for Residential Areas of Yola Adamawa State

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Abstract:- The security of residential building is important because families reside in them. For complete relaxation occupants and their property need to be secure. Residential building consists of spaces for living, resting, working, cooking, sleeping and general home chores. Residencies are often within a fence, with an entrance gate which opens to street or neighbourhood. The study adopts a three interface approach, to security planning of residential setting. These are street or neighbourhood to gate level, gate to entrance door of building level and entrance door to internal room's level. The intruders who may have different intentions try to progress through the levels, space and controls unnoticed. The work attempts to investigate how to check intrusion from one level or space to another by using security technologies and planning /design measures. The study will assess frequency of different crime/insecurity type, security facilities, equipment resources/ and the planning/ design of security system. To determine parameters in the aforementioned variables, a population of 156 respondents consisting of 121 respondents who have knowledge of design, and are either architects, architecture students, planners, builders, quantity surveyors, estate managers or land surveyors. The other group consist of 35 respondents who work with public or private security outfits. They are from police, immigration, custom, civil defence corps, or private security firms and vigilante/ hunters groups. A structured questionnaire made of 3 parts. Was administered. It enquired on type of crime/ prevalence, equipment/ facilities/ resources/ of security and the planning/ design of security systems for residential settings of Yola, the correctly filled questionnaires were retrieved and the results are presented in tables 1,2 and 3. The results showed that the prevalence of cultism/Extortion and thefts/burglary was higher with 79.48% and 73.71% respectively. While table 2 with data on security resources, gadgets and facilities showed that use of animals as dogs etc., diabolic methods and surveillance with scores of 78.20%, 73.07% and 66.66% respectively, seem more acceptable as deterrents to crime/insecurity. The responses on design and security planning in the buildings gave results showing that finishing and security fitting are better planned together had score of 73.20%, while security lighting and use of burglar proof and grill recorded 70.51% and 69.23% respectively. It was found out from the result that cultism and Extortion is a leading form of crime with 79.48% of respondents agreeing, it occurred in their area of residence, use of animals as dog for security seemed

more acceptable among respondents with highest positive response of 78.20%, higher than Diabolic means that had 73.07% and security gadgets that recorded 62.82%, the results design and planning of security show that security installation and finishing of building should go on concurrently as this recorded 78.20% it as followed by security lighting and solid burglar proofing grills which posted 70.51% and 69.23% respectively. The results seem to confirm that the respondents have seen security gadgets installed as after thoughts, or simply attached to a separate design or planning theme. It was therefore recommended that:

- Every security system should have working relationship, contact and input method with part or whole of a larger security establishment i.e. Police, Civil defence, Department of state security e.t.c
- Perpetrators of crime have to be unveiled and traced if from neighbourhood or from far.
- Establishment of which form crime is rampant among types of crime.
- Security resources and facilities fielding digital, hybrid and analogue systems, in installed or portable presentation.
- Installed security equipment should harmonise in appearance with other components/ surfaces, not odd or suspicious.
- Design of security system should commence from conception stage, and not merely attached to a possibly different scheme.
- Security could be planned at 3 levels, firstly street or neighbourhood/ fence or gate level, secondly from gate external to building up to entrance door of building ,and thirdly from entrance door of building to room level.

Keywords:- Security Optimisation, Residential Areas, Security System, Design And Planning, Crime, Insecurity.

I. INTRODUCTION

An area comprising of residencies or dwelling places may be called residential. The residential area will comprise of residencies, or cluster of dwelling places, house units with similar or heterogamous building types. Development with rooms for living, resting, sleeping, working and other home activities, Merriam's – Webster [2022] defines residence as an act or fact of dwelling in a place for some time. The residential building or house is required to be clean, comfortable with functional spaces for activities that occur within. But security of life and property are sometimes challenged. This matter has kept our many security outfits

occupied and stretched for long. The evolution of gangs, bands and groups doubling as political thugs, security is taking a more complex dimension. So there is need to address security issue squarely. According to Wikipedia [2023] security can be described as degree of resistance to, or protection from harm. Design can be tested as an agent for furthering security in residencies of Yola, one of the problems identified was that some of the houses that had security devices installed, had it done clumsily and tend to show that the systems were after thoughts, added latter or simply attached. This is because a device can have its cables ducted or neatly fixed, if it was considered from conception of project. As described aptly by Wikipedia [2023], design is to have a plan for construction of an object or system, in this case a security system. If security system and installations are planned together from conception, fixtures will be more likely to blend properly, giving a more agreeable aesthetics and uniformity in appearance. Design is employed as a tool for achieving rational layout, positioning, locating, specifying, of technical standards for security gadgets /devices. To keep out intrusion, as pointed out by asa [2022] emergencies can be emotionally and financially devastating. So it is best to plan for it. There is little doubt as to the threat of crime and insecurity. Obia [2013] corroborated this by stating that rising crime is a challenging factor and problem of cities. Security and privacy are necessary for comfort required of homes. Noise, air pollution and insecurity can be threats to peace and tranquillity. There is need therefore to create or restore measures to secure the home, as posited in perfect security (2023) actions to protect your property and family in advance and intelligently need to be considered. Security planning involve use of installed or portable security gadgets, as uji (2002) puts it, several security gadgets, high fence walls and other protective features are employed to optimise security, according to Wadzani(2016) information and communication technology (ICT) has revolutionary impact on how people see and live in the world, the geographic positioning system (GPS) location and panic applications are examples of digital technologies in security systems. Security system should not just be attached to a building at any stage, rather security system and building design should be conceived together, and the security needs of a room may determine the designers' location of rooms in a building. Security problems have been mentioned as a contributor to lack of sleep. Occupants may find it difficult to relax properly for fear of attack, and remain alert, lack of sleep or insomnia, frigidity and nervous palpitations can set in, if occupants remain under fear of attack. This condition is captured by Musa (2020) in the statement that security and privacy affects quality of life and comfort in housing.

➤ *Aim*

The aim of the study is to analyse three considerations for the security system of residential areas of Yola Namely

crime or insecurity/frequency, technology/security equipment and design/security systems.

➤ *Objectives*

- Check if occupants of residential areas generally feel secure at their residencies.
- Identify most frequent occurring forms of crime/insecurity in the residential areas.
- Find out how design can be used to optimise security system efficiency.
- Create awareness of security and security equipment's among citizenry and stakeholders.

II. METHODOLOGY

The population for the study comprises of 156 respondents who are all residents of Yola. 121 of the respondents have training or idea of designing buildings. Among them are architects, planner's builders, surveyors and estate managers who work in public and private organizations. Technologists, technicians and students, in masters of Architectural technology program of Modibbo Adama University Yola (MAUTECH) were also involved. The remaining 35 respondents comprise of officers from the police service, civil defence corps private security services and vigilante/hunters groups among services who operate security systems in Yola. Respondents are weighed equally and their opinion is rated together. Statistical methods in modified Cochran (1977) were used to determine figures and methods.

The respondents reside in different parts of Yola, some are in Yola North local government area, while others have their residence in Yola South local government.

170 structured questionnaires made up of 3 parts that touched on:

(i) Types/frequency of Crime/insecurity (ii) Employable human/technological resource, facilities and equipment of security (iii) Design and planning of security system was administered, to the respondents. They responded to the statements by ticking "agree" or "disagree". As the case may be. Data generated from 156 correctly filled questionnaire forms, were collected, collated and prepared for analysis. The three domains of statements presented to the respondents for data, are presented in tables 1 2 and 3.

III. RESULTS

The data collected on responses to statements in the three aspects of security, are presented in tables 1, 2 and 3. The part that covers types of Crime/insecurity and its occurrence at respondent's residential area is organised and presented in table 1 below.

Percentages

Table 1: occurrences of Crime or insecurity.

S/N	STATEMENT	POSITIVE No	NEGATIVE No	POSITIVE %	NEGATIVE %
1.	Thefts/burglary	115	41	73.71	20.29
2	Robbery/terrorism	42	114	26.92	78.08
3	Mugging/snatching	64	108	41.02	58.98
4	Killing/kidnaping	58	98	37.17	62.83
5	Cultism/extortion/secret society	124	32	79.48	20.52

The results show that cultism/extortion/secret science and thefts/burglary frequency was higher with 79.48% and 73.71% respectively. Robbery/terrorism was least frequent, recording 26.92% mugging/snatching and kidnapping/killing/rapping registered 41.02% and 37.17% ranging in the middle.

The results of responses on if security resources/gadgets and facilities are effective are presented in table 2 below. Responses percentage

Table 2: Efficiency of security resource, gadgets and facilities

Statement	Positive No	Negative No	Positive %	Negative %
Patrol/officers	88	68	56.41	43.59
Gate/door automation	54	102	34.61	65.39
Surveillance camera's	104	52	66.66	33.34
Dogs/Animals/Birds	122	34	78.20	21.80
Security gadgets	98	58	62.82	37.18
ARC Diabolic	114	42	73.07	26.93

The results in table 2, shows responses on how efficient respondents felt about present security resources, gadgets and facilities. Use of dogs and animals ranked first followed by diabolic means and surveillance equipment with scores 78.20%, 73.07% and 66.66% respectively use of security gadgets recorded 62.82%, while patrols and entrance automation registered 56.41% and 34.61% respectively.

Results on if design or planning provisions could enhance security is presented in table 3 below. Responses percentage

Table 3. security design and planning considerations

Statement	Positive No	Negative No	Positive %	Negative %
Burglar proof/grill	108	48	69.23	30.77
high, barb wire/electrocution setting	102	54	65.38	34.62
Considering security from design conception	94	62	60.26	39.74
Outdoor and indoor security lighting	110	46	70.51	29.49
Finishing and security installation planned together	122	34	78.20	21.80

The responses on design and planning of security are presented in table 3, it shows that planning finishing and installed of security devices recorded 78.20% with security lighting 70.51% as the two highest positive responses. Robust burglar proofing/ grills stood at 69.23% of the respondents, treatment of high fences with barb wire or electrocution circuit registered 65.38%, early consideration and inclusion of security from conception of design had 60.26% of responses, as the least score in the domain of security design and planning.

IV. FINDINGS

The result of typology of crime insecurity shows that secret society membership, cultism and extortion is rampant, theft and burglary are next most frequent form of infringement on the residents. The least occurring type of

crime are robberies and terrorism, while gang operations as mugging, snatching and kidnapping, killing and robbing are of moderate occurrence, covert Institutionalised form of earning seem to be practiced widely. These effect costs of goods that are legal, illegal or services. Theft/ burglary does happen on a relatively frequent basis and is the second highest in occurrence but are rarer. Man and technology in general, information and communication technology in particular are playing roles in the delivery of security. It was found out, use of animals ranging from dogs, snakes, turkey, ostrich, crocodiles, and others 78.28% seem acceptable as deterrents to attacks in residencies and residential areas diabolic means 73.07% followed in acceptance as being affective against attack on homes and its environment, use of surveillance 66.66% security gadgets 62.82% and placing security officers 56.41% followed in popularity, as being reliable against attack or loss of property. Automation in

gates and entrance 34.61% doors had least score, it was not as popular as an edge for deterring insecurity.

To mitigate or stop a problem, a plan is needed, on if finishes to outdoors and indoors should be planned together with security system, recorded the highest affirmative score of 78.20%, tactful security lighting and robust burglar proofing followed as important design factors for security. Treatment of high parameter fencing with barb wire and electrical circuit for electrocution, roof, ceiling, wall and floor design measures had medial acceptance as design criteria for security. Reservation of security ducts should be considered, as security is conceived along with other factors of design, had lowest score as being intrinsic for security of the respondents.

V. DISCUSSION

Security is a word that can be wide, for instance one can refer to job security. But the sense in which security is used in this investigation ,borders on safety of people and their property to protect them from harm or intrusion, The task of providing security to a residential area is enormous, as various agencies try to curtail the emergence of variations and hybrids of crime or insecurity, on a broad philosophical view, one may ask what is security why are things done the way they are done, where is insecurity most rampant, how can it be mitigated, and when physical security an individual and his property are necessary for comfort and wellbeing. As stated by Musa [2021] comfort is a term that can be affected by security. How can security be provided. This work approaches the subject through 3 indicators of security, their typology/ frequency of insecurity, security resources/ facilities/ equipment gadgets and the design/ planning of security system.

The types of insecurity that most respondents (60%) and above agree does occur in their residential areas, seem to be covert, syndicated and underground in nature, as in rituals, cultism, extortion operations of middlemen leading to price increase without any form of adding value, the others form of crime/ insecurity are attack on the physical level on the person or properties belonging to residents, other form of crime in discourse today touch on shila gang in Yola, yahoo boys and defrauding set-ups that operate using smart phone and computers online, which can be more accurately addressed as operating from nowhere or everywhere ,technology particularly information and communication (J.C.T) have come out with high technology devices and gadgets, like locators using geographic information system (G.J.S), metal detectors, alarms with different triggering caps, using overlapping technologies to confront insecurity. A combination of well-trained human resource working under a right scheme with the right equipment and resources, can lead to more secure homes. The design and planning of security should be well thought out and sized.

The planning and design of security system for residential areas, can be approached by finding out what form of insecurity is frequent and persistent in the areas,

available resources for fighting crime must be weighed and selected on basis of how appropriate the items, facilities, equipment and gadgets are, to must expected forms of insecurity. A security unit might be installed on the building or is available in a portable presentation. A look at tables shows wide range of resources that can be employed for security of residencies. The preliminary design for security must be planned at levels that close in, for instance entrance to houses are usually through gates open to streets, once inside the compound the intruders next hurdle is to get into rooms by opening the entrance door, then depending on type of insecurity, the intrusion may get to doors of other rooms, like bedrooms, kitchens, studies and conveniences. The design of security can be taken from one level to the other. Street gates are common in areas where residents cooperate to control movement for murky hours of the day. The gates are manned in turns by residents or their employees, harmony of security installations and finished and surface of attachment should make them obscure to the intruders .It is desirable that security installations appear in harmony, so design of security system should be hatched from conception ,however specifications and drawings of the system must be restricted for obvious reasons. As stated by m. perfect security (2023) advanced and intelligent ways must be used.

VI. CONCLUSION

Residential buildings have functional requirements that demand comfort, safety and tranquillity. Security is how ever necessary for achieving any of these. The assurance of safety of self and property is a must at form for well-being and development of the individual and security in general so it is worth it to nurture schemes that will lead to a more secure, well living population. Peaceful and relaxed sleep is a plus for health, while the doubling of sleep with paying attention for anticipated attack, at the same time will not result fully relaxed population ready for work in mornings. And often it is heard that head ache, sleepiness, dizziness, nervous palpitations and insomnia are mentioned in areas, where or criminal/insecurity operations are frequent and persistent. The necessary attention should therefore be paid to security of where people live, because many hours after close of work are spent at home, weekends and holidays are spent at home or at our residencies, so a large fraction of prime time is spent at home. It is therefore useful and worthwhile to protect ourselves and our property .This study based on analysis of indicators related to design and planning of security systems.

RECOMMENDATION

The most carefully knit security policy and systems may still fail, in course, it is therefore more assuring to plan overlapping measures of prevention and control of crime/insecurity. The following recommendations are hereby made, to complement those made in the body of the work.

- The design for fixing of security installations must commerce from conception.

- Security system should be planned to cover all forms of insecurity.
- Design in form of drawings and specification for security should be restricted.
- Security planning should be concentric, closing in from street level to outdoor within compound and in event of intrusion into rooms.
- Every security network/system should be anchored to broad outfits i.e. the Nigeria police, security companies, vigilante/hunter groups and familiar people in security.
- Charms should be complimented with modern technology as its methods are obscure.
- Some schools of thought recommend and support debate on gun ownership by citizens.

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