

©IDOSR PUBLICATIONS

International Digital Organization for Scientific Research

IDOSR JOURNAL OF COMPUTER AND APPLIED SCIENCES 3(1):1-11, 2018. ISSN: 2579-080

A Critical Review of common Crime Control Systems in Nigeria

Ugah John Otozi and Umeh Joseph Ogbonia

Department of Computer Science, Ebonyi State University, Abakaliki.

Email: ugahjohn@gmail.com.

ABSTRACT

This Paper reviews some of the common Crime control systems in use in Nigeria. It critically looks at the strength and the weaknesses of each and finally recommends an enhanced crime control system which would integrate Web Geographic Information System (WGIS) and Global Positioning System (GPS) with Google Map. This system will be a veritable tool in aiding security agencies in managing crime in this 21st century. The system will attempt to pin point the exact location of crime incidence. Our motivation for this research is the fact that although there are many existing crime control systems, none of those systems has been able to help security agencies to truly minimize the occurrences of crime in our nation Nigeria. We rather see that crime is on the increase daily and so we need a tool to help arrest the situation. The System would have geo-database for easy reference of spatial data and crime database for the storage of crime data. This would help law enforcement agencies in analysis of crime, efficient allocation of their scarce resources towards crime prone areas in their quest to apprehend criminals and control crime. Also the local citizens can easily report any crime incidents that are taking place in their locality as well view reported crimes on the map. This can enable local citizens to make decision based on the information they got from the reported crime on the map. Moreover, information sharing between the law enforcement agencies and local citizens will be from both ends.

Keywords: Crime, control system, mapping, agencies, GPS, WGIS.

INTRODUCTION

In human history, crime and criminal activities had been an issue of discuss and until now no society or Country can claim to be completely free from crime. Nigeria as a country has been plagued with crimes and more often than not the consequences are devastating and appalling. This unpleasant development has generated a lot of concern amongst researchers, religious clerics, non-governmental organization and government. This concern also has been expressed in the media (print and electronics), seminars, conferences, as well as symposia, all in attempts to meet a common ground on crime control. Crime can be viewed as a violation against

the law of a society. It is part and parcel of human nature and society [1]. So no society can claim to be completely free from crime. It is understood that crime is the act of violating the law and equally a social problem that transcends generations and mankind and characterized all known contemporary modern societies. The types of crime that are committed in a given society tend to follow the pattern of social and economic development of the society [2]. It is therefore not unexpected that a society at a low level of development and uneven distribution of income (and wealth) as Madden and Chiu observed, tends to experience an upsurge in the rate of

violent crime such as armed robbery, politically motivated killings, illegally acquisition of weapons, terrorism, suicide bombing, religious clashes etc [3]. But the concern, however is that the law enforcement agencies which are meant to be the antidote to crime or help in crime control appears to be getting overwhelmed or helpless by the rate of crime [4]. Criminals appear to be ahead of the law enforcement agents such that the latter only react to the commission of crimes and often after the offenders might have left the crime scene making things appear as if the original emphasis on crime prevention and control have been completely lost [5]. In view of all these lapses, crime control system is meant to help the law enforcement agents in carrying out their duties so as to bring about more effective approach to crime detection and control.

Though, what constitute crime varies not only from society to society but from generation to generation, time to time as well as from strict enforcement to none. However, the focus of this work is not an exposition on crime, but to review how crime has been controlled from olden days to this present time as well how the level of modern technological advancement and tremendous progress in information and communication technologies have facilitated crime control system in other to avert the ugly trends of crime in our society. We shall therefore discuss some of the crime control systems that have been deployed right from the olden days. Our interest in this discussion is to find out what will be a better approach to handling crime especially in an information and communication driven age.

A Review of Some Related Literature: In this section, we shall take a look at some crime control system that has been in use right from the olden days to this present day.

Some crime control systems in the olden days: In the olden days before the development of agriculture, which led to more closely populated cities there had been incidences of crime and method of

controlling crime. Crime control mechanisms had been at hand to address fears of persons taking advantage or causing harm to others, more formal systems of punishment for crimes developed, independently around the world based on cultures. The olden days of crime control system has no universal acceptance as it is culturally relative. The ways of controlling crime to a great extent have to deal with pattern of organization and belief system of the people [6]. The societies in the olden days had means of crime control, reformation and moral cleanser which served then as instruments to correct and serve justice. This includes the elders councils, chiefs, village heads etc; whose functions was the interpretation of the code of conduct and behavior of the subsisting community as pass down from generations to generation. It is a fact that those olden days societies did not have written laws to guide conduct as observed in this modern time, but it had well established institutions for controlling crime and maintaining social order unlike the modern societies, where the legislative bodies make laws, the executive implement the laws while the judiciary interprets and law enforcement agencies are used in crime control. As of old, there were no clear cut distinction vis-à-vis division of labour as to who should handled what or not. At the same time no society has ever existed without rules, customs and laws that explain government relationship between individual and group [7]. To this extent, the olden day system of crime control, though primitive as it were, helped in crime control, but as the society become more complex via industrialization and urbanization, the traditional institutions became increasingly disengaged from the process of maintaining law and order [8].

Furthermore, what constituted crime in traditional society was not codified, in short, any act or conduct that violated the cherished norms and values of the community or group, and which was visited with severe sanction, can be referred to as a crime. A crime or an

offence could be minor or serious depending on the circumstances. However, there were some major offences which amounted to serious crimes. These were referred to as 'abominations', due to their propensity to arouse strong indignation and condemnation among the people. [9] explained that 'traditional crimes or offences, which were generally regarded as abominations, include murder, theft, adultery, rape, incest and suicide. There were different types of crime which include assault, stealing of one's property, murder and serious breaches of trust.

[8], in his own observation, noted that certain crime such as murder, theft and adultery were offences against God, as well as against man. In his view, the olden day's people, hold that in committing such crime, a man was acting contrary to the will of God.

According to [9], homicide was considered a very serious, as well as a very heinous crime and, under that law, homicide never went unpunished'. He observed that in olden days the killing of human being was a serious crime and the people had no difficulty in drawing the distinction between 'accidental killing', during a fight, and 'deliberate or willful murder', which had their different treatments as regards trials and punishments. According to him, in the traditional society, some 'evil-doers' were regarded as a menace to the entire community and were even disowned by their immediate relatives. This category of criminals included notorious thieves, wicked or bad medicine men, those who engaged in the nefarious practice of witchcraft, and those who betrayed and sold out community secrets, those who were unruly and who refused to submit to the protests of relatives or who acted in such a manner that placed the family or the village in jeopardy.

Agents of Crime Control in olden days: Before the advent of colonial rule, there was rudimentary formal and informal policing in traditional societies. Law and order were maintained by militant village youths constituted by the council of elders, and investigation of criminal

matters was done through sooth sayers, oath swearing and sorcerers [10]. There were several agents of crime control. These include the family, the council of elders, vigilantes, age grades and militant youth groups. Others are traditional priests and diviners, deities and secret societies, among others.

(i) The Vigilante: The use of vigilante is not new. In the olden days, different communities organized Night-watch parties with the aim of securing and protecting their communities from thieves and other undesirable elements. Vigilante groups were made up of able-bodied men who participated effectively in the fight against internal and external break-down of law and order. In those days, criminals usually took advantage of the night to invade their target communities with many atrocities, including head-hunting, kidnapping for rituals or slavery, raping of the womenfolk, and vandalism. Ordinarily, the traditional setting was homogenous with strong, close, face-to-face relationship and solidarity among the village inhabitants and these provided a kind of self-watch mechanism that was not conducive to criminal tendencies [11]. The age grades, sometimes referred to as 'age groups' or 'age sets', and other militant youth groups were the major participants in the vigilante system across most parts of the traditional society. They carried out several public duties, some of which were "the execution of the laws and decisions of the council of elders and the lineage or village assembly, including the collection of dues and fines and punishment of crime [12].

(ii) The Institution of Deities: In the olden days some villages had powerful deities which, according to their beliefs, could disorganize internal and external enemies against possible mischief. In traditional society, people feared community deities because of their belief that such deities were capable of mirroring people's mind and could punish people for mere bad intention, with or without anti-social or criminal conducts. Some misfortunes that happened to some

individuals or groups in those days were seen as havoc brought upon them by deities as punishment for their bad deeds. From this background, the influence of deities and their priests or messengers in traditional society was so widespread that it impinged on the psyche of people and constrained their inclination to engage on serious misconduct, thereby working for the community as a potent deterrence against crime. Deities were also used in those days to resolve allegations and claims pertaining to criminal conducts, including fraudulent claims to land ownership [13]. Apart from the village deities, some individuals engaged the services of the 'medicine men' to conjure the means of protecting them from criminal victimization and other related harms from criminals and 'bad people'. The magic of the medicine-men were believed to have the power to confuse the criminals from locating their targets or to make them vulnerable to easy apprehension [12].

(iii) Secret Societies: One of the most prominent agents of social and crime control in traditional society was the 'secret society'. The members of secret societies generally appeared at night, under the cover of darkness and often wore masks to hide their identities. They played the role of supernatural beings or spirits, with the mission of denouncing or attacking offenders. "The anonymity of the members and their supernatural aura made the society a potent sanction against crime" [13]. They were generally "powerful factors in the observance of law and order" [11] and also detected crime, penalized culprits and enforced harmony in the community [11]. Consequently, people behaved themselves and tried not to cur their wrath.

Mechanisms of Crime Investigation and Control in olden days (Jurisprudence): It was not in all cases that a criminal was caught while on the act, which would then eliminate the question or the necessity of looking for evidence against him/her. In traditional society, there existed some mechanisms in which proof could be demonstrated either in favour of, or

against a person, or group of persons, who refused to admit or "plead guilty" to the allegations of crime leveled against them. The mechanism of proof revolves around myths based on traditional religious belief. While it is not possible to enumerate all proofing methods in traditional jurisprudence in this work, some methods which were applied in the olden days include: divination, invocation of the gods and trial by ordeal [14].

(i) Divination: This refers to the practice of consulting oracles and supernatural forces to explain what happened in the past or what will happen in future [14]. In most villages in pre-colonial days, the method of divination was believed to be the supernatural means to unearth any mystery surrounding crime. In those days, there existed 'reliable' diviners who were used in the events of unclear circumstances to unravel the puzzles surrounding unexplained crimes and wrong doings. Diviners were highly respected and were known for their high level of discipline in their lifestyle. It was not possible to have diviners in all the villages. The notable ones were hired and they went to distant places as professionals in the practice of their arts. It should be noted that in the process of divine practices in the olden days, the methods applied by diviners in their services varied from person to person, and from place to place. In this method, a diviner could unearth a criminal at large, give clue to the recovery of missing goods, and establish the innocence or the guilt of the accused persons. His verdicts were usually accepted by the people.

(ii) Trial by Ordeal: Trial by ordeal was one form of proof system in traditional Igbo society designed to verify criminal accusation. The methods of trial by ordeal varied in different communities. In some communities certain concoctions were prepared and given to an accused person to drink. If the accused person developed signs of allergy to the concoction, it was assumed that he/she had a case to answer. However, if the accused person fails to show any sign of being allergic to the concoction, it will imply that the

accused person was innocent of the criminal allegation leveled against him or her. In some other places, accused persons were made to inhale herbal smoke which usually produced the same effect like in the case of the concoction.

Trial by ordeal was used in settling criminal accusations, from minor cases of stealing firewood to more serious cases such as murder [13]. Oath-taking was a major component of trial by ordeal. If the identity of the criminal was not known and no suspect in place, the whole adult members of the village could also be subjected to oath-taking', with the use of a dreaded oracle or charm, to prove their innocence or expose their guilt. Depending on the gravity of the offence, or variations in different communities, a period of time between (28 days) to one year was instituted as a test period during which the innocence or the guilt of the accused was determined. Should any serious misfortune occur to such a person during the period, then, the people would assume that the person was guilty as alleged. But if nothing happened to the person during the period, it was seen as proclamation of innocence.

There were serious checks against frivolous criminal allegations. Where a suspected malefactor was to take an oath, based on the accusation of a principal witness, such a person who raised the allegations will first of all, swear to invoke the wrath of the juju against himself or herself, should the allegation be false or a deliberate act to malign the accused. The principal witness had to take the oath first, and in good faith before the accused person took his or her turn [14]. The application of 'trial by ordeal' was specifically to determine a person's culpability in the offence, whatever might be the hazard on the accused person notwithstanding. Where an accused person was found 'guilty' through this method, the person will be sanctioned based on the prescribed punishments relative to the offence in question. But in a situation where the accused person was vindicated from the criminal accusation, it called for thanksgiving celebrations for the honour

redeemed and for having escaped from possible stigmatization. The above methods of proof under traditional jurisprudence were popular in pre-colonial days, for purposes of crime investigation and crime control.

Some crime control systems in this modern time:

As the society evolves and man continues to understand his environment as well to be professional in a specific area, then division of labour set in at every endeavour. So in this modern society, the legislative bodies make laws, the executive implement the laws while the judiciary interprets and law enforcement agencies are used in crime control. The law enforcement agencies were created in the present time for the purpose of crime prevention and control. Therefore crime detection, prevention and control are now left in the hands of law enforcement agency. The law enforcement agencies started policing the society by using manual methods in crime control. The modern crime control mechanism started by mountain public area surveillance in form of security guards and road blocks. And once there is an offender, the law enforcement agency arrests such a person, collect his/her data in a paper and store it in a file jacket. The reason behind the collection of data of an offender or criminal is for the purpose of investigation as well as for future reference. But when crime is committed and the offender is at large then the law enforcement must devise a mechanism to bring such offender to book. Law enforcement agency has been generating crime data and reports and there was need to store crime data and criminal records. So the law enforcement did store crime data in a file jacket which was so hard to access or even to add new records as well difficult to share the existing information among users and these made investigation of crime so difficult but as advancement in technologies were witnessed in all aspect of human endvour, the law enforcement agencies were not left out. There were concerted efforts geared towards the development and deployment of crime control systems that

would lead to more efficient and effective policing strategies by the law enforcement agencies in order to apprehend criminals as well as to control crime.

This study will look at some of the existing crime control information systems in the present time to see what have been achieved, their weakness as well as their strength. In this review we shall concentrate in the following features of each crime control system.

- (i) Features of each system
- (ii) Modes of operation of each system
- (iii) Strengths of each system
- (iv) Weaknesses of each system

The crime control systems reviewed include:

- (i) Development of Criminal Records Information System,
- (ii) A Real-Time Crime Records Management System for National Security Agencies,
- (iii) Crime Investigation Using Biometric System,
- (iv) Toward a mobile Policing Solution for Namibia: Leveraging Emerging Mobile Platforms and Crime Mapping.
- (v) Design and Implementation of Real-Time Crime Information System for National Drug Law Enforcement Agency (NDLEA) in Nigeria

(1) Development of Criminal Records Information System (Daniel and Dogo, 2011): This system was developed by two scholars from Department of Mathematical Science in Kaduna State University, Kaduna State Nigeria. These scholars saw security lapses in the country especially in the area of criminal record management as a source of concern to all and sundry. Since criminal records management helps in no small measure in crime control. They thought of how a system could be developed for Nigeria Police Force to equip officers in order to reinforce security and justice in the country as well as ensure the security of citizens by using a concrete and user-friendly system which will enable an

efficient exchange of information on previous conviction of criminals. The criminal records information system that was developed by these scholars has user-interface platform where users of the system can work on and also a database as a back end where all the data generated are stored for purpose of information sharing and future reference. The welcome page has a login form where users are expected to provide their correct user name and password before accessing the main menu. In the main menu, there were different forms like crime type form, criminals in locality form, criminal record search form etc. All these form were used to collect crime and criminal records.

Once a user has key in a correct user name and password and click ok, the system would give the user access to the main menu. Then a user can perform some operations based on the level of privileges he/she has, like view the list of criminal in an area, crime type, search for criminal's record or check for the mode of criminal operation. Also a user can supply all these information for crime and criminals to the system. And records are stored in the database for purpose of sharing among users and for future reference. The strength of this criminal record information system lied on the database. This is because the information can easily be accessed and retrieved in the future. The database can also be queried based on the information in the database. The data are secured. The system did not cover all the necessary criminal records. There were nothing like; places of crime commission, time, date, gender, age of criminal etc. Also, there was no decision taken based on the crime and the state of the criminal. The system has no provision of report generation.

(2) Mobile Policing Solution for Namibia: Leveraging Emerging Mobile Platforms and Crime Mapping System (kljensen, lipitoh, Smukumbira, Monwordi ,2012): This research was carried out by four scientists from polytechnic of Namibia in different discipline Software Engineering, School of

IT, Computer Systems and Networks, School of IT, and Land Management, School of Natural Resources and Tourism. They looked at how a system can be designed for the Namibian Police to empower officers to create and maintain crime and accident reports more effectively and more efficiently by improving their current paper based procedures. They looked beyond the computerization of existing manual form; and presented a tool as well as activity of creating new reports in the field to enhance a mobile application that utilizes built-in sensors in mobile devices such as tablet computers and smartphones to capture location of incidence. A central database was used to allow fast and easy access for relevant stakeholders. They also demonstrated how database can be used together with GIS data to create crime mapping system. The research concentrated on how law enforcement agents can report incidence of crime and accident data while on the field. The system has a hierarchical structure of input screens that allow the user to fill in all the segments of the existing forms, but also allows for extra data and use of sensors to create representations of the crimes and accidents. Once the user is authenticated, then the law enforcement agent could report crime or accident data. The strength of the system lied on its ability to report any incidence accident or crime with its location. The system also has a centralized database integrated with spatial data which helps to pin point exact location of incidence as well as data sharing. The system is well secured, because access to system was well restricted to the law enforcement agents. But the system did not consider that other local citizens can witness crime and accident when no law enforcement agent was present and be able to report it.

Another Crime control system was a Real-Time crime information system for National Drug Law Enforcement Agency by [15]. This system was design to enable National Drug Law Enforcement Agency (NDLEA) in Nigeria to generate annual reports of crime records that have

happened according to regions, states or cities resulting in accurate statistics to draw analysis such as information of a crime, the year a crime was committed, a location with highest crime, age range that normally commit maximum number of crime and the type of crime they commit, officer who investigated the crime. This information will help in fighting crime effectively. It was an implementation framework for a mobile real- time crime information system (CIS) that would help to maintain instant flow of information between the general public and NDLEA. The system was to bridge the gap between the general public and NDLEA through a just-in-time flow of crime information from an informant who could be an individual, corporate body or any other government agency to the NDLEA office for a necessary action.

(3) Crime Investigation System Using Biometric Approach: (Falaye, Adama, & Agemerien, 2013). This system was designed by three scholars in Federal University of Technology Minna, Nigeria. These scholars were from two different departments (Department of Mathematics and Statistics, Department of collaboration, Affiliation and linkages). The primary intention of the system was to implement a Reliable criminal suspects' recognition in crime investigation process. They observed that biometric recognition is becoming an irreplaceable part of many identification systems and criminal investigation as well as crime control systems cannot be left out. So they implemented a biometrics-based crime investigation system for the Nigerian Police Force (NPF). The software was designed using Visual BASIC programming language. The system has user interface were users login and interact with the system and also a central database where all the data of criminals are stored for investigation as well for reference purposes. The system can be updated as well modified regularly. It has the ability to compare fingerprints whose unique patterns assist in redundancy control of the system. The Crime Investigation System Using Biometric Approach has on its home page a login

platform where users login to the system with username and password. Once the user login with correct username and password it will take the user to the main menu. In the main menu, there were features like; new criminal records, local check, online check, full records, about us and help.

The Biometric-Based Crime Investigation System basically works by entering of criminal details into the system database file tied to their corresponding fingerprints. The retrieval of the criminal suspects' personal information was based on specified criterion. To enter a criminals' detail into the database file, the user have to enter the basic data of the criminal, upload passport, captured and upload fingerprint then submit to the database. To retrieve all existing criminal details in the database, the user should click on the "Full Records" button, the system the retrieves the records of all existing criminal. To access the full detail of a criminal as well as all information about the crimes committed, user will then click on any part of the retrieved criminal detail and click on open records. The system then displays the full record of that particular criminal.

Another processing task involves comparing Finger prints. Suppose a criminals' finger print was recovered from a crime scene, the user loads this print into the system and searches for a match. This can be achieved by clicking the "Local Check" button on the Investigation System Main Menu, the system then pops up the window where the search for a match will be made, the user should click on the "Load Finger Print" button to load the recovered print into the system, then he/she would click on "Direct Compare". Following a sequential order, the systems searches the available finger prints in the database for a match and if a match is found. It would pop up a box that displays "A direct match was found with the criminal's convict number and the finger id". The user would then click on the "ok" button, the criminal convict number and names will be displayed. To have full access to such criminal details,

the user would click on "Open" and the crime full details will be retrieved from the database. The Strength of the system include reduction of redundancies and inconsistencies in criminal information, ensures user defined rules to promote data integrity, enables sharing of data across all applications, and ensures proper access authorization for users as well the comparing of fingerprint and the ability to find match fingerprint. Its weaknesses are that the system was unable to statistically generate reports of crime and focuses more on criminal information than crime. [16]. The observed weaknesses could be addressed by integrating Biometric crime scene data with spatial data to the computer-based investigation system. The system should be design to generate real time statistical crime report for crime analysis.

(4) A Real-Time Crime Records Management System for National Security Agencies System (Oludele, Onuiri, Olaore , Ugo-Ezeaba, 2015): In this research, four university scholars from Department of computer science in Babcock University, Ilishan-Remo, Ogun State Nigeria design this software system for National Security Agencies. The system aimed at implementing a computerized real time crime records management system for the Nigeria Police Force (NPF). In developing the system the researchers adopted waterfall model of system development. The system was implemented using Hypertext Mark-up Language (HTML), PHP and MySQL for a database. The real-time records management system has a user interface where users can interact with the system and a centralize database in which the law enforcement agency would keep records of criminals who have been arrested, those that are to be arrested, as well as those that escaped arrested. The entities in the whole process include; the petitioner (the person who fills a First Incident Report (FIR), victim, accused or criminal, the case and investigating officer. The system performed the following functions; (i) Add users and assigned users their different level of

privileges (ii) Validate user login details and ensured user-level privileges to information (iii) stored and retrieve information about crime and criminals. Once there is a case of crime or criminal act reported to the station. The system users usually key in the data of the people that are involved in the system. The system accept the raw data as an input, process the data and produce the output as well as store the information in the database for referential purposes based on the user request. The system can also be queried in case there is any information needed. The information in the system is sheared among users at different locations. The strength of the system lied on the centralized database. The database allowed for storage of multiple data for a criminal in the database; thereby reduce redundancy and inconsistency of data. It also enables data sharing across all application. So the system enhances crime recording operation of law enforcement agents. The system database is the basis for all actions in the system and can be easily updated and used to aid in all system processes. The system was also programmed with security of data in mind. Some weaknesses observed in the system however was that it did not cover all the necessary entities; like crime location as well as all the record fields required in developing a good system. Even the interface was not design to capture all the identify entities as only the database was design. Also there was no proper distinction between an accused and the offender in the system. There was no evidence of statistical generation of crime report for crime analysis. Therefore, the interface should be in tandem with database design and must capture all the required entities as well as the record fields. There should be a distinction between the offender and the victim even the petitioner. The system should be able to generate statistical report of crime in a real time for crime analysis.

The Need for an Enhanced Crime Control System: Having critically

analyzed some crime control systems in Nigeria, we saw some of the strengths and weaknesses of the reviewed systems. Also, we saw some achievements that have been made in the area of crime control from the olden days to the present time. Though, there were progress made in the area of crime information management systems especially in design and development of crime database for the storage of crime data. There are still some fields missing in other to efficiently and effectively capture all the crime records. Also there is need to integrate crime data with geo-spatial data for crime mapping and analysis in a way to prevent and control crime. But as we took a critical look on the some of the crime control systems, example: the system titled "Crime Investigation System Using Biometric Approach" the interest of the researchers were on the comparison and recognition of the bio-data of suspects through the available records in their system in other to identify the culprit when crime has been committed and not how to prevent or predict the next target of the criminal while the system titled "A Real-Time Crime Records Management System for National Security Agencies System" implemented a system that could be used to capture some criminal records for reference purposes. There were no strategizes and adequately plans in the system for combating and eradication of crimes. Also on the system titled "Towards mobile Policing Solution for Namibia: Leveraging Emerging Mobile Platforms and GIS" the authors were interested on accident reporting and how Namibia police would be able to use GIS to pinpoint the location of the accident as well as responded quickly to it. So their interest was not to display their reports on a map for analysis in other to identify hotspot and be able to predict future target of offenders.

In view of the above discussion, it is clear that there is a gap that needed to be bridged judging from the review, since Crime is a human phenomenon; therefore its distribution in space is not random.

Crime analysis is very important because it helps to identify the different geographic patterns in criminal behavior and prediction which will in turn aid in effective crime control (Sahu and Srivastava 2004). And to identify the different geographic patterns GIS tools are needed because knowing “what” is “where”, “where” is “what” and “when”, is the task of GIS, the need for which therefore cannot be overemphasized. Crime (what) is a spatial entity which has a geographical location (where) and a time (when) it was committed. With the spatial and non-spatial integration capability of Web GIS, various crime prone areas can be mapped to provide timely and up-to-date information that is infinitely superior to the available Crime records information system of the law enforcement agencies in Nigeria. So we are looking at the Development of an enhanced crime control system that will be titled “Development of a Geographic Information System-based Crime Mapping and Analysis System” which will be to handle all the observed weaknesses of the existing system. In other to handle all the observed missing fields, the enhanced system would integrate Web Geographic Information System (WGIS) and Global Positioning System (GPS) with Google Map in developing a system that would aid in pinpointing the exact location, the time of

crime incidents as well as displayed them on the map. The System would have geo-database for easy reference of spatial data and crime database for the storage of crime data. It is worth of note that crime mapping using GIS has not been effectively utilized in crime control and prevention in Nigeria. And as we know that crime only occur at a specific place at a given time therefore the location, the time and the process is very important, if crime will be effectively control as well prevented. Needless to say that crime mapping using Web GIS is the way to go because it will has the capabilities. Also, since crime mostly occurs within the mist of the citizens, the local citizens’ participations in crime reporting and dissemination of crime information is paramount in crime control and the propose system will deployed a user friendly plate form that will enable the local citizens to report crime that takes place within their environment. These will enable the law enforcement agencies to respond quickly to crime scene, apprehend offenders, and efficiently allocate their resources to crime prone area in other to combat crime. The propose system will also allow local citizens to take a view of crime information that is displayed on a computer generated map and be able to make decision that will profit them.

CONCLUSION

In an era when crime is becoming more and more technologically intensive and Criminals appear to be ahead of the law enforcement agents such that law enforcement agents only react to the commission of crimes and often after criminals might have left the crime scene. And this has made things appear as if the original emphasis on crime prevention and controls have been completely lost. As we critical reviewed some crime control systems, it was quite obvious that some significant progress has been made in the area of crime data storage even though some of the relevant fields were not captured in the database design and

implementation. Also, the existing systems generate no report statistically for crime analysis. So, there is every need to empower the law enforcement agency with the contemporary technologies like Web GIS to enable them control crime. This paper proposed an enhanced system that will bridge the gap in the available crime control system. The enhance system will integrate Web Geographic Information System (WGIS) and Global Positioning System (GPS) with Google Map in other to develop a system that would aid in pinpointing the exact location, the time of crime incidents as well as displayed them on the map.

REFERENCES

1. Alemika, E. (2004). Crime and Policing in Nigeria.
2. Sohnen, E. 2012. Paying for Crime: A Review of the Relationships between Insecurity and Development in Mexico and Central America.
3. Madden, P. and W.H. Chiu. 1998. "Burglary and Income Inequality". *Journal of Public Economics*. **69**:123-141.
4. Ash, H.S. (1971). *Police Authority and the Rights of Individual*.
5. Awake, Magazine.(2002). "The Police: Why do we need them". Watch Tower and Tract society of Pennsylvania. July 8.
6. Box, S. (1983). *Recession crime and punishment*. London: Macmillan Books.
7. Akintola, A. (1982). *The law is for all fourth dimension*. Publishers: Enugu - Nigeria.
8. Basden, G.T. (1921). *Among the Ibos of Nigeria*. Gloucestershire: Nonsuch Publishing Limited.
9. Oputa, C.A. (1975). *Crime and Nigerian Society*, in Elias, T.O. Nwabara, S.N. and Akpamgbo, C.O. (Eds)
10. Iyamagba, J.A. (1998). *Policing and democracy*. In Amucheazi, E. and Saunomi, D.O. (eds). *Police, law and order in Nigeria*. Abuja: National Orientation Agency.
11. Ifemesia, C. (1979). *Traditional humane living among the Igbo: A historical perspective*. Enugu: Fourth Dimension publishers.
12. Ayuk, A. A., Owan, E. J., and Uyang, F. A. (2013) *Traditional methods Crime control and Community in Odukpani Local Government Area of Cross River State*. *Journal of Humanities and Social Science*.
13. Isichei, E. (1976). *A history of the Igbo people*. London: The Macmillan Press Limited.
14. Igbo, E. M. U. and Ugwuoke, C. O. (2013) *Crime and Crime Control in Igbo Society of Nigeria* ISSN 2224-607X (Paper) ISSN 2225-0565 (Online)
15. Sahu, R. and Srivastava, P. (2004) *Effective Crime Control using GIS*. Map India Conference 2004 GIS development. net. <http://gisdevelopment.net/application/military/defence/mi04184.htm>
16. Clifford, W. (1974). *An introduction to Africa criminology*. Nairobi, Oxford University Press.