

**ICT AND ITS EFFECTIVENESS IN CURBING CRIMES AND SOCIAL VICES****Adegoke A. S<sup>1</sup>, Phillips D. A<sup>2</sup> & Keshinro K. K<sup>3</sup>**<sup>1&3</sup>Department of Computer Engineering, Lagos State Polytechnic, Ikorodu, Lagos, **NIGERIA**<sup>2</sup>Department of Computer Engineering, Yaba College of Engineering, Yaba, Lagos, **NIGERIA****ABSTRACT**

Crimes and other social vices have proliferated our society, thereby causing a high level of insecurity. The ingenious ways in which these heinous acts are perpetrated requires a robust and scientific approach in its prevention. This paper presents a unique approach to curb these menaces in our society through the use of ICT tools. Special focus has been placed on the use of CCTV and biometric trackers, such that if these tools are well harnessed they will stem this menace in our society (Nigeria).

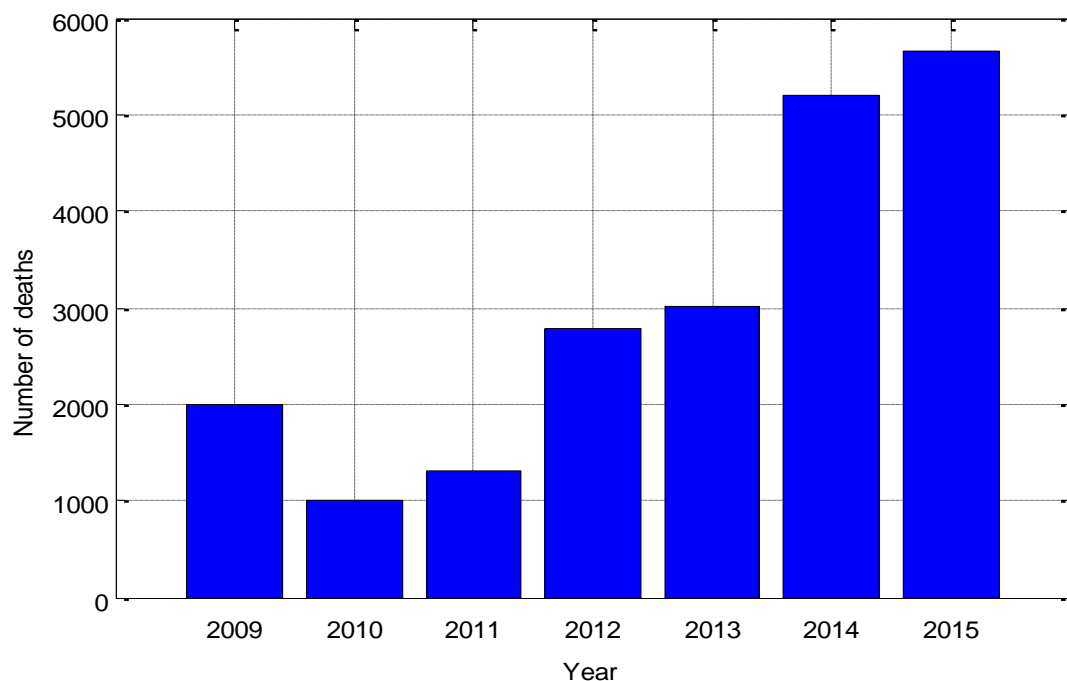
**Keywords:** Close Circuit Television (CCTV), Biometric, Surveillance, ICT, Internet Protocol, insurgent.

**BACKGROUND STUDY**

There is no gainsaying in the fact that peace and security are potent tools for sustainable development in any society. It is however disheartening that many third world nations' quest for progress is being threatened by diverse security challenges such as religious crisis, political upheavals, insurgency, armed-robbery, rituals and cultism, kidnapping, corruption, fraud (tagged as "419" in Nigeria) and other security threats. But checks to these diverse security challenges bedeviling Nigeria would lead to a peaceful and secured society which will culminate into sustainable development and human capacity building.

This worrisome development, prevalent in our society (Nigeria) has attracted a lot of theoretical studies in the academia (Olanibi 2012, Akena 2012, Pali and Kitgaska, 2012, Adeyemo 2013 and Ategwu and Ukpanukpong, 2013) all aimed at identifying the causes and proffering likely solutions. In his work, Akena 2012 focused on the issue of Nigerian state and terrorism, Pali et al 2012 analyzed the menace of religious crisis and its implications while Adeyemo 2013 dwelt on the connection between joblessness and insecurity in Nigeria. However, none of these studies has explored the possibility of harnessing the power of ICT tools for combating the security challenges.

The spate of crime in Nigeria has reached an alarming stage in recent times. Worst of all is the terrorism act by the insurgent group, (tagged "Boko Haram") wrecking havoc on the populace with high level of impunity. As a result, thousands of innocent people have been killed while some have fled their towns and taken refuge in nearby boarder villages. Figure 1 gives a brief insight into the number of deaths recorded over the same period of time.



**Figure 1.0 . Number of deaths recorded from Boko haram insurgency between 2009 to 2015.**

**(Source:- adapted from Wikipedia [www.wikipedia.com](http://www.wikipedia.com))**

As seen in Figure 1, there is an upsurge in the rate of incidences and number of deaths. For instance, in 2014, a total number of 5197 deaths were recorded while the 5654 deaths recorded in 2015 represents only for the first quarter (Jan. – March) of the year when this report was being compiled. However, the figures given above represent only the reported cases. There are possibilities of other insurgent attacks which may not be reported since most of the affected towns fall in remote areas where telecommunication installations have been blasted by the insurgent group making information inaccessible. Also, due to the nature of attacks, it may be difficult to ascertain the actual number of deaths when they occur.

The Nigerian government had spent millions of dollar annually, to procure weaponry and other logistics aimed at combating these heinous crimes, but which has not yielded the desired result. It has become necessary for the government to realize that physical combat alone would not be able to successfully curb these present day crimes, but rather a scientific approach through the use of hi-tech equipment for intelligence gathering and forensics could be used to aid physical combat for a successful operation. This as well as some others are some of the key components/ingredients missing in our efforts to combat crimes. Also lack of political will could not be ruled out in some quarters. Crimes that could have been nipped in the bud, go completely undetected because of lack of effective surveillance and tracking tools. High profile murder cases have remained unresolved because there are no reliable database, surveillance, tracking and forensic tools that could aid in the investigations.

The overbearing effect of this is that the society remained unsecured and the economy gets crippled. If the local entrepreneur cannot be protected in his immediate environment locally, then, the much desired foreign investment will continue to elude us. This is so because most foreign investors rely on security reports from the commercial desks of their country's

diplomatic missions while several others obtain information from the local entrepreneur on their related fields.

### **FORMS OF CRIME BE-DEVILLING THE NIGERIAN SOCIETY**

- Insurgency
- Robbery ;car snatching, bank looting, shop lifting
- Thuggery by street urchins
- Cyber crimes
- Ethnic militancy

### **SUGGESTED WAYS OF CRIME PREVENTION USING ICT TOOLS**

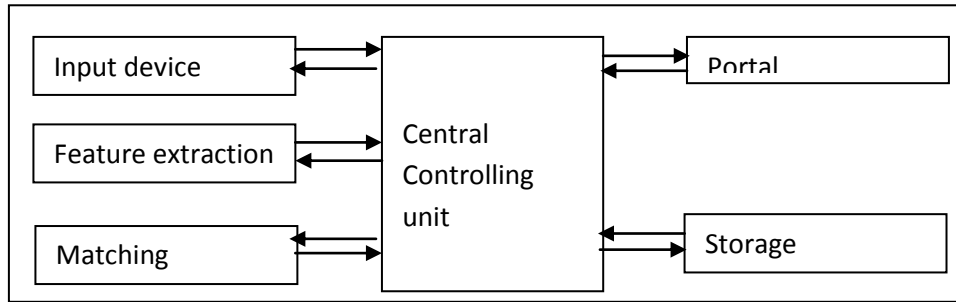
#### **Deployment of CCTV systems**

A Close Circuit Television (CCTV) is a situational crime prevention system with some crime prevention capacity. When installed at some strategic places, it can trigger a perceptual mechanism in a potential offender that if he commits a crime, he will be caught. In other words, CCTV can be used to increase the perceived risk of capture. Although, CCTV system is not a physical barrier, but it can limit access to an area, make an object harder to steal or a person more difficult to assault and rob. Other nations all over the world have embraced the use of CCTV as a surveillance tool to monitor events, people and government installations. For example, in Kenya's Westgate shopping mall terrorist attack of 21<sup>st</sup> September 2013 where about 67 deaths were recorded, the CCTV footages were used by their security agents to monitor the attackers. Also, at Charlie Hebdo attack in Paris, France (January 15<sup>th</sup> 2015) where 11 people were feared dead, CCTV footages were used to track down the perpetrators. Similarly, this ICT tool was used to track down perpetrators of Boston's Marathon Bomb attack which occurred on Boylston street, USA (April 15<sup>th</sup> 2013). It is our strong belief that if this technology is properly harnessed here in Nigeria, it will stem the rate of crime and also aid the police in their investigation (with video footage of incidences).

Proper implementation of this technology will however be a mirage, due to the epileptic nature of our electricity generation in Nigeria. Presently, the country cannot guarantee steady supply of electricity. However, this challenge could be overcome through the use of dedicated solar panels to power these devices.

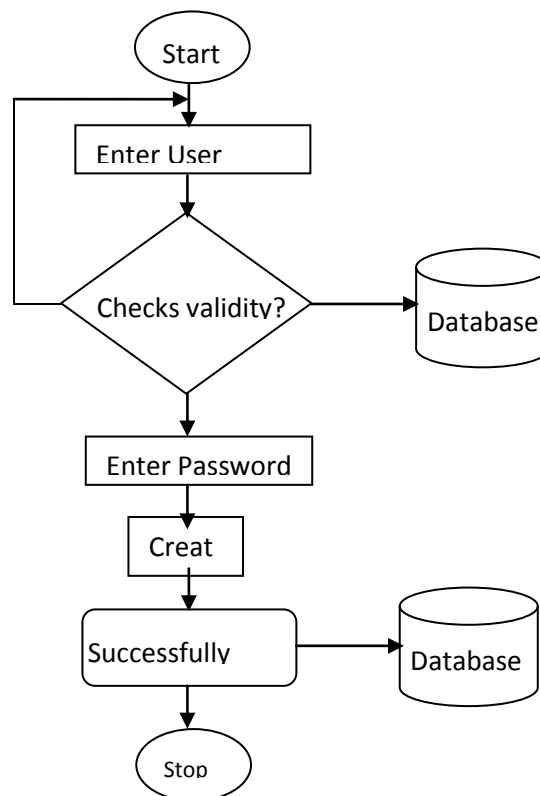
#### **Deployment of Access Control and Detection System**

In some public places (such as worship centres, banks, airports, stadia etc) where multitude of crowd is inevitable, security cannot be efficiently contained through physical checking. Rather, a more robust approach through the use of ICT should be adopted. Access control systems are systems that provide protection by establishing a checkpoint at entry points to a location through which only authorized persons may pass while detection systems look for dangerous objects and agents on persons, their belongings, and their vehicles at entry points. The first line of security within a community is to channel all access through entry control points where identity verification devices can be used for screening. These devices "authenticate" individuals seeking entry, i.e., they verify that the individuals are indeed authorized by electronically examining credentials or proofs of identity. Figure 2 shows the basic model of access control mechanism.



As shown above, the central controlling unit receives the authentication request, controls the authentication process and returns the result of user authentication. Input device serves as biometric data acquisition module, which checks for user’s liveliness and sample quality verifier. Feature extraction module processes the data by extracting features suitable for the matching algorithm. The matching algorithm compares the current features with the stored template, resulting in a yes/no answer. Otherwise a score representing the similarity between the template and the current sample is returned, whereby the central unit makes the yes/no decision.

For proper implementation of the method described above, an algorithm for user authentication through data matching can be described as in Figure 3.



**Figure 3.0 : Flowchart to authenticate a user through biometrics**

**Deployment of GPS Trackers**

The Global Positioning System (GPS) is a satellite based navigation system that consists of control, monitor stations and receivers that translate received information from the satellites

and uses triangulation to calculate the exact location of any position or object on the earth's surface. This can be used by a radio helicopter pilot to determine the coordinates of the position/location of a person, in emergency, anywhere on the earth.

The GPS tracker can be installed with individuals (hand worn), buildings, mobile systems, pathways and in camera for easy identification of a location during emergency, anywhere on the earth surface, by the relevant agencies such as fire fighters, police and military.

Though the GPS is meant to determine; position locations, create digitized maps, to be used to plot the fire perimeter and hot spots for an area and determine how far an object is from another location, as accurately as possible. This technology has proven to be very efficient in reducing crime rate in other parts of the world. For instance, Western Australia Police have used predictive analytics and GPS maps to determine crime hotspots and deploy their personnel to provide surveillance (Henry O.Q 2014). This has subsequently resulted into a reduced crime rate. Boko Haram insurgent group had claimed to be occupying Sambisa forest in Borno State, from where they carry out their attacks. With the use of GPS trackers, exact location of this insurgent group could be determined which will aid successful military operation.

## CONCLUSION

In order to effectively combat crimes and other social vices, Nigerian government has to focus attention on the use of ICT tools which have recorded huge success in most developed countries.

Moreover, total implementation of the above ICT deployment modes will go a long way in enhancing the security situations in Nigeria, especially in terms of high national issues such as election, infrastructure and air, border and sea port monitoring. This is because developed nations all over the world, who have demonstrated the aforementioned have significant strides or advantages in term of social, political, economic, infrastructural and technological development on the earth surface and beyond.

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