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Forensic Science and the Nigerian Society

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ABSTRACT

As the rate of crime in Nigeria is on the increase with criminals going unpunished due to lack of adequate evidence and eye witnesses, it is imperative to seek an alternative assistance, robust enough to tie criminals to their crimes. Forensic science is the application of science and technology to investigate criminal acts. Application of forensic in combating crime in Nigeria has been underplayed. The aim of this article is to bring to awareness, the importance of forensic science and technology and areas it could be applied in Nigerian to combat crime.

Keywords: Forensic Science, Evidence, Service, Society

1. Introduction

Where there is no law, there is no offense. Crime has always been a part of human history. However, the ability and capacity to accurately solve a crime mystery where and when suspects and or motive are missing has not always been easy. Forensic science helps gather the missing puzzles and assembles them together in an attempt to solve the mystery [1]. It analyses and interprets physical evidence to determine its relevance to events, people, places, tools, methods, processes, intentions, plans and possible motives.

Forensic science is concerned with the resolution of civil and criminal cases using scientific information and other available evidence. It attempts to answer questions frequently asked in a criminal case legal proceeding, leading to the attribution of a crime and sometimes, where possible simulate the actual events of the crime. Literally, forensic science is any science used in the service of the judicial system.

Forensic science is the use of scientific knowledge and technology to serve as an independent “witness” in both criminal and civil (intelligence) matters. Science and law have always been arbitrary as law is seen through the narrative content while the former is descriptive [2]. Science and technology may not offer the definitive solutions for every scenario, it however does provide a special investigative role. For this reason, there are specific guidelines governing the use and extent of use of forensics in a legal proceeding [3].

2. Scope of Forensic Science

Forensic science is concerned with the identification and characterization of the items in a given scenario. It provides reliable, pertinent and definitive information about a given case. The information retrieved can be applied to the creation of a simulation and reconstruction of what probably must have happened at perpetuation of a crime [1].

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Forensic science also attempts to bring scientific data into an easy to understand, logical format that can be easily related to and rationalised in the judiciary system. It is a multi- phased field of science cutting across microbiology, biochemistry, biology, engineering, chemistry, dentistry, pharmacology, molecular biology, physics, genomics, psychology, sociology, physiology etc. The forensic scientist takes pictures, carries out measurements and collect samples which may or may not serve as evidence from the crime scene, stores and transport them to the appropriate forensic laboratory in a manner that protects the integrity of the sample. Each item recovered is separated, packaged, labelled and stored individually [4].

Generally, the scope of forensic science can be executed in 3 steps:

- The recovery of items and evidence from the crime scene
- The forensic examination of evidence recovered from the crime scene
- The presentation of the scientific test results in court

Each of these steps has its own standard protocols, regulated and accepted by the government of the day in each country. Forensic protocols adopted by most governments are internationally and universally accepted.

A comprehensive report is written and submitted to the court based on the scientific findings in an all-encompassing, easy to understand manner. In some cases, the forensic scientist can be called upon to give a testimony as an expert witness during the court proceedings [2].

3. Applications of Forensic Science

Crimes that forensic science are able to solve could range from simple break-ins, robberies, rape, murder, fraud, and even bioterrorism. It can help trace persons involved and organisms used to perpetuate a crime. Other scenarios may include:

- Mass disasters and body identification
- Historical and ancestry investigations
- Missing person investigations
- Military DNA “dog tag”
- Creation of convicted felon DNA databases
- Identification of potential suspects whose DNA may match evidence left at crime scenes
- Exoneration of persons wrongly accused of crimes
- Identify crime and catastrophe victims
- Establishing paternity and other family relationships
- Identification of endangered and protected species as an aid to wildlife officials (could be used for prosecuting poachers)

- Detect bacteria and other organisms that may pollute air, water, soil, and food
- Matching organ donors with recipients in transplant programs
- Determine pedigree for seed or livestock breeds
- Authentication of consumables such as caviar and wine

Any type of organism can be identified by examination of DNA sequences unique to that species.

4. Forensics in Nigeria

Nigeria is yet to be awoken to the reality of forensic science and embrace its benefits and potentials. As of 2016, Nigeria was ranked the 6th highest crime rate country in the world and one of the most terrorised nations [5]. Undoubtedly, these form a major reason for the socio-economic backwardness of the country as crimes are known to be a main cause of societal stagnancy. Moreover, crimes are perpetrated at all levels of the society; and especially even in the government. The court is the last hope of the common man, yet the difficulty in procuring evidence, the standards which must be attained and the rate at which evidence may be tampered with at ease and existence of false witnesses undermine the competence of the judicial system. These are existing alongside wrongful prosecutions by the courts in the absence of real and duly authenticated evidence.

As with any other judicial system, the Nigerian courts will admit any evidence of reputable and reliable source. The challenge however is in the availability of this reliable evidence and where available, the cost implications. The Nigerian police are the chief prosecutor of any criminal case, but are still very much unskilled, untrained and incapable of carrying out a successful forensic investigation due to want of resources, technical know-how and equipment [6]. Our courts still rely large on witness testimony which may be compromised by hidden motives and or incentive; and even worse still, physical, mental and emotional torture and abuse [5].

Annually a huge percentage of trials in Nigeria are murder-related. Most often courts take years to declare their verdict. It is agreeable to say that murder cases are the most delicate ones due care should be exhibited by the courts. However, the delay in judgment by the courts is not necessarily an effect of the exercise of a duty of care, most of the times, it is due to lack of evidence is good enough to convict or acquit a suspect. The traditional methods of proof; confessions, eyewitness accounts, expert witnesses have become unpredictable and sometimes, unreliable.

So far, the country has only one government owned DNA forensic laboratory, owned by the Nigerian police and docked at the state CID in Lagos State which was opened

in September 2017. Much of the work has to do with the government standardising the way criminal proceedings are carried out. Forensic science is a veritable tool in solving criminal cases especially in a country where jungle justice, secret cults societies, human ritual killings, kidnapping, use of substandard materials for contracts execution and production of materials with compromised integrity for the Nigerian market have become the norms.

The country as a whole does not have a Disaster Victim Identification (DVI) system. Mass disasters whether man-made or natural have always resulted into mass burials as victims are not identified. Common causes of mass disasters in Nigeria are man-made including plane crashes, explosions, collapse of buildings, road accidents, flooding, fire outbreaks, derailments, genocides, violent riots, stampedes, gas inhalations etc. [7]. This is increasingly worrisome considering the number of genocides and insurgency in the country.

Forensic engineering come in handy when dealing with man-made disasters. It allows for thorough investigation and evaluation of the incident scene, helps to determine what really happened, how and why it happened. Forensic engineering provides information on how to prevent similar occurrences and show case when an incidence was due to negligence, malicious acts, manufacturer's defect or fault and or acts of God (due to natural phenomenon). Many road accidents have been unaccounted for, even when numerous lives were lost. Brake failures, excessively pumped tyres or failure of any other mechanical component of an automobile could lead to fatal accidents. Considering that most of the automobile mechanics and artisans in Nigeria are "roadside make shift mechanics" who are not certified nor well-groomed in the science of the automobile industry, examining road accidents through the forensic eye is crucial to reducing its occurrence and raising the much needed awareness on what practices to avoid and or imbibed and also bring the culprit to book. Thankfully, more caution is given to aircraft maintenance as most are repaired and maintained by professionals. However, till date, no forensic report has been released as to the causes of previous air crashes regardless of their death toll.

Recently the nation has suffered countless loss of lives due to building collapse most of which are not properly investigated, in the collapse of the Reigners Bible Church International Structure in Uyo, Nigeria where over 160 people died as result of the church roof collapse, and as at the time of this write up, no proper investigation to determine the root cause of failure had been established [8]. For metallic structures such as industrial buildings, warehouses or roofs of church buildings, especially those with welded joints, it is imperative to guide against residual stresses building up in these materials which can lead to failure even when the welding process was carried out by experts and done well.

House fires and domestic accidents most likely to be caused by negligence, ignorance, malicious damage to property and use of sub-standard products are also on the raise in Nigeria.

For forensic science to be successful, the police and law enforcement agencies need to work hand in hand with members of the community. Mutual trust and understanding is a requirement. Many advanced countries practice a phenomenon known as community policing, where members of the public help the law enforcement agencies by providing relevant information about a crime or suspected criminal. This comes down to the attitudes of societal members on crime, accidents and catastrophe. In a country plagued with corruption such as Nigeria, justice is perceived as a privilege reserved strictly for the rich and influential. In many cases, the innocents are prosecuted just to turn over pages of an investigation [5]. Even when evidence is available litigations are known to exist for so many years before a judgement is passed. Members of the Nigerian society have therefore turned to karma as their justice system and accept catastrophe as the "will of god". The country is highly religious yet heavily corrupted creating a superficial belief that violence, oppression and injustice are the portion of the poor while brutality and impunity, the birth right of the rich, as such, the public has become hostile to the law enforcement agents. The law enforcement also has their own fair share of the blame as piles upon piles of criminal cases go unsolved. Furthermore, lack of funding and political will on the side of the government plays a pivotal role in the establishment of forensic culture in our law enforcement agencies and society at large [9]. The government has to do more in terms of intentional investment in crime investigation [10].

Forensic criminology also requires good legislations as a framework for it to thrive. This is another area where the country is deficient. The Nigeria lawmakers are yet to evolve the legislative process to accommodate forensics. Thus far, our criminal judicial system relies on the traditional methods of proof, eyewitness accounts and confessions all of which may not be predictable or reproducible. There is an obvious lacuna in the Nigerian criminal judicial system as it applies to the use of forensic science, the Evidence Act, Penal Code and Criminal Code make no provision for forensic-based analogy in the criminal or general law of Nigeria [11]. Despite the developed world's over pre-eminence of the field, Nigeria is said to be still in the dark ages in regard to the use of science to solve legal cases.

The Nigeria police force has a degree awarding academy known as the Nigerian Police University based in Kano. It has a whole department dedicated to forensics science but is unfortunately, ill staffed. The bulk of the courses taught at the university's forensic department are taught by basic science lecturers who have little or no clue on forensic matters.

A few non-governmental organisations (NGO's) in Nigeria have taken it upon themselves to create public awareness and possibly government interest in developing forensic science in the country. For example, Centre for Forensic Criminology and Legal Research (Lagos State), Forensic Research and Development Centre (FORDEC) (EDO State) and First Digital and Tecno-Law Forensic Company (Abuja) [12]. As of now, parentage testing is the most frequently performed DNA test done in the country including cases involving inheritance disputes and succession of traditional rulers. The country has no known DNA database and as such the use of forensic genetics in criminal cases may be limited to cases with known suspects and possible offenders. This trend has been observed in financial, economic and other crime and fraud cases where databases, resources, equipment and efficient information handling are deficient [13].

5. Recommendation and Conclusion

Criminals are becoming more and more skilful and tactical in the manner they commit various crimes. The growth and availability of conventional devices as well as the ability to convert common house hold tools and microbes into potentially devastating weapons makes it an even more worrisome situation. The application of forensic science makes attribution of crime easier. It therefore requires the use of science and technology as an "independent witness" to facilitate the exclusion of innocent persons and the inclusion of actual perpetrators of the crime. This must be done with a high level of efficiency, accuracy and precision as the lives and safety of people depend on it. Forensic science can be instrumental to determining the nature of crime committed, attribute its source, reduce the incidence of some crimes and even help forecast the next most likely crime to be committed. The Nigerian government can turn to forensics to help reduce if not eliminate its most aggrieved fight against corruption and insurgencies that plagued the nation. First mass awareness of the benefits and application of forensic science will improve public interest in the field. Also, the establishment of forensic courses in public universities and specialised courses in the Nigerian police academy which is the chief prosecuting body in any case, as well as in the military, naval and air-force academies, will not only train her citizens but also encourage the engagement of the professionals in social circles. Working in partnerships with some already well equipped privately owned laboratories across the country, the government can slowly but surely create its own DNA database that will capture a sizable part of her population making it easier to tackle crime. Ultimately, all stakeholders must work together if success is to be achieved and growth recorded in the fruitful application of forensic science in Nigeria.

Conflict of Interest

The authors have no conflict of interest.

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