Application of Virtual Reality (VR) and Augmented Reality (AR) in the Investigation and Trial of Herdsmen Terrorism in Nigeria

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Abstract
Complexity of crimes is growing daily. In Nigeria, new wave of offenders are killing citizens and breaking most parts of the criminal codes without an efficient system to bring them to justice. This wave is herdsmen terrorism and this paper discusses how application of Virtual Reality (VR) and Augmented Reality (AR) will improve the Nigerian criminal justice system to accommodate the terror crimes and bring the offenders to justice. The research is underscored by the Malthusian Theory of population and data were secondarily sourced from newspaper publications, journal articles, textbooks, and technological blogs. The article recommends integration of VR and AR into the Nigerian criminal justice system and allocation of funds for training of agencies involved in the administration of justice in Nigeria.

Keywords: Augmented Reality, Herdsmen Terrorism, Investigation, Trial, Virtual Reality.

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Introduction

Terrorism is not new. It has always been used by those who could not come to power either by goodwill or public support. Searching through the annals of mankind, terror has always existed at one or more places per time. It usually starts small and grows bigger, then overwhelms instituted authorities. In some cases, however, it starts small, grows big and turns into protracted battle between instituted authorities and terrorist groups. This could be largely seen in Yemen and Syria, respectively. Every form of terror begins with a discontented party, a party aggrieved by the existing order. Once this party resorts to use of violence to gain control or resolve disagreements, terror usually results. Bruce (2006) noted that terror includes all forms of violence or threat of violence that is used and directed in service of political aims. Every act of terror is peddled on a common goal – to accede power to the terrorists either momentarily or permanently.

It is impossible to perpetrate any act of terror without employing violence or threat of use of violence. Such violence usually amounts to crime against existing authorities or laws. The UN Security Council Resolution (2004) defined terrorism as all criminal acts against civilian populations or bodies of authorities that are intended to intimidate the population or make the authorities to do or abstain from doing an act. Clearly, terrorism does not only harm authorities, regular citizens are often affected or murdered in the process of terrorists exerting their influence through violence. These acts are usually unlawful and against the constitutions of existing authorities. The Legal Information Institute (1992) corroboratively defined terrorism as "unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives". Terror is, above all, unlawful. In all cases, terrorism breaks major parts of the constitution of its parent society.

Bringing law offenders to justice is the strength of any constitution. Every constitution is a mere compilation of words without observation or enforcement of the laws therein. A good instance is Nigeria. The integrity of the Nigerian criminal justice system as is detailed in the Nigerian constitution has been comprised by its inability to bring herdsmen terror criminals to justice. This paper studies the genealogy of herdsmen terror crimes in Nigeria and innovative ways to investigate and bring the offenders to justice.

1. Overview of Terrorism in Nigeria

No global consensus has been reached on the definitions or actions that amount to terrorism. Most existing definitions and legal frameworks are still local. Certain international bodies have however developed working definitions of terrorism to help them navigate diverse legal and social environments in their lines of duty. In 1994 for instance, the United Nations’ General Assembly’s Declaration on Measures to Eliminate International Terrorism, set out in its resolution 49/60, stated that terrorism includes “criminal acts intended or calculated to provoke a state of terror in the general public, a group of persons or particular persons for political purposes” and that such acts “are in any circumstances unjustifiable, whatever the considerations of a political, philosophical, ideological, racial, ethnic, religious or other nature that may be invoked to justify them” (OHCHR, 2008). This definition elaborates the aims of terrorism to possibly include not
only political benefits but also philosophical, ideological, racial, ethnic, religious or any other form of benefit.

With this definition, it is difficult to identify a terror group by the aims of their actions because the definition considers political aims, social aims, philosophical aims, ideological aims, racial aims, ethnic aims, religious aims, and other forms of aims as likely amounting to terrorism. The ‘aims’ are too wide to be used as basics for easily ascertaining what qualifies any group a terror group. Individual nations have developed more detailed definitions of terrorism to help them address local and international acts of terror. A good example is the United States constitution which considers terrorism to include violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or of any State. This involves actions that appear to be intended — to intimidate or coerce a civilian population; to influence the policy of a government by intimidation or coercion; or to affect the conduct of a government by mass destruction, assassination, or kidnapping (Legal Information Institute, 2018).

United States’ view of terrorism has unanimity with United Nations’ definition of terrorism in three areas; terrorism involves the use of violence, terrorism goes against constituted authorities, and terrorism uses violence that affects civilian populations. The Nigerian constitution defines a terrorist to be any person who intentionally, murders, kidnaps or commits other attacks on civilian populations, carries out a violent attack on the official premises, private accommodation or means of transport in a way that affects public order, or threatens to commit any such attack. All three definitions agree on the points that terror uses violence, affects/targets civilian population, and challenges public order and constituted authorities.

Since independence, Nigeria has experienced the above set conditions of terrorism twice. First with Boko Haram whose violent activities reached climax in 2012, then secondly with Fulani Herdsmen whose activities climaxed during 2015-2018. Terrorism was not a fashionable word within Nigerian societies until recently. In the earlier periods of 2000s, Nigeria was not counted among terrorit affected nations like Somalia or Kenya. This was so until Boko Haram first arrived in Nigeria.

1.1. Boko Haram as a Terrorist Group

In many ways, the foundation of Boko Haram rests on the Islamic history of northern Nigeria. For some 800 years, a powerful leadership structure of Muslim sultanates dominated northern Nigeria and defined how civilizations fared in the region. With the tools of Islamic religion and political legitimacy, these sultanates controlled the minds and laws of people in the northern region. From 1802 – 1812, the sultanates were challenged by Shehu Usman Dan Fodio with a Jihadist campaign aimed at creating an Islamic caliphate that covers northern Nigeria and stretches into neighboring countries. This campaign was successful and the caliphate was still ruled by descendants of Dan Fodio when they were conquered by the British in 1905 – and the north was federated with south to form the nation, Nigeria. Boko Haram fights to recreate the lost Dan Fodio’s caliphate in northern Nigeria with territories from neighboring countries of Chad, Niger, and Cameroon.

Boko Haram movement was started by Muhammad Yusuf in 2002. Yusuf was a member of a more conservative Moslem organization called Izala Society (Mohd, 2017).
Izala Society was friendly with the government and did not promote strict Islamic laws like Sharia Law. Yusuf used this platform to raise sympathizers and recruit followers – and then broke out to form his own group, Boko Haram. The new group started by isolating themselves from the society and lived away from local communities in remote forests. The first 7 years of their operation was not so violent until in 2011 when the group bombed major markets, killed civilians and police officers, and bombed United Nations’ office in Nigeria’s capital, Abuja. In all attacks, they opposed western education and called for the islamization of Nigeria. By the end of 2012, Boko Haram had successfully carved-out an Islamic caliphate in Borno State in Nigeria with territories cutting across Chad, Niger, and Cameroon.

Boko Haram checks all three definitive conditions of terrorism and has long being labeled a terrorist organization by Nigeria and the international community.

1.2. Background to Herdsmen and Cattle Rearing Crises in Nigeria

Cattle rearing are a major profession in northern Nigeria. Young boys as early as 7-years-old join their fathers and brothers to rear cattle from forest to forest seeking fresher pastures. These breeders are called herdsmen. The tribe with the greatest specialization in cattle rearing in Nigeria is the Fulani, usually called the Fulani Herdsmen. The Fulani is a minority tribe in northern Nigeria. The Hausa tribe is the majority tribe in the north and both makeup northern Nigeria. Southern Nigeria is dominated by two major tribes, Yoruba and Ibo. Neither the Yorubas nor the Ibos are into nomadic or cattle rearing (Alhassan, 2013).

Due to seasonal drops in rainfalls in Nigeria, the Fulani Herdsmen periodically migrate with their cattle to southern Nigeria where there are usually more rainfalls and fresher pastures. This means the Fulanis living side-by-side with local tribes in southern Nigeria. In many cases, this “side-by-side” living has not been peaceful. Alhassan (2013) explained how conflicting interests between farmers who need land to grow crops and Fulani herdsmen who need pastures to feed their cattle often result in a conflict-rigged relationship between both parties. Cases abound where the farmers blame the herdsmen for grazing on their crops and the herdsmen respond with similar allegations that the farmers stole their cows. Such quarrels have always existed and have always been settled locally between the herdsmen and locals.

For over seven years, however, a new brand of herdsmen is growing. This brand appears from no given location, actively attack villages – killing men, women, and children – and disappears without trace. Miyetti Allah, the leader of herdsmen organization in Nigeria, has noted that these “new killer” herdsmen are not part of their national herdsmen organization (Olugbenga, 2018). Atiku Abubakar, a former vice president of Nigeria from 1999-2007, bemoaned that anyone who calls the killer herdsmen “Fulani” commits the error of misnomer and urged an end to such allegations (Toromade, 2018). The Fulani as a tribe has openly reprimanded the killer herdsmen and denied that the killers are part of them. This has created much confusion as there is no agreement on the identity of the ‘killer’ herdsmen. A renowned lawyer and activist Femi Fani-Kayode who regularly criticises the government on bad governance responded to Atiku and Miyetti Allah. Kayode asked where the “killer” herdsmen came from, if they
are not Fulanis (Daily Post, 2018). It is important to note that this paper does not intend to answer the question of “where the killer herdsmen come from,” rather the focus is to find innovative ways to bring the already existing herdsmen crises to justice.

The killer herdsmen recently evolved both in technology and human capital. This is shown in increased number of killings and sophistication of styles, even bigger than Boko Haram. For a group that recorded less than 3 machete-wielding fights with local communities per year before 2011 and less than 5 casualties, same group now records over 50 killing cases per year where villages are pillaged with AK-47 and sophisticated techniques that leave thousands of dead casualties. By January 2017, Quartz Africa pronounced Fulani Herdsmen the biggest security threat in Nigeria (Yomi, 2017). As at April 2016, Boko Haram had a record of 202 killings in the first 3 months of the year. The herdsmen terrorists already had 440 people killed within same time (Mayowa, 2016). At the end of first 10 weeks into 2018, the herdsmen had already peddled 487 killings at different locations in Nigeria (Emmanuel, 2018). On 23 June 2018, heavily armed herdsmen attacked eleven villages in three Local government areas in Plateau state, killing over 200 people including pregnant women and children (Musa, 2018). Controversies over the actual number of these killings do exist. These controversies are between the numbers given by governments and those given by individuals, groups, and independent observers. The later three have always had profoundly higher number of fatalities than the numbers published by Nigerian governments. For instance, in the first 10 weeks into 2018, the Nigerian government published that a total of 487 people were killed by Fulani Herdsmen in all parts of Nigeria. An independent local group called Middle Belt Massacres faulted the government figures and indicated that 904 people were killed in two Nigerian states alone within that same period (Bagle, 2018). Writing on British newspaper, The Independent, Femi Fani-Kayode revealed that over 50,000 killings were carried out by herdsmen terrorists in 2017 (David, 2018). These are numbers that the Federal Government of Nigeria will never agree to.

 Worries on the rising number of killings have also been expressed by notable scholars within and outside Nigeria. The Nobel Prize Laureate, Wole Soyinka, called the killer Fulani Herdsmen “monster terrorists and enemies of humanity” (Toromade, 2018). Ngozi Okonjo-Iweala, the renowned economist and Board Chair of Global Alliance for Vaccines and Immunization (GAVI), called the herdsmen killings “devastating” and tasked Nigerians to “cry out” (Komolafe, 2018). Mohammed Chambas, Special Representative for UN Secretary General for West Africa and the Sahel, revealed that the herdsmen’s network of killings has become more sophisticated and deadly (Ndahi & Okolie, 2018). By 2015, the Global Terrorism Index ranked the killer herdsmen the fourth most deadly terrorist group in the world (Institute for Economics and Peace, 2017). Unlike Boko Haram, which operates mainly in few states in northern Nigeria, the herdsmen terrorists have carried out killings in 32 states out of 36 states in Nigeria – covering the six geopolitical zones in Nigeria. The states where herdsmen killings have been recorded include Benue, Nasarawa, Plateau, Niger, Kogi, Kwara, Taraba, Adamawa, Bauchi, Borno, Gombe, Yobe, Jigawa, Kaduna, Kano, Katsina, Kebbi, Abia, Anambra, Ebonyi, Enugu, Imo, Akwa Ibom, Cross River, Bayelsa, Rivers, Delta, Ekiti, Lagos, Ogun, Ondo, and Osun state.
In recent times, herdsmen killing made everyone a target — rich, poor, young, old, foreigners, non-foreigners, male or female. Everyone is at a constant threat of being either a primary or secondary victim. They attack at homes, schools, streets, markets, business places, places of worship, recreational points, highways, morning, afternoon and nights. Nowhere is safe. There are no creeds, no negotiation, no mercy, and no respect for places, age, pregnancy status, or religion. In many ways, it is a new brand of killing — like a group of barbaric maniacs and serial killers. Confessional statements obtained by the Nigerian police have often revealed that the planners of these attacks are highly exposed and knowledgeable of the security and psychological makeup of the Nigerian citizens.

1.3. Notable Herdsmen Killings in Nigeria

It is impossible to accurately document all herdsmen killings in Nigeria. Most go unreported, and when reported, the numbers of casualties are hugely inaccurate. Agbese (2017) and Oli, Ibekewe and Nwankwo (2018), however, attempted compiling an informative diary of notable killings from herdsmen activities from 2012 to 2018, with peculiar emphasis on North-Central Nigeria. It should be noted that this table does not capture all the killings by the herdsmen group within this period.

Table 1. The Summary of Herdsmen Killings in Nigeria from 2012 – 2018

<table>
<thead>
<tr>
<th>S/N</th>
<th>Date of Attack</th>
<th>Place/State of Attack</th>
<th>Nature of Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>July 2nd, 2012</td>
<td>Maseh village, Plateau State</td>
<td>Senator Gyang Dantong and the Majority Leader of the Plateau State House of Assembly, Mr. Gyang Fulani died in the stampede that ensued while attending the mass burial of about 50 victims of attack by Fulani herdsmen</td>
</tr>
<tr>
<td>2.</td>
<td>April 23rd, 2013</td>
<td>Mbasenge, Benue State</td>
<td>10 farmers killed in an attack by Fulani herdsmen</td>
</tr>
<tr>
<td>3.</td>
<td>May 7th, 2013</td>
<td>Agatu, Benue State</td>
<td>47 mourners were gunned down by suspected herdsmen</td>
</tr>
<tr>
<td>5.</td>
<td>July 5th, 2013</td>
<td>Nzorov, Benue State</td>
<td>20 people were killed by Fulani herdsmen</td>
</tr>
<tr>
<td>6.</td>
<td>July 28th, 2013</td>
<td>Agatu, Benue State</td>
<td>In retaliation to the alleged killing of 112 cows, herdsmen invaded 2 villages in Agatu and killed 8 villagers.</td>
</tr>
<tr>
<td>7.</td>
<td>November 7th, 2013</td>
<td>Okpopolo, Benue State</td>
<td>7 villagers were killed and over 6000 inhabitants were displaced.</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Location</td>
<td>Event Description</td>
</tr>
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<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>November 3rd, 2015</td>
<td>Ulaja and Ojeh communities, Kogi State</td>
<td>Attack by Fulani herdsmen killed about 22 men and women.</td>
</tr>
<tr>
<td>11</td>
<td>February 11th, 2016</td>
<td>Abbi, Enugu State</td>
<td>The Fulani herdsmen killed two siblings and burnt houses, motorcycles.</td>
</tr>
<tr>
<td>12</td>
<td>April 8, 2016</td>
<td>Akure, Ondo State</td>
<td>Fulani herdsmen kidnapped and killed Falae’s security guard.</td>
</tr>
<tr>
<td>13</td>
<td>April 12th, 2016</td>
<td>Dori and Mesuma villages, Taraba State</td>
<td>15 persons were killed by Fulani herdsmen.</td>
</tr>
<tr>
<td>14</td>
<td>April 19th, 2016</td>
<td>Lagun, Oyo State</td>
<td>Mr. Jimmy Aido was attacked and shot by Fulani herdsmen.</td>
</tr>
<tr>
<td>15</td>
<td>April 25th, 2016</td>
<td>Ukpabi Nimbo, Enugu State</td>
<td>48 people were killed and 60 persons were injured by Fulani herdsmen</td>
</tr>
<tr>
<td>16</td>
<td>April 1st, 2017</td>
<td>Obio-Usiere, Rivers State</td>
<td>Fulani herdsmen killed no fewer than 10 persons</td>
</tr>
<tr>
<td>17</td>
<td>October 17th, 2017</td>
<td>Irigwe, Plateau State</td>
<td>75 people were killed while 23 others were injured following attacks by suspected Fulani herdsmen</td>
</tr>
<tr>
<td>18</td>
<td>February 22nd, 2017</td>
<td>Kaura and Jema’a, Kaduna State</td>
<td>Invasion by Fulani herdsmen also led to the death of 28 persons, including two police personnel</td>
</tr>
<tr>
<td>19</td>
<td>March 2nd, 2017</td>
<td>Gbemacha, Benue State</td>
<td>six people were killed</td>
</tr>
<tr>
<td>20</td>
<td>May 14th, 2017</td>
<td>Etogi, Niger State</td>
<td>The Fulani herdsmen attacked community mosque and killed 21 persons</td>
</tr>
<tr>
<td>21</td>
<td>January 1st, 2018</td>
<td>Logo, Benue State</td>
<td>51 Benue indigenes were killed and 30 injured by Fulani herdsmen</td>
</tr>
<tr>
<td>22</td>
<td>January 1st, 2018</td>
<td>Awe, Nasarawa State</td>
<td>2 farmers were killed</td>
</tr>
<tr>
<td>23</td>
<td>January 4th, 2018</td>
<td>Wukari, Taraba State</td>
<td>6 persons were killed by the Fulani herdsmen</td>
</tr>
<tr>
<td>24</td>
<td>January 13th, 20178</td>
<td>Gwari, Kaduna State</td>
<td>10 indigenes were killed by Fulani attack</td>
</tr>
<tr>
<td>25</td>
<td>February 2nd, 2018</td>
<td>Song, Adamawa State</td>
<td>2 persons were killed herdsmen attack.</td>
</tr>
<tr>
<td>26</td>
<td>February 26th, 2018</td>
<td>Kajuru, Kaduna State</td>
<td>12 persons were killed in a worship centre</td>
</tr>
<tr>
<td>27</td>
<td>April 4th, 2018</td>
<td>Okpankwu, Enugu State</td>
<td>A security guard was heavily wounded with machete by herdsmen attack.</td>
</tr>
<tr>
<td>28</td>
<td>September 14th, 2018</td>
<td>Amoji-Nike, Enugu State</td>
<td>Fulani herdsmen attacked a family and kidnapped their daughter</td>
</tr>
<tr>
<td></td>
<td>May 18th, 2018</td>
<td>Anaku, Anambra State</td>
<td>A farmer was killed by the Fulani herdsmen</td>
</tr>
</tbody>
</table>

Source: Guardian Editor (2016); Oli, Ibekwe and Nwankwo (2018)
1.4. Pathology of Causes of Herdsmen Killings in Nigeria

While it is difficult to specifically identify a single parameter as the cause of herdsmen killings in Nigeria, many scholars have developed theories around the causes of the killings and a few parameters have been included as contributory elements underpinning the crises.

Climate Change: The encroaching desert to the traditional home of Fulani Herdsmen in the Sahel region in northern Nigeria is a major factor that causes Fulani cattle breeders to migrate from their homes in northern Nigeria to southern Nigeria (Olaniyi, Francis & Okeke–Uzodike, 2015). Over time, the impact of seasonal rainfall fluctuations in Nigeria got worsened by climate change, making southern Nigeria a viable survival option for herdsmen in the north. In the north, lands easily get barren and struggle for arable lands between herdsmen and farmers ensue. Toromade (2018) maintained that this struggle for scarce natural resources is the major cause of herdsmen killings. Okoli and Atelhe (2014) revealed that the cause of land-related conflicts in Nasarawa State in the north stem from dryness coming from climate change. In the face of such threats from changes in climate, some scholars like Nwosu (2017) identified the southward movement of herdsmen as “inevitable.” This southward movement usually culminates in disagreements and conflicts in most cases. While this argument has plausibility, it is also worthy to note that the Fulanis have been migrating seasonally to southern Nigeria since twentieth century and the level of conflict prevalent since 2013 has never existed. Until 2013, the Fulanis migrated, reared their cattle – and returned to their homes without any headlines or rumors of killings or major conflicts. Migration has always existed, and so does minor conflicts between herdsmen and locals in southern Nigeria but this new pattern of one-sided killing is new and started around 2013. While the impacts of climate change seem plausible, it does not explain the radical shift from usual peaceful settlements between herdsmen and locals in the south to militarily weaponized killing of unarmed locals in the south. Also note that Fulani herdsmen do not only kill in southern Nigeria, they also kill in their states in northern Nigeria – it is national.

Preexisting Disagreements: In other discussions, Burton (2016) point to longstanding disagreements between the Fulanis and local communities as another major cause of the killings. Mayah, Tukur and Adebayo (2016) support this argument with a report from a Fulani leader who alleged that the massive massacre of villagers in a local community called Agatu in Benue state was a reprisal attack against the killing of a Fulani prominent son by the people of Agatu in April 2013 and who also stole his cows. Such assertions often conflict with Fulani’s claims that the killer herdsmen are not Fulanis. However, what is not clear from Burton’s (and others) arguments is how longstanding disagreements could cause a one-sided killing, where the herdsmen killers repeatedly attack villages in the nights and then disappear by dawn with no reprisal attacks coming from the victims nor any form of communication between the herdsmen and the victims, yet the attack is repeated again on same villages. What is reasonable is that after a number of one-sided killings by the herdsmen on local communities, the herdsmen would be satisfied with their punishments and seek rapprochements in order to peacefully resettle in the communities. In a case where the attacks are repetitive and the herdsmen disappear after each attack, it is unlikely that the argument of longstanding disagreement still holds.
Government’s Indifference: Burton (2016) also argues that the indifference of the Nigerian government to the herdsmen’s plights in the face of rapid urbanization and desertification of their homes press them to resort to violence. He said that government’s negligence on the need for increased grazing space has influenced the conflict. He also noted that requests by the Fulanis for governments to rectify the problem are not new. The herdsmen therefore grew restless and consequently violent. This may sound very accurate but it might help to also know that first, southern Nigeria is more urbanized than the north, second – also note that northern Nigeria constitutionally controls the entire legislative arm of the government with majorities of 57 seats out of 109 seats in the Nigerian Senate and 191 seats out of 360 seats in the Nigerian House of Representatives. Military rulers or highest commanding powers in Nigerian federal structure from 1966 to 2012 were all from the north with an exception of a 16year-leadership by Olusegun Obasanjo, who is from the south, in the 1970s and early 2000s. The northern region constitutionally controls the government and has been in control of the executive for a larger part of Nigeria’s existence. Burton’s suggestion of government’s indifference is tantamount to North’s indifference to their own pains – which is not credible as a point that causes herdsmen killings. If any government action was demanded or requests made, such request would have been addressed by the northern powers that control the Nigerian government.

Others pointed out the dreadfulness in herdsmen terrorist attacks. Kazeem (2017) noted that herdsmen killings accounted for more deaths than Boko Haram in 2017. Michael, Inyang and Ukpong (2017) described an account of how the herdsmen use sophisticated weapons and usually employ the tactics of surprise to attack their target communities at hours the communities are most vulnerable like in midnights or on Sundays when the Christians are at church.

1.5. Herdsmen Killings as acts of Terrorism

As earlier established, an act is considered an act of terror if such act; murders, kidnaps or commits other attacks on civilian populations, carries out a violent attack on the official premises, private accommodation or means of transport in a way that affects public order, or threatens to commit any such attack. An act can also be considered to be terrorist if such act; appear to be intended — to intimidate or coerce a civilian population; to influence the policy of a government by intimidation or coercion; or to affect the conduct of a government by mass destruction, assassination, or kidnapping.

The killings by Fulani Herdsmen satisfy these conditions as could be shown below:

Intimidate or Coerce a Civilian Population: During each seasonal migration before 2013, conflicts between herdsmen and locals in the south have always been settled by local chiefs and Fulani elders in those communities. Since after 2013, the herdsmen adopted a model where they attack villages with high number of death casualties — and then settle. With each attack, surviving villagers are uprooted from their homes and forced to migrate to neighboring villages. In some cases, the villagers stay in their villages and avoid visiting the parts of their lands occupied by the herdsmen in order to avoid being killed or kidnapped. This can be seen in Benue, Kogi, and many other parts of Nigeria. This is an act of coercion and intimidation.
Influence the Policy of a Government by Intimidation or Coercion: With the new wave of herdsmen killings in all parts of Nigeria, the leaders of Fulani Herdsmen advocated introduction of Grazing Bills to help reduce conflicts between herdsmen and locals. When this bill was introduced at the Nigerian National Assembly, Nigerians kicked against the bill and called it illegal. Most constituencies advised their representatives to reject the bill. The bill was not passed. Some states took extra steps to enact anti-Grazing Bill in their states to strictly counter the federal bill. The Grazing Bill primarily states that each state in Nigeria shall map and dedicate certain portions of their lands for the herdsmen to live and rear their cattle. This means original owners of each of those lands giving-up their ownerships to the Fulanis to settle in each state and rear cattle. After the absolute rejection of Grazing Bill by most states in Nigeria – the herdsmen intensified killings in key states like Benue, Enugu, etc. as compelling means to make the states change their positions. This is one sample of how the herdsmen killings has attempted to hijack government policies.

Affect the Conduct of Government by Mass Destruction, Assassination, and Killings: No government parastatal has been more affected by the herdsmen killings than the Nigerian Police and other security apparatus of the state. The Nigerian Police has failed to respond to calls by civilians during herdsmen attacks. Their common comment has been that the weapons wielded by the herdsmen killers are more than the weapons made available to the Police by Nigerian government, and cannot repel the attackers. Most villages have been rampaged with thousands of deaths without any hope of help. This can be seen in the attack in Plateau State on 23 June 2018 (Thisday, 2018), where security agencies watched as rampaging herdsmen killed dozens of unarmed civilians. With this level of mass destruction and killings, the government operations have been affected in many ways especially in the provision of security to its citizens.

There are opinions that these killings cannot be exactly called terrorism or that they are fights for economic survivals, political attentions or social progress. The curiosity that has not been addressed by these opinions is … how do killing unarmed civilians in their sleeps promote economic survival or social progress? Until such curiosities have been addressed, suggestions of economic survival, political attentions, and social progress lack total plausibility. If these killings cannot be called terrorism, what else can they be called?

A possible theory is that a terrorist group or group of killers with hidden agenda has been formed within the Fulani Herdsmen organization without a public knowledge of all leaders in the Fulani Herdsmen organization. This is only a possibility and not a fact. Another theory is that an external Islamic terrorist group has infiltrated the herdsmen organization which is also an Islamic organization and uses it as a vessel to spread and kill in Nigeria. This is also a possibility and not a fact.

In all cases, the emergence of Fulani Herdsmen killers is similar to Boko Haram which also started with random killings without any defined reasons until recently. The killer herdsmen can thus be called Fulani Terrorists until reasons are discovered not to do so.
1.6. How Nigeria has tackled Herdsmen Terror crimes till Date

Efforts have also been made by Nigerians and government agencies to address the killings by herdsmen offenders and these efforts have been impactful in some areas.

After Attack Arrests: Security agencies have occasionally conducted arrests of herdsmen kingpins associated with killings. For instance, Aminu Yaminu, a notorious herdsmen offender kingpin was recently arrested by police in a suburb in Benue State because of his involvement in herdsmen killings in the state. Aminu Yaminu was reported to have been the mastermind of the attack on a Catholic church in Gwer East Local Government Area of Benue state that killed two priests and 17 worshippers (Egbas, 2018). On 12 March 2018, Nigerian police also arrested 145 herdsmen terrorist suspects in different parts of northern Nigeria (Soni, 2018). It is not clear whether these arrests are part of grand security strategy or just isolated cases, whichever case, the arrests likely sent a warning message to others involved in killings.

Open Grazing Bill: Another effort that was made to address herdsmen terror crimes is the Open Grazing Bill supported by the Buhari-led Nigerian executive arm of government (Adonu, 2018). The bill suggests mapping out lands for Fulani herdsmen in each region in Nigeria. The logistics of this bill was flawed considering the ethnic structure of Nigeria and that people currently own and farm on these lands to be mapped out for Fulanis. The Nigerian legislative bodies never passed the bill.

1.7. Insufficiencies of the Nigerian Criminal Justice System in bringing Herdsmen offenders to Justice

From the conduct of the few random arrests made across certain states in northern Nigeria, it is unclear whether there is a laid-down security strategy or not. What is apparent is that the arrests were not consistent even as the herdsmen killings persistent. This could be due to lack of political will or lack of concrete strategy on how to approach the threat. It is important to note that out of the very few arrests made, none of the suspects have been charged to court and their whereabouts is not public.

In many ways, herdsmen offenders are different from Boko Haram. While Boko Haram believes in carving an Islamic caliphate from Nigeria territories, Herdsmen offenders are nomadic. They move from one region to another to kill and do not occupy any single location as permanent territory or caliphate. Tracking and addressing this new brand of terror is novel to Nigeria’s criminal justice system and has largely overwhelmed both the agencies and the integral systems that form the justice system. The following paragraphs explain how the justice system has failed to respond to the killings.

Investigations: The current criminal justice system in Nigeria starts from the points of crime commission, through investigations, arrests, trials, and probably conviction of suspects. At each of these stages, certain government agencies or bodies are responsible for the efficient execution of the stage, and the success of each stage initiates the next – mostly in that order. Tracking and gathering intelligence on the itinerary killings of herdsmen is a major difficulty for the current criminal justice system. How can the next target location be known before the attack happen? If these locations cannot be known beforehand, how can immediate investigation be conducted at the crime scenes before mutilation by villagers or evidences are wiped out? Due to the large landmass of Nigeria and shortage of skilled detectives in terrorism, the above concerns cannot be addressed by the current
criminal justice system of Nigeria. Without efficient investigations and real-time tracking of crime scenes, no legitimate arrests can be made on herdsman offenders.

Court Trials: Another major challenge of the criminal justice system in addressing herdsman terror crimes in Nigeria is the immediate mutilation of crime scenes by surviving locals who try to resettle into their homes or gather their belongings for migration. These mutilations affect evidences and make it difficult to trace the attackers or successfully try them in court. How to preserve the integrity of crime scenes in unpredicted attack scenarios like the herdsman attack is difficult in the existing criminal justice system.

Trainings: Nigeria fights Boko Haram at their caliphate in northern Nigeria using Nigerian military. In the case of herdsman terrorists, the herdsmen have no enclave, caliphate or address. They dress like usual citizens and move in the streets of Nigeria like normal citizens. At moments of attack, they group, attack – and then withdraw to their regular lives. The constitutionality of using the military is difficult here rather the police and other intelligent services are used. This pattern of crime is new to Nigerian Police and intelligence cannot be easily gathered compared to Boko Haram or some other forms of crime. There is a need to swiftly train all the agencies involved on this new pattern of crime and get them ready. The criminal justice system currently lacks a means that can achieve such level of efficient training within limited time.

2. Theoretical Prediction: The Malthusian Theory on Population

This perspective holds that world population would soon exceed global resource base and serious environmental destruction, widespread hunger, and violent conflicts world follow. Thomas Malthus (1803) presented an essential argument in his work titled “an essay on the principle of population” (Imo, 2017). According to this theorist, population growth can and will outstrip the food supply. To him, human populations grow exponentially (i.e., doubling with each circle) while food production grows at an arithmetic rate (i.e., by the repeated addition of a uniform increment in each uniform interval of time). Thus, while food output was likely to increase in a series of twenty-five years intervals in the arithmetic progression and so on, population was capable of increasing in the geometric progression and so forth. This scenario of arithmetic food growth with simultaneous geometric human population growth predicted a future when humans would have no resources to survive on. He maintained that problems arising from marriage were likely to be less serious than those caused by a continuation of rapid population increase. The positive checks to population growth are any causes that contributed to the shortening of human lifespan. He included in this category poor living and working conditions which might give rise to low resistance to disease itself, war (violent clashes), and famine. Like Thomas Malthus, the neo-Malthusian position argued that resource scarcities can cause violent intra-state conflict under unfavourable conditions (Homer-Dixon, 1999; Kaplan, 1994). He used three hypotheses to link environmental changes with violent conflict. First, he suggested that decreasing supplies of physically controllable environmental resources, such as clean water and good agricultural land, would provoke conflicts. The second hypothesis stated that large population movements caused by environmental stress would induce "group-identity" conflicts, especially ethnic
clashes. The third hypothesis suggested that severe environmental scarcity would simultaneously increase economic deprivation and disrupt key social institutions, which in turn would cause "deprivation" conflicts such as civil strife and insurgency (Homer-Dickson, 1994).

The theory serves as good explanation for this study. The first hypothesis captures how modern changes in climate conditions cause draughts and scarcity of pastures for herdsmen, and subsequently lead to migration and conflicts between herdsmen and local communities in Nigeria. This migration is the fatal prelude to the killings.

3. Introduction to Virtual Reality (VR) and Augmented Reality (AR)

Imagine having a Hollywood director study and recreate your childhood experience in a movie scene where a particular character represents you and other characters represent things you knew from that experience. Watching such a scene on flat-screen television and seeing the character that represents you see a ghost, is like watching someone else see a ghost and probably remembering the actual experience you had, in which case you are aware that both the character and the ghost are staged. If it were VR or AR this scene would play out differently. You would experience yourself present in that scene, standing in that dark corridor in cold sweat while watching a ghost run through you; with the smell of the corridor, the feel of the breeze, the sight of impending danger, the taste of your fear-laden saliva, and with your ear filled with the sounds of ghost. You would feel every bit of that experience again with all your five (5) senses employed. The same emotions you had during the original experience would be initiated again. Not even the intensity of this emotion will be diminished. Watching videos through VR and AR headsets is like stepping into a movie scene to interact and act with the actors. You are removed from being a viewer to being an actor in the video you are watching. You could intentionally lift a stone on a floor in the movie or identify what an actor is holding with his hands at his back. These technologies employ the five (5) senses of smell, touch, sight, taste, and sound to recreate events with such original human connections like never before.

Virtual Reality (VR) uses computer software to create imaginary environments with characters and things common in real life. These imaginary environments are called virtual worlds. Viewers connect with the virtual worlds by wearing headsets and can interact with things in the virtual world using computer keyboards, mouse or wired gloves. The sense of presence in the virtual worlds is highly magnified. Virtual reality comes from a complete simulation of real events without any part coming from real world clips or records. Everything in VR is created from beginning to end with computer software.

Augmented Reality (AR) uses computer software to develop characters, sounds, scenes or events that complement real world events. Imagine recreating a full recording of a wedding event from random video clips of the wedding or recreating a full crime scene from the early recordings of a surveillance camera before the camera was destroyed. AR takes real-world events and complements them with simulated sounds or effects, unlike VR that uses computer software to simulate full events without any part of the virtual world coming from real-world recordings. AR takes your existing reality and adds supporting features of some sort using software technologies. With AR, the real and virtual worlds interact perfectly.
It is important to note that few features of VR and AR are still under development and are difficult to implement.

4. Background of Virtual Reality (VR) and Augmented Reality (AR) in the Criminal Justice System

VR and AR technologies have been in the criminal justice system since as early as the 20th century. In his little research efforts, Emily (2018) was amazed to discover cases where virtual reality headsets were used in courtrooms in California in 1992. As at 1992, VR and AR technologies were still tender and pre-matured. This paper covers two areas of application; investigative phases of the justice system and court trial phases of the justice system.

VR and AR in investigation phases of the Criminal Justice System: One of the key ways VR and AR have been applied in the criminal justice system is in enhancing the investigative efforts of detectives and law enforcement agencies. Revell (2016) narrated how the Dutch Police has fully integrated AR into its crime scene inspection processes. “You’re the first police officer to arrive at the scene: a suspected ecstasy lab. There’s drug paraphernalia everywhere, but which piece of evidence could be most helpful for your investigation? Then, a massive virtual arrow appears, pointing out a bottle of chemicals, accompanied by a note saying: ‘Bag this please’” – Revell said in narrating the experience of Dutch police officers with AR. The Dutch police employ AR systems to stream videos from crime scenes to experts elsewhere. The experts view the videos with full interaction as though they were at the crime scene. This brings a unique level of intelligence sharing and geographical freedom in inspecting crime scenes from miles away that optimizes both costs and efficiencies in crime investigation. The first person to arrive a crime scene is not always the most qualified. With Dutch AR system, dozens of Dutch investigators with different levels of qualifications inspect crime scenes in real-time through just one officer at ground zero.

Other countries, especially the West, are adopting VR and AR technologies to perfect their criminal justice systems. As early as April 2010, United States Department of Justice issued a public solicitation seeking proposals for solutions applying modeling and simulation technologies to enhance US criminal justice system through use of virtual environments (National Institute of Justice, 2010). From 2010 to 2018, this simple solicitation had grown to massive adaptation of VR and AR in the United States criminal justice system. A criminal justice association called the Virtual Reality/Augmented Reality Association (VRARA) has emerged and actively anchors VR and AR activities in the United States criminal justice system. On September 7, 2017, this association met in New Jersey in a plenary summit involving law enforcement agencies, academics, start-ups, non-profits and corporations from the United States and Canada to discuss the impact of Virtual Reality and Augmented Reality on the Criminal Justice System. At the end of the summit, the Co-Chair Eduardo Neeter concluded that it is not a matter of ‘if’ but a matter of ‘when’ will people eventually demand the use of VR/AR in investigation and trial of cases.

In many ways, Neeter is right. It is hard to experience VR and AR and still deny its potential usefulness in the investigation and trial of cases. As developed worlds bend
towards VR and AR technologies to enhance their criminal justice systems, developing countries like Nigeria also has needs in their justice systems that these technologies could fill like the case of herdsmen terrorists.

Unfortunately, neither VR nor AR technologies has been applied anywhere in Africa, not even a scholarly suggestion or analysis on this topic has been written on any African country. In this regard, applying VR and AR in Africa is novel and might encounter a few challenges, subsequent papers on this topic will study these challenges and how they could be effectively managed.

VR and AR in Courtroom-Trial Phases of the Justice System:  In 1992, jurors in California used headsets to watch a VR reconstruction of an accident scene in a case involving Honda Motor Co (Kris, 2017). Dennis Seley, defense attorney for Honda Motor Co., used the VR-like reconstruction to show a detailed demo that the motorcyclist involved had chosen a wrong path which resulted in accident. Dennis’ demo successfully convinced the jurors that his client was not responsible. While Dennis’ client might actually be innocent, it is possible that the opposite is true. VR could be used by both the plaintiff and the defense but the application of VR makes the case clearer and easier to discern justice (Kris, 2017).

In 2015, Ralf Breker used VR to reconstruct the Auschwitz concentration camp in a case involving a former Nazi SS guard, Reinhold Hanning (Marc, 2016). Reinhold was a guard at the concentration camp where millions of Jews were killed under Hitler’s command. This camp is the Auschwitz camp. Reinhold told the jurors he was only a guard and was unaware of the killings that took place inside the camp. Viewing Ralf’s VR reconstruction of the Auschwitz camp to its war-time status through VR headsets, the jurors were convinced that Reinhold must have seen the killings even from his guard post. The introduction of VR in that case changed the trend of events and quickly rendered Reinhold guilty.

Jurors or judges decide faster and better when they can visualize crimes as though they were present, with a view of the entire scene and ability to develop perspectives of their own. This is what VR or AR does. With VR and AR, judges will not only visualize crime scenes, they can also actively interact with the elements in the scenes to better enhance their decisions.

5. Peculiarity of VR and AR to the Case of Herdsmen Terrorism in Nigeria

In all crime cases in the Nigerian criminal justice system, terrorist cases record the highest number of civilian casualties. Between Boko Haram and Fulani Herdsmen, Boko Haram resides in a caliphate with a known location where the military can be used to neutralize their threats and cleanup the territory. In the case of Fulani Herdsmen, there is no specific location or address. They are camouflaged into the Nigerian civilian population and live like regular citizens. The herdsmen require great level of intelligence and study to be identified and be brought to justice. In a condition of preference, the herdsmen terrorists should receive the technology of AR and VR before Boko Haram and other crime cases of the justice system because Boko Haram has a known location where the military can easily be deployed and other forms of crime hold less casualty numbers.

It is really tempting to advocate for VR and AR to be applied to address all forms of crime in the criminal justice system. However, it might help to take cognizance of the
lack of infrastructures and budget that hamstring the existing justice system. A single VR headset costs around $400 and an AR headset costs around $3000. Thousands of these headsets will likely be needed to conduct trainings and equip a nationwide network of security personnel to address herdsmen terrorism in Nigeria. This is not a cost the government will likely approve if it is extrapolated to included infrastructures necessary to address all forms of crime in the justice system. This paper thus gives priority to addressing herdsmen crises and advocates for VR and AR technologies to address herdsmen terror crimes before other terrorist groups or forms of crime in the criminal justice system.

5.1. Application of VR and AR to Investigate, Try, and Bring Herdsmen Offenders to Justice

Like all criminal cases, terrorism is a high-degree crime. The case of herdsmen terrorism is a case of hit-and-run, which makes the administration of justice even harder. It is important to note that this paper focuses on administration of justice to law breakers involved in herdsmen killings in Nigeria. Issues of prevention of killings, control or rehabilitation of offenders are not covered here.

5.2. Applications of VR and AR in the Investigation Phases of Herdsmen Terrorism in Nigeria

Herdsmen terror attacks are randomly peddled across different locations in Nigeria. There is no obvious sequential arrangement of states or locations to be attacked. The randomness in the terror attacks means that crime investigators must at least entertain considerable headache in figuring out patterns in the attacks and subsequently finding the offenders or next attack location. Success in finding patterns has not been visible as no offender has been arrested and brought for trial. Using Virtual Reality (VR) to reconstruct most of the past attacks and studying these reconstructions could help investigators recognize patterns in two or more of the attacks. These patterns might not be in location or state. It could be in angle of machete cuts or shots on victims, attack formation, mutilation patterns in victims, crime scene signatures, symbols, signs, and sizes of footprints or mere smell of air in crime scenes. Such distinctive discoveries could then be matched with existing behaviors of certain groups, individuals, characters or events in Nigeria. When a pattern is identified, it means a lead suspect could be found and this may result in finding the actual law offenders. Therefore, VR reconstruction of herdsmen crime scenes would do much in helping investigators identify patterns in crime scenes that might eventually lead to arrest of offenders.

Like the June 23, 2018 herdsmen attacks in Plateau state, security agencies were allegedly alarmed but they never responded till after the attack. Similar reports have emerged from Enugu, Benue, and most victim states in northern and southern Nigeria. It is as though the security agencies lack the resources to actively counter the terrorists at the “zeroth hour” and bring them to justice immediately. Augmented Reality (AR) is a perfect tool to be used in training these officers. When attack models are created and security officers view these models through AR headsets, they can easily understand the formations, patterns, weapons, and other resources of the terrorist and actively interrupt and arrest them using all means possible – all in the headset. The beauty is that the officers
train and entertain all casualties virtually, thus becoming brutally trained with seemingly real-life scenarios without actual casualties. AR could be deployed to train and equip Nigerian security agencies to actively interrupt and arrest the herdsmen terrorists without casualties.

In most cases, experts and terror specialists are not quickly on-ground to inspect crime scenes after attacks. This is because the terrorists attack randomly and at unexpected hours or places. In most cases, victims’ resort to self-helps and non-expert investigators come to adulterate crime scenes long before the arrival of actual terror experts. Adulteration means that the experts will not be able to extract much useful information from the crime scenes again. This adds to the inability of investigators to find and bring the law offenders to justice. Using Augmented Reality (AR), this gap could be bridged and crime scenes could be inclusively inspected at the very early moments. Experts at miles away from crime scenes could swiftly connect to investigators at crime scenes through AR to investigate and obtain details from the crime scenes as though they are physically present. This brings inclusiveness in terror crime scene inspections especially in remote villages that are far away from the city. In such cases, local vigilante groups usually formed by villagers to help them exercise some vigilance in their communities could be used to reach crime scenes at the earliest hours. This kind of collaboration promises huge efficiency in the investigation of these herdsmen terrorists.

Once crime scenes are captured on AR technologies, the captured scenes are thus saved and could be viewed repeatedly to unveil more details on the crime. This feature functions like preservation of crime scenes for continual use even after the physical crime scenes have been mutilated or renovated and victims have rebuilt and resettled. Such application means that terrorist crime scenes could be investigated over-and-over again without ever destroying the virtual crime scene.

5.3. Application of VR and AR in the Court-Trials of Herdsmen Terrorism in Nigeria

Most times it is impossible to take judges to observe crime scenes and this could profoundly affect how suspects are tried in terror cases. Herdsmen offenders attack mostly rural communities and usually disappear without trace or any visible detail that could distinguish them from the 200 million Nigerians that roam the streets every day. Explaining details of crime patterns that match the activities of suspects to a judge that has never seen the crime scene is almost an impossible task. It is mostly the plaintiff’s words against the defendant’s words. The judges would have difficulties understanding the details of the crime scenes and developing needed perspectives on the cases. An AR system could play huge role in helping judges understand how events actually played out and best measures to follow in handling the suspects. In this case, AR helps judges to feel the terrorist crime scenes firsthand and develop more-informed perspectives on the crime. This fast-tracks trials and equips courts to make better decisions.

Conclusion and Recommendations

Herdsmen terror offenders currently cause more deaths than any other form of criminal offence in Nigeria. The terrorists choose where and when their victims are most vulnerable, then attack, kill, and disappear. The randomness and style of these attacks
make it difficult for the existing criminal justice system of Nigeria to find and bring these culprits to justice. This paper has shown how Virtual Reality (VR) and Augmented Reality (AR) have been successfully applied in few developed countries, and how they could be applied to augment the criminal justice system of Nigeria and help bring the herdsmen terrorists to justice. The paper also noted that VR and AR have not been applied in the criminal justice system of any country in Africa, not even a scholarly suggestion has been made in this regard, and as such its application in Nigeria could meet a number of challenges and spur aggressive innovations across Africa. If these challenges are addressed and the technologies are applied as suggested, herdsmen terrorism will become a crime within the capacity of Nigerian criminal justice systems – and offenders will quickly, and always, be brought to justice. In this note, VR and AR should be integrated into the Nigeria criminal justice system and funds should be allocated to the purchase and training of agencies involved in the administration of criminal justice in Nigeria.

References


