



THE ROLE OF TECHNOLOGY IN COMBATING BANDITRY AND FOOD INSECURITY IN NORTHWEST NIGERIA; 2011-2022.

Social Science

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ABSTRACT

Banditry refers to the actual or threatened use of arms to dispose people of their material possessions. Banditry counts as one of the contemporary security challenges the Nigerian state is confronted with especially in Northwest sub-region. The phenomenon is manifest in form of cattle rustling, kidnapping, armed robbery, and criminal raids. The constant scourge of banditry activities had not only endangered human security but is also said to be responsible for the constant cases of food insecurity in the Northwest and has also reduced economic activities in the region and other parts of the country. The paper is a critical analysis of the role of technology in combating banditry and food insecurity in the Northwest. The paper adopts qualitative research designs that relies on secondary sources and by applying in-depth desk review technique to provide answers to certain questions within the context of the empirical evidences available. Frustration-aggression theory is the prism used to explain why people venture into organized crimes such as banditry. The paper assert that banditry constitutes daunting challenges to food production in the Northwest, therefore recommends that adequate public policy and legislation should focus on improvement of the socioeconomic well-being of the population using modern technology, periodic sensitization to prevent people from joining banditry and other violent crimes; agro-based interventions should be made available for the populace by government and strict anti-banditry legislation among others.

KEYWORDS

1.0 INTRODUCTION

Historically, banditry has existed in different parts of the world since the 19th century when bandits riding mostly on horseback, move from their hideouts to attack villages before retreating (Ladan & Mutawalli, 2020, p. 439). Banditry is a major security challenge in Africa that has continued to ravage the country (Aregbesola, 2020). In West Africa, the prevalence and severity of banditry has contributed to the rise in regional insecurity of the sub-region (Abdullahi, 2019). Typical of an organized crime, records have shown that there exists strong working alliance between bandits' syndicates in the West African sub-region.

In Nigeria, banditry is said to be the consequence of nearly four decades of unresolved conflicts between settled cultivators and nomadic herding community that wanders on the plains of Northern Nigeria, particularly in the Northwest between 2009 and 2011 (Anka, 2017). Northwest Nigeria in the past few years has come under several security threats resulting from the menace of banditry in rural communities and villages across the seven states of the region (Ukaeje, 2021, p. 314).

The phenomenon of banditry which started as conflict between Habe and Fulbe communities in some parts of the region has negatively affected the peace, security, and stability of the region and has also caused daunting challenges to the region by serving as its clog to the wheel of development in many areas. The availability of human and natural resources like gold and other mineral deposits in the region further worsen the menace.

The growing trend of banditry in the region is reported to have claimed many lives, displaced millions and many victims are forced to be beggars. Children have become orphans, women have become widows, young women are raped and molested while the issue of food security and humanitarian tragedy are furthered exacerbated to make life more difficult for many within the region and beyond (Ukaeje, 2021, p. 321). Since banditry involves acts of robbery and violence on the people particularly rural dwellers who mainly engaged in farming, it is bound to have impacts on food security (Ladan & Matawalli, 2020). Therefore, the paper evaluated the role of technology in combatting banditry and boosting food production in the Northwest region of Nigeria.

2.0 Methodology

Given the descriptive and argumentative posture of the study, the paper relied on secondary sources which adopted qualitative research design that relied on content analysis that helped explored in-depth desk review techniques in the review of extant literature.

3.0 Conceptual Clarifications

Concepts such as technology, banditry and security means different things to different people and in order to prevent being misunderstood or clear any form of ambiguity that might occur, these concepts are clarified to state clearly what they mean and represent in this paper.

3.1 Technology

Technology is derived from the Greek word 'techne' which means art, craft or skills and "logos" means to speak of (Waddell, 2021). The dynamic nature of technology has made it contributed to various definitions and conceptualizations. Technology is the practical application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, to the change and manipulation of the human environment (Encyclopedia Britannica, 2022). In recent times, it has aided the achievement of value through the application of physical and mental effort.

From around the world, technology have been adopted to aid human life, from the basic inventions, to complex systems that functions entirely independently from the human experience (What is technology? n. d., para 2). Technology is said to exist as intangible assets of firms routed in the firm routine. Technology has revolutionized society in countless ways; it allowed the early human to grow their food, navigate the oceans, tell time and connect the society on a global scale (What is technology? n. d., para 2).

3.2 Banditry

Banditry is the occurrence or prevalence of armed robbery or violent crime which involves the use of force, or threat to that effect, to intimidate a person with the intent to rob, rape or kill (Okoli & Okpaleke, 2014, p. 350). It refers to the form of armed violence driven principally by the criminal intent to steal and plunder which is motivated by the economic accumulation (Dami, 2021). The problem of banditry borders on the existing crises between people who competes over common economic interests and this problem is linked

to the pastoralists-crop producers conflict (Oyinloye, 2020). Human-induced disasters such as banditry has caused significant impact on the environment like most of the natural disasters does (Ibrahim & Matawalli, 2020).

Banditry is a crime against persons (Okoli & Okpaleke, 2014, p. 350). It remains a major security challenge that has created instability, debilitated governance and exposed the environment to numerous threats thereby hindering socio-economic development (Ibrahim & Matawalli, 2020). The phenomenon refers to a type of crime that includes kidnapping, armed robbery, murder, rape, cattle rustling and the exploitation of environmental resources (Brenner, 2021). This unfortunate act is in earnest and has hampered economic activities that indirectly left the environment captivated, farmlands left barren, infrastructures devastated, forest razed and fear of being innate to the inhabitants (Ibrahim & Matawalli, 2020).

3.3 Food Insecurity

Food insecurity is the situation of limited or uncertain availability of nutritional adequate and safe foods or limited or uncertain ability of nutritional adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. It is a multi-dimensional concept which affects every section of the population in different ways; children and mothers are also prone to it with various factors noted to be population growth, gender inequality, lack of education, poverty, conflict and political instability, urbanization, the 'financialization' of food, climate change, problems associated knowledge and information systems etc. (Ahmad, et al, 2021, p. 107-109).

Food insecurity is a common phenomenon all around the world, thus it should be seen as a global pandemic. In its chronic form, it translates to a very high degree of vulnerability to natural disasters like famine and hunger as well as malnutrition. It is a situation that exists when people lack secure access to sufficient amount of safe and nutritional food for normal growth and development and active and healthy life (FAO/IFAD, 2013). It refers to the lack of access to the kind of necessary food for a population. It is when security of food is not guaranteed based on certain factors.

4.0 Theoretical Underpinning

The paper is premised on the frustration aggression theory, propounded by Dollard, et al (1939) and developed by Miller, et al (1941) and Berkowitz (1969). The basic assumption of the theory is that aggression is always a consequence of frustration, and that the occurrence of aggressive behaviour always presupposes the existence of frustration and, otherwise, that the existence of frustration always leads to some forms of aggression. The theory also explains that aggression is a result of frustration which results from the individual's inability to attain their goals (Ajodo-Adebanjoko, 2021). Frustration-aggression theorists believe that the root cause of war to be resident in the human nature and that an important relationship exists between intra-personal conflicts and the conflicts that are present in the existing social order (Ajodo-Adebanjoko, 2021).

In practical term, banditry in its various forms is the product of aggressive behaviour which results from issues as relates to unemployment, lack of inclusiveness in governance, abject poverty, real or perceived discrimination and unequal treatment by a certain group, etc.. Some individuals became frustrated and started carrying out banditry activities that threatens the existence of the Nigerian state. This is the exact situation in Nigeria especially in the northern part where the banditry is in the increase (Osanubi, 2021).

The theory has been criticized though, on the ground that it appears too general that the assumption of frustration always leading to aggression or that aggression is always propelled by frustration (Miller, 1994). Arguments are that if all frustrated persons in the society decide to act aggressively, there could be anarchy. Institutions such as judiciary and law enforcement services exist to maintain law and order in the society and there are multiple ways to vent one's frustration without necessarily through aggressive means of violence against innocent citizens who may have nothing to do with the cause of frustration. This criticism notwithstanding, the theory remains a potent as a framework for explain certain perspectives of banditry and its cause.

5.0 Historical Background Of Banditry In Nigeria

The Nigerian state has faced a myriad of security challenges since

independence which over time has taken various forms among which is banditry (Okorie, 2021, p. 43). Bandits have emerged as the new bogeyman for insecurity in Nigeria, joining along (and still growing list) that includes Boko Haram, cultists, herdsmen, kidnappers, and militants (Odinkalu, 2018, December 27).

In different parts of Nigeria, banditry is used to refer to different variants of outlawry. In reality, the usage conflates two underlying problems-ineffective law enforcement in Southern Nigeria, and the crisis of ungoverned spaces in Northern Nigeria. The banditry phenomenon in Nigeria seems to be connected to the inadequacies of the government security forces, identity and inter-group relations and the worsening socio-economic condition of the masses (Gadzama, et al, 2015). Since independence, successive government have had to confront variants of these trends. The evidence overtime suggests a link between governance failures, and banditry (Odinkalu, 2018, December 27).

Contemporary banditry started in Zamfara State in c. 2010 as a traditional clash between crop-producers and pastoralists or insignificant unrest, transforming into full-blown conflict, engulfing most parts of the Northwest. The first criminal gang was formed by Kundu and Buharin Daji with the name 'Kungiyar Gayu' meaning an association of young guys even when not one of them are youths. The gang grew from a single cell which operate mainly in Zamfara State to over one-hundred and twenty (120) gangs across six states of the Northwest and Niger state in the Northcentral. These gangs are basically associated with mass killing of innocent people, cattle rustling, kidnapping, gender-based and sexual violence (GBSV) and other related human right abuses. At the beginning, members lived in wood and mountainous terrains from where they unleashed terror on the rural and urban areas in their area of operation (AOR) (Rufa'i, 2021, pp. 1-2).

The pervasive case of banditry in Nigeria has become a subject of national security and public concern due to the multifaceted layers of the animosity involved and its recurrent nature and its consequences on the environment calls for effective mechanism to mitigate the threats it poses to the peace and livelihood of the society (Ibrahim & Mutawalli, 2020). Banditry has become rampant and denied the Nigerian state of its hallowed image (Dami, 2021). The terror generated by banditry has led to displacement, delay and even frustrated resettlement in Nigeria (Osanubi, 2021, p. 121).

The proliferation of small arms and light weapons (SALWs) in Nigeria happens to be one of the fuels of banditry in Nigeria. SALWs are very rampant in the country and has moved beyond being used by the government security agencies, assassins, armed robbers etc. to become a veritable tool for aggression and domination by certain groups within Nigeria (Muoemenam & Okafor, 2022, p. 33). These SALWs are often conveyed on beast of burden in the name of legal or legitimate goods (Abdullahi, 2015). The associated result to this situation is the trial of deaths, displacement, devastation as well as damages done to the people and to the economy (Muoemenam & Okafor, 2022, p. 33).

Multiple factors were responsible for the transformation of the conflict amongst which include the role played by the traditional rulers, politicians, security agencies, gold miners etc. (Rufa'i, 2021, p. 1). Mismanagement of exploited natural resources and the economy energized the transition of the phenomenon as well as drug abuse, unemployment and governance amongst others contributed to the deplorable situation of banditry (Muoemenam & Okafor, 2022). So many people have lost their lives as a result of the banditry, livestock have been killed, food barns destroyed, farming community displaced, sources of livelihood taken away and this has resulted into hike in the prices of food stuffs in the market (Dango, 2021, p. 369).

6.0 Description Of The Area Of Study

The Northwest comprises of seven states namely: Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto and Zamfara; it is one of the six geo-political zones that make up Nigeria. The region covers an area of 216,065 sq. km which is 25.75% landmass, a size roughly that of the United Kingdom of Great Britain and Northern Ireland (Ukaeje, 2021, p. 320). The major ethnic groups in the region are Hausa and Fulani (African Portal, 2020). The population is estimated to be 357,994 making it to be one of the most populated regions in Nigeria. (pls add two sentences here). The people of the region are predominantly Muslim with a handful of Christians (Ukaeje, 2021, p. 320) and there

are indications that there may be some numbers of animists there too. Despite the economic potential of the region in its substantial solid mineral deposits, the region ranks below the Northeast in terms of poverty level. The people of the region lack access to good health care, basic amenities and rural infrastructure.



Source: <https://www.acaps.org/country/nigeria/crisis/northwest-banditry>

Fig. 1: The Map of Nigeria showing the geographical location of Northwest Geo-Political Zone.

Source: ACAPS (2020, July 24).

7.0 Effects Of Banditry On Food Production And Socio-economics Of Northwest Nigeria

In different parts of the Northwest, from Birnin-Gwari in Kaduna State to Tsafe in Zamfara State, bandits are offered as the trope for an intolerable carnage and the inexplicable haplessness of the Federal Government that does not appear to care for much else (Odinkalu, 2018, December 27).

Banditry has negatively affected food production and distribution of such as market supply is often interrupted by the menace of banditry by making farmers abandon commercial harvests and middlemen also run for their lives.

The effects of banditry on food insecurity in the northwest of Nigeria cannot be far-fetched, hence, it has led to food shortages, which has in turn led both to inflationary and deflationary tendencies in the country at large. Among these effects, according to Ladan & Matawalli (2021), includes but not limited to;

I. Killing Of Farmers: This is one of the most devastating impacts of banditry in Katsina State where farmers are killed by the bandits. Most families experience food insecurity when the heads of the households are dead. These farmers are heads of households who are married with children and their deaths adversely affect the other family members in terms of food supply.

II. Kidnapping Of Farmers: This is another devastating impact of banditry where farmers are kidnapped when they go to the farm to work. In case where farmers are kidnapped, they are taken to the forest and will not be released till large sums of moneys are paid as ransom. This payment of ransom impoverishes the farmers and in some cases the farmers had no option but to sell their properties including their farmlands to get money to pay the ransom.

III. Chasing Farmers Out Of Their Farms: Bandits chase farmers out of their farms when they see them working there. As the bandits are well armed, they ran after the farmers on their motorcycles with the intention of hurting or killing and the farmer have no option than to run since, they are not armed.

IV. Seizing Of Farmlands: This occur where farmlands are located very close to the forest hideout of the bandits. It also occurs outside villages that have been completely deserted due to incessant attacks by the bandits. The bandits seize the farmlands and use them as grazing fields for the large number of cattle they acquire illegally through cattle rustling activities. In some areas where the bandits have not seized the farmlands, the bandits drive their cattle into the farmlands to eat up crops that have started to germinate after the first rains were recorded.

V. Cattle Rustling: When the bandits attack villages, they shoot sporadically into the air to scare away the villagers and create an atmosphere of chaos as the villagers run for safety. The bandits then direct a group among them that specializes in cattle theft to enter

houses and steal cattle from where they are kept. Besides farming, cattle rearing is another source of livelihood in the villages. Therefore, the theft of cattle deprives the villagers of their source of livelihood and halt cattle rearing activities. It deprives the villagers of source of farm labour used to make ridges to plant crops

VI. Halting Of Crop Harvesting: Bandits stop farmers from harvesting their crops particularly in the months of October/November during the harvesting period.

VII. Burning And Raiding Of Grain Silos: During large scale attacks that involve large number of bandits which lasted for some hours, the bandits engaged in the burning of local grains silos (called rumbu in Hausa language). These grain silos contain foodstuffs that were stored by the farmers which could last for many months but were burnt by the bandits which created lack of food for the villagers.

VIII. Blocking Of Local Trade Routes: These are local trade routes that are found along roads linking rural markets where buyers and sellers of foodstuffs pass through especially on market days. The bandits block such routes to intercept vehicles with the traders inside. The bandits snatch foodstuffs intended for sale at the markets, money meant for the purchase of foodstuffs or even kidnap the traders till large sums of monies are paid.

Socio-economic development to a large extent is the cardinal goal of every well-meaning government, and perhaps, it is predominantly dependent on the level of economic activities in a country. This stems from the fact that the level of economic activities is promoted by peaceful co-existence by people. A situation where insecurity is increasingly and blazingly the order of the day, socio-economic development cannot be sustained as it destroys economic, human and social capital. Indeed, the activities of bandits in northwest Nigeria have retarded socio-economic development in various ramifications. These, according Nkwede & Nwakwo, 2015, includes;

I. Food Scarcity: It is axiomatic that the scourge of the bandits has led to food scarcity. This is because the traders from the Northern Nigeria are finding it extremely difficult to transport their commodities to other parts of the country.

II. Sporadic Migration And Abandonment Of Profession: Immigrants in the North-Eastern Nigeria are sporadically migrating from the North in their large numbers for their dire life. It should be noted that it is not the Southerners alone that are migrating from the North but also the Northerners on account of insecurity. The danger is that they have abandoned their profession which is largely farming and has drastically reduced food production and compounded the problem of food importation.

III. Heightens Indigenes/Settlers Dichotomy: The activities of bandits in northwestern Nigeria have heightened citizenship question which encourages hostility between indigenes and settlers.

IV. Discouragement Of Local And Foreign Investment: The vicious onslaughts on individuals and institutions provides highly unfavorable business environment for local and foreign investors. Foreign investors contribute in no small measure in boosting the Gross Domestic Product (GDP) of any country and are not left in abeyance. Foreign investors create livelihood opportunities through the creation of job opportunities and the provision of large-scale products and services in the host communities. The unfavorable business environment created by the violent activities of bandits no longer avail Nigeria this opportunity.

V. Dehumanization Of Women, Children And Men: The activities of bandits in Nigeria has equally graduated to the dehumanization of women, children and men especially in areas where rape, child abuse and criminalization are employed as instruments of the insurgency.

VI. Deterioration Of The Nation's Economy: The overall effect of this insurgency on socio-economic development is that the economy is fast deteriorating. It has constituted the hallmark of socio-economic development. Of course, it posed a serious challenge to a dynamic framework for the provision of job options.

VII. Diversion Of Attention And Increased Security Vote To Banditry By Government: Another effect of banditry to socio-economic Development in Nigeria is the disproportionate attention

and increased security vote by the Nigerian Government. This has led to the problem of micro economic instability, distortion and leakages in the Nigerian economy with the attendant problem of infrastructural decay and hyperinflation. To a large extent, the implication is that more people are trapped into the vortex of interlocking vicious circle of poverty.

VIII. Increased School Drop Out: As a result of bandit activities, the number of schools drop outs have increased astronomically especially in the north east of Nigeria. This has equally led to underdevelopment of the young people and has also increased unemployment and thuggery.

IX. Collapse Of Tourism Industry: Essentially, tourism is a viable sector with abundant economic, sociocultural benefits. Indeed, for a nation to enjoy these benefits, it must be free from security threats. This is because security constitutes a sensitive aspect of tourism. Consequently, these benefits are lost as a corollary of security challenges posed by the bandits despite abundant tourist centers in Nigeria.

X. Palpable Fear Among The Citizens: Nigerian citizenry are now living in fears as a result of the bandit insurgence occasioned by high degree of loss of life and damage to property and infrastructure through bombing and assassination and genocide.

XI. Destroys Corporate Image Of Nigeria: Similarly, banditry has destroyed the corporate image of Nigeria within committee of nations. Globally, the image of the country is highly dented as prostitution, crime, drug trafficking, fraud and high level of corruption are the issues that are negatively affecting the reputation of Nigeria and Nigerians in the world.

8.0 The Role Of Technology In Combatting Banditry And Boosting Food Production In Northwest Nigeria

Technology has played crucial role in strengthening Nigeria's national security against potential cum future attacks. Specifically, it helps enable the nation to identify potential threats, share information more readily, provide mechanisms to protect and develop response capabilities. The role of technology in combating banditry in the northwest cannot be undermined as the world, they say, is a global village. Under-listed below are some of the roles according to Ogedebe & Jacob, 2012, played by technology in combating banditry;

- i. GPS-enabled, which is technology-driven, devices can help citizens signal for help when emergency situations arise. With the help of technology, accelerometer, which are mostly find in GPS devices gives a precise location as to where the would-be victims of banditry can use to send out an SOS call. This would aid the security personnel in locating farmers who needed help.
- ii. Technology can help the Nigeria Security system respond to distress call from citizens. Unlike in the times back, where smokes are used as a form of distress call, technology has really made it easy to send for help by a single dial.
- iii. Technology helps reach members of the society who are constantly connected to the Web and actively creating and sharing content in their own time, security agencies should be turning to familiar social networking tools to share news and strategies for community security.

Technology has taken over virtually every facet of life, and agriculture (food production) is not excluded from the trend. With the advancements in technology, food production has experienced a varied revolution that has made its production very smooth and easy. Going from the farmers, to the industry, and the final consumers, technology has played a very significant roles in so many aspects which includes but not limited to;

I. Storage: Technology has changed the means through which farm produce are stored. With technology, farm produce that are stored can monitored electronically. This would further boost food production as getting the best yield of crops are guaranteed.

II. Processing: Harvested crops are now easily processed as a result of the technological advancement. Unlike the olden days where there were archaic means of processing food, technology has brought with it a modern means of doing such to attain the best quality there ever was.

III. Land Preparation: Land clearing for farming season can easily be done with the ploughs and tractors. This is made possible as a result

of the advancement in technology.

IV. Transporting: Ox and donkeys are a thing of the past. With the advent of technology, motor-cars, bicycles, and tricycle are being used to transport farm produce from the farm to the market.

V. Human Capital Development: A lot of hands has been employed to take charge of all these plant and machineries that came along with the advancement in technology. That's a means of employment to the youths.

With rapid population growth, increasing urbanisation and a shrinking rural labour force, food production methods need to be modernised if Nigeria is to feed 250 million people by 2050, analysts have said. According to Youth Leadership Series, one of the best ways to increase production is the use of technologies. To this end, the growing use of tech applications has helped boosted the overall productivity of the agriculture sector.

The Federal Ministry of Agriculture has turned to the power of technology, mobile phones, to provide 15 million farmers with access to improved seeds and fertilizers, with a view to ending corruption in the sector. Across the sector, agritech startups using technology to improve sustainability, efficiency, and profitability are showing impressive growth. They are leveraging technology to help farmers better manage potential risks and disasters such as droughts, pests and diseases amongst others.

9.0 CONCLUSION AND RECOMMENDATIONS

9.1 Conclusion

Having clearly established the interrelatedness of banditry as a security challenge to food production in the northwest and technology as a means of improving security and food production, this study also exposes from historical records the fact that the cause of banditry in the northwest is not unconnected but probably the consequences of unresolved conflicts between inhabitants of the region which has lasted to a point of creating a feeling of frustration leading to aggression as a means of getting even.

It is the conclusion of this study that, perhaps if these identified conflicts are given the necessary attention and judicially or extra-judicially resolved; being the root cause of the menace, reliance of modern technology for combatting unrepentant criminals by law enforcement might restore peace and security in the region. Most importantly also is that modern techniques of agricultural production could give boost to food production and ultimately improve lives and livelihood in the region.

9.2 Recommendations

Based on the findings of this study the following are recommended thus:

- i. Adequate public policy and legislation should focus on improvement of the socio- economic wellbeing of the population.
- ii. Various forms of orientations should be carried out at regular intervals to sensitize and deter people from joining and or aiding banditry.
- iii. Enactment of strict anti-banditry legislation so as to deter people from joining banditry
- iv. Agro-based interventions should be made available for the populace by government.

REFERENCES

1. Abdullahi, I. (2015). Contextualizing the proliferation of small arms and light weapons in Nigeria: The untold story. *International Journal of Business and Law Research*, 3 (1). 1-14.
2. Abdullahi, A. (2019). Rural banditry, regional security and integration in West Africa. *Journal of Social and Political Sciences* 2 (3), 654-664.
3. ACAPS (2020, July 24). Nigeria: Banditry violence and displacement in the Northwest. <https://www.acaps.org/country/nigeria/crisis/northwest/banditry/nigeria.pdf>
4. Ajodo-Adebanjoko, A. (2021). *Understanding Conflict and Conflict Resolutions*. Clarion Call Publishers.
5. African Portal (2020, May 18). Violence in Nigeria's North West: Rolling back the mayhem. <https://www.africanportal.org?publications/violence-in-nigerias-north-west-rolling-back-themayhem/html>
6. Ahmad, N., Skahnawaz, S. K., Husain, M., Qamar, S. & Alam, Z. (2021). Food insecurity: Concept, causes, effects and possible solutions *IAR Journal of Humanity and Social Science*, 2 (1), 105-113.
7. Anka, A. S. (2017). Emerging issues in Zamfara armed banditry and cattle rustling: Collapse of the peace deal and resurgence of fresh violence. *International Journal of Innovative Research and Development*
8. Aregbesola, R (2020). Keynote address at the stakeholders engagement on international security and conflict resolutions held at the Government House, Katsina, Katsina State.
9. Berkowitz, L. (1969). *Roots of aggression: A re-examination of the frustration and aggression hypothesis*. Atherton Press.

10. Brenner, C. (2021). Combating banditry in Northwest Nigeria. <https://www.americansecurityproect.org/combating-banditry-in-northwest-nigeria>
11. Dango, E. S. (2021). Addressing the food insecurity in Nigeria: The Nations and Vanguard Newspaper perspective. Proceedings of the 3rd Annual Conference, Federal University of Lafia, 26-28 October, pp. 365-375.
12. Dami, C. D. (2021). Impacts of terrorism, banditry and kidnapping on human security in Nigeria. *Saudi Journal of Humanities and Social Sciences*, 6 (8), 299-305.
13. Dollard, J., Miller, N., Doob, L. W., Mowrer, O. H. & Sears, R. (1939). *Frustration and Aggression*. Yale University Press.
14. Encyclopedia Britannica (2022). Technology. <https://www.britannica.com/technology/technology>
15. FAO/IFAD (2013). WFP, the state of food insecurity and nutrition in the world 2013: The multiple dimension of food security. FAO.
16. Essiet, D., 2020. Using technology to boost food production. The Nation, [online] Available at: <<http://thenationonlineng.net/using-technology-to-boost-food-production>> [Accessed 11 October 2022].
17. Gadzama, I. U., Saddiq, N.M., Oduhie, T. C. & Dariya, C. J. (2018). Appraisal of rural banditry in Kamuku Forest in Birnin Gwari Local Government Area of Kaduna State, Nigeria. *Nigerian Journal of Rural Sociology*, 18 (1); 42-49.
18. Ibrahim, W. M. & Mutawalli, B. U. (2020). Investigating environmental responses to banditry activities in Batsari Local Government Area of Katsina State, Nigeria. *Journal of Conflict Resolution and Social Issue*, 1 (1), 185-198.
19. Jimoh, I. O., Iorsue, A. B. & Musa, K. (2021). Nexus between information and communication technology, youth empowerment insecurity and economic recovery in Nigeria. Proceedings of the 3rd Annual Conference, Federal University of Lafia, 26-28 October, pp. 413-422.
20. Ladan, S. I., & Matawalli, B. U. (2020). Impacts of banditry on food security in Katsina State, Nigeria. *Direct Research Journal of Agriculture and Food Science* 8 (12), 439-447.
21. Ladan, S. I., & Mutawalli, B. U. (2021). Impacts of banditry on Food Security in Katsina State, Nigeria: A Recent Study. *Emerging Challenges in Agriculture and Food Science* 1, 16-27.
22. Miller, N. E. (1948). The frustration aggression hypothesis' *Psychological Review*, 48 (*0), 337-342.
23. Muoemenam, C. C. & Okafor, U. C. (2022). National security and the proliferation of small arms and light weapons in Nigeria; 2010-2022. *ZIK Journal of Multidisciplinary Research* 5, 31-53.
24. Nkwede, J., Abah, E., & Nwankwo, O. (2015). Effects of Boko Haram insurgency on the socio-economic development in Nigeria. *OIDA International Journal of Sustainable Development*, 8 (6), 59-72.
25. Ogedebe, P. M., & Jacob, B. P. (2012). The role of information technology in combating security challenges in Nigeria. *Academic Research International*, 2 (1), 124-130.
26. Okoli, A. C. & Okpaleke, F. (2014). Banditry and crisis of public safety in Nigeria: Issues in national security strategies. *European Scientific Journal*, 10 (4), 350-362.
27. Okorie, N. (2021). Local government administration and security governance in Nigeria: A cse of Nasarawa state. Proceedings of the 3rd Annual Conference, Federal University of Lafia, 26-28 October, pp. 423-430.
28. Osanubi, S. A. K. (2021). Banditry and its effects on .the Nigerian state. *Central Asia Journal of Social Sciences and History*, 2 (10), 119-123.
29. Oyinloye, O. B. A. (2020). Nigerian Army and rural banditry: Issues and challenges. *Journal of Advances in Education and Philosophy*, 4 (11), 500-515.
30. Rufa'i, M. A. (2021). I Am A Bandit: A Decade of Research and Armed Banditry in Zamfara State. 15th University Seminar Presented at Usmanu Danfodiyo University, Sokoto, Nigeria.
31. Ukaeje, O. (2021). Forest governance and rural banditry in Nigeria's Northwest region: Interrogating the implication for national security. *University of Nigeria Journal of Political Economy*, 11 (2), 314-339.
32. Waddell, N. (2021). What is technology? <https://www.cantechletter.com/2013/01/what-is-technology-0103/>
33. What is technology? (n. d). <https://study.com/academy/lesson/what-is-technology-definition-types.html>