



Third Law of Thermodynamics and Insecurity in Nigeria

Alice Bukola Olanipekun^{1*}, Emmanuel Ayodele Isinkaye² and Gloria Eguono Aigbadon³

¹Department of Pure and Applied Physics, Caleb University, Lagos, Nigeria

²Department of Psychology, Caleb University, Lagos, Nigeria

³Department of Public and International Law, Caleb University, Lagos, Nigeria

*Corresponding author: bukola.olanipekun@calebuniversity.edu.ng

<http://dx.doi.org/10.47814/ijssrr.v9i4.3265>

Abstract

Nigerian society is currently plagued by widespread insecurity, evident in various forms of violence such as armed robbery, insurgent bombing, communal clashes, herdsman menace, drug trafficking, money laundering, illegal arms trafficking, political violence, religious and ethnic violence, cyber-crimes, kidnapping, abduction and banditry, prompting this work to explore the causes and potential solutions through an analogy with the third law of thermodynamics, where insecurity is likened to entropy and the root causes and solutions are represented by temperature and cooling methods, respectively. High rates of poverty are primary drivers of insecurity in Nigeria, often leading individuals to engage in illegal activities. A high rate of unemployment causes poverty. Lack of education, apprenticeship, Technical and Vocational Training and low productivity of Nigeria's agriculture sector also led to poverty in Nigeria. Evaporative cooling involves exposure of the hot material to water for cooling. Water symbolizes abundance, life, prosperity and fertility. To subdue poverty, there must be abundance of food, job, knowledge and resources. Government should provide more centers of entrepreneurship, establish and equip Technical and Vocational Education Training institutions. Investing in agriculture is critical to ensuring improved food productivity. Government should focus on job creation and quality education, as these can deter crime by providing legal opportunities. The insecurities driven by the pursuit of excessive wealth and power, often leads to political turmoil and instability. Magnetic cooling involves the exposure of a material to magnetic field and demagnetization. The strong attractive force of a magnet can be seen as an attachment or connection to power and possessions. Demagnetization symbolizes emotional detachment, reflecting the idea that true happiness and contentment come from within rather than from external possessions or the pain and suffering of others, while also emphasizing the importance of empathy and the pursuit of inner peace through understanding and non-attachment. Sadism involves the experience of pleasure from others' pain and suffering. Sadists join armed groups or engage in criminal activities (like kidnapping) to carry out their acts with a particular brutality and enjoy the suffering they cause. In laser cooling, exposure to light causes cooling of the material to a temperature close to 0K, leading to low entropy. Light symbolizes truth, happiness, positivity, goodness, knowledge

and transformation that lead to peace. True happiness comes with goodness and positivity. It does not depend on the pain and sadness of others. It is recommended that they seek help with a therapist and specialist to manage the most remarkable symptoms. Ensuring security in the country involves government, individuals, businesses, religious groups, and civil society. Religious leaders should emphasize contentment, detachment from wealth and power, empathy and treating others the way you want them to treat you.

Keywords: *Third Law of Thermodynamics; Insecurity; Nigeria; Sadism; Greed; Cooling Methods*

Introduction

Insecurity has become a pressing global issue, particularly in Nigeria, where rampant violence including armed robbery, bombings, and kidnappings has resulted in significant loss of life, profound psychological effects, substantial economic repercussions, and a detrimental impact on national development, with over 600,000 deaths and 2.2 million kidnappings reported between May 2023 and April 2024 (National Bureau of Statistics [NBS], 2024).

Although the Northwest and Northeast regions are the most severely impacted, other areas are also experiencing various forms of violence. Many foreigners perceive Nigeria as a country at risk in terms of security. The latest data (2025 Global Peace Index) shows that Nigeria is ranked 148th out of 163 countries. This represents a decline from previous years, with Nigeria holding the 147th position in 2024, 144th in 2023, and 143rd in 2022. The index, compiled by the Institute for Economics and Peace (Institute for Economics & Peace, 2025), assesses peacefulness based on factors such as societal safety and security, ongoing conflicts, and levels of militarization. Within the Economic Community of West African States (ECOWAS), Nigeria's ranking is lower than that of many neighboring countries. According to the 2024 report, Ghana was identified as the most peaceful nation in the region, followed by Sierra Leone, Liberia, The Gambia, and Senegal. In the Sub-Saharan African context, Nigeria is positioned 38th out of 44 countries, while Mauritius, Botswana, and Namibia occupy the first, second, and third ranks, respectively. These three countries also hold the 26th, 43rd, and 50th positions globally.

According to the 2025 Global Peace Index, half of the 44 countries in the Sub-Saharan Africa recorded improvements in peacefulness, however, Nigeria falls among the countries that experienced deteriorating peace in the region. Insecurity has impact on economic growth in the North-Eastern states of Nigeria, a region plagued by persistent violent conflicts, particularly due to Boko Haram insurgency, banditry, and communal clashes. These security challenges have hindered economic development by disrupting agricultural activities, trade, and investment flows, which are the primary economic drivers in the region. Insecurity has not only stifled local economies but also led to severe poverty and increased dependency on humanitarian aid. Security is fundamental to the existence of a State, with the governments primarily tasked with the responsibility of ensuring the safety of citizens and fostering an environment conducive to growth and development. The issue of peace remains one of the major focuses of the national and international community. This is because there is a relationship between peace and sustainable development. Peace is a catalyst for national development. Development cannot take place in any nation without human security. Despite the Nigeria government's efforts to address these challenges such as allocating substantial resources to security in annual budgets, relocating military personnel to conflict zones, and enacting anti-terrorism and anti-kidnapping laws, the trend persists and intensifies, leading to food insecurity, soaring living costs, rampant inflation, stagnating businesses, declining investments, increasing unemployment, loss of lives, properties and confidence in the state and security forces.

This work addresses the issue of insecurity in Nigeria, causes and solutions by conceptualizing the third law of thermodynamics and the cooling methods. The third law of thermodynamics deals with entropy (disorder in a chemical system), which stands for insecurity in this work. If the temperature of a system can be reduced to absolute zero, the entropy reaches constant minimum value or zero. Here temperature stands for the root causes of insecurity. Insecurity in Nigeria can be removed or reduced significantly if the root causes are dealt with.

Conceptual Clarification

This section will provide a better conceptual clarification of important terms that are used in this work for clarity and understanding.

Third Law of Thermodynamics

Thermodynamics is a field of physics focused on heat and energy transfer. The fundamental concept is that all objects consist of atoms and molecules that are in constant motion. The greater the speed of this motion, the hotter the object becomes. Nonetheless, thermodynamics specifically addresses the macroscopic response of a system, which is the observable and measurable reaction to heat transfer. Heat represents a type of energy that moves from one part of a system to another or between different systems; in contrast, temperature indicates the level of warmth or coolness of a body or system. Entropy, denoted as S , quantifies the disorder or randomness present within a system. The laws of thermodynamics are essential principles that regulate energy, temperature, and entropy, comprising four primary laws crucial for comprehending the behavior and transformation of systems. The zeroth law establishes the concept of thermal equilibrium, the first law asserts that energy is conserved yet can change forms, the second law introduces the concept of entropy and asserts that it increases in an isolated system, and the third law indicates that a system's entropy approaches a constant minimum at absolute zero temperature. For a perfect crystal at absolute zero (0K), the entropy is zero. That is,

$$\lim_{T \rightarrow 0} S = 0 \quad (1)$$

A perfect crystal features its atoms or molecules organized in a completely ordered, rigid lattice, a structure that is not found in nature. Nevertheless, actual crystals invariably possess imperfections such as vacancies or misaligned atoms, even at absolute zero temperature, leading to a phenomenon known as residual entropy, S_{res} . Although residual entropy is minimal, it is not zero.

$$\lim_{T \rightarrow 0} S = S_{res} \quad (2)$$

The third law was formulated by Walther Nernst, a German physical chemist, between 1906 and 1912 (Nernst, 1906 & Nernst, 1912). Max Planck, a German physicist, later redefined this law, stating that 'the entropy of a pure, perfect crystalline substance at absolute zero is exactly zero' (Planck, 1911). From 1911 to 1916 (Einstein, 1914), Albert Einstein, a theoretical physicist born in Germany, engaged in discussions with Nernst, suggesting that proving the law necessitated quantum theory, a notion that was ultimately validated. In 1923, Gilbert N. Lewis and Merie Randall, both physical chemists, articulated an alternative version of the third law of thermodynamics. They noted that certain crystals can develop defects that result in residual entropy even at zero Kelvin (Lewis and Randall, 1923). Francis Simon, a physical chemist and physicist, further advanced the law by providing a more rigorous mathematical formulation known as the Nernst-Simon statement, which was established in 1937 (Simon, 1937). The unattainability principle, which stems from the third law of thermodynamics, asserts that it is impossible to reduce the temperature of a system to absolute zero through any procedure, regardless of how

idealized, within a finite number of steps. This principle delineates a boundary, rendering absolute zero unachievable in practice. As the absolute temperature is approached, the process of cooling a body by gradually removing heat becomes increasingly challenging. Various cooling methods can achieve temperatures very close to absolute zero (0K). For instance, laser cooling techniques have reached temperatures as low as $38 \times 10^{-12} \text{K}$ in laboratory conditions. The lowest temperature attainable through evaporative cooling is approximately 2.9°C at low humidity. Magnetic cooling can achieve temperatures as low as a few microkelvins ($\mu\text{K} = 10^{-6} \text{K}$) or even nanokelvins ($\text{nK} = 10^{-9} \text{K}$). Typically, cooling methods are applied continuously until the desired temperature or a state of thermal equilibrium is reached. The duration and repetition of these methods depend on the specific technique employed and the desired outcome.

Entropy can be taken as the insecurity in Nigeria while temperature represents the causes of insecurity. By modifying the third law of thermodynamics; as the causes of insecurity reduce to zero, the insecurity in the country becomes zero. But due to imperfections, even when the causes of insecurity in Nigeria are totally removed, there will still be residual entropy which is uncontrolled insecurity. Significant reductions can be achieved through some proffered solutions by conceptualizing the methods of cooling. Just as zero temperature cannot be achieved in practical sense, causes of insecurity in Nigeria can only be reduced to a minimum level, which would in turn substantially reduce overall insecurity.

Laser Cooling

Laser cooling is a method used to reduce the temperature of atoms or molecules using laser light. Atoms are subjected to laser light, which decelerates them by altering their momentum. As these atoms absorb and then re-emit photons (light particles), their kinetic energy diminishes, resulting in a decrease in temperature. If atoms are exposed to a pair of counter-propagating laser beams with frequencies lower than the atoms' laser-cooling transition, they will be cooled in one dimension. The laser light is preferentially absorbed from the beam that moves in the opposite direction to the atom's motion. The atom re-emits the absorbed light in a random direction. A scattered photon carries slightly more energy than the photon that was absorbed. Since total energy is conserved, the energy difference is taken from the atomic motion, causing the atoms to decelerate. When this process is repeated, the atoms' motion becomes minimal, which corresponds to a lower temperature, resulting in colder atoms.

Evaporative Cooling

Evaporative cooling refers to a process that removes heat by cooling air as it passes through water sprays or wetted surfaces, leading to a reduction in the air temperature due to the heat absorbed during the evaporation process. This method involves converting liquid water into vapor by utilizing the thermal energy present in the air, which results in a decrease in air temperature. The energy required for the water to evaporate is drawn from the air in the form of heat, thereby causing a drop in air temperature. A straightforward example of natural evaporative cooling is the perspiration, or sweat, produced by the body; the evaporation of this sweat cools the body. This cooling method is particularly effective in dry climates but tends to be less efficient in humid conditions. The extent of heat transfer is influenced by the rate of evaporation. Evaporative cooling takes advantage of the property that water can absorb a significant amount of heat to evaporate, as it possesses a high enthalpy of vaporization.

Magnetic Cooling

Certain materials warm up when a magnetic field is applied. The warming is due to changes in the internal state of the material, which releases heat. This can be used to achieve refrigeration, by allowing the material to radiate away its heat while in the magnetized hot state. The heat is transferred away from

the material, typically by a fluid (like water or alcohol), while the magnetic field remains constant. The material cools back down to the original temperature. When the magnetic field is removed, the molecules disalign themselves, which require energy. This energy is obtained from the material's atomic lattice. This causes the material's temperature to drop below its initial temperature. Repetition of the process lowers down the temperature of the material.

Crimes

A crime is defined as an illegal act that is subject to punishment by the government or state authority, encompassing a spectrum from minor offenses such as petty theft to serious crimes like murder. Crimes can be categorized into various types, including those against individuals (e.g., assault, murder), those against property (e.g., arson, burglary), white-collar crimes (e.g., fraud, embezzlement), and organized crimes (e.g., human trafficking, terrorism). Insecurity-related crimes encompass acts such as terrorism, kidnapping, armed robbery, banditry, cultism, ethnic and religious violence, corruption, transnational crimes, and communal conflicts. These issues have instilled fear in many Nigerians, contributing to a sense of insecurity within the country for its citizens.

Psychology and Crimes

Crime is an intentional act that results in physical or emotional harm, damage to or loss of property, and violates legal statutes. Numerous factors play a role in influencing criminal behavior. From a psychological viewpoint, these behaviors arise from a mix of socio-psychological influences. These influences can be understood through various perspectives, including biological, behavioral, psychoanalytic, cognitive, humanistic, social, and psychological lenses. The biological viewpoint examines the roles of the brain, genetic makeup, hormones, and the nervous system. For example, substance misuse might impair brain functions, or an individual might have a genetic inclination toward aggression. The behavioral perspective in psychology suggests that criminal acts are behaviors learned through observing parents and associating with peers who exhibit criminal characteristics (Bandura, 1977). Psychoanalytic theory, proposed by Sigmund Freud (1953), emphasizes the unconscious, unresolved conflicts in childhood, and childhood abuse and neglect. Therefore, crime occurs when internal psychological control is weak. Cognitive psychology focuses on an individual's thoughts and beliefs. Criminals may rationalize or justify their criminal acts due to poor moral reasoning. Social psychologists' explanations of crime focus on the concept of social influence. Personality psychologists (Gottfredson & Hirschi, 1990 and Moffitt, 1993) associate criminality with specific personality traits such as antisocial personality disorder/psychopathy, aggression, lack of empathy, and impulsivity. They argue that certain personality structures predispose people to crime.

Psychologists advise offenders to recognize and understand the emotional impact their actions have on their victims, while working to change distorted thought processes. Rather than simply focusing on punishment, psychologists address the root causes of abuse and neglect that lead to aggressive behavior, thereby suggesting targeted rehabilitation and prevention strategies. Psychologists also contribute to crime prevention by researching effective programs aimed at reducing recidivism and by identifying mental disorders commonly associated with offenders.

Philosophy and Crimes

The intersection of philosophy and crime involves a thorough examination of the foundations, justifications, and ethical considerations of criminal law. It delves into the reasons certain actions are classified as crimes, the rationale behind punishment, the principles of moral and legal accountability, and the equilibrium between state authority and individual freedom. Analytic philosophers (Hall, 1960 and Hart, 1968) characterize a crime as an action that is intentional (or negligent or reckless) and breaches a

particular type of legal norm. A crime is established when an agent performs an action they are obligated not to undertake, accompanied by the requisite criminal intent, unless there are justifying or excusing circumstances. Theories regarding crime have existed as long as crime itself. Aristotle posited that “poverty is the parent of revolution and crime.” However, most ancient interpretations of crime had a religious undertone; crime was often equated with or attributed to sin, a perspective that was prevalent during the Middle Ages and continues to exist in various religious belief systems today. In the 17th century, Sir Francis Bacon suggested that “opportunity makes a thief.” Throughout the 1700s, philosophers and social commentators like Voltaire and Rousseau highlighted ideas such as free will, hedonism, and the shortcomings of the social contract to elucidate criminal behavior. The foremost advocates of classical criminology were the Italian thinker Cesare Beccaria and the British philosopher Jeremy Bentham, who contended that lawbreaking occurred when individuals consciously chose to act immorally when presented with a decision between right and wrong. Individuals opted for crime when they perceived that the benefits outweighed the associated risks. Classical theorists sought to reform the severe application of justice in post-Renaissance Europe, advocating that the punishment of offenders should correspond to the severity of their crimes—that the punishment should be proportional to the crime committed. The utilitarian perspective aimed to deter future crime by imposing punishments so severe that the costs would surpass the pleasures derived from the criminal act. Incapacitation serves as a pragmatic philosophy that rationalizes the limitation of an offender’s freedom to prevent them from committing future crimes.

Law and Crimes

Section 2 of the Criminal Code Act (Cap. C38, Laws of the Federation of Nigeria, 2004) defines a crime as an act or omission which renders the person doing the act or making the omission liable to punishment under the code or under any act or law. Section 3 of the Criminal Code Act classifies crimes into felonies, misdemeanors, and simple offences based on the severity of punishment. Felonies are punishable by 3 years and above or death. Misdemeanors are punishable by 6 months to less than 3 years while a simple offence is any offence punishable with imprisonment for less than six months or with a fine only, or both.

Sanctions for offenses that greatly enhance insecurity differ across jurisdictions, but they typically entail harsh consequences, including lengthy prison sentences and, in certain instances, capital punishment. The categories of crimes that exacerbate a widespread sense of insecurity are usually violent or organized. The precise legal definitions and associated penalties are contingent upon both national and local legislation.

Table 1: Crimes Related to Insecurity in Nigeria and Potential Punishments

| Crime | Section | Element | Sanction |
|-----------------------------|--|--|--|
| Murder/Assassination | Section 316 & 319 of the Criminal Code Act | <ul style="list-style-type: none"> •Unlawful Act (Actus reus) •Evil Intent (Mens Rea) •Concurrence of act and intent •Causation (direct link to death) | <p>Any person who commits the offence of murder shall be sentenced to death</p> <p>17 years or older: death by hanging</p> <p>Under 17 years: Detention at Governor’s pleasure</p> |
| Armed Robbery | Section 401 & 402 Of the Criminal Code Act | <ul style="list-style-type: none"> •Stealing (Actus reus) •Violence or threat of | Long-term imprisonment, sometimes life imprisonment or death |

| | | | |
|---------------------------------|---|---|--|
| | | <p>violence (Actus reus)</p> <ul style="list-style-type: none"> •Presence of weapon •Participation of the accused | |
| Kidnapping | Section 364 of the Criminal Code Act | <ul style="list-style-type: none"> •Lack of consent •Unlawful confinement •Use of force, threat, or deception •Intent (Mens Rea) to hold the victim for ransom | Imprisonment (up to 10 years or as amended by State laws) |
| Human Trafficking | Section 13-21, Trafficking in persons (Prohibition) Act 2015 | <ul style="list-style-type: none"> •Recruitment/ transport/ harbouring of persons •Means: force, deception, coercion, abuse of power •Purpose of exploitation | <p>Minimum of 5 years or life imprisonment</p> <p>Fine may apply- not less than 250,000 Naira</p> |
| Theft | Section 383 & 390 of the Criminal Code Act | <ul style="list-style-type: none"> •Property must be capable of being stolen •Fraudulent/ dishonest taking •Without consent -Intention to permanently deprive •Movement of property | 3 or more years imprisonment |
| Banditry/Cattle Rustling | <p>Section 383 & 390 of the Criminal Code Act</p> <p>&</p> <p>Section 1(2) (a) of the Robbery and Firearms (Special Provisions) Act (Cap R11, LFN 2004)</p> | <p>Banditry</p> <ul style="list-style-type: none"> •Armed group + violence + unlawful purpose <p>Cattle Rustling</p> <ul style="list-style-type: none"> •Stealing cattle + No consent + Intent to permanently deprive | <p>Death penalty</p> <p>Legal frameworks may also include life imprisonment or long-term jail sentences (e.g. 10-20 years)</p> |
| Terrorism | Section 2 of the Terrorism (Prevention and Prohibition) Act of 2022 | <ul style="list-style-type: none"> •Use of threat or violence •Unlawful act •Intention to intimidate the public •Intention to coerce the government or authority •Political, religious or ideological motive | Minimum of 20 years to life imprisonment or death |

| | | | |
|---|--|--|---|
| Sexual and Gender Based Violence | Section 1-46, Violence against Persons (Prohibition) Act-VAPP Act 2015; Criminal Code provisions | Sexual and gender-based act •Lack of consent/abuse of power •Physical, sexual, emotional or economic harm | 12 years life imprisonment (rape) Long term imprisonment or fine |
| Cyber Terrorism | Section 18 of the Cybercrimes (Prohibition, Prevention, etc) Act, 2015 | •The use of computer networks or systems to intimidate the government or the public, or to coerce them •Unlawful acts against computer systems or networks intended to cause harm, such as endangering life, causing serious bodily injury, or creating a breakdown of public order | Life imprisonment |

Overview of Insecurity in Nigeria and Proffered Solutions

Zubairu (2020) and Augustine Obiajulu Eziechine (2022) identified several factors contributing to insecurity in Nigeria, including unemployment and poverty, the elite's exploitation of ethnic and religious differences, corruption, a weak security framework, porous borders, marginalization, inequality, and poor governance. They suggested that solutions should focus on addressing the socio-economic challenges faced by the impoverished, creating jobs, establishing a robust security system, and promoting good governance. Alao (2024) pointed out that religion is often perceived as a catalyst for violence and the destruction of lives and property in Nigeria. The author proposed that religious leaders, as influential figures in society, should advocate for the virtues embedded in their religious ethics. Additionally, religious followers should partner with reputable NGOs to promote peace and raise awareness among the youth, who are often manipulated by elites to perpetrate terror. Finally, every religious follower should pray for Nigeria's peace. Adesina (2024) recommended that the government implement a composite model approach to address insecurity threats in Nigeria, such as kidnapping, insurgent groups, separatist movements, Boko Haram, and the herdsmen-farmers conflict. This model views security as a shared responsibility among individuals, government, religious organizations, businesses, and civil society. Agunbiade (2024) highlighted critical issues such as high unemployment rates, widespread poverty, ethno-religious conflicts, corruption, deprivation, inequality, and the proliferation of small arms and light weapons as the primary drivers of Nigeria's persistent insecurity crisis. They urged governments at all levels to invest in infrastructure and create an environment conducive to entrepreneurship and small-scale industries, overhaul the national security framework, enhance border security, combat the spread of firearms, and improve the legal system. According to the Nigerian Institute of Social and Economic Research (2024), there is a prevalence of banditry and attacks by gunmen in the North-West and North-Central regions, Boko Haram insurgency in the North-East, and robbery incidents across the three southern geopolitical zones and Abuja (FCT). Insecurity has emerged as the primary factor driving poverty in Nigeria. Community-led initiatives, collaborations with NGOs, and government efforts to reconstruct homes and vital infrastructure are necessary measures to be undertaken. Conversely, Ukwu et al. (2024) examined the significant role of quality education in alleviating insecurity in the post-COVID-19 period by promoting socio-economic development, enhancing critical thinking, fostering social unity, and empowering individuals and communities. Meanwhile, Wahab (2025) indicated that Social Studies Education, which explores human beings and their myriad existential challenges, is crucial for national security. Otu et al. (2025) suggested policy measures such as enhancing security infrastructure, encouraging peacebuilding initiatives, and promoting regional economic diversification to address the

long-term effects of insecurity on economic development in North-Eastern Nigeria. Uzoh (2025) advised that the federal government should implement effective strategies, including the removal of so-called repentant Boko Haram members who have been integrated into the military.

This study tackles insecurity issues from their fundamental causes. In fact, much of the research on insecurity in Nigeria tends to focus on conventional causes. This study employs a conceptual research methodology, utilizing secondary data sourced from journals, articles, organizational reports, academic resources, and the internet. We apply the third law of thermodynamics and connect it to the insecurity in Nigeria and its underlying causes. Conceptual solutions are proposed by using cooling methods to reduce temperatures to levels approaching absolute zero.

Findings and Discussion

Major Causes of Insecurity in Nigeria

There are many causes of the high level of insecurity being experienced in Nigeria today. In this work, we would look at the three root causes of insecurity in Nigeria.

Poverty

Typically, poverty is regarded as a condition of being impoverished. It may also be perceived as a situation where there is inadequate income to acquire essential goods and services. Poverty poses a threat to global prosperity, with its origins ranging from insufficient resources and extreme income inequality to conflicts, among other factors. Often, poverty is seen as a consequence of personal inaction, laziness, unemployment, food scarcity, and a lack of education (including formal schooling, vocational training, and entrepreneurship). The core issue relates to challenges such as minimum wage levels and the absence of access to education necessary for securing better-paying positions. Unemployment can lead to criminal activities and their associated consequences, including kidnapping for ransom, theft, oil theft, and other illicit acts. It is also well recognized that the large population of unemployed and idle youth in this nation is a primary contributor to these security issues nationwide. A high unemployment rate may also contribute to poverty levels in Nigeria. The inability to secure decent jobs that yield sufficient income results in low productivity. Numerous graduates find themselves aimlessly wandering the streets with little hope of finding rewarding employment in Nigeria. Many individuals lack means to sustain themselves; while many are willing to work, they are unable to find jobs. Clearly, the higher the unemployment rate in an economy, the greater the level of poverty. The prevalence of unemployment in Nigeria has been profound and extensive, affecting various age groups, educational levels, and geographical regions. Education is crucial for economic development, national productivity, innovation, and democratic principles. A lack of education is prevalent in impoverished nations, particularly because governments in sub-Saharan Africa often lack the resources to establish sufficient public schools in rural areas, resulting in less than 60% of children in sub-Saharan Africa receiving elementary education.

Most poor people in the country drop out of schooling to enable them to concentrate on making a minimal income for a living. This prevents people from having the opportunity to secure decent jobs and opportunities to develop themselves to enable them to fully participate in society. In Nigeria the educational system is very poor when compared with other countries in the world. Nigeria has neglected the both apprenticeship system and Technical and Vocational Education, which should have given the unemployed the opportunity to acquire the requisite skills, for paid. There is food crisis, caused by climate change, rising inflation, deforestation and insecurity. Nigeria's agriculture sector which employs

about 70% of the population is characterised by low productivity due to old farming techniques, limited access to materials like fertilizers, seeds and inadequate infrastructure.

Greed

Greed can be described as an excessive and selfish longing to acquire wealth, possessions, individuals, power, status, recognition, or attention that far exceeds what is necessary for basic human comfort. It arises directly from feelings of dissatisfaction, emptiness, and discontent. In an attempt to alleviate this void and discontent, a greedy person often engages in behaviors aimed at accumulating more resources, admiration, and power, frequently at the expense of the happiness and well-being of others. This viewpoint is supported by the greed (economic) model, which suggests that conflicts in Africa are driven by greed. The involvement of militants in oil theft has reinforced the idea that greed is a fundamental cause of insecurity in Nigeria's Niger Delta. The pursuit of wealth exacerbates insecurity in Nigeria, which is tied to systemic corruption and the misappropriation of public funds and resources for personal benefit. This leads to insufficient investment in crucial public services such as education, healthcare, and infrastructure. Consequently, this systemic corruption deprives the public sector of the necessary funds for development and security, rendering the population vulnerable and disenfranchised.

Security budgets are frequently mismanaged or embezzled, resulting in inadequately equipped and unmotivated security forces that struggle to address security issues effectively. The accumulation of wealth among a small, avaricious elite—often associated with political influence—exacerbates the divide between the affluent and the impoverished. This situation fosters a significant number of discontented individuals who become vulnerable to recruitment by insurgent factions, militants, or criminal organizations as a means of survival or dissent. A rampant obsession with material wealth has emerged as a widespread cultural dilemma in Nigeria, where individuals who acquire wealth through dubious means are frequently celebrated without scrutiny of their financial origins. This societal pressure to achieve rapid wealth encourages many to partake in illicit activities such as armed robbery, kidnapping, fraud, and drug trafficking. Certain individuals are determined to dominate and exert control at any cost. A significant portion of the security crises stems from corrupt elements within the government, driven by their political aspirations. They seek power and will go to great lengths to obtain it, which can incite turmoil. The relentless pursuit of electoral victory, fueled by the ambition to command state power and resources, often leads to political violence, thuggery, and even assassinations. Politicians may arm and deploy thugs during elections, who subsequently continue to engage in criminal acts like kidnapping and banditry after the elections conclude. Ultimately, the relentless quest for power and wealth by both the political elite and the general populace has established a cycle of poor governance, economic hardship, and violence, which is the fundamental causes of Nigeria's intricate security dilemmas.

Sadism

Sadism is considered a "dark" trait characterized by deriving pleasure from the pain, suffering, or humiliation of others, and individuals exhibiting this trait are referred to as sadists. Sadists find joy in inflicting physical, emotional, and psychological pain on others intentionally, seeking personal satisfaction through the harm they cause. They employ physical cruelty and violence to establish dominance, often humiliating or publicly degrading others. This personality trait is associated with narcissism and psychopathy, frequently termed 'everyday sadism'. Narcissists utilize sadism to assert superiority, while psychopaths exploit it for personal gain or excitement, whereas pure sadism is solely focused on the enjoyment of others' pain, although these traits can overlap and enhance one another. Sadists may align themselves with armed groups or partake in criminal endeavors (such as kidnapping for ransom) to execute their acts with notable brutality, reveling in the suffering they inflict. Sadistic leaders display a lack of concern for the suffering of the general populace, and their policies appear to take pleasure in maintaining widespread poverty and misery, which consequently breeds frustration and

creates an environment ripe for insecurity and violence. Sadism is inherently linked to aggressive behavior.

Sadism is recognized as a strong predictor of aggression, driven by the enjoyment of inflicting pain. Violence is characterized by acts of aggression, brutality, and hostility. When violence is physical (not all violent actions are physical), it can lead to bloodshed and property destruction. Sadistic behaviors are apparent in various forms of criminal activity in Nigeria. Groups such as Boko Haram have been charged with crimes against humanity and particularly sadistic murders. Their acts of violence are marked by extreme brutality, mass abductions, and the targeting of both civilians and security personnel, often fueled by ideological extremism. Kidnapping for ransom has emerged as a prevalent and audacious crime. Although the main motivation is financial gain, the tactics employed frequently involve considerable aggression, brutality, and the intentional infliction of suffering or fear on victims and their families to secure payment. Sadistic rape is a recognized form of sexual violence in criminology, where the perpetrator gains sexual pleasure from the victim's pain and suffering, often involving torture and confinement. Nigeria experiences a high incidence of sexual and gender-based violence, with one in four girls facing sexual violence during childhood, and recent years have witnessed a notable rise in reported rape incidents. In summary, the occurrence of sadism in Nigerian crimes illustrates a complex interplay of economic, social, and psychological factors, often resulting in extreme violence perpetrated by individuals and organized groups.

Solutions Through the Cooling Methods

Insecurity in Nigeria causes a threat to life and property, disturbs business activity, and prevents local and foreign investments, all of which hinders the country's social and economic growth and development. Eliminating such challenges should be Nigeria's first priority at every level because the nation cannot achieve any significant development in the midst of insecurity.

Evaporative Cooling and Poverty

Poverty is a societal issue leading to numerous social crimes hindering justification of socio-economic development of any country. To eradicate poverty in Nigeria, there must be optimization of effort, resources and results by both governments and citizens (Olanipekun et al., 2025). One's mindset should be shifted from scarcity to that of opportunity and growth. There should be deliberate shifting of focus from what is missing to what is available and what can be created. To reduce poverty in Nigeria, many programmes introduced earlier failed to achieve the target for which it was set and the poverty situation in Nigeria continues to worsen.

Evaporative cooling involves exposure of a hot material to water for cooling. Water symbolizes abundance, life, prosperity and fertility. To subdue poverty, there must be abundance of food, job, knowledge and resources. The government should boost people's living standards by establishing more centers of entrepreneurship across the nation, most notably in the North and North- East.

Successful entrepreneurs ought to inspire young individuals, assisting them in establishing a robust and authentic standard of entrepreneurship. They should consistently engage in effective mentorship and genuine oversight of the activities of emerging entrepreneurs. This approach would significantly reduce poverty and insecurity within the nation. Unemployment can be tackled and minimized through technical and vocational education and training (TVET), enabling citizens to acquire essential skills and knowledge for gainful employment. The government must establish and equip Technical and Vocational Education institutions with modern, state-of-the-art facilities to facilitate the acquisition of necessary skills for both paid and self-employment. Additionally, the government, financial institutions, non-governmental organizations, private individuals, and others should offer microcredit loans to TVET graduates,

empowering them to start micro businesses and become self-sufficient in their respective fields within the country. Attaining food security will necessitate a multifaceted strategy. There is a pressing need to boost food production to satisfy domestic demand and enhance the country's export capacity, which will subsequently stimulate economic growth. Investing in agriculture is vital for improving food productivity.

Magnetic Cooling and Greed

Magnetic cooling involves the exposure of a material to magnetic field and demagnetization of the material. The strong attractive force of a magnet can be seen as an attachment or connection to power and possessions. In a metaphorical or philosophical sense, demagnetization can be interpreted as a symbol for detachment, losing connection, breaking an attachment or achieving a state of emotional non-attachment.

While many community and international organizations are dedicated to alleviating insecurity problems in Nigeria, little is done to understand and combat one of the root causes of insecurity, greed. Let us shift our attention of these problem-solving organizations to the catastrophic epidemic of greed which can be eliminated. In order to propose solutions to the dangerous epidemic of unfettered greed, it is important to first understand what causes human greed.

Greed is often driven by a fear of scarcity or a need for security or validation. Greed comes from an excessive and insatiable desire for external possessions or outcomes and cultivating an altitude of non-attachment will allow one to enjoy life's experiences without tying their happiness or self-worth to them. Detachment helps shift the focus from external accumulation to inner contentment and well-being. True satisfaction comes from within, not from possessions or material success. Detachment helps to address those underlying fears by fostering a sense of trust and an understanding that one does not need to control outcomes or hoard resources to be okay. Detachment involves being a witness to one's thoughts and emotions, recognizing when greed arises, and choosing not to act on impulse. This mindfulness weakens the pattern of craving and gratification. By detaching from the societal pressure of success purely as material wealth, individual can define success in terms of personal growth, healthy relationships and contributions to the community, which are more likely to provide lasting fulfillment.

In essence, detachment is about changing one's relationship with desires and external things, so that while one can still engage in life and work towards goals, their inner peace is not dependent on the outcome or the possession of more than is needed. Religious leaders should emphasize contentment, detachment from wealth and power. Government should ensure exemplary leadership, fostering trust and accountability.

Laser Cooling and Sadism

In laser cooling, exposure to light causes cooling of the material to a temperature close to 0K, leading to low entropy. Light symbolizes truth, happiness, positivity, goodness, knowledge and transformation that lead to peace. True happiness comes with goodness and positivity. It does not depend on the sadness of others. It does not come by inflicting pain on others.

Typically, individuals who have suffered abuse may, as they mature, turn to violence against others as a way to reclaim the power that was previously taken from them. Children who witness violence might be conditioned to derive enjoyment from the suffering of others. The process of social learning can significantly influence behavior; when children observe that inflicting pain results in another's pleasure, they may imitate such actions in their own lives. The greatest challenge is persuading them to recognize their need for assistance, as they often find gratification in causing harm to others. The drive to seek help may stem from external pressures, like legal issues or the breakdown of relationships. It is advisable to

consult with a therapist and specialists to address the most prominent symptoms: therapy works to identify and confront detrimental thought patterns and behaviors linked to Sadistic Personality. The goal is to cultivate healthier coping mechanisms, enhance problem-solving abilities, and foster empathy and the capacity to understand others' perspectives. They should be guided to practice self-restraint and cease causing harm.

True happiness is from within and does not depend on any external parameters. It is unconditional. It does not depend on the sadness or pain of others. It is pure. True happiness is derived from internal states like contentment, self-acceptance and a positive mindset, rather than external circumstances or the misfortune of others. Individuals have control over their own reactions or emotional states, regardless of external events. True sustainable happiness is often linked with positive emotions like empathy and compassion for others, making the idea of deriving joy from someone else's sadness a contradiction to this perspective. Well-being comes from living virtuously and harmoniously with others. Genuine and lasting happiness is a self-generated quality that thrives on positivity and is fundamentally incomparable with causing or enjoying the suffering of others. Religious leaders should emphasize contentment, detachment from wealth and power, empathy and treating others the way you want them to treat you. Government should ensure exemplary leadership, fostering trust, accountability and empathy.

Recommendations

To address the issue of insecurity in Nigeria, the research suggests the following recommendations:

1. The government ought to generate more employment opportunities for its citizens.
2. The government should establish additional entrepreneurship hubs and create as well as equip Technical and Vocational Education Training centers throughout the country.
3. Through the National Orientation Agency (NOA), the government should implement nationwide public awareness initiatives to tackle poverty and educate citizens about their roles in overcoming it. Emphasis should be placed on acquiring education, developing skills, engaging in small and medium enterprises, and participating in small-scale farming and agriculture.
4. There should be significant government investment in agriculture to ensure food security.
5. The government must demonstrate exemplary leadership, promoting trust, accountability, and compassion.
6. Authorities should encourage early childhood intervention which include moral development/education and proper parenting;
7. Ensuring safety within the nation requires collaboration among the government, individuals, businesses, religious organizations, and civil society.
8. Religious leaders ought to highlight the importance of contentment, detachment from wealth and power, empathy, and the principle of treating others as one wishes to be treated. This approach will cultivate peaceful coexistence among various religious beliefs.

Conclusion

Insecurity is a worldwide issue, and the current state of Nigerian society is marked by insecurity, where both lives and properties are at risk. This is evident through various incidents such as armed robberies, insurgent bombings, communal conflicts, herdsmen threats, drug trafficking, money laundering, illegal arms trade, political violence, religious and ethnic strife, cyber-crimes, kidnappings, abductions, and banditry. This study examines the problem of insecurity in Nigeria, its causes, and potential solutions by relating it to the third law of thermodynamics and cooling techniques. In this context, entropy symbolizes the insecurity in Nigeria, while temperature signifies the underlying causes of this insecurity. High levels of poverty serve as significant contributors to insecurity in Nigeria, frequently pushing individuals towards unlawful activities. The high unemployment rate is a direct consequence of poverty.

Additionally, the lack of education, apprenticeship opportunities, Technical and Vocational Training, and the low productivity of Nigeria's agricultural sector have all contributed to the prevalence of poverty in the country. Evaporative cooling refers to the process of cooling hot materials by exposing them to water. Water represents abundance, life, prosperity, and fertility.

To combat poverty, there must be a surplus of food, jobs, knowledge, and resources. The government should establish more entrepreneurship centers and enhance TVET institutions. Investing in agriculture is essential for boosting food productivity. The government needs to create additional job opportunities in the country and ensure access to quality education. Quality education provides appealing, lawful alternatives to illegal activities. Individuals with a solid education are less likely to engage in criminal acts, as they are more motivated to pursue legal employment.

The pursuit of wealth and power leads to insecurity. It is the longing to acquire wealth and power far exceeding what is necessary for basic human comfort. Some individuals desire to dominate and control at any cost. Many security crises stem from corrupt elements within the government driven by political ambitions. They crave power and will do anything to attain it, which can lead to turmoil. Magnetic cooling refers to the process of exposing a material to a magnetic field and subsequently demagnetizing it. The strong attractive force of a magnet can be viewed as a connection to power and material possessions. In a metaphorical or philosophical context, demagnetization symbolizes detachment, loss of connection, or achieving a state of emotional non-attachment. Greed arises from an insatiable desire for external possessions or outcomes, and fostering a mindset of non-attachment enables one to appreciate life's experiences without linking their happiness or self-worth to them. Detachment encourages a shift in focus from external accumulation to inner contentment and well-being.

Sadism is a dark trait characterized by deriving pleasure from the pain and suffering of others. Sadists may join armed groups or partake in criminal activities, such as kidnapping, to inflict brutality and revel in the suffering they cause. In laser cooling, exposure to light results in the cooling of materials to temperatures nearing 0K, which in turn leads to low entropy. Light represents truth, happiness, positivity, goodness, knowledge, and transformation that contribute to peace. Genuine happiness is rooted in goodness and positivity. It is independent of the sorrow experienced by others. True happiness is not achieved through causing pain to others. It is advisable for individuals to seek assistance from a therapist or specialist to address significant symptoms: Therapy works to identify and confront negative thought patterns and behaviors linked to sadistic personality traits.

Ensuring national security requires collaboration among the government, individuals, businesses, religious organizations, and civil society. The government must provide exemplary leadership that promotes trust, accountability, and empathy. Religious leaders should focus on the importance of

contentment, detachment from material wealth and power, empathy, and the principle of treating others as one wishes to be treated. This approach will foster peaceful coexistence among various religious beliefs.

Suggestions for Future Studies

Future investigations in security studies ought to thoroughly explore the underlying factors contributing to insecurity in Nigeria, particularly focusing on childhood trauma and various personality disorders that lead to greed and sadism.

Researchers and governmental think tanks should concentrate on initiatives and policies that emphasize self-awareness, empathy, contentment, and creativity. This change can play a crucial role in developing sustainable solutions for Nigeria's security issues.

Additionally, further research can greatly enhance the comprehension of crimes linked to insecurity in Nigeria, viewed from multidisciplinary angles.

References

- Adesina, S. (2024).** Changing Insecurity Threats in Nigeria from 1999-2021. *International Journal of Research and Innovation in Social Science*, 8 (3), 28-48 pp. <https://dx.doi.org/10.47772/IJRISS.2024.803004>
- Agunbiade, O. (2024).** Insecurity and Nigeria's Socio-Economic Development. *African Journal of Social Sciences and Humanities Research*, 7(2), 166-181 pp. <https://doi.org/10.52589/AJSSHR>
- Alao, O. J. (2024).** The Role of Religion in Addressing Security Challenges in Contemporary Nigeria. *Journal of African Studies and Sustainable Development*. 7(2), 27-39 pp.
- Bandura A. (1977).** *Social Learning Theory*. Prentice-Hall.
- Einstein, A. (1914).** Beitrage zur Quantentheorie (Contributions to Quantum Theory). *Verhandlungen der Deutsche Physikalische Gesellschaft*, 16, 820-828 pp.
- Freud, S. (1953).** *The Interpretation of Dreams* (J. Strachey, Trans. & Ed.). Basic Books, (Original work published 1900).
- Gottfredson, M. R. & Hirschi, T. (1990).** *A General Theory of Crime*. Stanford University Press.
- Hall, J. (1960).** *General Principles of Criminal Law* (2nd ed.). Bobbs-Merrill.
- Hart, H. L. A. (1968).** *Punishment and Responsibility: Essays in the Philosophy of Law*. Oxford University Press.
- Institute for Economics & Peace. (2025).** *Global Peace Index 2025*.
- Lewis, G. N. & Randall, M. (1923).** *Thermodynamics and the Free Energy of Chemical Substances*. McGraw-Hill Book Company, New-York.
- Moffitt, T. E. (1993).** Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100(4), 674-701. <https://doi.org/10.1037/0033-295X.100.4.674>

- National Bureau of Statistics (2024).** *The Crime Experienced and Security Perception Survey (CESPS) 2024*. Abuja, Nigeria: NBS.
- Nernst, W. (1906).** Ueber die berechnung chemischer gleichgewichte aus thermischen messungen (On the Calculation of Chemical Equilibria from Thermal Measurements). *Nachrichten von der Gesellschaft der Wissenschaften zu Gottingen, Mathematisch-Physikalische Klasse*, 1, 1–40 pp.
- Nernst, W. (1912).** *Thermodynamik und spezifische warme (Thermodynamics and Specific Heat)*. Preussische Akademie der Wissenschaften (Berlin). *Sitzungsberichte*, 1, 134-140 pp.
- Nigerian Institute of Social and Economic Research: *Research for Nigeria's Socio-economic Transformation* (2024).** Insecurity Takes the Lead as the Key Driver of Poverty in Nigeria: Study Reveals. Policy Brief, No. 2, April 2024.
- Obiajulu, E. A. (2022).** Dramatic literature and the Challenges of Insecurity in Nigeria. *Awka Journal of Linguistics and Languages, Special Edition 2*, 42-60 pp.
- Olanipekun, A. B., Oni, O., Akande, J. A. & Olanipekun, B. S. (2025).** Newton's Laws of Motion: Catalysts for Eradicating Poverty in Nigeria, *Cross Current International Journal of Economics, Management and Social Studies*, 7(4), 72-81 pp. <https://doi.org/10.36344/ccijemms.2025.v07i04.00>
- Otu, C. A., Margaret, U. O., Williams, C. O. & James, T. H. (2025).** The Impact of Insecurity on Economic Growth amongst North-Eastern States of Nigeria. *ADSU International Journal of Applied Economics, Finance & Management*, 10(1), 15-41 pp.
- Planck, M. (1911).** *Thermodynamik* (3rd edition). Berlin.
- Simon, F. (1937).** On the Third Law of Thermodynamics. *Physica*, 10, 1089-1096 pp.
- Ukwu, F. E., Ojonta, P. N. & Charles, O. M. (2024).** Managing Insecurity in Nigeria through Quality Education in the Post-Covid-19. *Journal of Economics and Allied Research*, 9(3), 303-315 pp. <https://jearecons.com/index.php/jearecons/article/view/view/483>
- Uzoh, N. E. (2025).** Insecurity, Poverty and Development Challenges in Nigeria, *Quest Journals Journal of Research in Business and Management*, 13(1), 51-21 pp. <https://doi.org/10.35629/3002-13011521>
- Wahab, E. I. (2025).** Human Security in Nigeria: The Role of Social Studies. *Journal of African Social Studies*, 6(2), 210-222 pp.
- Zubairu, N. (2020).** Rising Insecurity in Nigeria: Causes and Solution. *Journal of Studies in Social Sciences*, 19, 4-14 pp. <https://www.researchgate.net/publication/370985551>

Copyright Notice

This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.