British Journal of Mass Communication and Media Research
ISSN: 2997-6030
Volume 5, Issue 1, 2025 (pp. 59-75)
www.abjournals.org

CONSUMER PROTECTION COUNCIL'S CAMPAIGN AND AKWA IBOM RESIDENTS' AWARENESS OF THE DANGERS OF COMPRESSED NATURAL GAS

Precious Akamba Selong

Faculty of Communication and Media Studies, University of Uyo, Nigeria.

Email: preciousselong@gmail.com; Tel.: +2347030740044

Cite this article:

Selong, P. A. (2025), Consumer Protection Council's Campaign and Akwa Ibom Residents' Awareness of the Dangers of Compressed Natural Gas. British Journal of Mass Communication and Media Research 5(1), 59-75. DOI: 10.52589/BJMCMR-I2MWNDIQ

Manuscript History

Received: 5 Jan 2025

Accepted: 15 Feb 2025

Published: 25 Feb 2025

ABSTRACT: *This study, among other things, examined the extent of Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets within residential areas, as well as the influence of The Customer Protection Council's Campaigns on Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets in residential areas. This study adopted the survey research design. The study's population comprised 7,200,000 residents of Akwa Ibom State. The sample size of 400 was determined using Yard's formula, and the multistage sampling technique was used to select the respondents for the study. The instrument for data collection was a self-developed structured questionnaire designed with a 4-point Likert scale structure. The data were analysed using frequency distribution and simple percentages. The findings of the study showed that residents of Akwa Ibom State are significantly aware of the dangers of Compressed Natural Gas sales and vending around residential areas. The study also showed that the Customer Protection Council's campaigns on the risks of CNG residential area sales and vending have a significant positive influence on residents' awareness and attitudes. Recommendations were made that to further enhance awareness, the Consumer Protection Council (CPC) should intensify community-based awareness campaigns, incorporating local influencers, grassroots organisations, and vernacular communication methods. This will address varying levels of awareness and ensure that critical safety messages reach underserved and vulnerable populations.*

KEYWORDS: Awareness, Compressed Natural Gas, Customer Protection Council, Customer Protection Council Campaign, Danger of CNG.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

British Journal of Mass Communication and Media Research
ISSN: 2997-6030
Volume 5, Issue 1, 2025 (pp. 59-75)

BACKGROUND TO THE STUDY

The growing prevalence of Compressed Natural Gas (CNG) as an alternative energy source in many Nigerian States, including Akwa Ibom, has raised concerns, regardless of its imports. Among other things, the Compressed Natural Gas (CNG) has reduced greenhouse gas emissions, lower energy costs for households and businesses, energy diversification, and potential economic growth through job creation in the energy sector.

While its use offers environmental benefits and cost advantages, the unregulated establishment of CNG sales and vending outlets within residential areas poses significant risks. Explosions, fires, and gas leaks, for instance, have emerged as potential threats that significantly endanger lives and properties in particularly residential areas. The absence of stringent safety regulations and inadequate public knowledge exacerbates these dangers, silently highlighting the urgent need for continuous and systematic interventions aimed at addressing the risks associated with CNG operations.

This critical enlightenment task has remained one of those undertaken by The Consumer Protection Council (CPC) through its activities (awareness and safety campaigns). CPC is a Nigerian agency established to safeguard consumers' rights, ensuring fairness, safety, and quality in goods and services while promoting consumer awareness and redress mechanisms.

In Nigeria, the Consumer Protection Council (CPC) has been functional in its role of ensuring public safety by promoting awareness of CNG-related hazards. Public awareness campaigns have been identified as effective tools for educating residents about safety protocols, which, among other things, are aimed at enabling them to make informed decisions and take precautions. Drawing from Coombs (2020), modern risk communication strategies must include community-centred messaging to bridge knowledge gaps and empower individuals to adopt safer practices. Such approaches align with the CPC's mandate to protect consumers by fostering a safety-conscious society.

Effective public communications are crucial in addressing these risks. As Heath and Coombs (2016) argue, strategic risk communication transforms audiences into proactive participants in risk mitigation. This involves disseminating clear, consistent messages about potential hazards and engaging stakeholders in co-creating safety solutions. In Akwa Ibom State, where development and urban expansion have continually driven economic activities, tailored campaigns that address the safety implications of rapid growth are continuously essential.

Within the last 2 years, the CPC has collaborated with various stakeholders, such as the mass media, in its safety campaign and assessments. For instance, the council has leveraged both the traditional and new media to educate the public on safe practices and compliance standards towards ensuring that the risks associated with LPG and CNG sales and vending outlets operated in residential areas are effectively mitigated amidst increasing infrastructural progress.

In Renn's (2019) opinion, the importance of participatory communication in enhancing the effectiveness of safety campaigns is essential. In this regard, engaging Akwa Ibom State residents in discussions about CNG safety protocols not only builds trust but also fosters a collective sense of responsibility. This participatory approach aligns with the CPC's efforts to involve communities in ensuring the safe operation of CNG outlets. By doing so, public

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

communication initiatives can transform passive audiences into active advocates for safety, reducing the incidence of preventable accidents in residential areas.

While these enlightenment efforts continue to expand, the consumption of Compressed Natural Gas steadily rises, alongside the rapid establishment of vending outlets near residential areas. To what extent can one evidently argue about Akwa Ibom residents' awareness of the risks associated with these developments or their understanding and compliance with standard safety protocols? This knowledge uncertainty motivates this study and raises the underlying question: What is the extent of Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas vending outlets' establishments in residential areas through the Protection Council's Campaigns?

Objectives of the Study

The objectives of this study were to:

i. determine the extent of Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets within residential areas;

ii. examine the communication channels deployed by The Customer Protection Council in its Campaigns on the dangers of Compressed Natural Gas (CNG) sales and vending outlets within residential areas;

iii. ascertain the influence of The Customer Protection Council's Campaigns on Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets in residential areas, and

iv. Find out the attitudes of Akwa Ibom residents towards safety protocols arising from the Customer Protection Council's Campaigns on the dangers of Compressed Natural Gas (CNG) sales and vending outlets in residential areas.

REVIEW OF RELATED LITERATURE

a. Compressed Natural Gas (CNG)

Compressed Natural Gas (CNG) is a natural gas stored under high pressure and primarily composed of methane, which serves as an alternative fuel to petrol and diesel due to its lower emissions and cost-effectiveness. According to the International Gas Union (IGU) (2023), CNG is compressed to less than 1% of its volume at standard atmospheric pressure, making it suitable for storage and transportation.

This characteristic makes it a popular choice for urban transportation systems worldwide. CNG has been lauded for its efficiency in reducing greenhouse gas emissions, contributing significantly to improvements in urban air quality. However, the IGU also highlights challenges in infrastructure development and storage, which limit its widespread adoption in less developed regions. As a transitional fuel, CNG bridges the gap between traditional fossil fuels and renewable energy sources, thereby offering an immediate solution to reduce environmental impact without requiring drastic changes to existing energy systems.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

The United States Department of Energy (DOE) (2023) describes CNG as a gaseous fuel derived from underground natural gas reserves, which is compressed to pressures ranging from 2,900 to 3,600 pounds per square inch for use as a transportation fuel. This compression process allows it to maintain a high energy density while being stored in lightweight containers. The DOE emphasises that CNG is a cleaner-burning fuel compared to petrol and diesel and significantly reduces emissions of carbon monoxide, nitrogen oxides, and particulate matter. As such, it is increasingly used in fleet vehicles, buses, and trucks. While it presents clear environmental advantages, the DOE cautions that the cost of retrofitting vehicles and establishing refuelling infrastructure poses significant financial challenges. Nevertheless, CNG remains a cornerstone of the United States' strategy for reducing dependence on imported oil and promoting domestic energy production.

In Kumar, Sharma, and Singh's (2022) submission, Compressed Natural Gas (CNG) is a versatile and sustainable energy source that is gaining traction in both developed and developing economies. Their study highlights that CNG, derived from natural reservoirs, is compressed to facilitate storage and transportation. It is primarily used in the automotive industry as an alternative to traditional fuels, offering substantial reductions in greenhouse gas emissions.

Kumar *et al*. argue that CNG's scalability and compatibility with existing engines give it an edge over other alternative fuels, such as hydrogen or electric vehicles, which require significant infrastructural changes. They also note the role of CNG in promoting energy security, as many countries with natural gas reserves can reduce their reliance on imported oil by adopting this fuel.

Compressed Natural Gas (CNG) has emerged as a prominent player in the global quest for cleaner and more sustainable energy solutions. As a fuel composed primarily of methane, CNG is celebrated for its reduced environmental footprint compared to traditional fossil fuels. Vehicles powered by CNG produce up to 30% fewer greenhouse gas emissions than their petrol counterparts, making it a valuable bridge fuel in the transition to renewable energy (Yousaf, Younus, and Khan, 2022). The environmental benefits are particularly significant in urban areas where air quality improvement is paramount. However, challenges such as limited public awareness and underdeveloped infrastructure for distribution and refuelling present barriers to widespread adoption (International Gas Union, 2021).

Another key attribute of CNG is its efficiency and cost-effectiveness. With a superior heating value per unit compared to petrol, vehicles running on CNG demonstrate better mileage at a lower cost. For instance, studies indicate that while 10 litres of petrol might propel a vehicle a certain distance, only 6-7 litres of CNG would achieve the same. This economic advantage, combined with its lower production and distribution costs, positions CNG as an attractive option for budget-conscious consumers. Nevertheless, the scarcity of refuelling stations and the logistical challenges of storage hinder its mass adoption, especially in regions still grappling with underdeveloped energy infrastructure (U.S. Department of Energy, 2023).

In the transportation sector, CNG has carved a niche as an eco-efficient alternative to gasoline and diesel. Its use is particularly prominent in public transport systems, such as buses and taxis, in many urban areas worldwide. These initiatives align with global sustainability goals, aiming to reduce dependence on traditional oil and combat air pollution. The adoption of CNG in transportation also underscores its potential to lower operational costs for fleet managers while

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

contributing to cleaner urban environments. However, transitioning to CNG on a large scale involves significant investment in modifying engines and expanding specialised refuelling stations, presenting a time-intensive endeavour for stakeholders (Palenchar & Heath, 2019).

Equally, CNG holds a strategic position in sustainable energy practices. It provides a cleaner interim solution while nations work toward incorporating more renewable energy sources. Its versatility as a fuel for both heating and vehicle propulsion highlights its potential to meet diverse energy demands. Nevertheless, the extraction and distribution of natural gas must be managed sustainably to prevent the environmental degradation associated with its lifecycle. Effective management can ensure that the benefits of adopting CNG are not overshadowed by the ecological costs of its production and use (Kumar, Sharma, & Singh, 2022).

Public Communication and the Dangers of CNG Sales and Vending Around Residential Areas

The sale and vending of Compressed Natural Gas (CNG) in residential areas, while seen as a viable energy alternative, pose significant risks, particularly when safety protocols are not communicated effectively. The proximity of CNG outlets to homes can lead to dangerous consequences in the event of accidents such as gas leaks or explosions. Public awareness and communication campaigns are vital to mitigating these risks, as they ensure residents are informed about the proper handling and storage of CNG.

Without proper safety training and information, residents may unknowingly engage in hazardous practices, increasing the likelihood of dangerous incidents. As identified by the UNDP (2024), clear communication about the dangers and safety measures surrounding CNG is an effective way of preventing catastrophic accidents, particularly in densely populated residential areas.

The place and role of public communication in promoting safety measures around CNG vending outlets cannot be overstated. Effective public communication strategies play a central role in educating the public about the potential risks of CNG sales and the importance of compliance with safety protocols. Through tailored campaigns, professionals can engage with communities to raise awareness about the critical safety standards that must be followed when dealing with CNG (Smith & Johnson, 2021).

These efforts should involve not just the dissemination of information but also community engagement, allowing local stakeholders to become active participants in safety measures. According to Heath and Coombs (2016), effective risk communication is about involving the audience in a dialogue that promotes understanding and action, which is essential in a context as potentially dangerous as CNG vending.

In addition to promoting safety, communication efforts must address the regulatory gaps that exist in CNG sales and vending. In many cases, these outlets operate without proper oversight, leaving residents exposed to additional risks. Communication campaigns must focus on informing both residents and regulatory bodies about the importance of compliance with safety standards.

As noted by Coombs (2006), when public relations strategies are integrated with regulatory enforcement, they create a powerful tool for enhancing safety in communities. These efforts ensure that safety protocols are not only communicated but also enforced, fostering a culture

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

of responsibility among both vendors and consumers of CNG. Without such communication and oversight, the sale of CNG near residential areas could continue to pose an unacceptable risk to public health and safety.

Moreover, public awareness initiatives surrounding the dangers of CNG outlets need to be continuous and proactive. One-time campaigns may not be sufficient in ensuring long-term safety, as behaviours around the use and storage of CNG can evolve over time. Consistent communication, particularly in the form of regular updates and reminders, helps maintain a culture of safety within communities. This ongoing communication is essential, especially in areas where CNG outlets are proliferating (Daniels, P., & Johnson, M., 2022).

As Okanlawon (2023) suggests, communication efforts not only inform but also engage communities in ongoing risk management strategies. By sustaining awareness and reinforcing safety practices, these communication efforts can help prevent accidents and ensure that communities remain vigilant in the face of emerging risks.

Consumer Protection Council's Campaign on the Dangers of Compressed Natural Gas in Nigeria

The Consumer Protection Council (CPC) owes Nigerians the duty of promoting safe, healthy environmental practices among organisations and businesses to prevent the avoidable destruction of lives and properties in Nigerian societies. In launching some ambitious awareness campaigns for residents in many federation states, including Akwa Ibom, the council aims to raise awareness about the dangers of compressed natural gas (CNG) (https://www.environewsnigeria.com/).

This initiative emerges amidst growing concerns over the improper handling and storage of CNG, especially in urban and semi-urban areas where residential and commercial zones are increasingly interwoven. Many times, such a campaign highlights critical safety issues, such as the risks posed by substandard CNG storage equipment, the proximity of storage facilities to residential areas, and the lack of public understanding of safe practices. Through the strategic use of illustrations, public forums, and community engagement, the CPC tailors its efforts to resonate with the diverse demographic makeup of many communities in Nigeria, including Akwa Ibom State (https://www.environewsnigeria.com/).

One notable aspect of the campaign is its emphasis on vivid, relatable storytelling to convey complex safety messages. For example, a widely circulated visual shows a family narrowly escaping a CNG-related fire, accompanied by clear, actionable safety advice. Such narratives are shared via local radio, town hall meetings, and social media, ensuring that the message reaches both urban dwellers and rural communities. The use of local languages and dialects further strengthens the connection, making the campaign's warnings more comprehensible and impactful. These efforts have turned what could be a technical subject into a relatable call for vigilance and action (https://fccpc.gov.ng/, 2024)

The CPC's campaign also tackles the regulatory landscape and attempts to bring to light the inadequacies in compliance with safety standards. It criticises unscrupulous operators who flout regulations, often endangering lives by installing faulty equipment or bypassing necessary inspections. Workshops and demonstrations allow individuals to learn about emergency procedures, such as recognising gas leaks and using fire extinguishers. In one notable instance,

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

a workshop in Uyo featured a live demonstration of how to respond to a gas leak, with participants applauding the practical relevance of the exercise. These hands-on initiatives empower residents to take ownership of safety measures, fostering a culture of collective responsibility.

Through this multi-faceted campaign, the CPC has brought the dangers of compressed natural gas to the forefront of public discourse in Akwa Ibom. By combining impactful illustrations, relatable narratives, and a focus on education and enforcement, the initiative has not only raised awareness but also spurred a demand for systemic change. It underscores the power of strategic communication in addressing critical safety issues, proving that informed citizens are the cornerstone of any effective public safety effort.

Theoretical Framework

This research was anchored on the Risk Communication Theory. First formalised by Covello and Sandman in the 1980s, this theory provides a structured approach to understanding how risk-related information is effectively communicated to influence perceptions, attitudes, and behaviours. The theory emerged in response to the need for improved communication during public health crises and technological risks, focusing on the principles of clarity, transparency, and trustworthiness in messaging. Its primary emphasis lies in creating audience-centred communication strategies that address uncertainties and foster informed decision-making. As Heath and O'Hair (2009) expanded upon, risk communication bridges the gap between scientific expertise and public understanding, aiming to empower audiences with actionable knowledge. The theory also highlights the interplay between emotional and cognitive responses, ensuring that risk messages resonate with diverse audiences.

The underlying assumption of Risk Communication Theory is the belief that audiences interpret risks based on both objective data and subjective perceptions. The theory notes that the variability of risk perception is influenced by cultural, social, and personal factors. Also, effective communication should balance technical accuracy with emotional sensitivity, recognising that fear or confusion can hinder comprehension. Furthermore, it posits that two-way communication is essential, allowing for feedback and active engagement to refine messaging strategies. It also emphasises the use of multiple channels, including traditional media, social media, and community-based platforms, to reach diverse groups effectively.

The relevance of Risk Communication Theory to this research lies in its practical application to the hazards associated with Compressed Natural Gas (CNG) sales and vending near residential areas. The theory offers a roadmap that explains the need for crafting communication campaigns that highlight the risks of CNG mishandling and the importance of adhering to safety protocols. It also helps in explaining how residents perceive the dangers, address knowledge gaps, and foster behavioural changes through strategic messaging. The audience-centred approach ensures that messages are tailored to the specific concerns and demographics of Akwa Ibom residents.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

METHODOLOGY

This study adopted the survey research design because of its potential to generate data on people's opinions, perceptions, attitudes, and views on essential issues of interest to a researcher, especially from a large population that cannot be directly studied. The population of the study comprised the residents of Akwa Ibom State, of which the National Population Commission estimated at 7,200,000 in 2024. The sample size of 400 was determined using Yard's formula, and the multistage sampling technique was used to select the respondents for the study. Here, the cluster and purposive sampling techniques were used at four different stages to select respondents from 6 Local Government areas in Urban and semi-urban areas in Akwa Ibom State, namely Abak, Ibesikpo, Ikot Ekpene, Eket, Oron, and Uyo.

The instrument for data collection was a self-developed structured questionnaire designed with a 4-point Likert scale structure. The data were analysed using frequency distribution and simple percentages.

Data Presentation

Presented and discussed below are the data from the research instrument. Out of the 400 copies of the questionnaire administered, only 381 copies were retrieved and used for the analysis.

Table 1: Extent of Awareness of the Dangers of CNG Sales and Vending Outlets in RA

Response	Frequency	Percentage
Very Great Extent	211	55
Great Extent	101	27
Little Extent	69	18
Not At All	-	-
Total	**381**	**100**

The findings indicate that a majority (82%) of respondents are aware of the dangers of Compressed Natural Gas (CNG) sales and vending outlets to varying degrees, with 55% reporting a "very great extent" of awareness.

Table 2: Communication Channels of Customer Protection Council in CNG Danger Campaigns (Multiple Options allowed)

Response	Frequency	Percentage
Traditional Media Coverage	56	13
New Media Campaigns	66	16
Street Shows	-	-
Public Advisories and Alerts	67	16
Workshops and Training Sessions	98	23
Collaboration with Civil Societies	62	15

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Dedicated Hotlines and Websites	72	17
Total	**421**	**100**

The findings reveal that the CPC employs multiple communication channels in its CNG danger campaigns, with workshops and training sessions (23%) being the most utilised, followed by dedicated hotlines and websites (17%) and public advisories and alerts (16%), highlighting a preference for direct, accessible engagement methods over traditional media and civil society collaborations.

Table 3: CPC Campaigns Increase Safety Awareness and Understanding of CNG Outlets Risks

Response	Frequency	Percentage
Strongly Agree	214	56
Somewhat Agree	91	24
Cannot Say	65	17
Not At All	11	3
Total	**381**	**100**

The findings in Table 3 indicate that the CPC campaigns have significantly increased public safety awareness and understanding of the risks associated with CNG outlets, which implies a high degree of the campaign's effectiveness.

Table 4: CPC Campaigns Improve Vigilance and Compliance with Safety Standards

Response	Frequency	Percentage
Strongly Agree	54	14
Somewhat Agree	133	35
Cannot Say	149	39
Not At All	45	12
Total	**381**	**100**

The findings here indicate that despite some progress, the campaigns may require more targeted and comprehensive strategies to increase awareness and compliance. The 39% uncertainty reflected in the data calls for a more in-depth evaluation of the communication methods employed, potentially focusing on enhancing clarity and engagement to ensure that safety standards are more widely understood and adhered to.

Table 5: CPC Campaigns' Effective Use of Communication Channels Influences Broader Reach and Engagement with Stakeholders

Response	Frequency	Percentage
Strongly Agree	229	60
Somewhat Agree	108	28
Cannot Say	33	9

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Not At All	11	3
Total	**381**	**100**

Table 5 reveals that a significant 88% of respondents recognise the effectiveness of CPC campaigns' communication channels in reaching and engaging broader stakeholders, which suggests a strong campaign impact.

Table 6: CPC Campaigns Prompts to Behavioural Change Initiatives

Response	**Frequency**	**Percentage**
Strongly Agree	78	20
Somewhat Agree	163	43
Cannot Say	124	33
Not At All	16	4
Total	**381**	**100**

The findings suggest that 63% of respondents recognise the positive impact of CPC campaigns in prompting behavioural change, with 43% somewhat agreeing and 20% strongly agreeing. However, 33% remain uncertain, indicating room for further improvement in influencing behavioural change initiatives through these campaigns.

Table 7: CPC Campaigns Leads to Proactive Risk Mitigation

Response	**Frequency**	**Percentage**
Strongly Agree	128	34
Somewhat Agree	113	30
Cannot Say	89	23
Not At All	51	13
Total	**381**	**100**

Table 7 shows that 64% of respondents agree that CPC campaigns contribute to proactive risk mitigation, though 23% of the respondents remain uncertain, suggesting the need to enhance the clarity and effectiveness of campaigns to fully engage all stakeholders in risk mitigation efforts.

Table 8: Residents Show concerns about safety and a desire for stricter regulations following CPC Campaigns

Response	**Frequency**	**Percentage**
Strongly Agree	132	35
Somewhat Agree	128	33
Cannot Say	29	8
Not At All	92	24
Total	**381**	**100**

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Table 8 reveals that Akwa Ibom residents exhibit a generally positive attitude towards safety following the CPC's campaigns on the dangers of CNG sales and vending outlets. A considerable 35% of respondents strongly agree that they are concerned about safety and desire stricter regulations.

Table 9: Residents Show support for safety protocols to Protect their families

Response	Frequency	Percentage
Strongly Agree	99	26
Somewhat Agree	168	44
Cannot Say	25	7
Not At All	89	23
Total	**381**	**100**

Table 9 indicates that residents are receptive to the importance of safety protocols, with a majority recognising their role in ensuring the protection of their families from potential risks.

Table 10: Residents Show Skepticism about Government Assurance of Monitoring compliance to avoid disasters

Response	Frequency	Percentage
Strongly Agree	198	52
Somewhat Agree	97	25
Cannot Say	15	4
Not At All	71	19
Total	**381**	**100**

Table 10 indicates that a substantial number of Akwa Ibom residents (52%) display a sceptical attitude towards the government's assurance of monitoring compliance to prevent disasters from CNG sales and vending outlets, reflecting a prevalent doubt about the government's ability to effectively enforce safety measures.

DISCUSSION

Research Question 1: What is the extent of Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets within residential areas?

The findings from Table 1 reveal that a majority of Akwa Ibom residents are aware of the potential dangers associated with Compressed Natural Gas (CNG) sales and vending outlets within residential areas. With 82% of respondents reporting varying degrees of awareness and 55% citing a "very great extent" of awareness, it is evident that there is a broad recognition of the risks posed by CNG-related activities. This high level of awareness could be attributed to the ongoing campaigns by regulatory bodies such as the Consumer Protection Council (CPC) and other factors, which have actively raised public consciousness through various communication channels. Regardless of this broad awareness, the variation in responses

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

suggests that not all residents have the same depth of understanding regarding the specific dangers, and further educational efforts may be needed to ensure more nuanced knowledge.

The implications of these findings are significant. While a substantial proportion of the population acknowledges the dangers of CNG sales and vending, it is crucial to examine the impact of this awareness on actual behavioural changes and safety practices. Awareness alone does not necessarily translate to informed decision-making or the implementation of safety measures. If the public's knowledge remains superficial or unaccompanied by adequate training and clear safety guidelines, the potential risks associated with CNG outlets in residential areas could persist. Moreover, this awareness must be sustained and reinforced through continued campaigns, workshops, and actionable interventions to encourage tangible safety practices among residents.

Recent studies on public awareness and safety risks highlight similar trends in raising awareness while encountering barriers to effective action. For instance, a study by Smith and Johnson (2021) found that although urban residents were aware of environmental hazards like air pollution, their understanding of the health impacts did not always lead to behavioural changes. Similarly, Nelson (2020) noted that while communication campaigns about fire safety were widely disseminated, many residents still failed to implement key safety protocols.

Furthermore, research by Okanlawon (2023) on energy-related risks in Nigeria identified a significant gap between public awareness and compliance with safety standards, reflecting the complexity of translating knowledge into action. These studies align with the current research, emphasising the importance of continuous education and proactive engagement in addressing public safety concerns.

The theory of crisis communication, particularly as articulated by Coombs (2007), helps in understanding how residents of Akwa Ibom process and respond to information about the dangers of CNG sales and vending outlets. According to Coombs, effective crisis communication aims to reduce uncertainty, provide clear guidance, and build trust through consistent messaging. The findings suggest that while the residents are largely aware of the risks, there remains a need for more targeted and comprehensive communication strategies that not only inform but also empower residents to take actionable steps. In this context, the CPC's campaigns can be viewed as an effort to mitigate the potential crisis by pre-emptively addressing the public's concerns and reinforcing safety practices. However, the challenge lies in ensuring that this information translates into sustained behaviour changes, which is a central tenet of crisis communication theory.

Research Question 2: What are the communication channels deployed by The Customer Protection Council in its Campaigns on the dangers of Compressed Natural Gas (CNG) sales and vending outlets within residential areas?

The findings from Table 2 reveal that the Consumer Protection Council (CPC) adopts a multi-channel approach in its campaigns on the dangers of Compressed Natural Gas (CNG) sales and vending outlets. Notably, workshops and training sessions are the most utilised channels, with 23% of respondents indicating their importance in the campaign strategy. This is followed by dedicated hotlines and websites (17%) and public advisories and alerts (16%).

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

These findings reflect a deliberate emphasis on direct, interactive, and accessible communication methods, which allow for more personalised engagement with the public. In contrast, traditional media such as television, radio, and newspapers, as well as collaborations with civil societies, appear to play a lesser role in this campaign. This choice of channels is strategically designed to provide real-time information, offer immediate avenues for public interaction, and ensure a sustained dialogue on the risks of CNG, thus ensuring more effective dissemination and engagement.

These findings suggest that the CPC's communication strategy is designed to facilitate a more direct connection with the public. By prioritising workshops, training sessions, and digital platforms such as hotlines and websites, the CPC is responding to the need for more interactive and accessible forms of communication. These channels not only enable the CPC to disseminate information but also empower residents to ask questions, seek clarification, and engage with the safety protocols more effectively. However, the limited reliance on traditional media may reflect a gap in reaching certain segments of the population who may not have access to digital platforms or prefer conventional forms of communication. This calls for a more balanced approach that combines both modern and traditional methods to reach all demographics within Akwa Ibom State.

Recent studies on communication strategies in public safety campaigns resonate with the findings of this study. A 2022 study by Carter and Thompson found that interactive communication channels, including workshops and digital platforms, significantly increased public engagement in safety initiatives. Similarly, in their analysis, Milojević, Pesic, and Taranović (2016) highlighted that community workshops and direct engagement through websites and hotlines were more effective than traditional media in ensuring public awareness and behavioural change. Furthermore, UNDP (2024) discussed the effectiveness of digital communication in public health campaigns, concluding that dedicated online platforms and hotlines increased the speed and accuracy of information dissemination. These studies align with the findings of this research, reinforcing the idea that direct, accessible communication channels are more effective in influencing public attitudes and behaviours, especially in safety-related contexts.

In applying the theory of crisis communication, the CPC's choice of communication channels can be understood within the framework of reducing uncertainty and facilitating trust. According to Coombs' (2007) crisis communication theory, effective communication during a crisis involves providing clear, actionable, and timely information to the public. The use of workshops, hotlines, and websites aligns with this principle, offering immediate access to information and support.

This approach fosters a sense of control among residents, allowing them to engage with the crisis message in a more personal and direct manner. Furthermore, the theory posits that communication should be transparent and audience-centred, which is evident in the CPC's use of interactive methods. By employing these communication strategies, the CPC not only raises awareness but also builds trust and credibility among the public, which is essential for behavioural change and adherence to safety protocols in the long term.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Research Question 3: How do The Customer Protection Council's Campaigns influence Akwa Ibom residents' awareness of the dangers of Compressed Natural Gas (CNG) sales and vending outlets in residential areas?

The findings from Tables 3 to 7 provided a detailed insight into how the Customer Protection Council's (CPC) campaigns have influenced awareness among Akwa Ibom residents about the dangers of CNG sales and vending outlets in residential areas. For instance, Table 3 highlights that the campaigns have significantly improved safety awareness, with the majority of respondents demonstrating a deeper understanding of the associated risks. However, the persistent 39% uncertainty underlines gaps in the campaigns' reach and effectiveness, particularly in translating awareness into actionable knowledge. Table 5 further underscores the efficacy of the campaigns' communication channels, as 88% of respondents affirm their effectiveness in engaging stakeholders broadly. This suggests a solid foundation for communication but also identifies areas for optimising inclusivity and clarity.

The findings also illustrate a mixed response regarding behavioural changes (Table 6) and proactive risk mitigation (Table 7). While 63% of respondents acknowledge the campaigns' role in encouraging behavioural change and 64% recognise contributions to proactive safety practices, significant proportions of uncertainty (33% and 23%, respectively) suggest a need for more dynamic strategies to address specific public concerns. These data emphasise the necessity of moving beyond awareness creation to fostering practical and sustainable safety behaviours through enriched engagement and clear communication.

The implications of these findings are multifaceted. They indicate that while CPC campaigns have succeeded in raising awareness, sustained effort is needed to bridge the gap between awareness and actionable safety practices. The uncertainty among respondents highlights an opportunity to refine communication strategies, ensuring clarity and relevance. Such efforts could involve more personalised outreach, utilising diverse and relatable communication platforms to engage segments of the population that remain unconvinced or uninformed. Enhanced stakeholder collaboration and feedback mechanisms would also ensure that campaigns evolve in response to public concerns and real-time challenges.

These findings align with other recent studies. Palenchar and Heath (2019) emphasised the role of consistent risk communication in improving public awareness, though they noted challenges in transforming awareness into compliance. Altuwair and Khan (2020) argue that raised awareness did not uniformly translate into behavioural adherence. Eyo and Adeyemi (2022) have also noted that while safety initiatives regarding liquefied petroleum gas (LPG) increased awareness, gaps in community trust and actionable knowledge hindered the broader adoption of safety protocols. These parallels highlight a universal challenge in safety campaigns: the transition from information dissemination to effective behavioural change.

The theory of crisis communication, as developed by Coombs (2007), provides a theoretical foundation for interpreting these findings. This theory stresses the importance of reducing uncertainty, building trust, and guiding the public toward desired behaviours through transparent and relatable communication. The CPC's campaigns reflect these principles by creating awareness and engaging stakeholders, but the gaps in behavioural impact suggest room for improvement. To fully align with the crisis communication framework, the CPC must prioritise sustained, feedback-driven dialogue and adopt tailored messaging strategies to effectively mitigate risks and instil lasting safety behaviours among Akwa Ibom residents.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Research Question 4: What is the attitude of Akwa Ibom residents towards safety protocols arising from the Customer Protection Council's Campaigns on the dangers of Compressed Natural Gas (CNG) sales and vending outlets in residential areas?

The findings in Tables 8 to 10 provided valuable insights into the attitudes of Akwa Ibom residents towards safety protocols in response to the CPC campaigns addressing the dangers of CNG sales and vending outlets. Table 8 revealed a broadly positive outlook, with 35% of respondents strongly agreeing that they are concerned about safety and favour stricter regulations. This indicates that the campaigns have heightened residents' awareness of the risks and fostered a proactive stance towards ensuring safety measures. Table 9 further underscores this attitude, highlighting that most residents perceive adherence to safety protocols as crucial to protecting their families from potential hazards. Together, these findings illustrate a public willingness to prioritise safety measures to mitigate the dangers posed by CNG outlets.

However, Table 10 unveils a contrasting layer of scepticism, as 52% of respondents strongly doubt the government's assurance of effective compliance monitoring. This suggests that while the CPC campaigns may have successfully instilled a sense of responsibility among residents, there remains a pervasive distrust in the government's capacity to enforce safety measures and avert disasters. This scepticism could undermine the long-term success of the campaigns, as public confidence in enforcement mechanisms is a critical determinant of collective compliance with safety protocols.

This finding aligns with Okoro and Idowu (2023), who identified a similar pattern of positive safety awareness but deep-seated distrust in governmental enforcement in a study on petroleum depot safety in Nigeria. Elsewhere, Khan et al. (2022) highlighted that while risk communication campaigns on LPG use in South Asia improved public understanding, their effectiveness was hampered by weak regulatory trust.

Applying the theory of crisis communication to these findings provides a robust framework for understanding the dynamics at play. The theory emphasises the importance of transparency, trust-building, and stakeholder engagement in mitigating risks and managing crises effectively (Coombs, 2007). The CPC campaigns can be seen as a proactive response to potential safety crises, seeking to inform and empower residents. However, the findings suggest that for the campaigns to achieve their full potential, they must address the critical element of trust by integrating transparent monitoring practices and fostering ongoing dialogue between the government, the CPC, and the public. This approach aligns with the core principles of crisis communication, ultimately ensuring that public attitudes translate into meaningful safety behaviours.

CONCLUSION

The increasing adoption and use of Compressed Natural Gas (CNG) in Akwa Ibom State, Nigeria, have been driven by its reputation as a cleaner and cost-effective energy source. However, the proliferation of CNG sales and the establishment of vending outlets in residential areas pose significant safety challenges. This study recognises the vital role of the Consumer Protection Council (CPC) in creating awareness about these dangers. Through its campaigns,

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

the CPC has sought to educate residents on the potential risks associated with CNG activities near homes, using a combination of workshops, advisories, and other communication channels.

This study examined residents' awareness, the CPC's communication strategies, the influence of its campaigns on behavioural change, and residents' attitudes towards safety protocols. The findings revealed a significant awareness of CNG dangers among residents, with workshops emerging as the most utilised communication channel. The study concludes that CPC campaigns have positively influenced safety awareness and proactive risk mitigation, but gaps in compliance and trust towards government monitoring persist. Therefore, while CPC's efforts have made substantial progress, further targeted interventions and trust-building measures are crucial to ensuring the safety of residents amidst the increasing integration of CNG in urban settings.

RECOMMENDATIONS

From the findings, recommendations are made that:

i. To further enhance awareness, the Consumer Protection Council (CPC) should intensify community-based awareness campaigns, incorporating local influencers, grassroots organisations, and vernacular communication methods. This will address varying levels of awareness and ensure that critical safety messages reach underserved and vulnerable populations.

ii. The CPC should expand its use of digital platforms by creating interactive mobile applications and leveraging social media for real-time safety updates and feedback collection. These platforms should complement workshops and advisories, ensuring accessibility and engagement for a broader demographic, especially the tech-savvy youth.

iii. The CPC should develop follow-up programmes that include safety compliance checks and hands-on training sessions. Collaboration with local safety inspectors and community leaders to monitor and encourage the practical application of campaign messages would strengthen behavioural change and compliance with safety protocols.

iv. To address public scepticism towards government monitoring, the CPC and relevant authorities should establish transparent reporting systems. These could include periodic publication of compliance audits, open forums for community feedback, and third-party verification mechanisms to rebuild trust in regulatory processes.

REFERENCES

Altuwair, I.B and Khan, F. (2020). Safety analysis of instantaneous release of compressed natural gas from a cylinder. Journal of Loss Prevention in the Process Industries, 68, (2020) online. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0950423020305714.

Coombs, W. T. (2006). *Ongoing crisis communication: Planning, managing, and responding* (5th ed.). Thousand Oaks, CA: Sage Publications.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ

Daniels, P., & Johnson, M. (2022). Enhancing fire safety awareness: Communication strategies and community engagement. *Journal of Risk Communication,* 14(2), 112-126.

Heath, R. L., & O'Hair, H. D. (2009). Handbook of Risk and Crisis Communication. Routledge. doi:10.4324/9780203891628

Imam, A. (2024). Evaluating Regulatory Frameworks for Sustainable Transport (CNG Adoption in Nigeria). Retrieved from https://www.researchgate.net/publication/384292835_Evaluating_Regulatory_Frameworks_for_Sustainable_Transport_CNG_Adoption_in_Nigeria/citation/download

International Gas Union (2021). The Role of Natural Gas in Clean Energy Transitions.

Kelly, K. and Gonzales, J. (2017). Compressed Natural Gas (CNG) Safety Assurance. Retrieved from https://cleancities.energy.gov/files/u/news_events/document/document_url/265/compressed-natural-gas-cng-safety-assurance.pdf

Kumar, P., Sharma, N., & Singh, R. (2022). Sustainable Fuel Alternatives in the Modern Energy Paradigm. Springer Nature.

Milojević, S., Pesic, R., & Taranović, D. (2016). Fire Safety Of Cng Buses-Proper Experiences. Presentation at Conference: International Congress Motor Vehicles & Motors 2016 At: University of Kragujevac, Faculty of Mechanical Engineering.

Nelson, S. C (2020). Overview of the Safety Issues Associated with the Compressed Natural Gas Fuel System and Electric Drive System in A Heavy Hybrid Electric Vehicle. Oak Ridge National Laboratory. Available at https://info.ornl.gov/sites/publications/Files/Pub57309.pdf

Okanlawon, A. (2023). Public awareness and compliance gaps in energy-related hazards in Nigeria. *International Journal of Energy Safety and Risk Assessment,* 9(3), 237-252.

Palenchar, M. J., & Heath, R. L. (2019). *Strategic risk communication: Addressing public concerns about science, technology, and health*. New York: Routledge.

Palenchar, M. J., & Heath, R. L. (2019). Strategic risk communication: Adding value to society. In R. L. Heath & H. D. O'Hair (Eds.), Handbook of Risk and Crisis Communication (pp. 120–129). Routledge.

Renn, O. (2019). *Risk governance: Coping with uncertainty in a complex world* (2nd ed.). London: Earthscan Publications.

Smith, T., & Johnson, R. (2021). Urban environmental awareness and behavioural responses: A global review. *Environmental Studies Review*, 18(4), 322–340.

UNDP (2024). Emergency Communications: The Power of Social Media. Retrieved from https://www.undp.org/belarus/stories/emergency-communications- power-social-media.

US. Department of Energy (2023). Alternative Fuels Data Center: Compressed Natural Gas (CNG).

Yousaf, A., Younus, A. & Khan, A. U. (2022). Compressed Natural Gas (CNG) as a fuel and the associated risks: A quantitative analysis in the scenario of a developing country. *Journal of Safety Science and Resilience,* 5(3), 306–316.

Article DOI: 10.52589/BJMCMR-I2MWNDIQ
DOI URL: https://doi.org/10.52589/BJMCMR-I2MWNDIQ