Priming of Gmo-Related News Stories Aired by Citizen Television in October 2022 for Public Awareness among Kenyans

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ABSTRACT

Global concerns about climate change and how it affects people's lives have grown recently. One of the biggest concerns is drought, which has caused food shortages in many African nations. As a result, the introduction of Genetically Modified Organisms (GMOs) has become a popular strategy many nations use to combat food scarcity. However, many people in countries that support the use of GMOs still need to comprehend the issue entirely. In light of this, informing the public about what GMOs mean when combating food shortages is crucial, especially in developing nations like Kenya. Thus, conducting thorough research on the role of mass media in raising public awareness about this crucial subject was vital. The scope of the study was limited to Citizen Television, one of the most-watched television channels in Kenya. The main objective of this study was to examine the priming of GMO-related news stories aired by Citizen Television in October 2022 to raise public awareness among Kenyans. It was further guided by two specific objectives: (a) To investigate the positive priming of GMO-related news stories aired by Citizen Television in October 2022 in a bid to raise public awareness among Kenyans and (b) To evaluate the negative priming of GMO-related news stories aired by Citizen Television in October 2022 in a bid to raise public awareness among Kenyans. The research used the priming theory for its theoretical framework. A qualitative content analysis of Citizen Television's news coverage of GMO-related news stories in October 2022 was used as the research design. During data collection, fourteen Citizen TV news stories from its online database were accessed, transcribed, and qualitatively analyzed using a content analysis code drafted from the critical attributes of the study objectives. Research findings revealed that positive priming, like potential agricultural breakthroughs and crop resilience, and negative priming, such as constitutional and public involvement, health, and environmental concerns of GMO news, were utilized to sensitize Kenyans about GMOs. The study recommended that Citizen Television develop a balanced presentation of benefits and concerns in its priming strategies.

BACKGROUND OF THE STUDY

According to the United Nations Relief Agency (UNRA), the impact of food shortages is significant, with million people requiring assistance (Luoma-Aho et al., 2021). International agreements like the Paris Agreement (Falkner, 2016) have brought countries together to commit to reducing greenhouse gas emissions and mitigating climate change's adverse effects. One stark example of climate change's impact can be observed in Northern Africa, where prolonged droughts, exacerbated by changing climate patterns, have triggered severe food shortages and, tragically, led to starvation and loss of lives (Forootan et al.,2019). These distressing events underscore the critical need for effective climate change mitigation and adaptation strategies. In 1992, during the Earth Summit in Rio de Janeiro, 154 states signed an international environment treaty established by the United Nations Framework Convention on Climate Change (UNFCCC) to combat dangerous human interference with the climate system (Leggett, 2020). This treaty entered into force in March 1994, and it called for ongoing scientific research and regular meetings, negotiations, and future policy agreements designed to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and enable economic development to proceed sustainably. The Kyoto Protocol (2005 to

2020) was the first implementation of measures under the UNFCCC, and this was superseded by the Paris Agreement of 2016. By 2022, the UNFCCC had 198 parties divided into three categories: developed countries, developed countries with special financial responsibilities, and developing countries (UNFCCC, 2023; Vanhala, 2023).

UNFCCC's supreme decision-making body, the Conference of the Parties (COP), meets annually to assess progress in climate change was held COP 27 in Africa in Egypt. This seemingly sparked a frame in Africa to address climate change more passionately, as was evident during the inaugural Africa Climate Summit (ACS), which was held in September 2023 in Nairobi, Kenya, under the championship of HE President William Ruto to address the increasing exposure to climate change and its associated costs, both globally and particularly in Africa (ACS, 2023). As was posited during ACS, although most African nations are low emitters of greenhouse gases, they suffer the severest brunt of climate change, with calamities such as droughts, famine, and floods being rampant in many African Countries year after year, and they cannot therefore ignore both mitigative and adaptive climate change actions.

First-generation GM crops have raised concerns about potential threats to human health and the environment. These concerns may intensify as GM crops enter new regions, such as the European Union (Jacobsen et al., 2015). The prevalence of press and media "health campaigns" has further heightened public awareness of GMOs. However, the accuracy of the information conveyed in such campaigns could be better, creating a need for more comprehensive research and rigorous toxicological studies to evaluate the potential health impacts of GM foods, particularly GM crops (Austin & Pinkleton, 2015). Amidst these global debates and concerns, it is essential to recognise that the agricultural sector plays a pivotal role in shaping the GMO discourse. The lens through which GMOs are viewed often emphasises their potential advantages in augmenting agricultural yields and addressing challenges in the agricultural sector (Wambugu, 2014). However, alternate frames of reference delve into research, public awareness, ethics, economics, politics, and environmental considerations, illustrating the multidimensional nature of the GMO discourse (Kahuthia, 2021).

Scholarly investigations have sought to elucidate public perceptions of GMOs, particularly regarding potential health implications (Compton et al., 2021). While these efforts have enriched the ongoing public discourse, uncharted territory remains for further exploration. Future studies could benefit from a more comprehensive examination of the methodologies used to disseminate information about GMOs. Such inquiries could shed light on the various channels through which the public receives information about GMOs, offering more profound insights into public perception and awareness surrounding this pivotal topic (Rich, 2018). Furthermore, as the global community grapples with the far-reaching impacts of climate change and its challenges to food security, nations must consider innovative approaches to safeguarding their populations. In this context, the integration of GMOs into agricultural practices becomes increasingly significant.

The environment's influence on daily life extends to Kenya, where food security is expected to deteriorate due to persistent rain shortages and rising food prices. Since 2012, Kenya has prohibited the consumption of GM crops for both humans and animals. The government's stance against advanced biotechnology was partly influenced by a French study linking GMOs to health problems, including carcinogens (Gao et al., 2014). To promote understanding among Kenyan citizens, the government must prioritise biotechnology education, as many Kenyans remain uninformed about GM foods despite their importance to the country's biotech industry's future. Raising awareness about GM foods' availability and potential benefits among Kenyans can significantly impact their perception and acceptance. The Kenyan government can achieve this by employing various communication methods, including giving speeches, launching awareness campaigns, publishing informative content on official websites, and airing commercials.

In the context of this ongoing debate, it is crucial to emphasise the role of the media in shaping public opinion and awareness. The media is responsible for presenting credible facts and information, allowing

viewers to form informed perspectives on critical issues. It also serves as a barometer for popular sentiments, societal acceptance, and emerging trends (Kahuthia, 2021). Moreover, disseminating, updating, and elaborating information, communication, and media are instrumental in shaping public understanding of GMOs. As mentioned, the Kenyan government reversed a national ban on planting and importing GM plants in October 2022. This decision was framed as a response to the impending food shortages and drought caused by climate change (Owino, 2022). While endorsed by the current government led by Dr William Ruto, the move faced criticism from those who argued that it could trigger domestic dissent and have long-term consequences for the nation's farmers and citizens.

The introduction and use of GMOs in Kenya have been the subject of intense debate and regulatory processes. The agricultural sector holds immense significance in Kenya's economy, employing and sustaining a large portion of the population. However, the country faces various agricultural challenges, including food shortages, climate change-induced disruptions, and pest infestations. In the discussions around GMOs in Kenya, proponents argue that GM crops can address these challenges by enhancing crop resilience against pests, diseases, and extreme weather events, ultimately improving agricultural productivity, food security, and the livelihoods of farmers (Kahuthia, 2021). Conversely, opponents raise concerns about the potential risks associated with genetic modifications. They highlight apprehensions about the long-term health implications of consuming GMOs and potential environmental and biodiversity harm (Siele, 2022). Moreover, there have been calls for increased public participation in decision-making processes related to GMOs, emphasising the importance of involving the public in shaping agricultural policies.

Kenya's mass media industry is well developed, with many vibrant publicly and privately-owned radio, television, print, and social media outlets. According to Internews (2021:1), "radio remains highly important, while television is the most trusted source of information and newspaper circulation and readership continue to decline — even though newspapers have the highest quality content." Among television stations, Citizen Television, often called Citizen TV, which was established by Royal Media Services (RMS) in 1999, is rated the biggest and most-watched Kenyan television network (Siele, 2022; Kibuacha, 2021; Amutete, 2020). It has played a pivotal role in Kenya's media landscape, offering a comprehensive range of news, entertainment, sports, and educational programming. The network is renowned for its commitment to high-quality journalism, having garnered a reputation for credible and in-depth news reporting (Kibuacha, 2021). "Citizen Nipashe," its flagship news program, is a trusted source of information for millions of viewers across Kenya. Citizen TV has also significantly contributed to Kenya's entertainment industry, producing popular shows and series that have captivated audiences domestically and regionally (Maringa, 2016). Over the years, it has expanded its reach through digital platforms, extending its influence beyond traditional broadcasting. Citizen TV's enduring presence and dedication to providing informative and engaging content have solidified its position as a cornerstone of Kenya's media landscape. Therefore, in this context, a thorough content analysis of how television media outlets, particularly Citizen Television in Kenya, portray GMOs holds significant potential. Such studies can delve into media sources' agenda-setting, priming, and framing techniques, offering insights into how GM crops are presented, discussed, and comprehended within the Kenyan context. Consequently, these research efforts advance academic knowledge and play a vital role in fostering a thoughtful and well-informed national conversation about GMOs.

STATEMENT OF THE PROBLEM

In recent years, the safety of genetically modified foods (GMOs) has become a significant and challenging area of research (Balcha, 2022). Environmental and consumer non-governmental organizations (NGOs) advocate for thorough testing before approving GM foods and crops for human consumption, reflecting a global debate on GMO safety (Ewa et al., 2022). In Africa, misinformation about GMOs has been spread

through media channels, particularly compared to other continents (Ongu et al., 2023). Surveys conducted in Kenya have revealed conflicting public perceptions, knowledge gaps, and a noticeable need for more information regarding GM foods (Merem et al., 2021; Khatiwada et al., 2021; Lalah et al., 2022). Additionally, Kenya's government made a significant policy shift in October 2022 by lifting a longstanding ban on GM food production and importation to address food shortages and enhance agricultural yields (Andae, 2022). This policy change generated public interest and raised questions about GMOs, especially food security.

In this context, television, as the most trusted form of media (Internews, 2021), with Citizen TV as the leading television channel in the country (Siele, 2022; Kibuacha, 2021; Tully, 2022), played a crucial role in educating the public about the lifting of the GMO ban and its implications. However, despite the emotional debates it ignited across the nation, there needs to be more slack assessment of how Kenyan television conveyed this information to the public. This study aimed to comprehensively examine how Citizen Television presented information about GMOs through its news stories to increase public awareness among Kenyans immediately after the government decided to lift the decade-long GMO ban in October 2022. This study contributes to the broader discussion on GMOs, their safety, and the media's role in facilitating informed public discourse on complex scientific subjects for the general audience.

STUDY OBJECTIVES

Main Objective

The main objective of this study was to examine the priming of GMO-related news stories aired by Citizen Television in October 2022 to raise public awareness among Kenyans.

Specific Objectives

1. To examine the positive priming of GMO-related news stories aired by Citizen Television in October 2022 to raise public awareness among Kenyans.
2. To evaluate the negative priming of GMO-related news stories aired by Citizen Television in October 2022 to raise public awareness among Kenyans.

THEORETICAL FRAMEWORK AND EMPIRICAL REVIEW OF RELATED LITERATURE

Theoretical Framework: The priming theory

Priming Theory, often considered an outcome of agenda-setting, posits that media plays a significant role in influencing audience decision-making, much like the Agenda-Setting Theory (Wolfe et al., 2013). This theory was proposed by Iyengar, Peters, and Kinder in 1982 (Doyen et al., 2014). According to Priming Theory, media images psychologically impact viewers' minds, which, in the context of this study, means that it increases awareness of an issue. The impact of media content is enhanced when it has a prior context (Damstra et al., 2021). However, it is essential to note that the media's priming can be constructive and problematic, affecting how individuals think, feel, and behave (Doyen et al., 2014). Nonetheless, this influence typically affects only a portion of an individual's life.

When the media deems a situation or topic necessary, most people familiar with it agree. This is because news is strategically disseminated by the media and filtered through each person's past experiences, with headlines often having a more significant impact than other news. Priming mainly influences individuals who closely follow specific issues, as it sets the stage before introducing information into the subject's mind

(Power et al., 2014). This further means that Priming Theory, as applied to this study, was used to investigate how exposure to GMO-related news stories from Citizen TV content activated cognitive constructs in Kenyans' minds, subsequently influencing their perception and awareness levels (thoughts, attitudes, and behaviours) towards GMOs. Understanding the intricate processes of priming and agenda-setting in media communication can provide valuable insights into the dynamics of public opinion formation and the role of media in shaping societal attitudes and behaviours, particularly in pressing issues like GMOs (Golan et al., 2021).

Priming theory encompasses two types of framing utilised in this study – positive priming and negative priming, which significantly shape how individuals process and respond to media messages (Damstra et al., 2021). Positive priming, investigated in this study, involves exposing individuals to favorable aspects of an issue and facilitating the processing subsequent stimuli previously presented to them. Research indicates that initial exposure to a stimulus can lead to quicker and less error-prone responses when reencountering the same stimulus. Moreover, positive priming can have both short-term and long-term effects. Short-term positive priming refers to the immediate facilitation of cognitive processes due to recent exposure to a stimulus. In contrast, long-term positive priming suggests that the influence of priming can persist over an extended period.

On the other hand, negative priming, which was also investigated, involved inhibitory control over cognitive processes. Negative priming pertains to stimuli that hinder the immediate and short-term goal of evoking a response (Doyen et al., 2014). In media influence, negative priming refers to inhibiting stimuli presented in news stories that might impede the desired reaction or perception. The effectiveness of inhibitory interferences is influenced by cognitive control mechanisms, which can suppress distractions and alleviate the strain on working memory. An increased demand for working memory can lead to reduced perceptual processing, resulting in delayed responses or reactions. Negative priming can influence how audiences perceive and process information presented in the context of GMO-related news coverage (Lee et al., 2021). For instance, if news stories consistently emphasise potential risks or controversies associated with GMOs, negative priming could hinder the immediate adoption of positive viewpoints or responses, leading to a delayed or inhibited acceptance of GMOs.

Empirical review of related literature

Media effects studies have long used priming extensively, a phenomenon recognised for its significance. Media priming, a specific manifestation of priming, is often employed to address issues like media-induced aggression and stereotyping within media content (Luoma-Aho et al., 2019). Media priming refers to the short-term effects of media exposure on subsequent judgments or behaviours, although the inclusion of "behaviours" is a subject of debate in most studies. Valentino et al. (2013) emphasise the unforeseen consequences of media exposure, defining media priming as "the residual, often unintentional effects of media exposure on subsequent perceptions, judgments, and actions" (Valentino et al. 2013). The unexpected nature of priming has significant theoretical implications, allowing it to be distinguished from other intentionally induced effects, such as framing. Given the nature of the media literature, there exists a potential for substantial definitional diversity in the information provided (Van & Collier, 2019).

Priming, a psychological phenomenon where media content provides a prior frame of reference, is frequently observed. Stereotyping and media genres serve as examples of priming, creating specific assumptions within contextual frames. In the realm of effects research, media-priming effects are short-term behavioural or attitudinal patterns attributed to prior exposure to congruent media information, particularly within discussions surrounding violence. This concept originates from its utilisation in cognitive psychology (Wolfe et al., 2013). It allows for assessing the media's role in emphasizing norms and values, subsequently granting particular issues increased attention. Media coverage provides ample time and space for specific

concerns, rendering them more salient. Recognizing the power of media priming in shaping public perceptions underscores the responsibility of media outlets to exercise ethical and balanced reporting, as they can inadvertently reinforce stereotypes or biases through the framing and emphasis they apply to specific topics, ultimately influencing society's collective mindset.

In essence, the media amplifies specific events to the extent that they appear to be the most important news (Feezell, 2018). This practice is a daily occurrence, with chosen news items featured prominently as headlines or frequently covered for extended periods. These terms encompass headlines, special news features, discussions, and expert opinions. The media primes news by repeating and elevating it, as seen in the case of the "GMO debate." In its ideal sense, priming describes how prior experiences or stimuli influence our responses to new stimuli. In the context of media, priming pertains to how media content affects people's subsequent behaviour or opinions regarding the subject matter. Due to its pervasive presence in our lives, the media wields substantial influence over our thoughts and actions. The existence of media priming is generally undisputed among media scholars (Merkley, 2020; Pang, 2023). However, comprehensive scientific studies examining its existence and manifestations are relatively scarce (Merkley, 2020). Efforts have been made to conceptualise media priming as a process, incorporating cognitive components such as accepted mental representations and delving into the dose dependency hypothesis. Over time, the definition of media priming and its underlying principles have become more apparent. In the body of literature on media effects, media priming has been defined in various ways, and it can impact people's ability to conceptual understanding.

Media's Priming in Raising Public Awareness

In the context of media effects on public opinion, Valentino et al. (2018) discuss the concept of "Priming," which is a cognitive phenomenon in which individuals' standards for making political judgments are influenced by news. This process, known as priming, involves news content encouraging readers to evaluate the performance of political leaders and governments using specific issues as criteria. Priming is often considered an extension of the agenda-setting theory and is rooted in memory-based information processing. When the media consistently highlights specific issues or topics, it can prime the audience to view them as more salient and essential, subsequently influencing their judgments and attitudes toward political leaders and government policies. This cognitive mechanism sheds light on how media coverage can shape public perceptions and guide their political decision-making processes, making it a crucial aspect of understanding the role of the media in shaping public opinion.

According to Ajzen (2015), agenda-setting and priming theories share a fundamental premise: people shape their opinions and judgments based on the most readily available information. The ease with which individuals recall examples or connect to specific topics influences their attitudes and judgments. This cognitive process underscores the importance of media content in determining the accessibility and salience of information to the public. When the media consistently highlights specific issues, such as GMOs, it enhances the prominence and accessibility of those topics in individuals' minds, subsequently affecting their perceptions and attitudes. This dynamic underscores the influential role of the media in shaping public opinion by controlling which information individuals are more likely to consider when forming their judgments.

Furthermore, Freedman's analysis (2013) highlighted that the GMO debate could be highly polarised due to how society presents and receives information. Public understanding of GMOs is influenced by the content of media coverage and the priming of the issue. The media's portrayal of GMOs can promote constructive dialogue or increase polarization. Media outlets should strive to present a balanced representation of GMOs' scientific, environmental, and social aspects to foster a more informed and nuanced public discourse. This balanced coverage can encourage a more productive debate and facilitate exploring innovative solutions to

address the complex challenges associated with genetic engineering in agriculture (Freedman, 2013; Bauer & Bogner, 2020). Additionally, promoting transparency in the sources and funding of information related to GMOs can help build trust among the public, allowing for a more constructive engagement with the scientific community and policymakers to make informed decisions about the future of agricultural biotechnology.

Finally, Marques et al. (2015) highlight a crucial aspect of the link between politics, media framing, and public opinion, which centres around countries' need to dispel myths about biotechnology to make meaningful progress. Various strategies can be employed to achieve this goal. One strategy involves integrating scientific findings and insights into public education and awareness campaigns to shift public opinion. It is worth noting that public sentiments concerning GMOs used in food production tend to lean predominantly negative, with perceptions influenced by factors such as the type of organism involved, how transgenic technologies for food are portrayed in the media, and the overall portrayal of GMOs (Marques et al., 2015; Ajzen, 2015). Addressing these perceptions through evidence-based communication and education efforts is essential to bridge the gap between scientific understanding and public sentiment. This allows for a more balanced and informed public discourse on GMOs and their implications for agriculture and food security.

RESEARCH METHODOLOGY

The study employed qualitative content analysis as the research design, aiming to uncover various aspects of Citizen Television's portrayal of GMOs in Kenya, including themes, frequency, cognitive and affective elements, and positive and negative portrayals. This approach allowed for a flexible yet methodical exploration of social reality. The study site was Citizen Television, a prominent channel within the Royal Media Services (RMS), chosen for its substantial viewership and influence in Kenya's media landscape. The study population comprised GMO-related news stories aired by Citizen TV in October 2022. The researcher collected data from all 14 retrievable stories, avoiding data saturation.

Data were collected from Citizen TV's digital library database and transcribed for analysis. Ethical considerations, including obtaining permissions, respecting intellectual property rights, and ensuring confidentiality, were observed throughout the research. On the other hand, a pilot test was conducted on NTV to assess the reliability and validity of research instruments, and intercoder reliability was examined. The research instruments' validity was demonstrated using coding systems from prior research. Further, data analysis involved organizing the data into manageable textual form using created codes, enabling the interpretation of the findings. Overall, this chapter provided a comprehensive overview of the research methodology, establishing a solid foundation for the subsequent analysis of Citizen Television's portrayal of GMOs in Kenya.

FINDINGS AND DISCUSSIONS

Positive Priming of GMO-Related News Stories

The first positive priming identified by the researcher focused on **the potential advancements in agriculture**. This positive portrayal underscored the potential benefits of GMOs in advancing agriculture in Kenya and Africa as a continent. Specifically, it highlighted the possibility of GMOs contributing to significant agricultural advancements, including enhanced crop yields, improved food security, and the development of crop varieties resistant to diseases and drought. In these news items, the audience was primed to consider the positive aspects of GMOs, particularly their capacity to yield better crops resistant to diseases and thrive in drought conditions. For instance, Professor Oduor, as mentioned in **Story 2**,

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emphasized how other African nations had recognized the necessity of embracing biotechnology to develop crop varieties that were not only disease-resistant but also capable of withstanding drought:

"*Other African nations discovered early on that they needed to adopt biotechnology to develop better-yielding, disease-resistant, and drought-tolerant crop varieties.*"

This perspective differed from the findings of Okeno and their colleagues in a 2013 study titled " *Africa's Inevitable Walk to Genetically Modified (GM) Crops: Opportunities and Challenges for Commercialization*." Their research indicated that Africa needed to catch up in the adoption of genetic engineering technology, with some nations embracing GMOs early while others remained hesitant in their adoption. Notably, the Kenyan government took steps to facilitate the commercial cultivation of BT cotton in 2019, marking a significant development. This move allowed for the commercial planting of BT cotton, which had undergone extensive research dating back to 2004. This development was particularly noteworthy as it marked the first cash crop in Kenya under such conditions.

The second instance of positive priming in Citizen TV's coverage focused on **the potential economic benefits associated with GMO adoption**. This positive portrayal highlighted statements emphasizing reduced production costs and enhanced agricultural productivity, aiming to convey that GMOs could offer significant economic advantages, particularly for farmers and the agricultural sector. One notable example of this priming was evident in **Story 3**, where Dr. Mugiira asserted that GMO crops required less maintenance and led to substantial cost savings, particularly through the reduced need for pesticide spraying in the case of BT cotton. The audience was primed to consider GMOs as financially advantageous for farmers due to these statements:

"*They have overcome certain production costs; for example, we have BT cotton, which we spray three times. Without GMOs, we would have sprayed 12 times*" (**Story 3**).

This priming painted GMOs as a tool capable of significantly increasing agricultural productivity while reducing production costs. Furthermore, the news items promoted economic and agricultural benefits. The commercial availability of GMOs allowed farmers to enhance crop yields by utilizing genetically modified cultivars resistant to insects and herbicides (Merem et al., 2021). As a result, this increased productivity brought financial relief to the nation by potentially boosting agricultural output and reducing the financial burden on farmers.

The third instance of positive priming in Citizen TV's coverage focused **on scientific research and progress in the development of GMOs**. The references to extensive scientific research conducted before the commercial farming of specific GMO crops, such as BT cotton and GMO cassava, conveyed a positive image of GMOs as products that have undergone rigorous scientific research and development efforts. This priming was designed to emphasize the legitimacy and reliability of GMO technology. An illustrative example can be found in **Story 4**, where it was highlighted that a GMO maize variety, modified to resist the maize stalk borer, had gone through all necessary phases of research and development and was ready for commercial cultivation. The statement emphasized,

"*They are modified to resist the maize stalk borer. That one has undergone all the phases; in fact, the ban has been standing in the way of getting this maize variety to the farmers"* (NBA).

This priming aimed to present GMOs as a practical solution to improving crop yields and enhancing agricultural productivity, ultimately leading to potential economic benefits. This portrayal effectively highlighted real-world examples of GMOs delivering positive outcomes and reinforced that GMO technology is grounded in scientific research and progress. It underscored the potential of GMOs to address specific agricultural challenges and contribute to advancements in agriculture.

The fourth positive portrayal of GMOs encompassed **the potential for enhancing crop resilience**. This facet of the positive image highlighted GMOs as valuable tools to bolster crop resilience, particularly in addressing challenges related to drought, diseases, and pests. This portrayal aimed to convey that GMOs could contribute significantly to creating more robust and resilient agricultural systems. This positive depiction was evident in **Story 3**, which emphasized the advantages of GMOs, including increased crop resilience in the face of climate change, reduced reliance on pesticides, and cost savings in farming practices. Anami stated in **Story 3**,

"*For a long time, we have been selecting plants so that they choose those that they prefer and have the best qualities. So, introducing GMOs is very important because they will control pests without chemicals. Then, if the impact of climate change challenges that, they can plant resilient crops, and, that way, there will be an improved yield and a sufficient amount of healthy food*."

As Vigani (2017) points out, the information provided by television news anchors, experts, and interviewees can significantly shape how the audience perceives GMO technology's risks, benefits, and implications. Therefore, having experts discuss the positive implications of GMOs in the nation contributes to public sensitization among the Kenyan population. Additionally, Doyen (2014) underscores the media's role as a source of priming, which can influence how individuals think, feel, and behave. In this context, Citizen TV's portrayal of the potential for crop resilience suggests that once Kenyan farmers incorporate biotechnology into their farming practices, crop yields will increase, leading to higher food production and improved food security. This positive framing reinforces that GMOs can offer practical solutions to agricultural challenges and contribute to a more resilient and sustainable agricultural sector in Kenya.

The researcher, fifthly, found that positive priming was also evident in **the depiction of the safety and acknowledgment of the benefits of GMOs coupled with caution**. This positive portrayal recognized the advantages of GMO technology while simultaneously emphasizing the necessity for caution and stringent safety measures. Its purpose was to present a balanced perspective highlighting potential benefits while addressing legitimate concerns. Within this context, the focus was on the safety and benefits of GMOs, as presented by experts Sylvester Anami and Dr. Roy Mugiira. Their expert opinions were instrumental in reassuring the public about the safety of GMOs and the advantages they offered. In **Story 3**, they tackled concerns by affirming that consuming GMOs posed no health risks and that rigorous regulations were in place to ensure allergen-free materials. Dr. Mugiira stated,

"*There is no evidence up to now that GMOs cause cancer. Genetically modified foods are not poisonous; they are completely safe, and we welcome the concerns that those opposed to GMOs can talk to us, and we can convince them that these foods are safe*."

In essence, the positive portrayal of GMO-related news stories revolved around the potential benefits, scientific advancements, and solutions that GMOs could offer to address agricultural challenges in Kenya. It aimed to present a nuanced view that recognized both the positive aspects and the imperative need for responsible adoption and vigilant oversight. This positive framing encouraged viewers to consider the promising potential of GMO technology while acknowledging the importance of rigorous safety measures and regulations in ensuring its safe and beneficial integration (Pang, 2023) into Kenyan agriculture.

Negative Priming of GMO-Related News Stories

The negative priming evident in the portrayal of GMO-related news stories by Citizen TV centered on **constitutional and public participation concerns**. This negative portrayal effectively highlighted apprehensions regarding the absence of public involvement and adherence to the Constitution in the decision to lift the ban on GMOs. Quotes attributed to Senator Daniel Maanzo (as seen in **Story 1**)

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underscored that the decision had been hastily made without sufficient public engagement. This depiction framed GMO adoption as undemocratic and potentially unconstitutional. Notably, prominent figures in the lack of public participation narrative were Opposition leaders Raila and Kalonzo, who vehemently criticized the government for its failure to involve the public in the decision-making process. These critiques, documented in **Story 11** and **Story 14**, further fueled the perception that a lack of democratic principles and adherence to constitutional procedures marked GMO adoption. It is worth noting that Davison and Ammann's (2017) research findings suggested a greater emphasis in media coverage on alleged concerns about GM crops than their potential advantages. This underscores the prevalence of negative priming in media reporting, wherein the focus tends to be on highlighting criticisms and apprehensions rather than exploring potential benefits or advantages.

The second instance of negative priming revolved **around health and environmental concerns**. This negative portrayal encompassed references to apprehensions about health and the environment voiced by anti-GMO activists and skeptics. Worries regarding GMOs potentially causing cancer, allergies, and adverse environmental effects were emphasized, contributing to a negative perception of GMOs as potential hazards to human health and the ecosystem. The news items primed the audience by highlighting GMOs' risks and potential side effects. Senator Maanzo, in particular, primed the audience by pointing out the risks linked to GMO consumption, specifically referencing scientific research conducted in the US and other regions, which suggested a possible connection to cancer. In **Story 1**, Maanzo articulated,

"*There must be a process for the approval of GMOs. If you want to bring them here, it should be announced so that Kenyans can choose whether they want to consume GMOs. So, it should not be forced down the throats of Kenyans*."

This statement aimed to prim the audience to view GMOs as potentially harmful and raise concerns regarding their safety. Furthermore, the Azimio One Kenya leaders addressed the issue of public health and safety in the context of GMO consumption. Raila Odinga effectively primed the audience during the GMO discussion by emphasizing the perceived threat of GMOs to human life.

"*It is not a floodgate of anything out there coming in; we still maintain that we can only allow that which has been approved by ourselves to be safe for the environment and human and animal health*" (**Story 4**).

He questioned the scientific evidence supporting the safety of GM foods, suggesting that GMOs had already put human lives at risk, and called upon Kenyans to reject GMOs due to the perceived risks they posed. Raila Odinga also demanded an explanation from Ruto's administration regarding the decision to reverse the 2012 directive, citing concerns about the health risks of GMO foods and insufficient studies on their effects on small-scale farmers and the local food markets. This portrayal effectively primed the audience to view GMOs with skepticism and concern, framing them as potential threats to public health and safety.

The third instance of negative priming identified in the GMO-related news stories **pertained to political opposition and concerns**. This negative framing encompassed statements from opposition leaders, including Raila Odinga and Kalonzo Musyoka, who expressed apprehensions regarding the potential risks, infringements on rights, and adverse economic implications associated with GMO adoption. This portrayal effectively associated GMOs with potential harm and conflicts of interest, framing them negatively. Moreover, this priming promoted organic foods as viable alternatives to the GMOs that the government offered to address the nation's food shortage. Kalonzo Musyoka effectively primed the audience by highlighting the availability of organic foods in Kenya, such as sorghum, millet, sweet potatoes, and cassava, which could complement or substitute for the country's maize production deficit. Kalonzo Musyoka stated,

"*Other varieties of organic foods such as sorghum, millet, sweet potatoes, and cassava can complement or*

substitute for the maize diet. Kenyans ought to be sensitized on the need to diversify their eating culture and be able to de-monopolize their dependency on a few staples like maize and rice" (**Story 11**).

This message was meant to make the audience question why they needed GMOs when they could rely on Kenya's organic foods. As such, it asked the audience to consider diversifying their dietary habits and reducing their reliance on a few staple crops, such as maize. Furthermore, it is crucial to note that the media is responsible for presenting credible facts and information to enable viewers to form informed perspectives on various events and incidents. In the case of Citizen TV's portrayal of GMOs, the audience could discern the existence of political opposition and concerns, particularly from the opposition leaders. These political figures strongly opposed the government's decision to lift the GMO ban and voiced their concerns through the TV channel. This portrayal effectively primed the audience to view GMOs skeptically, framing them as subjects of political contention and concern.

The fourth instance of negative priming focused on **health risks and insufficient studies related to GMOs** . In **Story 14**, Raila effectively primed the audience by highlighting concerns about the health risks of GMOs and the inadequate studies conducted to assess their impact on small-scale farmers and local food markets. Raila stated,

"*We demand that Ruto's administration explain to Kenyans the rationale behind the rush to reverse the 2012 directive that stopped the importation and open cultivation of GMOs due to concerns about the health risks of GMO foods and insufficient studies on their effects on small-scale farmers and the local food markets*."

This message successfully primed the audience to perceive GMOs as potentially harmful and untested. Furthermore, the news items also underscored the bans on GMOs in scientifically advanced countries. Raila effectively primed the audience in **Story 14** by listing several scientifically advanced economies where GMOs were prohibited, including France, Germany, Austria, Greece, Hungary, the Netherlands, Latvia, Lithuania, and Luxembourg. Raila's statement,

"*They are banned in many scientifically advanced economies like France, Germany, Austria, Greece, Hungary, the Netherlands, Latvia, Lithuania, Luxembourg, Bulgaria, Poland, Denmark, Malta, Slovenia, Italy, and Croatia. Why Kenya?"*

This statement primed the audience to perceive these bans on GMOs in advanced countries as evidence of potential risks and encouraged skepticism toward their introduction in Kenya. Moreover, the mention of European countries' rejection of GMOs served as another form of priming by Raila Odinga. By referencing that many European nations, such as Germany, the Netherlands, Italy, Sweden, and France, had rejected GMOs due to concerns about potential harm to human life, Raila effectively primed the audience to view the rejection of GMOs as a reasonable stance taken by scientifically advanced nations. This negative priming strategy fostered skepticism and caution among the Kenyan audience regarding adopting GMOs.

A fifth significant priming effect was related **to proximity and shared borders**. One of the news segments effectively primed the audience to consider the potential risk of GMOs spreading from Kenya to Tanzania due to their geographical proximity and shared borders. This message encouraged the audience to contemplate the geographical factors that might facilitate the movement of GMOs between the two countries. Tanzania's government's stance, as highlighted in **Story 9**, made it clear that they were not open to genetically modified (GM) technology. The news item effectively primed the audience to comprehend Tanzania's position of rejecting GM technology. Agriculture Minister Hussein Bashes' statement,

"*We are not open to such GM technology, and Kenya's decision does not affect us*,"

reinforced this stance. This message primed the audience to align with Tanzania's resistance to GMOs. Valentino (2013) and Valentino (2018) describe "priming" as the process of influencing the standards people use to make political judgments. In the context of Citizen TV's coverage of GMOs, Kenyan viewers are prompted to consider the issue of proximity and shared borders. They understand the complexities of Kenya's relationship with neighbouring countries, especially concerning the GMO issue. Furthermore, Citizen TV sheds light on Tanzania's position on GMOs and its implications for Kenya after the government lifted the GMO ban. This priming effect encourages the audience to reflect on the potential cross-border consequences of GMO adoption.

Sixth, Citizen TV aimed **to bring attention to the unilateral decision-making by the Kenyan government** . The portrayal of government decisions made without adequate input from the opposition and concerns about power dynamics contributed to a negative image of GMO adoption as a process lacking balanced decision-making procedures. This priming focused on the government's hasty decision regarding GMOs. In **Story 7**, the audience was primed to question the government's rushed decision to reintroduce GMOs. Dr Bernard Muia's argument in the segment raised doubts about the safety of GMOs and instilled a lack of confidence. Muia questioned the lack of empirical trials to assess potential harm to human health and the absence of evidence showing that GMOs would not pose the same problems as natural crops. This notion primed the audience to consider the potential risks and uncertainties of adopting GMOs and called for scientific evidence and trials. Dr. Muia's reservations about using GMOs in the nation were evident when he questioned the scientific evidence and the need for clinical trials and prospective studies to assess their impact on public health. This idea primed the audience to question the basis for adopting GMOs without sufficient evidence and to scrutinize why the decision appeared one-sided. Overall, the negative portrayal of GMO-related news stories highlighted concerns about health, safety, environmental impacts, public participation, and the potential negative consequences of GMO adoption. It aimed to present a critical view emphasizing potential risks and challenges associated with GMOs and prompted the audience to consider the implications of unilateral government decisions.

SUMMARY AND CONCLUSION

In their coverage of GMO-related news stories, Citizen TV employed **five positive priming portrayals** to highlight various aspects of GMO adoption in Kenya. Firstly, they primed the audience with the potential advancements in agriculture through GMOs, emphasizing benefits such as enhanced crop yields, improved food security, and disease-resistant crop varieties. Secondly, they emphasized the economic benefits of GMO adoption, focusing on reduced production costs and increased agricultural productivity. Thirdly, Citizen TV employed positive priming to showcase the extensive scientific research and development behind GMOs, presenting them as reliable and legitimate solutions. Fourthly, they portrayed GMOs as tools to enhance crop resilience in the face of climate change and agricultural challenges. Additionally, positive priming highlighted the safety and acknowledgment of the benefits of GMOs while emphasizing the importance of caution and rigorous safety measures. These strategies collectively aimed to provide a balanced perspective highlighting the potential benefits of GMOs while addressing valid concerns, encouraging informed public discourse, and considering GMO technology as a solution to agricultural challenges in Kenya.

In addition, Citizen TV's coverage of GMO-related news stories employed **six negative priming portrayals** to emphasize various concerns surrounding GMO adoption in Kenya**.** Firstly, the negative priming centered on constitutional and public participation issues, highlighting apprehensions about the lack of public involvement and adherence to the Constitution in the decision to lift the GMO ban, framing GMO adoption as potentially undemocratic and unconstitutional. Secondly, negative priming revolved around health and environmental concerns, emphasizing worries about GMOs causing cancer, allergies, and

environmental harm, creating a negative perception of GMOs as potential hazards to human health and the ecosystem. Thirdly, political opposition and concerns were highlighted, associating GMOs with potential harm, conflicts of interest, and negative economic implications. Fourthly, concerns about health risks and insufficient studies on GMOs were raised, priming the audience to perceive GMOs as potentially harmful and untested. Fifthly, the proximity and shared borders with neighbouring countries like Tanzania were emphasized, prompting the audience to consider the potential risks and implications of GMOs spreading to neighbouring nations. Lastly, negative priming brought attention to unilateral government decision-making, raising doubts about the safety of GMOs and instilling a lack of confidence in the adoption process. These negative priming strategies collectively aimed to foster skepticism, caution, and critical thinking among the Kenyan audience regarding the adoption of GMOs, emphasizing potential risks and challenges associated with their introduction.

RECOMMENDATIONS

1. Balanced Presentation of Benefits and Concerns: Citizen Television should ensure a balanced portrayal of the benefits and concerns related to GMOs in their news priming. This approach will foster a more informed and discerning viewership, allowing the audience to evaluate the information critically.
2. Diverse Expert Perspectives: Encourage the inclusion of various expert perspectives in GMO-related news coverage. This can encompass scientists, environmentalists, farmers, and policymakers, providing a more comprehensive and well-rounded understanding of the topic.
3. Educational Outreach: Citizen Television can supplement its news coverage with educational segments or follow-up programs that delve deeper into the complexities of GMOs. By offering viewers access to in-depth information, the channel can contribute to raising public awareness and knowledge about GMOs.

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