

Role of Media in Promoting Food and Security Awareness Among Farmers and Consumers in Bayelsa State

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Abstract

Mass media serve a significant function in shaping public consciousness and fostering development across various sectors, especially in agriculture. In Nigeria and more specifically in Bayelsa State media outlets have emerged as vital instruments for advancing food security by delivering timely and pertinent agricultural information. This research investigates the role of media in promoting food and security awareness among farmers and consumers in Bayelsa State. A descriptive survey methodology was employed, focusing on 1,351 participants comprising radio presenters, agricultural extension workers, registered farmers, and consumers. A proportionate and random sampling technique was used to select a representative group of 274 respondents. Data collection was conducted through a structured questionnaire, and the analysis involved descriptive statistics with a mean threshold of 2.5 used for decision-making. Results indicate that multiple media channels especially radio, smartphones, and television effectively convey agricultural knowledge and promote awareness of food security. Nonetheless, issues such as inadequate electricity, language differences, and limited literacy levels restrict media access and understanding. The study concludes that media are crucial to enhancing agricultural knowledge and achieving food security goals. Recommendations drawn from the study include strengthening infrastructure, encouraging content in indigenous languages, tailoring media for mobile accessibility, and improving partnerships among media organizations, governmental bodies, and agricultural institutions food security.

Keywords: Media, Food, Security, Awareness, Farmers, Consumers

Introduction

The media serve as essential instruments of communication, playing a pivotal role in shaping public perception and stimulating development across various sectors, especially agriculture. In Nigeria, and particularly in Bayelsa State, mass media platforms have become crucial in facilitating the flow of information that supports food security initiatives. As Nabusoba (2014) observed, media have significantly influenced both domestic practices and broader societal shifts. Buren (2000) emphasized that the widespread accessibility of mass media has contributed to heightened awareness across different domains. Its educational and developmental function is particularly evident in Nigerian society (Azelama & Anegbode, 2003).

Utilizing media to distribute agricultural information is central to equipping farmers with the knowledge necessary to improve both their productivity and income. In any nation, food production is a cornerstone of economic and social stability, serving as a source of nourishment, employment, industrial raw materials, and national revenue (Momoh, 2015). Supporting this view, Nakabugu (2001) highlighted that mass media particularly radio and television help deliver educational agricultural content, thereby fostering rural development. Swanson and Rajalathi (2010) also noted that the use of mass media is highly effective in delivering information rapidly and broadly to agricultural audiences.

Khan, Rahman, and Uddin (2017) asserted that media can enhance stakeholder awareness through the provision of comprehensive agricultural information aimed at increasing productivity. This assertion is supported by Chapman and Slaymaker (2002), who emphasized the media's capacity to relay timely updates on climatic conditions, market pricing, and resource availability to farmers. Okwu, Kuku, and Aba (2007) identified radio as one of the most effective channels for agricultural communication, capable of overcoming geographic barriers and delivering instant information. Radio remains a familiar and accessible medium for rural audiences and plays a vital role in communicating agricultural innovations and emergency alerts (Khan et al., 2017).

In Sub-Saharan Africa, radio has long served as a primary medium for reaching farmers. Though access may differ by region, Oguche (2016) estimated that between 80% and 90% of African households have access to radio. Its affordability, broad reach beyond urban centers, and absence of subscription costs make radio especially appealing. These characteristics have positioned it as a preferred tool for development communication, leading governments and NGOs to integrate it into agricultural and socio-economic programs (Nabusoba, 2014). Oyeyinka, Bello, and Ayinde (2014) also recognized radio's prominent role in the dissemination of agricultural content at both local and global levels.

In light of the above, this study seeks to explore the role of mass media particularly radio, television, newspapers, and smartphones in advancing food security awareness among farming communities and consumers in Bayelsa State. Enhancing farmers' understanding of agricultural practices is a key strategy for achieving food security, a priority that governments worldwide are currently addressing. Media platforms, by serving as vehicles for agricultural education, have the potential to improve food production and encourage informed consumption.

Statement of the Problem

Bayelsa State, endowed with abundant agricultural resources and food potential, continues to grapple with significant challenges related to food security. Despite ongoing interventions by public institutions and non-governmental bodies aimed at boosting agricultural output and ensuring food availability, many farmers and consumers still lack critical knowledge about sustainable agricultural methods, food safety, and nutritional practices. Media channels hold significant promise in addressing this information deficit through timely and educational messaging. However, the media's role in enhancing awareness around food security issues in Bayelsa State appears limited and insufficiently leveraged. Farmers often remain uninformed about improved farming techniques, pest and disease control, climate resilience strategies, and market access opportunities. At the same time, consumers frequently lack adequate understanding of nutrition, food hygiene, and storage practices, all of which are vital for public health and food safety.

Contributing further to this challenge are issues such as limited access to electricity, the dominance of non-local languages in media content, and weak media infrastructure in rural settings. These barriers severely limit how well information reaches and is understood by target audiences. Additionally, the circulation of misinformation and the persistence of cultural myths via informal networks further undermine food security efforts. Given these realities, it becomes essential to evaluate how various media platforms radio, television, print, and digital can be strategically deployed to enhance public awareness around food and agricultural issues. This study therefore aims to examine the effectiveness of media in promoting food security awareness among farmers and consumers in Bayelsa State, while identifying challenges and opportunities for optimizing media engagement in advancing sustainable agricultural practices and food security literacy.

Objective of the Study

The main objective was to investigate the role of media in promoting food security awareness among farmers and consumers in Bayelsa state. The study intends to:

1. Identify the media use in promoting food security awareness among farmers and consumers in Bayelsa State.
2. Assess the impact of media use in promoting food security awareness among farmers and consumers in Bayelsa State.
3. Identify the challenges in media use in promoting food security awareness among farmers and consumers in Bayelsa State.

Research Questions

The following research questions were formulated to guide the study:

1. What media are used in promoting food security awareness among farmers and consumers in Bayelsa State?
2. How does media use impact the promotion of food security awareness among farmers and consumers in Bayelsa State?
3. What are the challenges in media use for promoting food security awareness among farmers and consumers in Bayelsa State?

Literature Review

Concept of Media

Media, in its simplest form, refers to any channel or method used to convey messages to a specific audience. However, mass media denotes a broader and more technologically advanced system that facilitates communication to a large, often heterogeneous, population. It includes platforms such as radio, television, newspapers, and digital networks that disseminate information to the general public. Mass media serves as a powerful medium for informing, educating, entertaining, and shaping public opinion. According to Musaeva (2021), mass media is a deceptively simple term that encapsulates a wide spectrum of institutions, tools, and individuals that vary in function, scope, and cultural influence. It comprises any means by which information is conveyed to large audiences, ranging from traditional formats like handbills to global broadcasting corporations.

The functions of mass media extend beyond basic communication; they influence social norms, cultural values, and political ideologies. Tafazzoli and Bayat (2015) emphasize that mass media derive their strength from technological innovations, particularly in the digital age. These include both broadcast media such as radio, film, and television and digital media like websites, social media platforms, and

internet-based television and radio. Furthermore, Adams and Ahmad (2023) describe mass media as a set of communication tools and channels used to reach large audiences simultaneously. These platforms include television, print, and online media, all of which contribute to the dissemination of critical information on politics, health, economy, and culture. In essence, mass media plays a central role in shaping public discourse, influencing societal behavior, and promoting awareness on a broad scale.

Concept of Food

Food is a fundamental necessity for human survival, sought not only to sustain life but also to provide pleasure and satisfaction. It is broadly defined as any substance consumed to provide nutritional support to the body. These substances, often of plant or animal origin, are composed of essential nutrients such as carbohydrates, proteins, fats, vitamins, minerals, and water (Whitney & Rolfes, 2019). When ingested, food undergoes digestion and assimilation within the body's cells, producing the energy required for vital functions such as growth, repair, and overall maintenance of health. While autotrophic organisms like plants, algae, and some bacteria can produce their own food through photosynthesis, heterotrophic organisms including humans and most animals obtain food by consuming other organisms (Smithsonian Science Education Center, 2021).

Food can be consumed in raw, processed, or formulated forms and is essential for maintaining health, supporting physical activity, and facilitating bodily functions. Chauhan and Khandelwal (2023) argue that the composition and quality of food significantly impact human well-being and longevity, making diet a key determinant of physical and mental health.

Food is often classified based on various criteria:

- By chemical composition: carbohydrates, proteins, fats, vitamins, minerals, water, and dietary fiber.
- By function: energy-giving foods, body-building foods, and protective foods.
- By essentiality: essential and non-essential nutrients.
- By nutritive value: macronutrients and micronutrients.
- By origin: plant-based (e.g., fruits, grains, legumes, vegetables, nuts) and animal-based sources.

Fardet (2017) also points out that plant food plays a major role in human diets, contributing significantly to energy intake, fiber, and micronutrients. Food is not only a source of energy but also a determinant of growth, development, immunity, and overall human functionality.

Food Security

Food security gained global prominence following its formal articulation at the World Food Summit in 1996, where it was defined as the condition in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. This definition highlights food security as a multifaceted issue, moving beyond the simplistic notion that hunger results solely from a lack of global food production. Instead, it recognizes that although the global food supply may be adequate, unequal access shaped by social, economic, and political inequalities prevents marginalized populations from benefiting from that supply (Galie, 2019).

Food security thus encompasses more than just the availability of food; it reflects a complex interaction of accessibility, utilization, and stability. The focus is not only on the quantity of food but also on its safety, nutritional quality, and cultural appropriateness. Afzal (2023) notes that food security involves a range of factors including informed food choices, fair and stable pricing, the integrity of food safety systems, access to open and competitive markets, promotion of healthy diets, and the sustainability of food supply chains. These dimensions are interdependent and must be collectively addressed to ensure a robust and resilient food system. According to the Food and Agriculture Organization (FAO, 1996, as cited in Frongillo, 2022), true food security exists only when everyone, regardless of their socioeconomic status, enjoys consistent access to food that supports both health and well-being. This includes not just sufficient calories, but also essential nutrients that align with individual dietary needs and preferences.

Furthermore, nutritional adequacy is central to the food security discourse. As Bahn (2021) emphasizes, food that lacks proper nutritional value undermines the goal of food security. In recognition of this, the concept has evolved into what is now often termed "food and nutrition security" (FNS). This updated framing integrates both food availability and the dietary quality necessary for a healthy life, underscoring the inseparable link between nutrition and health. Food security is a comprehensive and dynamic concept that reflects not only the presence of food but also the conditions necessary for all individuals to obtain and utilize it in ways that promote sustained health, dignity, and social inclusion.

Types of Media

The promotion of food security awareness among farmers and consumers relies heavily on various forms of media. These media types serve as vital channels for disseminating agricultural information, nutrition education, market prices, climate-smart practices, and policy updates that affect food availability and accessibility. These media types include traditional, digital, and internet-based platforms, each contributing uniquely to enhancing food security awareness in both rural and urban settings.

1. **Traditional media:** Traditional media continue to serve as foundational tools in disseminating food security information, especially in rural communities with limited access to digital technologies. The following are types of traditional media:
 - i. **Newspapers:** Printed newspapers offer structured and in-depth content on food and agricultural policies, nutrition guidelines, and emerging food security challenges. They are particularly useful for literate audiences, including extension agents, local leaders, and educated farmers. By providing detailed articles, opinion columns, and expert analyses, newspapers help shape public understanding of food-related issues (FAO, 2023).
 - ii. **Radio programs:** Radio is one of the most widely accessible and effective media channels in rural areas. It allows for the broadcast of food security messages in local languages, making it easier for farmers and consumers to understand and act upon the information. Radio programs often include discussions, interviews with agricultural experts, and call-in segments, which enhance interaction and trust. Adebayo et al. (2021) noted that radio remains a primary tool for promoting food awareness among rural populations due to its affordability and cultural relevance.
2. **Television campaigns:** Television combines audio-visual elements to effectively communicate messages about food safety, best agricultural practices, and nutrition. Visual demonstrations of farming techniques, post-harvest handling, and proper food storage methods help bridge the knowledge gap.

Although television is less accessible in some rural areas, it remains a valuable tool in peri-urban and urban settings where electricity and affordability are not major constraints.

3. **Mobile and digital media:** Technological advancements have introduced a new wave of media tools, significantly improving the speed, accessibility, and reach of food security awareness campaigns. Among the mobile and digital media include:
 - i. **Smartphones:** The increasing penetration of smartphones among rural and urban populations has revolutionized access to information. Farmers and consumers can now receive timely updates on food safety alerts, weather forecasts, and market prices through mobile apps, SMS, and voice messages. Smartphones also serve as gateways to broader digital platforms, empowering users to engage with content in real-time (Okeke et al., 2022).
 - ii. **Social media platforms:** Platforms such as Facebook, WhatsApp, and YouTube have emerged as powerful tools for spreading food security awareness. Agricultural groups on Facebook share best practices, nutrition tips, and climate-smart farming techniques, while WhatsApp groups facilitate quick and localized information exchange among farmers and extension workers. YouTube offers visual tutorials and expert-led sessions on topics ranging from composting to food hygiene, making it an educational resource for both literate and semi-literate users.
3. **Internet-based platforms:** The internet hosts a wide range of websites and online forums dedicated to agriculture, food systems, and nutrition education. The internet based websites include:
 - i. **Agricultural websites and forums:** Websites such as those operated by the Food and Agriculture Organization (FAO), International Food Policy Research Institute (IFPRI), and national agricultural agencies provide data-driven and research-backed information. Farmers and consumers can access articles, downloadable materials, market trends, and interactive decision-making tools. Online forums also offer peer-to-peer knowledge sharing, where users can ask questions and receive guidance on food production and storage challenges. According to the FAO (2023), online platforms are crucial for promoting resilience in food systems, particularly as they offer up-to-date information that supports evidence-based decisions by farmers and policymakers.

Role of Mass Media in Promoting Food and Security Awareness

1. **Dissemination of agricultural and nutritional information:** Mass media provide farmers and consumers with vital information on food production, nutrition, storage, and safety practices. This helps improve agricultural yields and dietary choices through access to expert advice and government programs (Adebayo et al., 2021).
2. **Public awareness and advocacy:** Media platforms raise public consciousness about food insecurity, malnutrition, and hunger. They also serve as tools for advocacy, pushing for policy changes and increased investment in agriculture and food systems (FAO, 2023).
3. **Behavioral change promotion:** Through consistent messaging, media campaigns encourage the adoption of healthy eating habits, proper hygiene, and sustainable farming practices. This influences individual and community behaviors that contribute to food security (Iorlame & Oboh, 2022).
4. **Bridging the information gap between rural and urban populations:** Mass media, particularly mobile and digital platforms, connect rural farmers with real-time data on markets, weather, and new farming technologies, reducing the urban-rural knowledge divide (Okeke et al., 2022).
5. **Crisis communication and emergency response:** During emergencies such as pandemics or food shortages, media play a vital role in informing the public about food assistance programs, safety protocols, and supply chain updates (UNICEF, 2021).

Research Methodology

Descriptive survey research design was used for this study. The population for the study comprised 1,351 individuals, including radio broadcasters, agricultural extension personnel, registered farmers, and consumers within Bayelsa State. This included five radio broadcasters from three major radio stations in the state Glory FM 97.1, Rhythm FM 94.7, and Royal FM 95.5 along with 12 agricultural extension agents affiliated with the Bayelsa State Agricultural Development Programme (BYADP) and the Federal Ministry of Agriculture. Additionally, the study covered 634 registered farmers and 700 consumers from both rural and urban areas of the state (Bayelsa State Ministry of Agriculture & Information, 2024). These groups were selected due to their involvement in or influence on the dissemination and utilization of food security information through media and communication platforms.

A total sample of 274 respondents was selected, representing about 30 percent of the entire population. Given the small numbers of radio broadcasters and extension agents, all individuals in these groups were included in the sample. In contrast, 122 registered farmers and 135 consumers were selected using proportionate sampling, ensuring that the sample reflected the population's composition. Participants from the farmer and consumer categories were chosen through simple random sampling to maintain objectivity. Data collection was carried out using a questionnaire, which served as the primary instrument for the study. The questionnaire was structured on a four-point Likert scale with options: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). To analyze the responses, mean scores were computed to answer the research questions. Any item with a mean score of 2.50 or above was interpreted as agreement, while a mean score below 2.50 was considered disagreement.

Data Analysis and Results

Research Question 1: What media are used in promoting food security awareness among farmers and consumers in Bayelsa State?

Table 1: Mean response on the media use in promoting food security awareness among farmers and consumers in Bayelsa state.

S/N	Items	$\bar{x}$	Decision
1	Newspapers serve as a valuable source of information on food security issues that are pertinent to both farmers and consumers	2.60	Agree
2	Radio broadcasts offer an efficient medium for delivering food security awareness messages directly to farming communities	2.80	Agree
3	Television campaigns play a significant role in educating farmers and consumers about food safety and modern agricultural practices	2.74	Agree
4	The use of smartphones enhances access to real-time food security information for both farmers and consumers.	2.78	Agree
5	Social media platforms such as Facebook, WhatsApp, and YouTube are effective tools for spreading awareness about food-related matters	2.72	Agree
6	Agricultural websites and online forums provide dependable and practical information that supports the needs of farmers and consumers	2.41	Agree

Average mean

2.67

Agree

The results in Table 1 present the response on the use of media platforms to enhance food security awareness among farmers and consumers in Bayelsa State. All six media types received scores above 2.50, indicating widespread agreement on their effectiveness. Radio, smartphones, and television were identified as the most impactful tools for disseminating information. Traditional sources such as newspapers and internet-based platforms were also acknowledged for their usefulness. With an overall average score of 2.67, the data suggests that multiple media channels are considered effective in raising awareness about food security issues across the region.

Research Question 2: How does media use impact the promotion of food security awareness among farmers and consumers in Bayelsa State?

Table 2: Mean response on the impact of media use on promotion of food security awareness among farmers and consumers

S/N	Items	$\bar{x}$	Decision
7	Media platforms play a crucial role in enhancing farmers' understanding of food security practices.	2.71	Agree
8	Through various media channels, consumers are provided with timely and reliable information on food safety	2.71	Agree
9	The promotion of food security awareness via media contributes to reducing food wastage among both farmers and consumers.	2.75	Agree
10	Media campaigns serve as a motivating force, encouraging farmers to embrace sustainable agricultural techniques that support food security.	2.82	Agree
11	These platforms help close the communication gap between agricultural professionals and farmers on food security issues.	2.63	Agree
12	Media-driven awareness initiatives positively influence farmers and consumers to adopt safer and more hygienic food handling practices.	2.68	Agree
Average mean		2.71	Agree

The findings in Table 2 present the average responses on the perceived benefits of using media to promote food security awareness among farmers and consumers in Bayelsa State. All six items were above the acceptable level of 2.50, reflecting agreement on the positive impact of media engagement. Prominent benefits include the encouragement of sustainable farming practices and the reduction of food wastage, which received the highest ratings. Media platforms were also recognized for enhancing knowledge of food safety and security, bridging communication gaps between farmers and experts, and promoting safer food handling practices. With an overall average score of 2.71, the results affirm that media platforms play a crucial role in improving food security awareness in the region.

Research Question 3: What are the challenges in media use for promoting food security awareness among farmers and consumers in Bayelsa State?

Table 3: Mean response on the challenges in media use for promoting food security awareness among farmers and consumers

S/N	Items	$\bar{x}$	Decision
13	Unreliable electricity supply hinders farmers and consumers from accessing media sources that provide vital food security information.	2.86	Agree
14	Limited literacy skills among farmers and consumers pose a barrier to effectively utilizing media for promoting food security awareness.	2.83	Agree
15	Poor internet and mobile network availability in rural areas limits access to online media platforms used for food security education.	2.78	Agree
16	Language differences diminish the impact of media messages on food security awareness within local communities.	2.86	Agree
17	The high cost of internet data and satellite television limits farmers' and consumers' willingness to access them for food security information.	2.75	Agree
18	Limited government support and inadequate funding hinder the development and implementation of media programs aimed at promoting food security awareness.	2.78	Agree
Average mean		2.81	Agree

The findings in Table 3 present the average responses on the challenges affecting the use of media to promote food security awareness among farmers and consumers in Bayelsa State. All six items recorded scores above 2.50, indicating strong agreement on their challenges. The most critical challenges identified were the lack of reliable electricity supply and language barriers, both receiving the highest ratings. Other major issues included low literacy levels, inadequate internet and mobile network coverage, the high cost of internet data and satellite TV, and insufficient government support. With an overall average score of 2.81, the results highlight that infrastructural, educational, and financial barriers significantly hinder the effective use of media for food security education in the region.

Discussion of Findings

The findings presented in Table 1 demonstrate that various media platforms play a crucial role in fostering food security awareness among farmers and consumers in Bayelsa State. All six media items recorded mean scores exceeding 2.50, indicating general agreement on their usefulness. The prominent rating of smartphones underscores the growing dependence on mobile technology for disseminating agricultural information. Meanwhile, traditional outlets such as newspapers and online forums were also acknowledged as valuable sources, supporting the effectiveness of a multi-channel communication strategy. This supports Aker's (2011) findings, which highlight how information and communication technologies (ICTs) contribute significantly to agricultural improvement and food security across Sub-Saharan Africa.

The findings from the study clearly show the impact of use media in promoting food security awareness among farmers and consumers in Bayelsa State. All six items recorded mean scores exceeding 2.50, indicating general agreement on their impact. Respondents broadly agreed on the positive impact of media platforms in improving awareness and encouraging practices that support

food security. Media was found to be instrumental in driving the adoption of sustainable farming methods and in reducing food wastage both of which are vital for ensuring long-term food availability and minimizing losses across the food supply chain. These observations align with global perspectives, such as those presented by the Food and Agriculture Organization (FAO), which recognize the strategic value of media and information and communication technologies (ICTs) in delivering timely agricultural knowledge and supporting sustainable food systems.

The findings in Table 3 highlight a range of critical challenges that impede the effective use of media in promoting food security awareness among farmers and consumers in Bayelsa State. Respondents strongly agreed that infrastructural, educational, and economic barriers limit the potential of media to deliver food security messages effectively as indicated by the mean scores which were all above the acceptable mean score. The challenges reflect a broader pattern of exclusion that affects the most vulnerable segments of the population. These findings are consistent with earlier research by Asenso-Okyere and Mekonnen (2012), who emphasized that infrastructure deficiencies and literacy challenges pose major setbacks to the success of communication strategies in rural agricultural contexts. Addressing these barriers is essential to maximizing the impact of media in advancing food security goals.

Conclusion

The study examining the role of media in promoting food security awareness among farmers and consumers in Bayelsa State underscores the vital function of media platforms in enhancing agricultural knowledge and food-related practices. The findings reflect a strong consensus among respondents on the effectiveness of various communication channels particularly radio, smartphones, and television in raising awareness and disseminating timely, relevant information. These media tools contribute significantly to bridging knowledge gaps, fostering sustainable farming methods, minimizing food wastage, and encouraging safe food handling among the target populations.

Nonetheless, the study also brings to light several critical challenges that limit the reach and impact of media, especially in rural settings. Major barriers include unreliable electricity supply, language limitations, low literacy rates, and inadequate internet connectivity. These factors reduce the accessibility and usefulness of media content, particularly digital formats, for many farmers and consumers. Despite these constraints, the general perception remains favorable, with media seen as a powerful tool for connecting stakeholders across the food system.

Recommendations

Based on the findings, several actionable recommendations are proposed to enhance the use of media in promoting food security awareness among farmers and consumers in Bayelsa State:

1. Government agencies and relevant stakeholders should prioritize investment in essential infrastructure particularly electricity and internet access in rural areas to facilitate reliable media access for farming communities.
2. To improve message comprehension and inclusivity, media content should be translated into local languages, ensuring that non-literate and semi-literate audiences can engage meaningfully with food security information.

3. Given the widespread use of smartphones, media strategies should be optimized for mobile access. This includes leveraging mobile applications, SMS alerts, and social media platforms to deliver timely, accessible content to both farmers and consumers.
4. Strengthening collaboration among media organizations, agricultural extension services, and non-governmental organizations is essential for producing accurate, locally relevant, and practical messages on food security.
5. There is also a need to train farmers and consumers on how to effectively access and utilize various media tools for agricultural and nutritional information.
6. To promote inclusivity, affordable or no-cost access to food security programs should be made available across radio, television, and mobile platforms, especially for low-income groups.
7. Local radio stations should be supported in delivering culturally appropriate and timely food security content tailored to the specific needs of their communities.
8. Finally, policies and dedicated funding mechanisms should be implemented to support media-based agricultural education initiatives across Bayelsa State, ensuring long-term impact and sustainability.

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