



Examining the level of public awareness on the Sustainable Development Goals in Africa: An empirical evidence from Ghana

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Abstract

Nations which are part of the United Nations are required to institute appropriate measures to fulfil the vision of the Sustainable Development Goals (SDGs). However, for this to be possible, all stakeholders including the general public need to be fully aware of the SDGs. This research examined the level of public awareness about the SDGs among Ghanaians based on the views of 431 respondents. Means, standard deviation, Mann–Whitney U test, Kruskal Wallis and Pearson Product-Moment Correlations were used for data analysis. The study found that awareness level on SDG 1 (ending poverty), SDG 2 (zero hunger, food security, nutrition and sustainable agriculture), SDG 3 (health and well-being), SDG 5 (gender equality), and SDG 6 (clean water and sanitation) was high among Ghanaians. However, awareness level on SDG 9 (industry, innovation and infrastructure), SDG 14 (conservation of life below water), and SDG 16 (peace, justice and strong institutions) was very low among Ghanaians. No significant difference manifested in the level of awareness among male and female Ghanaians. There were statistically significant differences in educational levels of respondents and their overall level of awareness of the SDGs. Also, there was a low, negative correlation between overall level of awareness and the effectiveness of the communication strategies used in creating awareness about the SDGs. Government should re-examine its communication strategies on the SDGs and put in place a more effective communication policy framework which involves grassroots populations and local communities.

Keywords Public awareness · Communication · Sustainable development · Communication strategy · SDGs

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1 Introduction

Sustainability varies in many ways, with some scholars viewing it in light of corporate environmentalism (Banerjee, 2001), and corporate social responsibility (McWilliams & Siegel, 2000). Other scholars view sustainability based on the degree to which the concept is broadened to integrate and align economics with environmental and social concerns (Dyllick & Hockerts, 2002; Wagner, 2010), or the degree to which sustainability is discussed from the perspective of institutional theory (Bansal, cited in Campbell, 2007; Olawuwo, 2016). Sustainability simply means a capacity to maintain some entity, outcome or process over time (Basiago, 1999), and it is a vision for the world in which current and future humans are reasonably healthy; communities and nations are secure, peaceful and thriving; there is economic opportunity for all; and the integrity of the life-supporting biosphere is restored and maintained at a level necessary to make these goals possible. The central argument of sustainability is that future generations should live in a world that the present generation has enjoyed but not in a diminished state (Wayne et al., 2006).

Sustainability has become even more critical in development discourse, where the emphasis has been on ensuring sustainable development. As a concept, sustainable development ensures that both present and future generations witness improvement in their lives. It aims at fostering a healthy life for the present generation without compromising the ability of future generations to have a well-balanced and meaningful life. Sustainable development is human focused, long-term and enduring. It is not a quick fix. Government has a role in building and financing an enduring political, social, cultural and environmental structures to promote local development. Encouraging and recognizing the critical roles of cooperatives, NGOs, and private initiatives due to their grassroots appeals will drive sustainable development especially at the local level (Odigbo & Adediran, 2009).

An important aspect of the steps toward achieving sustainable development globally is the First World Climate Conference which took place in 1979. This conference essentially opened up the science of climate change. There was also the International Union for the Conservation of Nature and Natural Resources (IUCN), the World Wide Fund for Nature (WWF) and United Nations Environment Programme (UNEP), produced the World Conservation Strategy which occurred in 1980. Again, in 1983, the United Nations tapped former Norwegian Prime Minister Gro Harlem Brundtland to run the new *World Commission on Environment and Development*. This was christened *The Brandt Commission*. Subsequently, in 1987 the Brundtland Report consolidated the work on sustainable development. The Report developed “Our Common Future” concept which defined sustainable development as the type of *development that meets the needs of the present without compromising the ability of future generations to meet their own needs*.

Although the Millennium Development Goals (MDGs) led to some improvement in the lives of people across the globe, they fell short of massively transforming the world for better. After the expiration of the MDGs in 2015 there were several visible areas which needed attention (Kumi et al., 2014). For this reason, in September 2015 the United Nations (UN) General Assembly formally adopted the 17 SDGs, 169 targets and 300 indicators proposed by the Open Working Group on the SDGs as a build-up of the MDGs. Thus, apart from the MDGs, the SDGs 17 are, arguably, the most important global efforts towards sustainable development. The SDGs, also known as the Global Goals, are a set of global commitments which were formulated following the Rio+20 Summit of the UN in Brazil in 2012, with the sole aim of promoting development. They are a worldwide call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.

Adopted by 193 countries, the goals envision a society where there is economic prosperity, environmental sustainability, good governance, social inclusion and cohesion. The SDGs call for equity and environmentally sensitive economic development across nations. One unique feature of the SDGs is its universal and complex nature which encourages a spirit of partnership between governments, private sectors, research, academia and Civil Society Organisations [CSOs] (Addis Ababa Action Agenda Report, 2015). This partnership hinges on ensuring that the right choices are made now by all stakeholders to improve life, in a sustainable way, for future generations. It is believed that several interactions, inter-linkages and interdependencies between social, economic, environmental and political systems are vital to the attainment of the goals. Through this approach, the SDGs highlight the need to understand development far beyond a linear model to an evolutionary and a more open and inclusive model. The SDGs are a 'development blueprint' for both developed and developing nations. The goals are also a call for development beyond the simplistic, reductionist and idealized approaches which have become the commonest pathways of addressing global problems (Kumi, 2019).

The SDGs came into effect in January 2016, with the sole aim of improving the lives of people and promoting a safe environment. The goals focus on five thematic issues, commonly known as the five Ps which span across the 17 goals. They are: people, planet, prosperity, peace and partnerships. These themes generally address the root causes of poverty and strive to stimulate greater commitment towards improved lives for all generations through interdependent and inter-connected mechanisms. This means that efforts at achieving one goal will lead to the attainment of the other goals. This unique feature of the SDGs also demonstrates the apparent indispensability of each goal towards the attainment of the overall vision (UN Communications Group and the CSO Platform on SDGs, 2017).

The global goals mainly cover issues including poverty (SDG 1), hunger (SDG 2), health (SDG 3), education (SDG 4), gender equality (SDG 5), water and sanitation (SDG 6), energy (SDG 7), economic growth (SDG 8), as well as the industry, and innovation and infrastructure (SDG 9). Other goals are inequalities (SDG 10), cities and communities (SDG 11), consumption and production (SDG 12), climate change (SDG 13), water and land (SDG 14 and 15), peace and justice (SDG 16), and global partnership (SDG 17). Nations which are signatories to the SDGs are expected to formulate programs, policies and measures to achieve these goals. However, for national policies, programs and measures in respect of the SDGs to yield the desired results, citizen participation is crucial (Kumi, 2019). Odoom et al. (2021), Nalubiri (2010), and Gaventa (2005) maintain that participation in development policies and projects is critical in achieving the desired results. Public awareness is critical in stakeholder participation. When the general public are aware of the core issues ingrained in the SDGs, it strengthens their participation and commitment towards policies and programs aimed at pursuing the goals. In the views of Bastian et al., as cited in Nalubiri (2010), participation offers the development of self-confidence, pride, creativity, responsibility and cooperation.

Despite the importance of public awareness to the attainment of the SDGs, the level of awareness among citizens with respect to the SDGs has become a major concern in many countries. In a global survey done on level of awareness about the SDGs in 2016, involving 13 countries the level of awareness ranged from 16% in Russia to 44% in India. African countries such as Nigeria and Kenya, had 34 and 30%, respectively, of their populations that were aware of the SDGs (OECD, 2017). It is generally expected that more people would become aware of the goals as time goes on in the continent. However, studies done by scholars including Akinlolu et al. (2017) suggest that not much has improved in terms of public awareness of the SDGs in Africa. In Nigeria, for example, (Akinlolu et al. (2017) established

that public awareness of the SDGs in the country has not seen any much improvement. The level of awareness about the SDGs is still a major concern in Nigeria and, this could have dire consequences on the realization of the goals in the country. This is because the level of awareness is pivotal to the achievement of the goals (Akinlolu et al., 2017; OECD, 2017; UNESCO, 2016). UNESCO (2016) reported the need for stakeholders to mobilize the global education system to promote public awareness of the SDGs.

In essence, there is increasing concern with respect to the level of awareness about the SDGs. This is simply because though several calls have been made for nations to put in place measures to promote awareness about the goals, many citizens across different countries do not have adequate knowledge about the core issues of SDGs and their relevance in various aspects of human life (Bebbington & Unerman, 2020). It is generally recognized that without increased level of awareness it will be very difficult to attain the SDGs as the general public will not be able to hold pertinent stakeholders to account. Low level of awareness of the SDGs presents a significant threat to the realization of the SDGs (Akinlolu et al., 2017; OECD, 2017). The issue of low public awareness exposes the kind of information and knowledge people have about the goals. According to Kofi Annan, the former UN Secretary General, information and knowledge are essential conditions for development (United Nation, 1997). Krishna et al. (2022) maintain that increased awareness is an essential component to the attainment of the goals in different countries. Borg (2021) believes that effective communication is at the heart of the success of the SDGs. According to SDG Accountability Handbook (2019), effective communication strategies and techniques to raise awareness about the SDGs include producing educational resources such as reports and infographics; holding thematic discussions, roundtables, seminars, webinars, debates and exhibitions; utilizing radio programs; and producing audio-visual material such as television, video and documentary film. Other communication strategies to effectively create awareness about the SDGs are using the internet, interactive websites, as well as social media platforms; and using wireless communication such as mobile phones and text messaging. Without increased awareness, it will be impossible to achieve the goals (Vo et al., 2022).

Ghana is among the 193 nations which have adopted the SDGs 17. Through the support of the United Nations, Ghana has been making efforts to align her development priorities in line with the goals (National Development Planning Commission [NDPC], 2018; United Nations, 2018). The country, in collaboration with CSOs and the private sector, has and indeed continues to put in place measures to achieve the SDGs (UN Communications Group and the CSO Platform on SDGs, 2017). For example, Ghana has integrated the SDGs into her development agenda which is reflected in the country's Coordinated Programme of Economic and Social Development Policies, 2017–2024. Ghana has also initiated a number of development programs and policies aimed at improving the lives of all citizens and building a prosperous nation (Government of Ghana [GoG], 2019). For example, the *Free Senior High School* policy implemented by the government targets inclusive and quality education for all (SDG 4). Also, Ghana has been implementing the *Planting for Food and Jobs (PFJ)* policy over the past five years in line with SDG 2 which focuses on hunger, food security, nutrition, and sustainable agriculture.

Beyond the policy framework, the Government of Ghana has committed to putting in place some measures to promote inter-sectoral approach towards achieving the SDGs. A notable example among the commitments is the setting up of the SDGs Advisory Unit which provides technical, policy and strategic support to the President in his advocacy efforts on the SDGs. There is also the SDGs Implementation Coordinating Committee (ICC) which seeks to streamline and strengthen coordination and partnerships across

sectors in implementation, monitoring, evaluation and reporting SDG issues. Again, the government has set up the SDGs Technical Committee to, among others, provide support to local authorities and other stakeholders for the implementation, advocacy, awareness creation and public education on the goals (GoG, 2019). It is expected that these measures by government coupled with the efforts of other stakeholders including the media would lead to increased public awareness, support and commitment towards the attainment of the SDGs.

In spite of Ghana's efforts towards achieving the SDGs 17, there are concerns with the level of public awareness of these goals. It is generally believed that the Ghanaians have very little awareness about the SDGs, a situation which impedes support for and participation in policies and programs intended to fulfil the vision of the goals. This claim is corroborated in a report presented by the GoG (2019) which evinced that the level of public awareness among the Ghanaian public with respect to the SDGs is very low. In view of the concerns captured in the report coupled with the general recognition of low public awareness about the goals, Ghana has been undertaking key public awareness and knowledge enhancement strategy since the year 2019 as an essential part of the SDGs implementation measures. The strategy includes the use of social media platforms, radio and television programs and community dialogues to inform, inspire and involve everyone on the SDGs (Bexell & Jonsson, 2020; GoG, 2019). There is also stakeholder engagement and collaboration as part of the communication strategy to increase awareness about the goals (GoG, 2019). With the awareness creation strategy initiated over three years ago, one would expect some improvement regarding the level of public awareness of the SDGs. However, no empirically verifiable research has been conducted to determine whether or not public awareness of the goals has improved in the country. This research aimed to fill this knowledge gap, basing it on the fact that the SDGs are time-bound, which suggests that any further delays in increasing public awareness of the goals can derail the nation's overall chances of meeting the SDGs.

2 Methods and materials

The study adopted a descriptive survey design in a quantitative research approach. Convenience sampling method was used to select 431 respondents for the study. A set of questionnaire was used to gather data for the study. The questionnaire was administered in two ways. First, it was sent to Ghanaians in the form of Google Form. Owing to the COVID-19 protocols, it was very difficult to apply the rules of probability sampling methods in getting respondents. Thus, the Google Form was sent to as many Ghanaians as possible through various social media platforms for citizens who were interested in the issues and were willing to take part in the study to respond to the issues. Thus, Ghanaian citizens who were willing and had consented to take part in the study responded to the questionnaire. The researchers initially sent the form to the social media groups they were familiar with and requested members who were interested in the study, willing and had agreed to take part in it to fill the form. Members were also encouraged to send the form to other platforms they knew of for members who were willing to partake in the study to do so. Second, the questionnaire was self-administered by the research team. The research team contacted other citizens who did not fill the Google Form but were interested in the study to fill the questionnaires. Both approaches adopted for the data collection exercise occurred concurrently over two month-period between August 2021 and October 2021. In all, 431 Ghanaian citizens responded to the questionnaire, with about 65.6 per cent of them filling the Google

Form whilst the remaining took part in the self-administered questionnaire. Based on the obtained data, Cronbach alpha was calculated for the study. A Cronbach's alpha of 0.985 obtained showed that the internal consistency was high (George & Mallery, 2003). Collected data was analysed using Means, standard deviation, Mann–Whitney U test, Kruskal Wallis and Pearson Product-Moment Correlations. Means were used to provide the averages of the responses obtained and their corresponding standard deviations which showed the variations from the average responses were given.

Further, Mann–Whitney U test was used to determine whether differences existed in the mean scores of level of public awareness of the SDGs in Ghana for male and female respondents. A Kruskal–Wallis test was conducted to further examine the differences between educational level of respondents and the mean scores with respect to the level of awareness of the SDGs. Pearson Product-Moment Correlations helped to assess the association between the level of effectiveness of Communication Strategies and the level of awareness of the SDGs. As part of the ethical issues, the researchers first explained the purpose of the study to the respondents. Respondents were assured of confidentiality and anonymity of the information they would provide. In addition, the researchers ensured that only respondents who were interested in the study and had consented to participate in it filled the Google Form. Persons who did not consent to take part in the study for various reasons including lack of interest in the study were asked not to fill the Google Form. Similarly, for the self-administered questionnaire, only respondents who had consented to take part in the study did so. Again, respondents were encouraged to give information as frank as possible. Finally, the research team ensured that enough time was given to respondents to fill the questionnaire. Among other things, this was to ensure that respondents who wished to cease their participation at any time would do so willingly. By so doing, only respondents who really were willing to participate in the study filled and returned their filled questionnaires.

3 Results and discussion

This part is in two sections; section one focuses on the demographic features of respondents whilst section two looks at the results and discussion based on the research aim. Regarding demographic features of the respondents, Table 1 shows that 58.5% of them were males and the majority (63.1%) of them had educational qualifications not below bachelor's degree.

Again, Table 1 depicts that 17.6% of the respondents had Secondary School Certificate Examination (SSCE)/West Africa Secondary School Certificate Examination (WASSCE) as their educational qualification. Also, the table depicts that the majority (53.1%) of the respondents were single. The importance of the demographic features to the SDGs has been highlighted in previous studies. For example, Fuso Nerini et al. (2019) commented that highly knowledgeable people are very likely to understand the SDGs in a better way and support to execute these goals to build a sustainable future for all.

The level awareness among the public on the 17 goals was assessed based on a scale 1–6, with 1 representing no awareness and 6 representing very high awareness. The results are presented in Table 2.

The findings show that respondents were highly aware ($M=4.93$, $SD=1.22$) of the SDG 1 which seeks to end poverty in all its forms. Poverty has become a popular issue in Ghana, with the country being the first nation in Sub Saharan Africa to reduce poverty by half in line with the MDG 1. It is therefore no surprise that more Ghanaians tend to be aware of poverty as enshrined in the SDGs (UN Communications Group and

Table 1 Demographic data of respondents. Source: Field survey (2021)

	Frequency	Percentage
<i>Sex</i>		
Female	179	41.5
Male	252	58.5
Total	431	100.0
<i>Qualification</i>		
SSCE/WASSCE	75	17.6
Diploma/higher national diploma	63	19.0
Bachelor's degree	173	40.8
Master's degree	102	22.2
PhD	18	4.5
Total	431	100.0
<i>Marital status</i>		
Single	229	53.1
Married	191	44.3
Divorced	7	1.6
Widow	4	1.0
Total	431	100.0

the CSO Platform on SDGs, 2017). In addition, nations will continue to suffer from the impact of poverty on economic growth and social cohesion, political and social tensions, and instability if there are no efforts to reduce poverty (UN Communications Group and the CSO Platform on SDGs, 2017).

Again, the study revealed that respondents were generally aware of the SDG 2 which considers four key issues namely, ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture ($M=4.92$). This indicates that Ghanaians are highly aware of the fact that ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture are central to SDG 2.

On SDG 3 which looks at achieving healthy lives and promoting well-being for all at all ages, a mean score of 4.90 was obtained. This shows that Ghanaians were highly aware of Goal 3. By implication, the survey reveals an increased level of awareness among Ghanaian citizens who took part in the study with respect to the SDG 3. Similarly, the study showed that public awareness with respect to Goal 4 was high ($M=4.95$, $SD=1.27$) among Ghanaians. The result on Goal 4 validates the position held by UNESCO (2016) which reported that improved education is key to sustainable development. The Report added that enlightenment of people is vital to the SDGs. However, the study observed that the level of awareness among respondents with respect to the SDG 7 was generally moderate ($M=4.30$). This suggests that though achieving affordable and reliable energy is key on the agenda of Ghanaian governments, citizens are not much aware that these issues find their relevance in the SDGs. This revelation is not surprising because there is very scanty information on SDG 7 (Bhattacharya & Jahan, 2019). Vo et al. (2022) bemoan that without adequate awareness it will be impossible to achieve the SDGs.

Another area where respondents' level of awareness was perceived as high is the SDG 13 which aims at taking urgent action to combat climate change and its impacts ($M=4.80$, $SD=1.34$). Ghanaians who participated in the survey were much aware of the fact that taking urgent action to combat climate change and its impacts was on the agenda of SDGs.

Table 2 Level of awareness with respect to the SDGs. Source: Field survey (2021)

Goal	Issue(s)	<i>N</i>	Mean	SD
1	Ending poverty in all its forms	431	4.93	1.22
2	Ending hunger	431	4.91	1.28
	Achieving food security	431	4.91	1.32
	Improving nutrition	431	4.91	1.32
	Promoting sustainable agriculture	431	4.97	1.22
	Sub-total		4.92	1.28
3	Ensuring healthy lives	431	4.93	1.26
	Promoting well-being for all at all ages	431	4.88	1.36
	Sub-total		4.90	1.31
4	Ensuring inclusive and equitable quality education	431	4.96	1.23
	Promoting lifelong learning opportunities for all	431	4.94	1.31
	Sub-total		4.95	1.27
5	Achieving gender equality	431	5.00	1.22
	Empowering all women and girls	431	5.00	1.23
	Sub-total		5.00	1.22
6	Ensuring available and sustainable management of water	431	4.91	1.29
	Ensuring sustainable management of sanitation	431	4.90	1.30
	Sub-total		4.90	1.29
7	Access to affordable energy for all	431	4.29	1.80
	Access to reliable energy for all	431	4.30	1.78
	Access to sustainable energy for all	431	4.33	1.79
	Access to modern energy for all	431	4.27	1.83
	Sub-total		4.30	1.80
8	Promoting sustained, inclusive and sustainable economic growth for all	431	2.33	1.63
	Promoting sustained, inclusive and sustainable full employment for all	431	2.54	1.73
	Promoting sustained, inclusive and sustainable productive decent work for all	431	2.46	1.72
	Sub-total		2.44	1.69
9	Building resilient infrastructure	431	3.43	1.86
	Promoting inclusive and sustainable industrialization	431	3.44	1.81
	Fostering innovation	431	3.35	1.80
	Sub-total		3.41	1.82
10	Reducing inequality within and among countries	431	4.35	1.58
11	Making cities and human settlements inclusive and safe	431	2.20	1.53
	Making cities and human settlements resilient and sustainable	431	2.18	1.51
	Sub-total		2.19	1.52
12	Ensuring sustainable consumption patterns	431	2.17	1.49
	Ensuring sustainable production patterns	431	2.19	1.53
	Sub-total		2.18	1.51
13	Taking urgent action to combat climate change and its impacts	431	4.80	1.34
14	Conserving and sustainably using the oceans	431	2.39	1.64
	Conserving and sustainably using the seas and marine resources for sustainable development	431	2.37	1.63
	Sub-total		2.38	1.63

Table 2 (continued)

Goal	Issue(s)	<i>N</i>	Mean	<i>SD</i>
15	Protecting, restoring and promoting sustainable use of terrestrial ecosystems	431	2.38	1.64
	Sustainably managing forests	431	2.39	1.64
	Sustainably combating desertification, halting and reversing land degradation	431	2.38	1.64
	Sustainably halting biodiversity loss	431	2.37	1.63
	Sub-total		2.38	1.64
16	Promoting peaceful and inclusive societies for sustainable development	431	2.55	1.68
	Providing access to justice for all	431	2.53	1.66
	Building effective, accountable and inclusive institutions at all levels	431	2.49	1.62
	Sub-total		2.52	1.65
17	Strengthening the means of implementation of SDGs	431	2.50	1.63
	Revitalizing the Global Partnership for Sustainable Development	431	2.48	1.61
	Sub-total		2.49	1.62
	Grand total		3.60	1.39

Means were calculated based on a scale of: 6=very highly aware, 5=highly aware, 4=moderately aware, 3=lowly aware, 2=very lowly aware, 1=not aware

The result fulfils the target 13.3 of SDG 13 which highlights the need to promote public education and awareness on climate change mitigation, adaptation, impact reduction and early warning. Public awareness on climate change is increasing in recent times because dramatic change of the world climate has become one of the most important topics over the last few years (Talukder, 2019).

Additionally, the study discovered that the overall level of awareness of Goal 5 ($M=5.00$, $SD=1.22$) and Goals 6 ($M=4.90$; $SD=1.29$) was generally high. This means that Ghanaians were highly aware of the core issues in the SDGs 5 and 6. The finding on Goal 5 is extremely important because according to Friedmann (1992), gender equality is critical in development services and should be given the needed attention by stakeholders (Friedmann, 1992; Odoom et al., 2022).

Beyond the above observations, the level of awareness of respondents on the other goals was found to be either low or very low. For instance, respondents were lowly aware of issues such as building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation which are core to SDG 9 ($M=3.41$, $SD=1.82$). The value of this revelation finds expression in the fact that Goal 9 is very much linked to Goal 8 which focuses on economic growth and development. This is because economic growth and development are largely driven by investment in infrastructure and innovation. Again, Goal 9 is related to Goal 11 which considers sustainable cities and communities. Thus, achieving SDG 9 (industrial expansion, innovation and public infrastructure) will contribute significantly in increasing rate of urban populations (SDG 11) globally. In effect, low public awareness of SDG 9 will hinder commitment towards the realization of the overall goal (United Nations Development Program [UNDP], 2021).

Likewise, Goal 14 which enjoins nations and organizations to institute measures to conserve and sustainably use the world's oceans, seas and marine resources was very lowly known to the respondents ($M=2.38$). Given how food security (SDG 2), human health (SDG 3), and water and sanitation are intimately tied to the health of the ocean (United Nations, 2015), it is very worrying that public awareness of SDG 14 is very low among the

Ghanaian citizens. All efforts towards saving the oceans must remain a major priority. Otto et al. (2019) assert that public awareness is a critical mechanism for formulating policies and exerting pressure on policymakers.

In the same manner, promoting peaceful, inclusive societies, providing access to justice for all, and building effective, accountable and inclusive institutions at all levels which are indispensable (SDG 16) components of the SDGs were generally not known to the respondents. This result is a departure from the calls made in UNDP Report (2021). The Report calls on stakeholders to show more commitment towards the realization of the SDG 16 since no sustainable development can be achieved without an atmosphere of peace, stability, human rights and effective governance. In addition, increased insecurity, crime and violence across the world in recent times imply that efforts towards peace, stability, human rights and effective governance globally are crucial (UNDP, 2021). Against this backdrop, the importance of public awareness on SDG 16 which seeks to promote peace, stability, human rights and effective governance cannot be over-emphasized.

More so, the survey found that the overall level of awareness among respondents with respect to the 17 SDGs was just moderate ($M=3.60$, $SD=1.47$). Though moderate, this study indicates that the Ghanaian public had at least some level of awareness about the SDGs. The findings of this study generally agree with previous studies (Akinlolu et al., 2017; Krishna et al., 2022; OECD, 2017) which found that there is low level of awareness of the SDGs among people. Indeed, the overall results support previous studies which found that Ghanaians generally have very low awareness and little knowledge about the SDGs (GoG, 2019). The overall revelation of this study seems to accentuate the worry expressed by Prof. Gyan-Baffour which indicates that there is low level of awareness on the SDGs among many Ghanaians. The situation hampers ownership of the goals and derails efforts to meet the SDGs (News Ghana Report, 2019). It is very worrying that despite the various efforts to promote public awareness on the SDGs in Ghana since 2019 not much has changed. Krishna et al. (2022) further opine that the situation calls for urgent attention since increased awareness is critical to the attainment of the SDGs. Again, the findings of this study generally depart from the expectations of Akinlolu et al. (2017) who express that everyone everywhere in the world should be aware and knowledgeable about the SDGs.

An inferential analysis using Mann–Whitney U-test was conducted to determine whether differences existed in the mean scores of level of public awareness of the SDGs in Ghana for male and female respondents at a significance level of 0.05 (Table 3).

The Z value of -2.055 with a p -value of 0.838 which is higher than the alpha value of 0.05 suggests that no significant differences existed between male and female respondents with respect to their views on the level of awareness of the SDGs. This suggests that both male and female respondents had the same level of awareness with respect to the SDGs.

The researchers further examined whether or not differences existed between educational levels of respondents and their overall level of awareness of the SDGs (Table 4). It is clear from Table 4 that the significance level ($p=0.024$) is less than the alpha value of

Table 3 A Mann–Whitney U-test analysis of mean scores of level of public awareness of the SDGs in Ghana for male and female respondents. Source: Field survey (2021)

Sex	N	Mean rank	Sum of ranks	Mann–Whitney U	Wilcoxon W	Z	Sig. (2-tailed)
Male	252	217.03	54,692.00	22,294.000	38,404.000	-2.055	.838
Female	179	214.55	38,404.00				
Total	431						

0.05. This suggests that statistically significant differences existed between educational levels of respondents and their overall level of awareness of the SDGs.

A closer look at the mean ranks for the groups in Table 4 suggest that the highly educated respondents (those with PhD) had the highest level of awareness, with those who had 1st Degree reporting the lowest. Surprising, the results also showed that respondents who had just SSCE/WASSCE had higher level of awareness than those who had 1st Degree. This suggests that aspiring higher on the ladder of education does not automatically translate into increased awareness about the goals. In essence, one would require some level of commitment to know and understand the SDGs for him or her to become fully aware of the goals. This is contrary to the claim in previous studies (Fuso Nerini et al., 2019; UNESCO, 2016) which sought to suggest that higher education correlates positively with increased awareness and knowledge of the SDGs.

After establishing the level of awareness of the SDGs, the study further examined the views of the respondents on the effectiveness of the communication strategies. Table 5 shows the communication strategies used to create awareness about the SDGs.

It is clear from Table 5 that stakeholder engagement ($M=2.81$), radio programs ($M=2.74$), and television programs ($M=2.74$) were approximately found to be moderately effective communication strategies for creating awareness about the SDGs. However, community dialogue ($M=1.28$), social media platforms ($M=1.29$), town hall meetings ($M=1.30$), and exhibition ($M=1.29$) were all not effectively used to create awareness about the SDGs in the country. On the whole, respondents stated that communication strategies used in creating awareness about the SDGs were not effective in Ghana ($M=1.49$, $SD=0.74$). The results on the use of radio and TV programs converge with that of Akinlolu et al. (2017) who observed that TV and radio programs are the communication strategies used to create awareness about the SDGs in Nigeria. The results on radio and television programs are not surprising because Ghanaians mostly use these strategies to obtain news items and other information via radio and television (Afrobarometer, 2018). However, the findings on the use of social media fall short of the report by Country Transition Strategy in Nigeria, as cited in Akinlolu et al. (2017), which called for the need to increasingly use social media as a source of awareness about the SDGs. Generally, the findings on the communication strategies strengthen the position by SDG Accountability Handbook (2019) which indicates that to raise awareness about the SDGs stakeholders need to consider television and radio programs. However, the findings on the overall current communication strategies adopted by the Ghana deviate from the expectations of SDG Accountability Handbook (2019) which show that for stakeholders to raise awareness about the SDGs they need to focus on community dialogue, social media platforms, mobile phoning and text messaging which target the general public.

The relationship between perceived level of awareness of the SDGs (as measured by the TOTALAWAR) and perceived level of effectiveness of communication strategies (as measured by the TOTALCOM) was investigated using Pearson product-moment

Table 4 A Kruskal–Wallis test of between educational level of respondents and their views on the level of awareness of the SDGs. Source: Field survey (2021)

Educational level	N	Mean rank	X^2	Df	Sig. (2-tailed)
SSCE/WASSCE	75	240.81	11.227	4	.024
HND/Diploma	63	205.50			
1st Degree	173	195.53			
2nd Degree	102	233.15			
PhD	18	242.53			
Total	431				

(Statistic is significant at 0.05); df: degree of freedom; X^2 chi-square

Table 5 Views of respondents on the effectiveness of communication strategies used to create awareness about the SDGs. Source: Field survey (2021)

Communication strategy	N	Mean	Std. Deviation
Community dialogue	431	1.280	0.534
Stakeholder engagement	431	2.812	1.215
Exhibition	431	1.299	0.559
Town-hall meetings	431	1.303	0.564
Social media	431	2.299	0.559
Radio programs	431	1.740	1.135
TV programs	431	2.740	1.135
Documentary films	431	1.299	0.559
Wireless com text messaging	430	1.300	0.559
Wireless com such as mobile phones	431	1.299	0.559
Total		1.490	0.7468

Means were calculated based on: 4=very effective, 3=moderately effective, 2=lowly effective, 1=not effective

correlation coefficient (Table 6). Preliminary analyses were performed to ensure there was no violation of the assumptions of normality, linearity and homoscedasticity. There was a low, negative correlation between the two variables [$r = -0.09$, $n = 431$, $p < 0.05$], with low levels of perceived awareness associated with low levels of effectiveness of the communication strategies used in creating awareness about the goals.

4 Conclusions and policy implications

The results of this study suggest that GoG's efforts with respect to advocacy and awareness creation seem to have generally yielded some results. This is because, in general, Ghanaians are now highly aware of the existence of SDG 1 (ending poverty), SDG 2 (zero hunger), SDG 3 (health and well-being), SDG 4 (quality education), SDG 5 (gender equality), and SDG 6 (clean water and sanitation). This revelation is not very surprising because apart from radio and TV programs and the Ministry of Finance periodic presentations on the SDGs, policies including *Free Senior School* which focused on SDG 4, and *Planting for Food and Jobs* which targeted SDG 2 have generated increased public debate in the country due to increased public interest in them. However, the level of public awareness with respect to SDG 9 (industry, innovation and infrastructure), SDG 11 (sustainable cities and communities), SDG 14 (conservation of life below water), and SDG 16 (peace, justice and strong institutions) was very low; a situation which is very problematic to the

Table 6 Pearson Product-Moment Correlations between the level of effectiveness of communication strategies and perceived level of awareness of the SDGs. Source: Field survey (2021)

		TOTALAWAR	TOTALCOM	Mean	SD
TOTALAWAR	Pearson correlation	1	-.091	152.624	41.691
	Sig. (2-tailed)		.060		
	N	431	430		
TOTALCOM	Pearson correlation	-.091	1	13.195	5.269
	Sig. (2-tailed)	.060			
	N	430	430		

overall realization of the SDGs. What is more is the fact that the overall public awareness among Ghanaians is just moderate and the situation is the same irrespective of one's sexual orientation. The prevailing situation raises questions about the nature of the overall efforts made by the Ghanaian government and other stakeholders including the media towards the promotion of public awareness as part of the strategies to meet the SDGs across the various sectors of the country. No statistically significant difference exists between marital status of respondents and their overall level of awareness of the SDGs. Also, statistically significant differences exist between educational levels of respondents and their overall level of awareness of the SDGs. In addition, stakeholder engagement, radio and television programs are communication strategies which can generally help improve awareness about the SDGs. Again, there is a low, negative correlation between the perceived level of awareness of the SDGs and the effectiveness of the communication strategies used in creating awareness about the goals.

Given the multiplicity of stakeholders involved in pursuing the SDGs coupled with the urgency of garnering public support and commitment towards the goals, it is extremely essential for authorities to pay increased attention to the overall communication strategy which accompanies the SDGs. The results of this study generally suggest that not much has been achieved in terms of public awareness of the SDGs. Clearly, this is an indication that a new and effective communication policy and strategy is needed to help ameliorate the prevailing situation. Government needs to re-examine the current communication strategy and come out with a new communication policy which is well-tailored to the needs and contexts of the multiple stakeholders involved in the SDGs. Inherent in the new communication strategy should be much more focus on positioning institutions which have access to local communities and grassroots populations to effectively play their roles in promoting public awareness and advocacy on the SDGs.

The observation on marital status of respondents and their overall level of awareness of the SDGs implies that policy frameworks on increasing public awareness about the goals which tend to pay too much attention to marital differences of Ghanaians will not yield any substantially positive results. In spite of the statistically significant differences in educational levels of the Ghanaians and their overall level of awareness of the SDGs, policy decisions which tend to over-rely on the educational levels of citizens may not yield significantly different positive results. More efforts in terms of increased commitment and desire to learn, know and appreciate the core issues in the SDGs are required to achieve positive results. Similarly, the result on the relationship between the level of public awareness and the communication strategies government adopts has implications for government's communication strategies for increasing awareness about the SDGs. Specifically, government needs to do a lot more in terms of stakeholder engagement, radio and television programs, town-hall meetings and community dialogue, social media education, mobile phoning and text messaging to help increase public awareness about the SDGs.

Generally, the results of this study imply that a broader understanding of the communication challenges associated with the overall strategy of the government for the SDGs is required to help bring out the measures needed to promote public awareness about the goals. For example, although the current communication strategy on the SDGs in Ghana considers local languages, it is very crucial for the government to allow many more indigenous people and local communities to be co-creators and co-producers of the new communication policy on the SDGs for the greater good of the nation. Beyond incorporating more indigenous people and local communities, government needs to obtain data from the various sectors and stakeholders involved in the realization of the SDGs. Data is critical in the formulation of all communication policy frameworks and the communication strategy

for the SDGs is no exception. Relying on data in designing a new communication strategy for the SDGs will lead to evidence-based communication policy framework which can increase awareness and knowledge on the goals. Besides, the new communication strategy should pay attention to the compelling linkages existing amongst the 17 goals and how such linkages ought to influence inter-sectoral awareness creation measures.

Finally, the new communication strategy by government should pay much more attention to the use of a variety of incentives to overcome possible sector-specific inertia associated with communicating issues related to the SDGs to the Ghanaian public. Developing a very effective communication policy for the SDGs will require the involvement of all key stakeholders. No effective communication policy document can be developed for promoting public awareness without the participation of key stakeholders. Thus, the new communication policy should be guided by participatory communication approaches. Participatory communication approaches will help to bring onboard the views of all stakeholders in identifying communication problems associated with the SDGs and finding solutions to them in a more collective manner. Notable features of participatory communication include the fact that it is very involving, empowering and seeks to incorporate views of all stakeholders in decision making processes. Relying on participatory communication in developing a new communication policy for the SDGs in Ghana will ensure that the unique contexts and the different situations and challenges of the various sectors of the economy as well as the differences in the various ethnic groups inform the new communication policy. As a way of limitation, the researchers recognize that the non-inclusion of qualitative methods would hinder the depth of the issues investigated.

Appendix A

Questionnaire

Introduction

This research aims at collecting data on the topic “Examining the Level of Public Awareness on the Sustainable Development Goals in Africa: An Empirical Evidence from Ghana”. This questionnaire has been designed to solicit information for strengthening intellectual and academic contributions to help shape policy decisions. All the information you provide would be treated with the utmost confidentiality.

Instruction: Please tick the desired answer where applicable and answer the questions as accurately as you can.

Section A: demographic characteristics of respondents

1. Sex: Male Female
2. Highest level of education:

<input type="checkbox"/> SSCE/WASSCE	<input type="checkbox"/> Diploma/Higher National Diploma
<input type="checkbox"/> Bachelor's degree	<input type="checkbox"/> Master's degree <input type="checkbox"/> PhD/Other Doctorate degree
3. Marital status:

Married <input type="checkbox"/>	Single <input type="checkbox"/>	Divorced <input type="checkbox"/>	Widowed <input type="checkbox"/>
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Section B: level of awareness of the Sustainable Development Goals among Ghanaian citizens

4. Below are the key issues of SDGs which nations are expected to work hard in order to achieve them. To what extent are you aware of each of these issues of SDGs using the following scale?

6=Very highly aware (VHA) 5=Highly aware (HA) 4=Moderately aware (MA)
3=Very lowly aware (VLA) 2=Lowly aware (LA) 1=Neutral (N)

Goal	Issue (s)	VHA	HA	MA	VLA	LA	N
1	Ending poverty in all its forms						
2	a. Ending hunger b. Achieving food security c. Improving nutrition d. Promoting sustainable agriculture						
3	a. Ensuring healthy lives b. Promoting well-being for all at all ages						
4	a. Ensuring inclusive and equitable quality education b. Promoting lifelong learning opportunities for all						
5	a. Achieving gender equality b. Empowering all women and girls						
6	a. Ensuring available and sustainable management of water b. Ensuring sustainable management of sanitation						
7	a. Access to affordable energy for all b. Access to reliable energy for all c. Access to sustainable energy for all d. Access to modern energy for all						
8	a. Promoting sustained, inclusive and sustainable economic growth for all b. Promoting sustained, inclusive and sustainable full employment for all c. Promoting sustained, inclusive and sustainable productive decent work for all						
9	a. Building resilient infrastructure b. Promoting inclusive and sustainable industrialization c. Fostering innovation						
10	a. Reducing inequality within and among countries						
11	a. Making cities and human settlements inclusive and safe b. Making cities and human settlements resilient and sustainable						
12	a. Ensuring sustainable consumption patterns b. Ensuring sustainable production patterns						
13	a. Taking urgent action to combat climate change and its impacts						
14	a. Conserving and sustainably using the oceans. b. Conserving and sustainably using the seas and marine resources for sustainable development.						
15	a. Protecting, restoring and promoting sustainable use of terrestrial ecosystems b. Sustainably managing forests c. Sustainably combating desertification, halting and reversing land degradation d. Sustainably halting biodiversity loss.						
16	a. Promoting peaceful and inclusive societies for sustainable development b. Providing access to justice for all c. Building effective, accountable and inclusive institutions at all levels.						
17	a. Strengthening the means of implementation of SDGs b. Revitalizing the Global Partnership for Sustainable Development						

Section C: communication strategies for creating awareness about the Sustainable Development Goals to the public

5. The following relate to communication strategy which can be used to create awareness about the SDGs. Please, indicate your views with respect to the level of effectiveness of each of these strategies in creating awareness about the SDGs using the following scale: 4= Very Effective (VE), 3=Moderately Effective (ME), 2=Lowly Effective (LE), 1=Not Effective (NE)

Communication strategy	HE	ME	LE	NE
Community dialogue				
Stakeholder engagement				
Town hall meetings				
Radio programs				
Television programs				
Social media platform				
Documentary films				
Exhibitions				
Wireless communication such as mobile phones				
Wireless communication such as text messaging				

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Data availability The data presented in this research are available on a reasonable request from the corresponding author.

Declarations

Conflict of interest The authors declare no conflict of interest.

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