



Achieving Sustainable Development Agenda of 2030: The Role of Accountants

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Abstract: *The study examined the contribution of accountants in achieving the sustainable development agenda of 2030. A perspective study of accountants in Nigeria was carried out to specifically determine the role of accountants in ensuring sustainable management of water and sanitation, sustainability of cities and human settlements, and sustainable consumption and production patterns. Cross-sectional survey research design was deployed for the study. A sample size of eighty-nine (89) chartered accountants was obtained from a population of seven hundred and seventy-two (772) professionally affiliated Accountants in Nigeria. Primary data were sourced from the questionnaires administered on the 89 sampled chartered accountants in Nigeria. Kolmogorov-Smirnov Test was used in hypotheses testing at 5% level of significance. The findings of the study revealed that: accountants play a significant role in ensuring availability and sustainable management of water and sanitation ($D = 0.197, p = .002$); accountants have a significant function in making cities and human settlements inclusive, safe, resilient and sustainable ($D = 0.151, p = .001$); there is a significant responsibility of Accountants in ensuring sustainable consumption and production patterns ($D = 0.178, p = .000$). Based on the finding, it was recommended that Accountants should help in reducing waste generation through prevention, reduction and recycling and reuse of waste.*

Keywords: *sustainable development agenda; sustainable management of water and sanitation; sustainable consumption and production patterns*

I. Introduction

The sustainable development agenda which is alternatively termed Sustainable Development Goals (SDGs) provide a framework for understanding risk and the external environment vis-a-vis the new nature of economies and the future potential for growth. The United Nation Brundtland Report defined sustainable development in 1987 as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Izzo, Ciaburri & Tiscini, 2020). It was from this point that the debate on sustainable development has flourished, and subsequently calls for new approaches to sustainable business models (Caruana & Dabbicco, 2022).

The accounting profession in a way emphasizes that responsible corporate behavior encourages the achievement of the Sustainable Development Goals (Cho, Senn & Sobkowiak, 2022). When the SDGs were first introduced during the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012, they were tailored to depend on the critical role of business enterprises to deliver on the mandate of not only inclusive but also sustainable development. Ever since then, SDGs remain challenge for both investors and

business organisations, requiring the contributions of bodies of professionals such as accountants. The role of accountants in this process, thus, is pivotal and can provide both the key to success and the reason for the failure of this challenge (Adeyemi, Okewale, Adedapo & Ebipanipre, 2020).

Integrated reporting which is provided by accountants has been defined as a promising approach to disclose the corporate journey towards achieving the SDGs and can be used to embed the SDGs in organizations' thinking and reporting (Azzahra, 2022). Drawing on these considerations, the SDGs can be used as an impactful instrument to move toward a new business model, and, at the same time, Izzo, Ciaburri and Tiscini (2020) argued that integrated reporting could represent the canvas for this shift toward novel sustainable growth aimed at reducing risks, increasing benefits for both the economic system and organizations, and creating new opportunities for innovation, reputation, and efficiency gains.

According to Adams (2020), the 17 sustainable development agenda were the result of extensive global consultation and consensus regarding the key sustainable development risks facing the planet and its people. While these risks also threaten organisations, companies such as Siemens and Unilever are developing innovative products and services that help themselves and their customers contribute to achieving the Sustainable Development Agenda (Adeyemi, Okewale, Adedapo & Ebipanipre, 2020). Consequently and among firms in Nigeria, the consideration of sustainable development risks and mitigation strategies remain at very low levels. Even companies that are considered to be leading the way on integrating the SDGs have considerable work to do when it comes to incorporating appropriate information into decision-making (Kiara, 2018). This problem persists principally because the accounting and finance functions are often neglected during SDG-related planning. This neglect of key finance professionals such as accountants in information analysis and risk assessment of SDG-related initiatives could be the reason for the low success recorded in ensuring availability and sustainable management of water and sanitation in Nigeria. Unsustainable consumption and production patterns can as well be traced to this disengagedness of critical experts such as accountants. Despite the role of accountants in achieving the SDGs, there is scanty empirical study that explored whether there is significant responsibility of Accountants in ensuring sustainable consumption and production patterns using empirical data. The study examines the role of accountants in achieving sustainable development agenda 2030.

II. Review of Literature

2.1 Sustainable Development Agenda

Sustainable Development Agenda have been defined as an instrument to maximize value creation and enhance knowledge of the impact of business activities on sustainable development (Izzo, Ciaburri & Tiscini, 2020). Sustainable Development Goals (SDGs) is a new developmental strategy for 2030. This strategy which is otherwise known as Agenda 2030, is framed into 17 Goals, with 169 Targets and 230 Indicators. Agenda 2030 is designed as a universal call for action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. At the heart of the 2030 agenda of SDG is poverty eradication with a renewed commitment to leave no-one behind (United Nations, 2016). The Global Goals of SDGs like that of MDGs are all laudable and adequately designed to improve the quality of people's lives globally (Ugochukwu, Urama & Iloh, 2018, Asif, Vaqar & Bakhrul, 2021). This study examines SDG 6, SDG 11 and SDG 12.

2.2 SDG 6: Availability and Sustainable Management of Water and Sanitation

Poor sanitation, combined with irregular water supply, hinders development and claims the lives of countless of people, especially those living in informal settlements, often also referred to as “slums” in urban areas. These challenges are likely to magnify in the future due to an ever growing city population needing to share already inadequate and often badly managed resources (Sytnik et al., 2021). Being the primary factor that increases water, air, soil and food contamination, lack of proper access to water in dense urban areas exponentially increases local pollution problems (Khan & Gray, 2016). Growth demand is difficult to foresee and plan for in urban areas, thus, the existing urban water distribution and sanitation systems are unable to cope with the growing urban expansion and are equally too often run down. Despite the improvement in water sanitation over the years, some continents especially Africa are still bedeviled by dwindling drinking water supplies. It was projected that at least one in four people are going to suffer from cyclical water shortages by the year 2050. If the SDG goal of safe and affordable drinking water for all will be realised by 2030, investment in adequate infrastructure, provision of sanitation facilities, and encouragement of hygiene are sine-qua-non. Protecting and restoring water-related ecosystems is essential in order to ensure universal safe and affordable drinking water that is both accessible, clean and safe.

2.3 SDG 11: Sustainable Cities and Communities

SDG 11 directly addresses the relevance of cities and local governments in fighting poverty and achieving sustainable development by 2030. The responsibilities and opportunities of both regional and local governments are upturned in this manner. This shall also help them to access financial means to implement transformative projects and infrastructure, much needed to make cities resilient and sustainable (Khan & Gray, 2016). Moreover, despite the extent of non-financial information involved in environmental and social sustainability reports (McCollum, Echeverri, Busch, Pachauri, Parkinson, Rogelj & Riahi, 2018), it is appropriate that accountants should play a key role in the assurance process and in encouraging companies to extend their management systems to include sustainability (ICAEW, 2013).

2.4 SDG 12: Sustainable Consumption and Production Patterns

It was projected that global resource use will increase fourfold within the next two decades if human society continues to grow at the current pace with which it expands. Taking urgent action today is crucial, as there is an enormous potential for integrated solutions to improve efficiency in terms of resource extraction, energy use, and waste management. Addressing, for instance, the 1.3 billion tons of food being wasted annually would both improve resource use and eliminate hunger (SDG #2); while port and carbon emissions, increase transparency (Ngwakwe, 2012). Continuing and increasingly rapid urbanization is likely to cause significant increases in the consumption of energy, land and water, putting a large strain on natural resources in cities (Manfred & Oladipo, 2020). However, these trends also have transformative powers to encourage a change in consumer attitudes and behavior. A large chunk of buyers are drawn from public authorities and they have substantial market power. The purchasing decisions they make can help overcome these difficulties by influencing the development of new, more sustainable products and services (Khan & Gray, 2016). The negative environmental impacts and increased resource use caused by the rapidly growing population can be ameliorated by smart urbanization and planning. By changing the way we produce and consume goods and resources, man’s ecological footprint needs to be reduced so that economic growth and sustainable development can be concomitantly achieved. This goal can be further achieved when there is an efficient management of shared natural resources and the way toxic waste and pollutants are disposed. However, industries,

businesses and consumers that do not recycle and reduce waste fail to support the global march for more sustainable patterns of consumption (Vidyarthi, 2013).

2.5 Development of Hypotheses

In corporate organisations, the role of accountants encapsulates analysis of costs and benefits that have direct and indirect impact on the environment, the development of innovative practices and environmental pollution policies. These accounting roles are nothing short of contributions towards the realization of sustainable development through the activities of economic entities (Moore & Sciulli, 2022). This is the role of environmental management accounting. According to Sudana (2017), it is important for company accountants to be able to maintain the ecosystem of their business. To be able to portray this function, emancipatory accounting must have three very basic characteristics, namely (1) accounting is intended and has a role to provide information about the ability of business entities to carry out business activities that provide emancipation to ecosystems, intra-generational and intergenerational; (2) accounting must take a role as a catalyst for the creation of emancipatory business practices by continually encouraging transformation through education for business and accounting practitioners (O'Dwyer & Unerman, 2016; Nga, Leung & Lo, 2016); and (3) accounting must act as a business information system that is able to facilitate the implementation of economic, social and environmental accountability by business entities to preserve the harmony of life guided by the concept of integrated-in-harmony view of sustainable development. Thus, the study conjectures the under-listed hypotheses.

1. Accountants play a significant role in ensuring availability and sustainable management of water and sanitation.
2. Accountants have a significant function in making cities and human settlements inclusive, safe, resilient and sustainable.
3. There is a significant responsibility of Accountants in ensuring sustainable consumption and production patterns.

2.6 Theoretical Framework

Stakeholder Theory

Stakeholders are the groups who have an interest in the actions of the corporation. Freeman (1984) revisited stakeholder theory and redefined stakeholders as any individual or group who has an interest in the firm because he (or she) can affect or is affected by the firms' activities. Dibia and Onwuchekwa (2015) submitted that stakeholders which include stockholders, creditors, customers, managers, employees, suppliers and host communities can be identified by the legitimacy of their claims of exchange between the business organization and themselves. Stakeholder theory postulates that business organizations ought to pay attention to the concerns and expectations of stakeholders with respect to disclosures of the firms' sustainability performance. Stakeholder theory provides rich insights into the factors that motivate managerial behaviour in relation to the sustainability disclosure practices of organizations. The relevance of the theory to the present study is premised on the fact that the incorporation of sustainable development criteria at all levels of decision-making process (strategic, tactical and operational) and business activities (management, current planning, budgeting and evaluation), effective communication with stakeholders based on sustainable reporting are crucial tasks for accountants. This is because sustainable development transforms the role of professional accountants during the entire accounting cycle. On this background, Stakeholder Theory underpinned the present study.

2.7 Empirical Review

Erin, Bamigboye and Oyewo (2022) examined sustainable development goals (SDGs) reporting of the top fifty (50) listed companies in Nigeria for the period of 2016–2018. The study adopted survey method and content analysis technique to examine the top-50 listed firms in Nigeria based on their market capitalization. Primary data were sourced using questionnaires administered on staffs of the big four audit firms and financial managers of top-50 listed firms in Nigeria. The result of the content analysis showed that corporate organizations in Nigeria have performed poorly in corporate SDG reporting. It was also found in the study that voluntary disclosure and lack of regulatory framework are the major factors that contribute to low level of SDG reporting by Nigerian firms. García et al. (2022) investigated the extent, progress and level of improvement over time of accounting for Sustainable Development Goals by companies worldwide. The study also observed whether SDG reporting differs due to country-level institutional factors. Using a sample of 6942 company-year observations in thirty (30) countries from 2016 to 2019, the study utilised 17 SDGs indicators developed by the United Nations as its SDGs reporting index. The study found that SDGs reporting differs for companies in countries with sustainability regulation and better SDGs performance ratings. Other studies review include Orji, Olaniyi, Oladele & Mhirna (2022), Asif, Vaqar & Bakhrul (2021), Orji, Olaniyi & Adeyemo (2022) among others.

2.8 Gap in Literature

In the past, researches such as Erin, Bamigboye and Oyewo (2022); García et al. (2022); Yang and Liu (2022); Adeyemi, Okewale, Adedapo and Ebipanipre (2020); Izzo, Ciaburri and Tiscini (2020); Manfred and Oladipo (2020); Firmansyah (2019); Ugochukwu, Urama and Iloh (2018); Sorina-Geanina, Adriana and Comândaru (2018) examined the role of accountants in achieving the sustainability agenda of 2030. Authors in the past who used ordinal data failed to utilise a non-parametric test to determine whether accountants have a significant role to play in the achievement of SDG of 2030. This study addresses this gap with the use of Kolmogorov-Smirnov Test as a statistical tool for validating the null hypothesis.

III. Research Method

Cross-sectional survey design was deployed in the study in order to explore the contribution of accountants towards achieving sustainable development agenda of 2030. The population of the study is made up of 772 professionally affiliated Accountants in Nigeria. The study uses Taro Yamane (1967) formula to determine the sample size of the study. The formula is thus stated:

$$n = \frac{N}{1 + (e^2) N}$$

where,

e = Tolerated/assumed error limit 0.1 on the basis of 90% confidence level

Therefore,

$$n = \frac{772}{1 + (0.1^2) \times 772}$$

$$\text{Sample Size} = 88.5321$$

The researcher made use of structured questionnaire to get relevant information needed for this study from a sample size of 89 professionally affiliated accountants in Nigeria. The questionnaire was scaled using 5-point Likert scale which was structured thus: Strongly

Agree = 5, Agree = 4, Undecided = 3, Disagree = 2, and Strongly Disagree = 1. Experts in the field validated the instrument for data collection in terms of construct, content and criterion-related validity. The Internal Consistency of the research instrument was established using Cronbach's alpha reliability coefficient which revealed the reliability of the questionnaire constructs as shown in *table 1*.

Table 1. Test of Reliability of Research Instrument

Scale	Number of Items	Cronbach's alpha Coefficient
Contribution of Accountants towards Achieving Sustainable Development Agenda 2030	12	$\alpha = .78$

Source: Researcher's Computation, (2022)

The reliability coefficient of the research instrument which is given in *table 1* shows an alpha value of 0.78. Thus, the research instrument for data collection is reliable since the Cronbach's alpha reliability coefficient produced is greater than the traditional minimum of 0.7 (Artanti et al., 2018; Tavakol & Dennick, 2011). The hypothesis formulated were tested using Kolmogorov-Smirnov Test at 5% level of significance. As a decision rule, if the *p-value* of the test is greater than 0.05, the null hypothesis is accepted while the alternate hypothesis is rejected and vice versa.

IV. Results and Discussion

4.1 Analysis of Research Questions

Eighty-nine (89) questionnaires were distributed, out of which 62 questionnaires which represent 69.66% were valid, 19 questionnaires were not returned while 8 questionnaires were invalidly filled. Thus, the research questions were analysed based on the response rate of 69.66% which is fit for generalization (Mugenda & Mugenda, 2008).

a. Research Question I

What role does Accountants play in ensuring availability and sustainable management of water and sanitation?

Table 2. Mean Point Analysis of Research Question I

S/N	Statements About Research Variables	SA	A	N	D	SD	Mean	Decision
1	Accountants contribute to ensuring the availability of safe and affordable drinking water for all	12	25	9	10	6	3.44	Accept
2	Accountants contribute to sustainable management of water	15	20	10	6	11	3.35	Accept
3	Promotion of rural investment infrastructure such as potable water and sanitation is one of the roles of accountants	6	27	8	15	6	3.19	Accept
4	Accounting functions include ensuring there is water-use efficiency in order to address water scarcity	12	27	8	7	8	3.45	Accept

Source: Field Survey, (2022)

Research Question I ascertains the role an Accountant plays in ensuring availability and sustainable management of water and sanitation. Table 2 above shows the responses to the Research Question I. All the responses have a mean score that is greater than 3.0. Therefore, the analysis of Research Question I indicates that the respondents, on average, are of the opinion that Accountants play a number of roles in order to ensure availability and sustainable management of water and sanitation.

b. Research Question II

What degree of function do Accountants play in making cities and human settlements inclusive, safe, resilient and sustainable?

Table 3. Mean Point Analysis of Research Question II

S/N	Statements About Research Variables	SA	A	N	D	SD	Mean	Decision
5	One of the functions of Accountants is to help in making human settlements inclusive to a large degree	11	28	5	13	5	3.44	Accept
6	Accountants have a role of ensuring that cities are safe	33	8	8	3	10	3.82	Accept
7	Making human settlements resilient to environmental hazards is one of the roles of accountants	14	26	9	7	6	3.56	Accept
8	In general, accountants help to ensure that cities and human settlements are sustainable	8	28	3	17	6	3.24	Accept

Source: Field Survey, (2022)

Research Question II ascertains the role which Accountants play in making cities and human settlements inclusive, safe, resilient and sustainable. Table 3 above shows the responses to the Research Question II. All the responses have a mean score that is greater than 3.0. Therefore, the analysis of Research Question II indicates that the respondents, on average, are of the opinion that Accountants play a number of roles in order to ensure that cities and human settlements are inclusive, safe, resilient and sustainable.

c. Research Question III

What level of responsibility do Accountants have in ensuring sustainable consumption and production patterns?

Table 4. Mean Point Analysis of Research Question III

S/N	Statements About Research Variables	SA	A	N	D	SD	Mean	Decision
9	Accountants contribute to ensuring there is sustainable consumption of natural resources	12	27	11	7	5	3.55	Accept
10	It is one of the roles of accountants to ensure sustainable production patterns	11	31	6	10	4	3.56	Accept
11	Accountants help in reducing waste generation through prevention, reduction and recycling and reuse	13	35	5	4	5	3.76	Accept
12	It is the responsibility of accountants	5	37	9	7	4	3.52	Accept

	to ensure there is an efficient use of natural resources							
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Source: Field Survey, (2022)

Research Question III ascertains the level of responsibility which Accountants have in ensuring sustainable consumption and production patterns. Table 4 above shows the responses to the Research Question III. All the responses have a mean score that is greater than 3.0. Therefore, the analysis of Research Question III indicates that the respondents, on average, are of the opinion that Accountants have the responsibility of ensuring sustainable consumption and production patterns.

4.2 Hypotheses Testing

The hypothesis formulated were tested using Kolmogorov-Smirnov Test at 5% level of significance. The mean scores in the questionnaire items relating to relevant variables in Tables 2, 3 and 4 above were utilized in the test of hypotheses of the study.

a. Hypothesis I

H₀₁: Accountants play no significant role in ensuring availability and sustainable management of water and sanitation.

The output of the analysis is given below:

Table 5. Result of One-Sample Kolmogorov-Smirnov Test for Hypothesis I

		Accountants Help to Achieve SDG #6
N		62
Normal Parameters ^{a,b}	Mean	14.94
	Std. Deviation	2.857
Most Extreme Differences	Absolute	.197
	Positive	.097
	Negative	-.197
Test Statistic		.197
Asymp. Sig. (2-tailed)		.002

Source: Researcher's Computation,(2022) using SPSS V. 23

In Table 5 above, the test of hypothesis determined whether accountants play a significant role in ensuring availability and sustainable management of water and sanitation. The result shows that $D = 0.197$, $p = .002$. This implies that the responses as to whether Accountants help to achieve SDG #6 or not come from different distributions. In other words, there is a statistically significant ($p = .002$) deviation in distribution between the group that agreed and the group that disagreed. Since the *p-value* of the test is less than 0.05, we reject the null hypothesis of no difference in distributions between those who agreed that accountants play a significant role in achieving SDG #6 and those who disagreed. In conclusion, the statistical evidence shows that accountants play a significant role in ensuring availability and sustainable management of water and sanitation at 5% level of significance.

b. Hypothesis II

H₀₂: Accountants have no significant function in making cities and human settlements inclusive, safe, resilient and sustainable.

Table 6. Result of Kolmogorov-Smirnov Test for Hypothesis II

		Accountants Help to Achieve SDG # 11
N		62
Normal Parameters ^{a,b}	Mean	14.06
	Std. Deviation	3.093
Most Extreme Differences	Absolute	.151
	Positive	.083
	Negative	-.151
Test Statistic		.151
Asymp. Sig. (2-tailed)		.001

Source: Researcher's Computation, (2022) using SPSS V. 23

In Table 6 above, the test of hypothesis determined whether accountants play a significant role in making cities and human settlements inclusive, safe, resilient and sustainable. The result shows that $D = 0.151$, $p = .001$. This implies that the responses as to whether Accountants help to achieve SDG #11 or not come from different distributions. In other words, there is a statistically significant ($p = .001$) deviation in distribution between the group that agreed and the group that disagreed. Since the *p-value* of the test is less than 0.05, we reject the null hypothesis of no difference in distributions between those who agreed that accountants play a significant role in achieving SDG #11 and those who disagreed. In conclusion, the statistical evidence shows that accountants have a significant function in making cities and human settlements inclusive, safe, resilient and sustainable at 5% level of significance.

c. Hypothesis III

H₀₃: There is no significant responsibility of Accountants in ensuring sustainable consumption and production patterns.

The result of the analysis is given below.

Table 7. Result of Kolmogorov-Smirnov Test for Hypothesis III

		Accountants Help to Achieve SDG #12
N		62
Normal Parameters ^{a,b}	Mean	14.39
	Std. Deviation	3.216
Most Extreme Differences	Absolute	.178
	Positive	.082
	Negative	-.178
Test Statistic		.178
Asymp. Sig. (2-tailed)		.000 ^c

Source: Researcher's Computation, (2022) using SPSS V. 23

In Table 7 above, the test of hypothesis determined whether there is a significant responsibility of Accountants in ensuring sustainable consumption and production patterns. The result shows that $D = 0.178$, $p = .000$. This implies that the responses as to whether Accountants help to achieve SDG #12 or not come from different distributions. In other words, there is a statistically significant ($p = .000$) deviation in distribution between the group

that agreed and the group that disagreed. Since the *p-value* of the test is less than 0.05, we reject the null hypothesis of no difference in distributions between those who agreed that accountants play a significant role in achieving SDG #12 and those who disagreed. In conclusion, the statistical evidence shows that there is a significant responsibility of Accountants in ensuring sustainable consumption and production patterns at 5% level of significance.

4.3 Discussion of Findings

The study specifically covers the role of accountants in ensuring the following: (1) availability and sustainable management of water and sanitation, (2) availability and sustainable management of water and sanitation, and (3) sustainable consumption and production patterns. The hypotheses were tested using Kolmogorov-Smirnov Test at 5% level of significance. The study revealed that: accountants play a significant role in ensuring availability and sustainable management of water and sanitation ($D = 0.197$, $p = .002$); accountants have a significant function in making cities and human settlements inclusive, safe, resilient and sustainable ($D = 0.151$, $p = .001$); there is a significant responsibility of Accountants in ensuring sustainable consumption and production patterns ($D = 0.178$, $p = .000$). Therefore, the finding of the test of the hypotheses imply that the accounting profession also plays a role in sustainable development through the activities of economic entities, analysis of costs and benefits that have an impact on the environment, the development of innovative practices and environmental pollution policies. This could be best explained as the role of environmental management accounting. It is important to note that the results of the test of hypotheses further laid credence to the widely accepted belief that accountants act as facilitators of business information system that is able to enhance the implementation of economic, social and environmental accountability by business entities in view of sustainable development. The findings of the study are in tandem with the results of Adeyemi, Okewale, Adedapo and Ebipanipre (2020); Izzo, Ciaburri and Tiscini (2020); Manfred and Oladipo (2020); Firmansyah (2019); Ugochukwu, Urama and Iloh (2018).

V. Conclusion

Accountants have an important role to play in helping organisations address the issues that led to the development of the Sustainable Development Goals. This can be achieved by making business case for pursuing appropriate SDGs, monitoring and evaluating their impact, and ensuring alignment of sustainability initiatives with corporate activities. The study found that accountants contribute significantly towards ensuring availability and sustainable management of water and sanitation. Moreover, accountants can: encourage businesses to meet SDG requirements through improved innovation capabilities; emphasize the importance of ethical behavior throughout the value chain; provide decision makers with information about sustainability factors, which can be integrated into business planning and reporting. The researcher makes the following recommendations:

1. Accountants should contribute to the promotion of rural investment infrastructure such as potable water and sanitation is one of the roles of accountants.
2. Management accountants should help in making human settlements resilient to environmental hazards through adequate environmental disclosure.
3. Accountants should help in ensuring there is sustainable consumption of natural resources by reducing waste generation through prevention, reduction and recycling and reuse of waste.

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