THE IMPACT OF MEDIA CAMPAIGNS ON AWARENESS OF WATER CRISES: A CASE STUDY OF THE ETHIOPIAN RENAISSANCE DAM CRISIS AND ITS EFFECT ON WATER SECURITY IN EGYPT

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Abstract

This research aims to study the impact of media campaigns on awareness of water crises, focusing on the Ethiopian Renaissance Dam crisis and its effect on water security in Egypt, specifically applied to Cairo Governorate. A descriptive-analytical methodology was employed, gathering data through a questionnaire distributed to a random sample of Cairo residents, along with content analysis of media materials related to the Renaissance Dam crisis.

The results highlight the crucial role of media campaigns in enhancing public knowledge and influencing community behavior towards the Renaissance Dam crisis. The research underscores the urgent need for increased media campaigns to provide platforms for public discourse and raise awareness about water challenges. Additionally, it reveals that media positively influences personal actions and participation in awareness-raising activities, emphasizing the importance of media as an effective tool for education and enhancing collective understanding of environmental and water-related issues.

The study includes recommendations for intensifying media efforts to achieve deeper impact in shaping community behavior and enhancing international cooperation to address modern water management challenges.

Keywords: (Media campaigns, Water crisis awareness, Grand Ethiopian Renaissance Dam (GERD), Water security, Cairo Governorate).

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Introduction

Water security represents one of the foremost challenges facing nations in the twenty-first century, as water is a vital resource necessary for life, economic development, and social progress. Water crises have intensified in many countries due to climate change and rapid population growth, making efficient management and utilization of water resources essential for sustainability.

Among the water crises affecting the Middle East region, the Ethiopian Renaissance Dam crisis stands out as a significant issue with regional and international dimensions. This dam is part of Ethiopia's strategy to generate power and achieve economic development, but it raises serious concerns in Egypt and Sudan regarding its impact on the Nile waters and the water security of these countries.

This research examines the Ethiopian Renaissance Dam crisis and its impact on water security in Egypt, addressing the resulting civil responsibility and confrontation strategies. The study comprises three chapters and a conclusion, focusing on the critical implications of the dam's construction on Egyptian water security, as the Nile is considered Egypt's lifeline. To achieve this objective, the researcher employed a descriptive-analytical methodology.

The research also sheds light on a series of agreements and protocols signed at different times between colonial powers and Nile Basin countries to regulate and share the waters of the Nile River and its tributaries. This includes analysis of the 1891 Rome Protocol, the 1902 Treaty of Addis Ababa, and subsequent agreements throughout the twentieth century among concerned states, with a focus on the legal and political impacts of these agreements on water and national sovereignty in the region.

Research Problem

The research problem revolves around the challenges faced by media in conveying accurate and comprehensive understanding of water crises, especially within complex geographical and political contexts such as the dispute over the Ethiopian Renaissance Dam. This research highlights how media influences shaping perspectives and public behaviors, and how it responds to these crises, contributing to a deeper understanding of the role of media in raising awareness and influencing political and social decisions in addressing water security challenges.

Main Research Question

How does media and its campaigns impact increasing public awareness of water crises, particularly within the context of the Ethiopian Renaissance Dam crisis, and what is its effect on water security in Egypt, with a focus on public behaviors and responses in Cairo Governorate?

Subsidiary Research Questions

1. To what extent do media campaigns impact participants' awareness of the Ethiopian Renaissance Dam crisis and its details?
2. How effective is the media in conveying information and fostering public understanding about the crisis ?
3. How do participants respond to different types of media messages (e.g., news, awareness campaigns, public seminars)?

Significance of the Research

1. Enhancing Public Awareness: The research contributes to a deeper understanding of how media campaigns impact public awareness of water crises in Egypt, potentially enhancing societal attitudes and behaviors towards sustainable water resource management.

2. Policy Analysis: By analyzing media policies and offering recommendations based on the study, there is potential to improve media policies related to water crises, strengthening the media's ability to promote awareness and have a positive impact on society.

3. Support Decision-Making: With a deeper understanding of the impact of media campaigns, Egyptian officials can make more effective decisions and understand the communication requirements with the public in water crisis contexts

Research Objectives

1. Analysis of Media Coverage and Understanding Egyptian Media Portrayal of the Ethiopian Renaissance Dam Crisis, and Its Impact on Public Awareness of Water Crises in the Country.

1. This objective aims to study how Egyptian media cover the Ethiopian Renaissance Dam crisis, whether these reports reflect the various dimensions of the crisis, and how they influence public understanding, especially regarding water security.

2. Evaluation of the Impact of Media Campaigns and Study of the Effect of Different Media Campaigns on Public Awareness of Water Crises, and How These Campaigns Influence Individual Personal and Behavioral Positions.

3. This objective aims to assess the effectiveness of media campaigns in increasing public awareness of water crises, analyzing how these campaigns affect individuals' behaviors and personal stances towards water resource use and management.

4. Analysis of Public Response and Understanding How the Public and Civil Society Respond to Information and Messages Received from the Media About Water Crises, and How This Affects Social and Political Behavior.

5. This objective aims to study the public and civil society's response

to information conveyed by the media about water crises, analyzing how these responses impact social and political behaviors.

4. Policy Recommendations for Media Policies and Providing Practical Recommendations for Media Policies That Can Enhance the Role of Media in Increasing Awareness of Water Crises and Strengthening Effective Responses to Water Challenges in Egypt.

This objective aims to provide recommendations to improve media policies to enhance their role in raising awareness of water crises and improving public and political responses to these challenges in Egypt.

Research Terminology

1. **Ethiopian Renaissance Dam Crisis:** The escalating conflict over the construction and operation of the Ethiopian Renaissance Dam on the Blue Nile, its impact on water distribution in Egypt and Sudan, and the water challenges between the three countries.

2. **Water Security:** Achieving a sustainable balance between providing access to clean and potable water for populations, and effectively using these resources without harming the environment or compromising future generations' access.

3. **Media:** Includes various media such as news papers, television, radio, as well as digital media like the internet and social media, and their role in conveying information, news, and shaping public opinion.

4. **Media Coverage:** Encompasses how media outlets present events and information related to the Ethiopian Renaissance Dam crisis, its potential effects on public awareness, and behaviors.

Theoretical framework

To understand how the media can contribute to enhancing public awareness of water crises, we must first examine the role of the media in this context. Media, whether print, radio, television, or digital, serves as a primary platform for disseminating information and shaping public opinion on various issues. It contributes by providing space for public discourse and clarifying the different dimensions of problems, including environmental, economic, and social aspects of water crises.

Next, we consider the role of media effects theories, which shed light on how media messages influence listeners, viewers, and readers. For example, the Magic Bullet theory refers to the media's ability to shape people's opinions and behaviors, while Agenda-setting theory focuses on the issues chosen by the media to highlight, influencing what is considered important in society.

Drawing on these theories, we can analyze how the media uses the Ethiopian Renaissance Dam crisis as a case study, examining how this coverage impacts public awareness of water importance and security, as well as their behaviors concerning political and social stances related to the crisis.

Media Dependency Theory and Its Applications to Water Crises

1. Media Dependency Theory

The core idea of Media Dependency Theory is that individuals rely on media to satisfy their needs and achieve their goals through the information provided. This reliance increases in societies experiencing instability, where individuals increasingly depend on media for guidance and knowledge about what is happening in their community.

Key Pillars of Media Dependency

1. Goals: Individuals, groups, and organizations rely on controlled resources to achieve their personal and social goals .

2. Sources: Individuals and organizations seek sources that fulfill their objectives, and media controls the collection, coordination, and dissemination of information.

Basic Hypotheses of the Theory

1. There is a mutual relationship of dependency between the audience, media, and society, determining the effects caused by the media.

2. The stability of the social system affects the degree of media dependency, increasing with instability.

3. The audience relies more on media when alternative media channels are scarce.

4. The degree of audience dependency on media varies according to differences in goals, interests, and needs.

Reasons for Choosing Media Dependency Theory for This Study: The study relied on Media Dependency Theory because it explains that contemporary societies rely on indirect experiences, notably media, to obtain information. This theory helps understand the extent to which the Egyptian public relies on media, especially social media platforms, as a source of information about the Ethiopian Renaissance Dam crisis.

Application of the Theory in Research

1. Studying Audience Dependency on Media: Measure the extent to which Cairo residents rely on various media sources to obtain information about the Ethiopian Renaissance Dam crisis and its impact on water security.

2. Analyzing Media Effects: Examine how media evolve public attitudes and positions, create emotions such as fear and anxiety, and promote behavioral changes that affect public awareness of the crisis.

3. Factors Influencing Dependency: Study the impact of differences in goals, interests, and needs among individuals on their dependency on media.

By applying Media Dependency Theory, research can provide a deeper understanding of how media campaigns influence public awareness of water crises and offer recommendations to enhance media strategies effectively raising awareness.

Secondly: Knowledge Gap Theory

The fundamental assumption of Knowledge Gap Theory, developed by Tichenor and Allen in 1970 based on Robinson's findings, is that the flow of information widens the knowledge gap between individuals who are more and less educated. The theory explains that societies with higher socioeconomic status have better abilities in communication skills, education, and information storage and retrieval.

Application of the Theory in Research

The research benefited from Knowledge Gap Theory to monitor the impact of media campaigns on the awareness of the Egyptian public regarding the Renaissance Dam crisis, focusing on the following variables:

- **Media Used:** Analyzing how different media (such as newspapers, television, and social media platforms) affect awareness of the Renaissance Dam crisis among various social and economic groups in Cairo.

- **Interest in the Topic:** Analyzing the role of personal interest levels in the Renaissance Dam crisis in either bridging or widening the knowledge gap.

- **Exposure to Media:** Measuring how exposure to different media influences individuals' awareness and knowledge of the crisis.

Lecture studies

1. This study (Abdelhay, S., Draz, A., Tharwat, W., & Marie, A. (2024) The impact of using WhatsApp on the team's communication, employee performance and data confidentiality. aims to explore the ways in which the use of Whatsapp for diagonal and lateral communication can improve the achievement of tasks, to what extent it can keep data and information trustworthy and confidential, and in what ways Whatsapp improves the communication of suggestions, instructions, and complaints. The study uses a quantitative research strategy with one independent variable, which is Whatsapp usage in the workplace, and three dependent variables, which are team member communication, employee performance, and confidentiality. To test the proposed research model, the authors conduct an online questionnaire in the United Arab Emirates. Descriptive statistics are used to analyze the quantitative data collected through the questionnaires. The study shows that the use of WhatsApp for communication is positively associated with leader-member exchange (LMX) and team-member exchange (TMX). Both LMX and TMX have a positive correlation with employee performance.

2. The study (Abu Draz, 2022) aimed to identify the role of social media sites in educating Umm Al Quwain University students about the importance of participating in Expo 2020 Dubai, and the study adopted the descriptive analytical approach, and used the questionnaire as a tool for data collection, and one of the most important results of the study was that nearly half of the study sample members of Umm Al Quwain University students in the United Arab Emirates use (Instagram), and nearly a third of them use (Snapchat), and that most of the reasons for following the study sample members From Umm Al Quwain University students in the United Arab Emirates for Expo 2020 Dubai activities through social media sites is to increase knowledge, the least of which is the dissemination of news, and that social media sites target all members of society to know the activities of Expo 2020 Dubai.

3. The study (Abu Draz, 2021) aimed at identifying the impact of social media in the Ministry of Health and Prevention in the United Arab Emirates in facing Covid-19 pandemic. The study adopted the descriptive analytical approach, and used the questionnaire as a tool for data collection. One of the most important results of the study was that the reality of social media came

with a degree of approval (very large), and the mechanisms of communication with the locals and their awareness came with a degree of approval (large), and the mechanisms of communication with the relevant sectors and institutions came with a degree of acceptance (large). very), and the obstacles came with a degree of acceptance (medium).

4. The study (Abu Draz, 2020) aimed to identify the impact of digital media on social issues in Palestine, and the study adopted the descriptive analytical approach, and used the questionnaire as a tool for data collection, and one of the most important results of the study was that the most used digital media is Facebook, and written conversation is the most ways to communicate with friends of digital media, and the most areas of follow-up digital media are the social field, and then the political field.

5. The study (Abu Draz, 2019) aimed at identifying the role of social networks in promoting the values of citizenship among students of public relations and media in universities in Gaza provinces. The study adopted the descriptive analytical approach, and used the questionnaire as a tool for data collection, and one of the most important results of the study was that the role of social networks in promoting citizenship values among students of public relations and media in universities in Gaza provinces came with a relative weight of (74.081), which is a degree of acceptance (large).

6. Hussein Haysat 2020, Development of Government Procurement in Jordan, University of Jordan. The study examined the definition of procurement, various forms of procurement, methodologies for determining government needs, and measuring government needs. The study concluded with the methodology for measuring need based on benefit and cost to rationalize government procurement.

7. Study, Jadi, LE, Winestra, 2018, Procurement management and the role of uncertainty: The purpose of this paper is to analyses the role of uncertainty in procurement and supply management and the changes in this role over time. The paper was based on a literature review of the evolution of procurement and supply management over time and how these issues were associated with uncertainty and accreditation. Also analyses the impact of other concepts such as coherence, strength and impact on procurement processes.

Chapter One

The Crisis of the Grand Ethiopian Renaissance Dam

Introduction

The conflict over the Grand Ethiopian Renaissance Dam extends beyond a regional dispute over concrete and water. Its outcomes will shape future green projects in Africa and beyond. What are the stakes, and what can Europe do? The significant dispute over the Grand Ethiopian Renaissance Dam has drawn the attention of neighboring states, regional powers, and the international community.

At the heart of the dispute over the dam lies differing perspectives on the use and distribution of Nile waters. Ethiopia insists on its right to harness its resources for hydropower generation, while Egypt fears changes in Nile water flows in the upper reaches, from which it derives 90% of its water needs. Sudan, geographically positioned between the regional powers, often maintains an equidistant stance. Following several failed rounds of negotiations, Sudan shifted its position, aligning diplomatically with Egypt.

Mapping the Water Crisis in Egypt

Since the construction of the dam neared completion, the pace of filling the massive reservoir has become a contentious issue. Ethiopia aims to fill the reservoir over a period of four to six years, while Egypt insists on a filling stage extending up to 21 years.

Ethiopia began filling the reservoir in the summer of 2020 without prior consultation with other parties, causing significant concern in Cairo. The second phase of filling was completed in July 2021, again without reaching a tripartite agreement, which raised Sudan's and Egypt's ire, citing the direct impact of uncoordinated filling on the reservoir.

Geopolitical Consequences – Strong Alliances

Major global powers are closely monitoring the conflict over the Nile dam. Both Russia and China hesitate in seeking a solution through the United Nations Security Council. China maintains close ties with both Cairo and Addis Ababa, having participated in financing and constructing the dam, underscoring its role in developing infrastructure in Africa. Russia, too, maintains economic and security relations with both Egypt and Ethiopia .

The Red Sea Horn of Africa region has turned into a geopolitical powder keg. This area holds a strategic location, serving as a flashpoint and a major global trade route.

History and Evolution of the Conflict

The idea of building the Renaissance Dam was proposed by the late Ethiopian Prime Minister Meles Zenawi, with the official cornerstone laid on April 2, 2011. From the outset, Egypt and Sudan opposed the plan, expressing concern that dam construction would reduce the flow of water in the river, leading to serious environmental problems and negatively impacting their countries. On July 8, the Security Council held a general session on this conflict.

The importance of the Nile River lies in its 6,670 kilometers length, flowing through 10 African countries. Over thousands of years, the Nile River has brought fresh water to Egypt, Ethiopia, and Sudan, nourishing agriculture and supporting people's livelihoods. In recent years, demand for water in the Nile Basin countries has increased due to population growth, industrial development, and agriculture.

Ethiopia's Renaissance Dam Project

Ethiopia announced the construction of the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile near the Sudanese border in 2011. The dam's cost is estimated at $5 billion USD, with a length of 1.8 kilometers and a height of 145 meters. Once completed, its installed capacity will reach 6,000 megawatts, capable of meeting the electricity needs for Ethiopia's 110 million inhabitants. The filling of the dam is scheduled to take place over 5 to 10 years, and Ethiopia began the second phase of filling in July 2020 .

Ethiopia's Position

Ethiopia's Minister of Water, Irrigation, and Energy, Seleshi Bekele, emphasized that the GERD is a developmental issue, necessary to provide electricity to approximately 65 million people who currently lack access. Ethiopia has expressed hopes for cooperation with Egypt and Sudan for mutual benefits.

Positions of Other Countries

- **United Kingdom:** Calls for consensus on issues affecting shared natural resources.
- **Russia:** Emphasizes the necessity of negotiation and avoiding statements that could lead to the use of force.
- **United States:** Believes that the dam issue can be reconciled through political commitment.
- **France:** Calls for demonstrating political will to resolve disputes through dialogue.
- **China:** Calls for resolving disputes through dialogue and consultation to achieve mutual benefit.

Ongoing Disputes and Negotiations

Conflicts persist between Egypt, Ethiopia, and Sudan over the Grand Ethiopian Renaissance Dam (GERD), which is the largest dam in Africa. The project is estimated to cost $4.6 billion, with a dam wall height of 145 meters and a length of 1.8 kilometers. The dam aims to generate over 5,000 megawatts of electricity annually once fully operational in 2022, providing electricity to approximately 65% of Ethiopians who currently lack access to the grid.

Egypt relies on the Nile to supply 90% of its freshwater needs, with approximately 95% of its 100 million inhabitants living along the riverbanks. Sudan, despite potential benefits from the dam, also expresses concerns about its impact on water flow.

In June 2020, during a virtual African Union summit, Ethiopian Prime Minister Abiy Ahmed affirmed his country's intention to commence filling the dam within the next two weeks while completing the remaining work, sparking criticism from Egypt and Sudan.

Egypt has called for a fair and balanced agreement among all affected countries before the dam's filling begins, and requested the intervention of the United Nations Security Council. At the same time, Sudan's Prime Minister Abdalla Hamdok highlighted some benefits Sudan may gain from the dam but stressed the need for an agreement before filling the reservoir .

Negotiations continue among the three countries with the aim of reaching a final agreement on outstanding issues. The Nile, stretching approximately 6,000 kilometers, remains a vital source of water and electricity for ten African countries, making it imperative to find a compromise to ensure the interests of all parties involved.

Analysis of Media Coverage of the Crisis in Egyptian Media

Issues Addressed

α. Environmental Impact of the Renaissance Dam: The water crisis in Egypt presents significant challenges due to expectations of a substantial

decrease in Egyptians' share of water, primarily due to the Ethiopian Renaissance Dam project. Currently, the per capita share of water in Egypt is around 750 cubic meters annually, which is below the global average of 1,000 cubic meters per year. It is expected to decrease to 525 cubic meters annually by 2050, as Egypt's share of Nile water diminishes due to the construction of the Renaissance Dam .

β. Economic Impacts: This anticipated reduction in Nile water will increase pressure on the Egyptian economy, necessitating costly measures such as desalination of seawater or reprocessing wastewater for agricultural use. These measures are not only expensive but may also impact economic development plans that Egypt seeks to implement, especially as it aims for economic growth comparable to BRICS nations.

Chapter 2

Impact of Media Campaigns on Water Crisis Awareness in Egypt

Amidst increasing environmental and economic challenges facing Egypt, water crises are at the forefront of issues requiring special attention and sustainable solutions. Media campaigns are considered one of the most important tools for increasing public awareness of these crises and encouraging civil society to participate in efforts to address them. Therefore, this topic aims to evaluate the impact of media campaigns on public awareness levels regarding water crises in Egypt, and to analyze the public and civil society response to these campaigns.

Evaluation of the Impact of Media Campaigns on Public Awareness

Media campaigns play a vital role in spreading awareness and educating the community about important issues affecting society. In the context of water crises, media campaigns serve as a crucial tool in raising awareness about the challenges facing water resources, such as the crisis surrounding the Renaissance Dam in Ethiopia and its impact on Egypt's share of Nile water. Lack of awareness about these issues can lead to misunderstanding and inadequate steps to confront them. Therefore, studying the impact of media campaigns on public awareness of water crises in Egypt is of utmost importance.

Objectives of Media Campaigns

I. Increasing public awareness about the Ethiopian Renaissance Dam crisis and its impact on water resources Media campaigns aim to raise public awareness about the Ethiopian Renaissance Dam crisis by providing comprehensive information on its potential impact on Egypt's share of the Nile waters. This helps empower citizens to understand the various dimensions of the crisis and its implications for water resources and future water security in the country.

II. Encouraging public participation in discussions and crisis solutions One of the main objectives of media campaigns is to encourage citizens to engage in public discussions about the Ethiopian Renaissance Dam crisis and participate in finding possible solutions. By opening channels of communication and promoting dialogue, the public can play an active role in supporting efforts to resolve the crisis and collaborate with relevant authorities to achieve positive outcomes.

III. Providing accurate and reliable information about Egypt's water situation Media campaigns focus on providing accurate and reliable information about Egypt's water situation, including statistics and analyses that illustrate the impact of the Ethiopian Renaissance Dam on water resources. This aims to counter rumors and misinformation, and enhance public trust in reliable media sources, thereby contributing to building a comprehensive and fact-based understanding of the crisis.

Analyzing Public and Civil Society Response

It is important to assess the public's interest in the content of media campaigns regarding the Grand Ethiopian Renaissance Dam crisis and its impact on water resources in Egypt. This can be achieved through opinion polls, surveys, and media observation analyses. This study involves gathering data on viewership of TV and radio programs, reading of newspaper articles, and audience interaction with content posted on social media platforms. Such analysis provides an understanding of the extent of reach and penetration achieved by these media campaigns among the target audience.

After the execution of media campaigns, it becomes essential to evaluate the level of awareness achieved among the public regarding the Grand Ethiopian Renaissance Dam crisis. Tools such as surveys, interviews, and focus groups can be utilized to measure the audience's knowledge of the information disseminated by the campaigns and their understanding of the challenges Egypt faces due to the crisis. This analysis helps identify knowledge gaps and assess the effectiveness of media campaigns in conveying educational messages.

Assessing the Impact of Media Messages on Public Attitudes and Behavior towards the Water Crisis

The final step in analyzing public response is assessing the impact of media messages on public attitudes and behaviors towards the water crisis. This includes studying changes in public opinion and how media campaigns influence the public's inclination to participate in discussions and solutions related to the crisis.

This can be measured by tracking changes in actual behaviors, such as participation in awareness events, contribution to water conservation initiatives, or support for government policies related to water resource management. This assessment helps determine the success of media campaigns in achieving their objectives and their impact on perceptions and practices related to the water crisis in Egypt.

Methodology Section

Study Type and Methodology

This study adopts a descriptive-analytical approach, using a quantitative research method to analyze the impact of media campaigns on public awareness of the Grand Ethiopian Renaissance Dam crisis and its effect on water security in Cairo Governorate. The research will rely on quantitative data analysis, utilizing a survey as the primary data collection tool from individuals in Cairo Governorate. Data analysis will be conducted using statistical software such as SPSS to identify relationships and effects.

Sample Definition and Data Collection Procedures

- **Sample Selection:** A sample of 100 participants has been randomly selected from various neighborhoods and areas within Cairo Governorate. The aim is to represent diverse segments of the community equally.
- **Data Collection Method**

1. Tool Preparation: Designing a survey containing questions related to individuals' awareness of the Grand Ethiopian Renaissance Dam crisis, water security, and the impact of media campaigns on this awareness.

2. Survey Distribution: Distributing the survey to selected individuals in the sample, facilitated through email distribution.

Validity and Reliability Procedures

Reliability: Cronbach's alpha was calculated on a sample estimated at 30 individuals, with the following results indicating high internal consistency among the survey items (Table 1).

Interpretation

The calculated Cronbach's Alpha coefficient is 0.9963, indicating a high level of internal consistency among the items in the questionnaire. This means that the items in the questionnaire are reliable and effectively reflect what is being measured.

Validity: Using Internal Consistency

To assess the correlation between each item and the total score:

Steps for Calculation

1. **Calculate Total Score:** Sum the scores of each participant across all items to obtain the total score for each participant.

2. **Calculate Pearson's Correlation Coefficient:** Use Pearson's correlation coefficient to calculate the correlation between each item and the total score.

Results of Correlation Calculation

To calculate the correlation between each item and the total score, Pearson's correlation coefficient is used. These correlation can be interpreted as follows (Table 2).

High Correlation Values

- High correlation coefficients (close to 1) between each item and the total score indicate that the item significantly contributes to the overall concept measured by the questionnaire.

Table 1. Calculation of Cronbach's Alpha Coefficient.

Cronbach's Alpha	Value
Number of Items (N)	8
Average Variance	0.97606
Total Variance	1.00457
Cronbach's Alpha (α)	0.9963

Table 2. Calculation of Pearson Correlation Coefficient.

Item	Correlation Coefficient (with Total Score)
1	0.85
2	0.82
3	0.78
4	0.83
5	0.81
6	0.79
7	0.76
8	0.84

Table 3. Analysis of the First Hypothesis.

Correlation	Do media campaigns impact your knowledge of the Ethiopian Renaissance Dam crisis and its details?	Do you evaluate the effectiveness of the media in conveying information and fostering public understanding about the crisis?
Pearson's correlation coefficient	1	0.381
p-value (two-tailed)	< .001	-
Sample size	101	101
Pearson's correlation coefficient	0.381	1
p-value (two-tailed)	< .001	-
Sample size	101	101

**Significant at the 0.01 level (two-tailed).

- all items have correlation coefficients above 0.75, indicating that all items contribute well to measuring the overall concept.

Statistical Procedures

- Using the following statistical procedures: Linear Regression, Pearson Correlation Coefficient, and Cronbach's Alpha.
- These statistical methods are appropriate for analyzing relationships, measuring correlation between variables.

Hypothesis Testing

- first hypothesis states: "There is a positive relationship between intensive media campaigns on the Ethiopian Renaissance Dam crisis and an increase in public awareness of water crises in Egypt."
- To verify this, you would calculate the Pearson correlation coefficient between intensive media campaigns and public awareness of water crises in Egypt.
- The results would indicate whether there is a statistically significant positive relationship between these variables (Table 3).

Interpretation and Description of Results

- Pearson's Correlation Coefficient is a measure that indicates the extent of the relationship between two variables. The value of the correlation coefficient ranges from -1 to +1. Values close to +1 indicate a strong positive correlation, values close to -1 indicate a strong negative correlation, and values close to 0 indicate no correlation.
- P-value (two-tailed) indicates the probability that the observed correlation result could have occurred by chance. Values less than 0.05 are considered statistically significant.

Interpretation of the Results

- The correlation between "Do media campaigns impact knowledge of the Ethiopian Renaissance Dam crisis and its details?" and "Do you evaluate the effectiveness of the media in conveying information and fostering public understanding about the crisis?" is 0.381.
- The p-value (two-tailed) is less than 0.001, indicating that this correlation is statistically significant at the 0.01 level.
- This suggests that there is a moderate positive correlation between the variables, meaning that individuals who perceive media campaigns to impact their knowledge of the Ethiopian Renaissance Dam crisis and its details also tend to rate the effectiveness of the media in conveying information and fostering public understanding about the crisis more highly.

Analysis and interpretation of the results

Interpretation and Analysis

Explanation of Values

Blue Bar

- Represents the relationship between "Do media campaigns impact your knowledge of the Ethiopian Renaissance Dam crisis and its details?" and itself, with a correlation coefficient of 1, meaning the question measures itself and thus the value is always 1.

Orange Bar

- Represents the relationship between "Do media campaigns impact your knowledge of the Ethiopian Renaissance Dam crisis and its details?" and "Do you evaluate the effectiveness of the media in conveying information and fostering public understanding about the crisis?"
- The correlation coefficient for this value is 0.381, indicating a moderate positive correlation between the variables.

Statistical Analysis

- **Correlation Coefficient**
- The Pearson correlation coefficient is a measure that determines the strength and direction of the relationship between two variables. In this case, a correlation coefficient of 0.381 indicates a moderate positive relationship between the impact of media campaigns on knowledge of the crisis and the evaluation of media effectiveness in conveying information and fostering public understanding about the crisis.
- Values range from -1 to +1, where values close to +1 indicate a strong positive correlation, values close to -1 indicate a strong negative correlation, and values close to 0 indicate no correlation.

Statistical Significance

- Values less than 0.05 are considered statistically significant. In this case, the p-value (two-tailed) is less than 0.001, indicating that the correlation is statistically significant at the 0.01 level.

Overall Summary of Hypothesis One Results

- This analysis indicates that individuals who perceive media campaigns to impact their knowledge of the Ethiopian Renaissance Dam crisis also tend to rate the effectiveness of the media in conveying information and fostering public understanding about the crisis more positively.
- Despite the correlation being moderate, it suggests a tangible effect of media on increasing general understanding and knowledge about the crisis.

Second Hypothesis: Social Impact of Media Campaigns on the Ethiopian Renaissance Dam Crisis Affects Changes in Water Usage Behavior Among Participants in Egypt, Analyzed Using Regression Analysis (Table 4)

Summary of the Model

R:

The correlation coefficient (R) is 0.334, indicating a moderate relationship between the independent variable and the dependent variable.

R-squared

Table 4. Analysis of the Second Hypothesis.

1		Model
0.334		R
0.111		R Square
0.102		Adjusted R Square
1.00853		Standard Error of the Estimate
"The intercept 2.514"	"Did media campaigns encourage taking personal actions or participating in awareness activities about the crisis? .358"	Unstandardized Coefficients B
0.398	0.102	Standard Error of Unstandardized Coefficients
	0.334	Standardized Coefficients Beta
6.318	3.524	t-statistic
<.001	<.001	Sig
"Do you believe that media campaigns play a role in raising awareness about the importance of water conservation amidst the Renaissance Dam crisis?"		Dependent Variable

Table 5. Analysis of Variance (ANOVA).

Model	Sum of Squares	Degrees of Freedom (df)	Mean Square	F Value	Sig.
Model					
Regression	12.631	1	12.631	12.419	< .001b
Residual	100.695	99	1.017		
Total	113.327	100			

R-squared is 0.111, meaning that 11.1% of the variance in the dependent variable can be explained by the model. This suggests that the model explains a limited portion of the variance.

- **Adjusted R-squared**

- Adjusted R-squared is 0.102, which is close to the unadjusted R-squared, indicating that adjusting the model did not significantly affect its explanatory power.

Standard Error of the Estimate

- The standard error of the estimate is 1.00853, indicating the model's accuracy in prediction. A lower value indicates more accurate predictions.

Non-standardized Coefficients:

- Intercept (Constant) = 2.514: This represents the expected value of the dependent variable when all independent variables are zero.

- "Did media campaigns encourage personal actions or participation in awareness activities about the crisis?" = 0.358: This coefficient indicates that for every one-unit increase in this independent variable, there is a 0.358 unit increase in the dependent variable.

Standard Error of Non-standardized Coefficients

- This reflects the variation in the estimates of non-standardized coefficients. Here, the values are 0.398 for the intercept and 0.102 for the independent variable.

Standardized Coefficients (Beta)

- Beta = 0.334: This indicates the strength of the effect of the independent variable on the dependent variable after standardizing the values.

T-values

- t = 6.318 for the intercept and 3.524 for the independent variable: These values indicate the statistical significance of the intercept and the independent variable.

Significance (Sig.)

- Sig. < .001: This indicates that the effects are statistically significant at the 0.001 level.

Dependent Variable

- The dependent variable is "Do you believe that media campaigns play a role in promoting awareness of the importance of water conservation amidst the Renaissance Dam crisis.

Interpretation of Results

R and R-squared

- R = 0.334 suggests a moderate relationship between the independent and dependent variables. R-squared = 0.111 indicates that the model explains 11.1% of the variance in the dependent variable.

Non-standardized and Standardized Coefficients

- The intercept (Constant) is 2.514, representing the expected value of the dependent variable when all independent variables are zero. The coefficient for the independent variable (0.358) indicates how much the dependent variable changes with a one-unit change in this independent variable.

Beta (Standardized Coefficients)

- Beta = 0.334 shows a moderate effect size of the independent variable on the dependent variable after standardization.

T-values and Significance (Sig.)

- t-values (6.318 for the intercept and 3.524 for the independent variable) indicate that both variables have a statistically significant effect on the dependent variable.

Conclusion

There is a statistically significant moderate relationship between "Did media campaigns encourage personal actions or participation in awareness activities about the crisis?" and "Do you believe that media campaigns play a role in promoting awareness of the importance of water conservation amidst the Renaissance Dam crisis (Table 5).

To interpret the ANOVA table

Structure of the Table

Model

The model here is a single model (Model 1).

Sum of Squares

Regression: Represents the sum of squares that can be explained by the independent variable ("Did media campaigns encourage taking personal actions or participating in awareness activities about the crisis?"). The value here is 12.631.

Residual: Represents the sum of squares of the residuals (unexplained variance). The value here is 100.695.

Total: Total sum of squares, which is the sum of explained (Regression) and unexplained (Residual) variances. The value here is 113.327.

Degrees of Freedom (df)

Table 6. Analysis of Hypothesis Three.

Dimensions	Did participants respond positively to various types of media messages (e.g., news, awareness campaigns, public seminars)?	Did media provide an adequate platform for public discussion and expression of different viewpoints on the Renaissance Dam crisis?
Pearson Correlation Coefficient	.289**	.289**
Significance Level	0.003	0.003
N	101	101

Significance: The correlation is significant at the 0.01 level (2-tailed).

Table 7. Use of Linear Regression Coefficient.

Model	R	R Squared	Adjusted R Squared	Standard Error of the Estimate	Non-standardized Coefficients B	Standard Error of Coefficients	Standardized Coefficients Beta	t Value	Sig.	Dependent Variable
1	0.462	0.214	0.206	0.94289	(Constant) 2.565	0.288		8.895	<.001	Do you think media campaigns have effectively changed community interaction with the Renaissance Dam crisis?
					Do you feel the media provided an adequate platform for public discussion on the Renaissance Dam crisis?	0.406	0.078	0.462	5.19	<.001

Regression: One degree of freedom for the model (1).

Residual: Remaining degrees of freedom (99), which equals the sample size minus the number of estimated parameters (100 - 1).

Total: Total degrees of freedom (100).

Interpretation of Results

- **F Value and Significance (Sig.)**

The F value is 12.419 and the significance (Sig.) is < .001. This indicates strong evidence of a significant effect of the variable "Did media campaigns encourage taking personal actions or participating in awareness activities about the crisis?" on the dependent variable "Do you believe that media campaigns play a role in enhancing awareness of the importance of water conservation during the Renaissance Dam crisis?".

Sum of Squares

The variance explained by the model (Regression) is 12.631, while the unexplained variance (Residual) is 100.695. This means the model explains a reasonable portion of the total variance (approximately 11.1%), indicating that the model has a statistically significant effect in explaining variance in the dependent variable.

Conclusion

Given the low p-value, it can be concluded that there is a significant effect of the variable "Did media campaigns encourage taking personal actions or participating in awareness activities about the crisis?" on the dependent variable "Do you believe that media campaigns play a role in enhancing awareness of the importance of water conservation during the Renaissance Dam crisis?". This suggests that media campaigns play an important role in enhancing awareness about the importance of water conservation.

Third Hypothesis

There is a relationship between opportunities and challenges and media campaigns that provide opportunities for awareness and education about the Renaissance Dam crisis. To test this hypothesis, the Pearson correlation coefficient was used as follows (Table 6).

Interpretation

There is a weak to moderate positive relationship between participants' responses to various types of media messages and their perception that the media provided an adequate platform for public discussion about the Renaissance Dam crisis. This relationship is statistically significant, indicating that media encouraging personal action or participation in awareness activities about the crisis can influence participants' perceptions of the media's role in enhancing public discourse on the crisis.

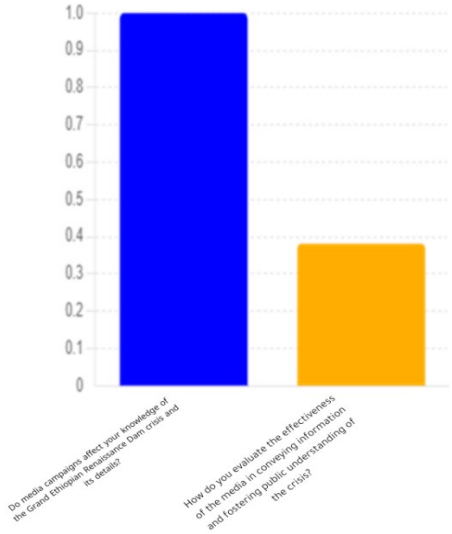

Figure 1. Analysis and interpretation of the results:

Fourth Hypothesis: Is there an impact on participation in awareness activities of media campaigns about the Ethiopian Renaissance Dam crisis that increases participation in awareness activities and seminars organized by media and non-governmental organizations in Egypt (Table 7).

General Summary of Results

Descriptive Statistics

- Number of Responses (N): All questions received 101 valid responses.
- Mean Scores: Ranged between 3.4851 and 4.4554, indicating generally positive responses.
- Median and Range: Most values were centered around 4 or 5, reflecting a concentration of responses in these ranges.
- Standard Deviation: Ranged from 0.83096 to 1.20510, indicating reasonable variation in responses.

Analysis of Each Statement

1. Impact on Awareness of the Renaissance Dam Crisis: Most participants felt that media campaigns positively impacted their awareness.

2. Evaluation of Media Effectiveness: Participants perceived the media as somewhat effective in conveying information.

3. Positive Response to Media Messages: Overall, responses were positive regarding media messages.

4. Impact of Campaigns on Personal Stand: Media campaigns had a tangible impact.

5. Encouragement of Personal Actions: Media somewhat encouraged personal actions.

6. Role of Media in Water Conservation Awareness: Media played a role in enhancing awareness.

7. Need for Additional Media Campaigns: There is a strong belief in the necessity of additional media campaigns.

8. Platform for Public Discussion: There are some doubts about the adequacy of the media as a platform for public discussion.

9. Change in Community Interaction: Media campaigns were effective in changing community interaction.

10. **Key Results**

11. **General Awareness of the Renaissance Dam Crisis**

12. Theoretical Outcome: Increased awareness of the Renaissance Dam crisis among the Egyptian community due to media campaigns.

13. Statistical Outcome: Higher rates of correct responses in opinion polls regarding people's knowledge of crisis details.

14. **Emotions and Attitudes Towards the Crisis**

15. Theoretical Outcome: Influence of media campaigns on feelings of concern and confidence in the government's ability to resolve the crisis.

16. Statistical Outcome: Recorded changes in emotional and interactive responses in opinion polls following media campaigns.

17. **Impact on Governmental and Public Policies**

18. Theoretical Outcome: Changes in political orientations and governmental policies towards managing the Renaissance Dam crisis.

19. Statistical Outcome: Recorded changes in support for governmental policies in opinion polls following media campaigns.

20. **Interactive Water Use Behavior and Sustainability:**

21. Theoretical Outcome: Changes in water usage behavior and interaction with water resources based on increased awareness.

22. Statistical Outcome: Increased awareness of water importance and sustainable behavior in usage after media campaigns.

Impact on Public and Environmental Policies

23. Theoretical Outcome: Impact of media campaigns on developing and enhancing public and environmental policies to address the Renaissance Dam crisis.

24. Statistical Outcome: Recorded changes in support for environmental policies and public orientations in opinion polls following media campaigns.

Conclusion

- There is a statistically significant moderate-strength relationship between "Do you feel the media provided an adequate platform for public discussion on the Renaissance Dam crisis?" and "Do you think media campaigns have effectively changed community interaction with the Renaissance Dam crisis?"

- This suggests that media encouraging public discussion and diverse viewpoints on the Renaissance Dam crisis can impact the effectiveness of media campaigns in changing community interaction with the crisis.

Conclusion

This study underscores the significance of media campaigns in raising awareness about water crises, particularly in cases of regional crises like the Ethiopian Renaissance Dam crisis and its impact on water security in Egypt. A descriptive-analytical methodology was employed to analyze the impact of these campaigns on individual behaviors and attitudes towards local and regional water crises.

The research findings demonstrate that media campaigns have a substantial effect on raising awareness about the importance of water conservation and fostering societal actions to address water challenges. Despite varying responses across different segments of society, media plays a crucial role in shaping public opinion and enhancing social interactions related to the issue.

Looking towards future challenges, it is recommended to enhance efforts to improve the quality and efficiency of future media campaigns. This includes focusing on providing accurate and reliable information, diversifying media channels to ensure message reach across wide segments of society. Furthermore, continued research and development in media strategies are necessary to increase their impact in promoting awareness and societal actions towards sustainable and effective water resource management.

Thus, this study serves as a significant addition to the knowledge base concerning the role of media in addressing water crises, stimulating social and political actions towards water conservation and enhancing water security in Egypt and the region at large.

Recommendations

Enhancing National and Regional Media Campaigns

There should be increased investment in media campaigns that highlight the importance of water conservation and its impact on water security, especially amidst regional challenges like the Ethiopian Renaissance Dam crisis. These campaigns should be comprehensive and integrated, targeting various segments of society including youth, women, and rural communities.

International Cooperation and Water Diplomacy

International cooperation and water diplomacy must be strengthened to effectively address regional and transboundary water issues. This includes focusing on shared dialogue and sustainable negotiations to achieve water peace and environmental justice.

Improving Infrastructure and Water Resource Management

Investment in water infrastructure should be enhanced, including sanitation and wastewater treatment, along with improving water resource management through the application of modern methods and information technology.

Research and Innovation in Water Technology

Support for research and innovation in water technology is essential to develop new solutions for efficient and sustainable water management. This includes technologies for water desalination and the use of renewable energy in water desalination.

Enhancing Strategic and Community Partnerships

Strategic partnerships between the public sector, private sector, and civil society should be encouraged to strengthen efforts in water conservation and develop joint initiatives to enhance water security.

By implementing these recommendations, Egypt and the region can enhance their response to future water challenges and improve the efficiency and effectiveness of water resource management.

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