

# Crafting Impactful Water Conservation Campaigns: A Design Framework for Advertising in Jordan Exploring Behavioural Insights and Cultural Relevance for Sustainable Impact

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## ABSTRACT

The scarcity of water poses a significant challenge for the country of Jordan which is one of the most water-deprived countries in the world. Addressing this challenge requires a dual approach consisting of infrastructural solutions and a shift in public behaviour and attitudes toward water conservation. This study proposes a design framework for creating effective advertising campaigns which foster sustainable water use practices. To achieve its objectives, the framework emphasises culturally relevant and region-specific approaches by incorporating insights derived from behavioural change theories, empirical research, and local contexts. This research identifies key factors influencing water conservation behaviours via the adoption of a mixed-methods approach that includes a literature review, surveys, interviews, and focus groups. It integrates principles from social advertising and behavioural science (such as the Transtheoretical Model and Social Cognitive Theory) to inform its campaign design. Additionally, this research highlights the importance of hyper-localisation, culturally resonant symbols, and a strategic mix of direct and indirect messaging to ensure that the campaigns resonate with diverse audiences. The proposed framework provides strategies for crafting visually engaging, emotionally impactful, and action-driven advertisements while advocating for the use of a combination of traditional and digital media to maximise reach and engagement across different demographic groups. Furthermore, this study emphasises the need for stakeholder collaboration and continuous feedback mechanisms to refine and improve campaign effectiveness. This research provides practical recommendations for Jordanian policymakers, advertisers, and water conservation strategists and makes significant contributions to the field of environmental advertising.

By addressing the current gap between awareness and actionable change, the framework will support sustainable water use practices and address the pressing water crisis in Jordan.

**Keywords:** significant; incorporating; Transtheoretical; demographic.

## 1. INTRODUCTION

The scarcity of water in Jordan is one of the country's most pressing concerns: it is one of the most arid regions on Earth and is recognised as being one of the most water-poor nations in the world (UNDP, 2018). Jordan's renewable water sources are notably limited; therefore, its water demand significantly exceeds its availability (Al-Ansari et al., 2014). These factors, combined with its increasing population and the depletion of its natural water sources (caused by climate change), pose a significant challenge to the country's water supply. However, this issue cannot solely be attributed to concerns regarding the country's infrastructure and administration: it is exacerbated by the population's consumption behaviours and their attitude towards water consumption.

While technological innovation and infrastructure development (such as the reuse of wastewater, desalination, and rehabilitation of irrigation networks) are imperative, overcoming water scarcity entails a change in Jordanian thinking and a behaviour adjustment concerning the population's use of water (Al-Ansari et al., 2014). Modifying people's behaviour (particularly their perceptions and their use of water assets) plays a pivotal role in achieving sustainable water use (Al-Masaeid, 2009). However, achieving a behaviour change entails more than just the

dissemination of information alone: it requires persuasive, locally relevant, and emotionally robust messages that resonate with a range of constituencies to drive concrete actions that result in the increasingly sustainable use of water (Bamberg & Möser, 2007).

The role of advertising in modifying public behaviour (particularly in the context of environmental concerns such as water conservation) has become an increasingly prominent issue among academic and policymaking communities. Advertising can play a pivotal role in changing public attitudes and behaviours and, when planned and implemented judiciously and thoughtfully, can produce a profound change in societal behaviour and social norms (Kotler & Zaltman, 1971). However, traditional advertising techniques frequently fail to demonstrate an awareness of the sensitivities of a country's culture and behaviour which are the key drivers of a campaign's success in a specific environment (McKenzie-Mohr, 2011); therefore, Jordan's deep-rooted cultural values, localised socioeconomic realities, and environmental concerns must be acknowledged by any communications campaign.

The integration of behaviour theory in advertising has been responsible for the development of numerous successful public campaigns. Social Cognitive Theory (Bandura, 1986) and the Transtheoretical Model (Prochaska & DiClemente, 1983) provide a foundation for explaining how humans move through phases of change and the roles played by social influence and observation in changing behaviour. The aforementioned behavioural theories posit that humans do not learn new habits via instruction: they are learned via affective ties and supportive social environments (Wardam, 2004). Therefore, when these theories are employed in the context of water conservation, any campaign designed to raise awareness must evoke an emotional response, incorporate positive role models, and promote the development of a supportive social environment where water conservation is the norm.

## **2. LITERATURE REVIEW**

Water conservation campaign work has played a pivotal role in managing growing concerns regarding global water scarcity. However, the effectiveness of such a campaign cannot solely be based on the messages it conveys: it must also be judged by the strategies and psychological drivers employed for their delivery. By analysing successful and unsuccessful campaigns (both historical and contemporary), it is possible to identify the factors of success and failure. This section employs behavioural change frameworks (such as the Transtheoretical Model and Social Cognitive Theory) to analyse several strategies. Additionally, it explores the role of emotional appeals, cultural familiarity, message simplicity, and social advertisements in moulding public behaviour.

The Transtheoretical Model (TTM) of behavioural change (Prochaska & DiClemente, 1983) has been applied extensively in environmental behaviour change. TTM identifies a sequence of phases (Precontemplation, Contemplation, Preparation, Action, and Maintenance) that an individual goes through when adopting new habits. TTM proposes that interventions must be tackled at the stage at which a target group is situated. For example, a campaign for water conservation for individuals in a stage of pre-contemplation (non-thinkers regarding conserving water) will attempt to educate them about the severity of water scarcity, while those in the preparation and action stages will be presented with specific, actionable activities for cutting consumption (Alkhaddar, 2005).

Social Cognitive Theory (SCT) (Bandura, 1986) is an established theory for explaining and predicting how and why humans learn and adopt new behaviours. SCT emphasises the roles played by observational learning, individual motivation, and social influence in behavioural change. Bandura (2004) states that humans are more likely to practice a specific behaviour having observed such behaviour in others, particularly when such behaviour is demonstrated by salient, prestigious, and believable models (for example, community leaders, famous personalities, and role models) in one's immediate environment. Therefore, in the context of water conservation campaigns, the use of famous personalities, community leaders, and positive role models engaging in water conservation behaviour can be an effective campaign tool. Additionally, SCT emphasises the robust role played by self-efficacy i.e., an individual's confidence in exercising the desired behaviour. By enhancing self-efficacy, a campaign can make an individual believe in themselves which can increase the likelihood of them engaging in behaviour change (Zimmerman, 2000).

Emotions play a pivotal role in any effective campaign; therefore, appeals that employ feelings (such as hope, guilt, and fear) can elicit a strong reaction in an individual. For example, a water conservation campaign that appeals to an individual's feelings regarding the catastrophic implications of water scarcity and presents a vision of an uncertain

and desperate future can elicit strong emotions. Fear appeals (when responsibly utilised) can motivate an individual to engage in cleaner behaviours (Gardner & Stern, 2002); however, they must be accompanied by explicit, actionable behaviours to negate feelings of hopelessness and disengagement.

In the context of water conservation, cultural familiarity is a significant driver for making a message emotionally convincing. Messages that speak to the cultural values, social customs, and social norms of a target group will have a greater opportunity to become persuasive (Bamberg & Möser, 2007). For example, in Jordan, hospitality is a significant part of life; therefore, conserving water with fellow humans could become an integral part of deep-rooted cultural practice. A water conservation campaign that is presented as a means of preserving the lives of future generations (i.e., a sign of hospitality) will have a greater impact than a general message that fails to consider cultural sensitivities (Al-Bakri, 2016). Using locally relevant symbols, pictures, and language in a campaign can make a message become a part of one's familiarity and, therefore, the message will become relevant and meaningful for an individual (Isehunwa, 2017).

Message clarity is yet another important consideration for a successful water conservation campaign. When messages become complex and indeterminate, audiences will not receive them effectively; consequently, the campaign will be less effective (Keller, 2008). In the context of environmental concerns, it is crucial that messages (such as "turn off your tap when brushing your teeth" or "fix leaky taps") are simple and memorable. Simplicity in messages is particularly important when working with widespread and heterogeneous groups whose levels of education and awareness of the issue can be significantly wide-ranging.

A clear call-to-action (CTA) campaign can be a significant and effective driver of behavioural change. Corps (2014) noted that messages which explicitly state that a person must act (for example, "replace your current shower head with a water-saving version" or "cut lawn watering") will have a greater success rate than messages which contain information regarding a problem but fail to provide any advice concerning its solution. This highlights that water conservation messages should not just simply provide information to the consumers about the issue: such messages must contain specific, actionable advice that they can easily insert into their lives (Schwartz, 2014).

### **3. Methodology**

This study utilizes a mixed-methods model (consisting of both quantitative and qualitative studies) to develop a model for an effective water conservation campaign. The integration of both approaches facilitates an in-depth examination of Jordanian public behaviour and the driving factors for water conservation in Jordan.

#### **3.1 Study Design**

This study integrates both quantitative and qualitative approaches to investigate the underlying factors that drive water conservation. The quantitative analysis phase entails the use of a survey to gauge public perception towards water conservation and the effectiveness of previous campaign efforts. The qualitative analysis phase involves the use of focus groups and in-person interviews to gain a detailed understanding of how the message resonates with various demographics. Additionally, this study contains a content analysis of past water conservation campaign efforts in an attempt to assess design and messaging approaches.

#### **3.2 Data Collection**

1. **Surveys:** A survey was conducted to determine the behaviours and attitudes of the general public towards water conservation. It sampled the general population and contained closed and Likert scales of items.
2. **Focus Groups:** This approach provided rich detail regarding society's perceptions of messages about water conservation. It consisted of semi-structured focus group discussions with a broad range of demographic groups.
3. **Interviews:** Key stakeholder interviews with professionals in water conservation and community policymakers were used to inform an analysis of which factors contribute to campaign success and water conservation motivation.

4. Content Analysis: A content analysis of previous global and local campaigns was conducted to identify successful design and messaging strategies.

### 3.3 Data Analysis

1. Quantitative Data: The survey data was analysed via descriptive statistics to identify trends while inferential statistics were employed (ANOVA, chi-square tests) to test demographics.
2. Qualitative Data: The interview and focus group information was analysed via thematic analysis to determine the central themes and information regarding effective messaging and behaviour obstacles.
3. Content Analysis: Existing campaigns were coded according to a scheme to evaluate their textual and pictorial aspects, messaging approaches, and cultural salience.

This mixed-methods analysis methodology presents a balanced picture of factors that contribute to water conservation behaviour in Jordan and provides a robust foundation for the creation of effective, locally applicable campaign interventions.

## 4. ANALYSIS & FINDINGS

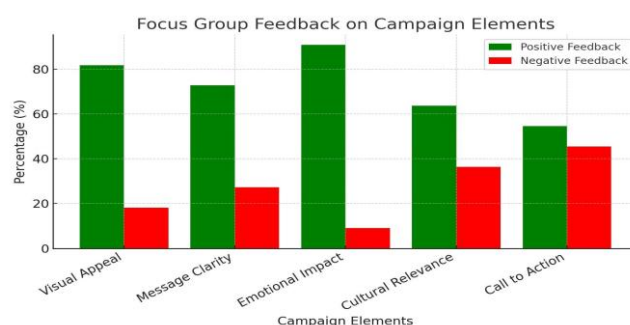
The analysis of Jordanian water conservation campaigns reveals a variety of observations regarding behaviour change drivers and provides insights concerning factors which contribute to (and constrain) campaign success. It highlights the imperative for utilising emotion, visualization, and locally applicable messaging in driving behaviour. Additionally, it reveals that several factors (such as social and political factors concerning campaign messages and aims) can contribute to - or constrain - campaign success.

### 4.1 Effective Drivers of Behaviour Change

The findings of this study reveal that emotional messaging and visual narratives possess strong behaviour-changing capacities. Rich, high-powered messaging (e.g., strong images, graphics, and video) with emotionally high-powered messaging will resonate with an audience and create a deeper level of engagement. Visual narratives simplify complex messages (such as water scarcity) by communicating them in an accessible and emotionally high-powered manner. Appeals to emotion (such as creating a sense of responsibility, fear, or hope) have been shown to drive a deeper level of activity in an audience. Therefore, in societies (such as Jordan) in which family, community, and individual values play a pivotal role, such an approach will be particularly effective.

This framework draws from theoretical frameworks in behaviour science (including the Transtheoretical Model and Social Cognitive Theory) in an attempt to inform campaign development. With these tenets, interventions can be organised to align with the critical phases of behaviour change (preparation, contemplation, pre-contemplation, maintenance, and action). By employing these phases, advertisements can be designed to target people at every stage of decision-making; therefore, the interventions will become increasingly effective.

The principle of social proof (that everyone else is conserving water) deserves recognition as a successful tactic. Individuals can be influenced by the behaviour of those around them; therefore, in Jordan (a nation in which social behaviour and social norms play a crucial role), social proof is a particularly significant factor.

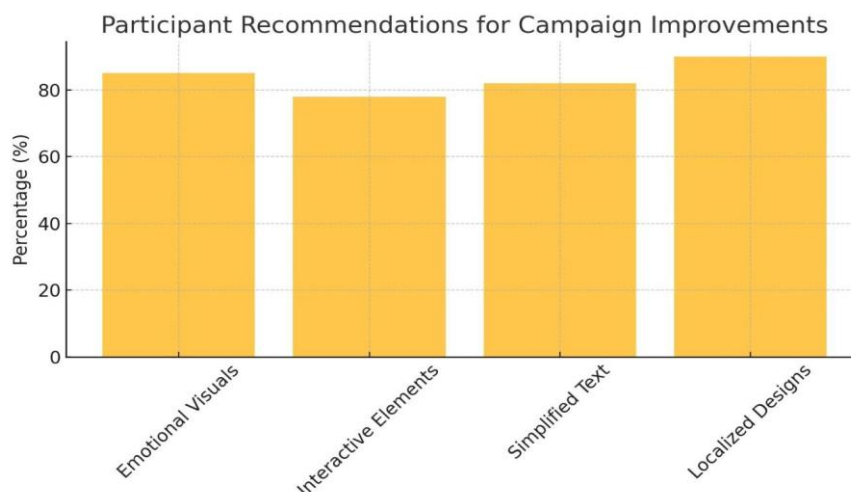


## 4.2 Challenges to Effective Campaigns

This study has identified that one of the most significant barriers to effective water conservation concerns the use of vague appeals for action. By failing to provide concrete, actionable solutions (such as not leaving the tap running when brushing teeth or fixing leaking pipework), a campaign can lack mobilising behaviour. With no direct information concerning their contribution, individuals will fail to act; therefore, the desired behaviour is disregarded. Additionally, vague, broad-spectrum messaging (such as “Save Water!”) fails to generate a feeling of urgency and salience for specific environments; therefore, quantifiable, actionable messaging (such as “Save 10 litres of water a day”) could be more effective at driving sustained behavioural change.

Another significant factor affecting the effectiveness of most campaigns concerns their lack of cultural specificity. An approach that is successful in one country (or region) may not necessarily have the desired impact elsewhere because the campaign has failed to consider local cultural values and customs. In Jordan, messages that fail to consider the country’s deep-rooted customs, values, and cultural practices will be unsuccessful. For example, messages that run counter to regional customs, or fail to specifically reflect the lives of the target audience, will sound irrelevant and alien.

This research identifies that successful campaigns must speak the language of the populace: not necessarily verbal language but via conceptions, allusions, and culturally significant symbols. For instance, locally applicable references to values in a community (such as religious values, stewardship of the environment, and the use of locally applicable water deity references) can make a campaign resonate at an individual level.

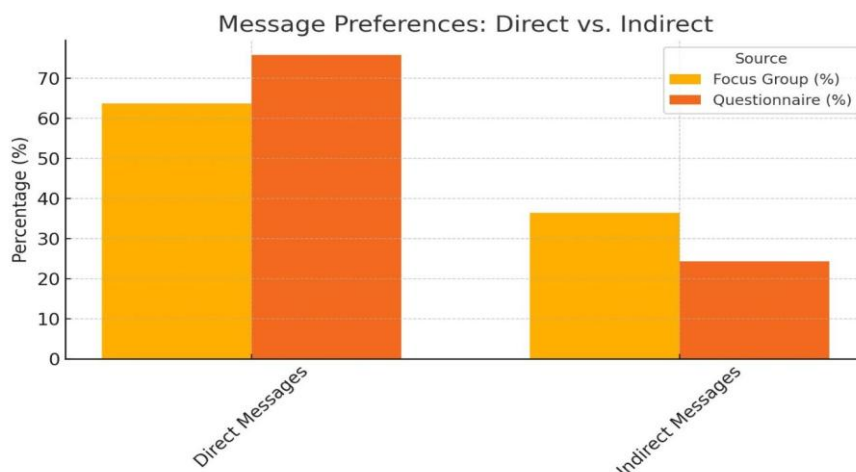


## 4.3 Regional Differences

A major conclusion of this study concerns the variation in response to water conservation messages at a regional level. Jordan is a country with elevated levels of urban-rural fragmentation; therefore, it exhibits significant variation in its access to assets, levels of socioeconomics, and region-specific issues. These factors restrict the application of a one-fits-all approach to public awareness campaigns. Urban areas (such as Amman) will best respond to technology-enabled interventions or electronic campaigning; however, rural areas will be most impacted by traditional, community-enabled messaging.

Campaigns that fail to consider geographical differences can be unsuccessful because they fail to address the specific concerns, values, and requirements of a region. Per the findings of this study, effective awareness campaigns should create region-specific messages which reflect water concerns in different areas. For example, agricultural regions should receive messages concerning irrigation and preventing water loss, while urban areas should receive messages concerning residential water use and the efficient use of water in appliances.





#### 4.5 Localised Messaging

The importance of localised messaging is one of this study's key findings. To work effectively, messages concerning water conservation must resonate with a region's respective water-related issues and social values. Localised messaging enables messages to appeal to the local population and makes them a part of the issue. For example, in areas with a long-term scarcity issue, messages can utilise themes of urgency; however, in other areas, messages can employ themes concerning solutions and empowerment. Therefore, the local environment should not just inform the message: it should also inform the delivery and the channel.

Community mobilisation (via partnering with community leaders, faith leaders, or community groups) can enhance a message's believability and trust (according to a new study). The employment of localised messaging creates a shared accountability in which the population recognise water conservation as being a collective (rather than an individual) responsibility.

### 5. PROPOSED DESIGN FRAMEWORK

Based on its conclusion, this study proposes a logical model for planning and developing effective water conservation programs in Jordan. This model consists of five principal factors:

#### 1. Visual Design of Messages

This component deals with typography, colour choice, and imagery and their role in shaping audience perceptions. Well-crafted messages, combined with effective and concise visuals, make a campaign memorable and effective. The repeated use of visuals and strong, evocative images can make a message powerful and build recall.

#### 2. Integration of Behavioural Science

Drawing on psychological theories, this element employs techniques such as urgency, reward, and social proof. The creation of a state of urgency (the immediate necessity for an activity to be taken) and the use of social proof (showing the conservation contributions of others) promotes activity and behaviour. Offering rewards for introducing small, feasible actions induces the formation of lasting behaviour.

#### 3. Cultural Adaptation

Ensuring the campaign is attuned to Jordanian customs, values, and language is paramount. Messaging must resonate with local customs, faith, and cultural symbols. By infusing these cultural factors, the campaign will feel increasingly welcoming and relevant: its impact and effectiveness will be heightened via its emotionality.

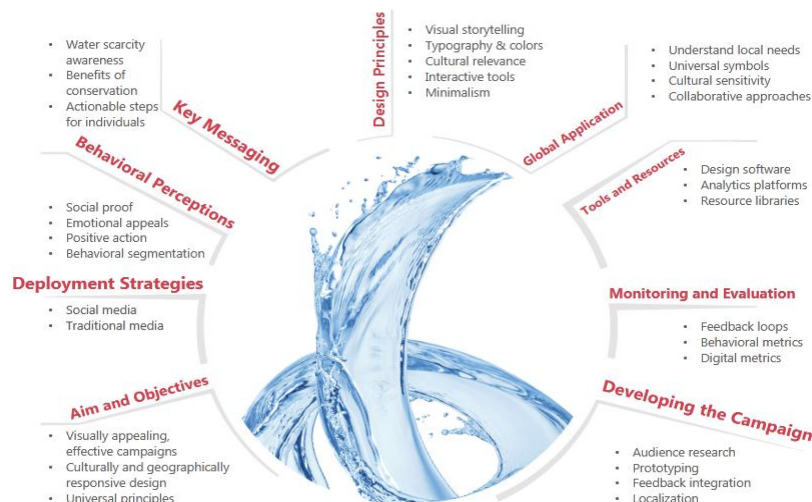
#### 4. Engagement & Interactivity

Increasing participation in water conservation is key to the campaign's success. As part of its service, this factor requires a combination of social contests, QR codes, and gamification in an attempt to mobilise public

contribution. Interactive content (such as tests, contests, or incentives) can stimulate heightened activity and inspire a community to participate in a cause.

## 5. Media Strategy

A balanced mix of channels can enable a campaign to reach a broad spectrum of the population. This involves an amalgamation of traditional channels (such as television and billboards) and contemporary channels (such as social media and computer programs). The implementation of a multi-channel campaign ensures that the message is delivered to a wide range of demographics and maximises public awareness.



## 6. IMPLEMENTATION STRATEGY

Creating an effective campaign is merely the beginning; its successful execution is paramount. This section details five key steps for actualising the model:

### 1. Research & Audience Analysis

By developing their understanding of how groups in Jordan perceive and utilise water, advertisers can create a campaign that addresses the requirements, behaviours, and preferences of specific groups.

### 2. Message & Visual Development

Effective messaging must be unambiguous, memorable, and emotionally persuasive. To increase its resonance and impact on the target audience, it must also be informative and compelling.

### 3. Multi-Channel Distribution

Public awareness campaigns should determine which channels (such as television advertisements or social media posts) are best suited for both the widespread and focused dissemination of their message across a broad range of demographics.

### 4. Community & Stakeholder Involvement

Partnership increases credibility and results in a larger participatory base; therefore, advertisers should create partnerships with influencers, government, and non-governmental organisations (NGOs) to amplify the campaign's impact and effectiveness.

### 5. Monitoring and Feedback Loops

To maintain effectiveness and enable improvement over time, advertisers should track and monitor engagement and water consumption statistics. Adopting this approach will enhance the campaign's coverage in the public arena, improve public behaviours, and produce quantifiable change.

## **7. Discussion & Implications**

This research identified the key roles played by advertising and behavioural science in instilling long-term water conservation in countries, such as Jordan, where water deficiency is a key issue. Per the existing studies, traditional, one-fits-all messaging is ineffective at altering behaviour: it lacks the thoughtful messaging and participatory approaches required to resonate with its target audience. When advertising fails to consider the background of its target audience and overlooks the underlying behavioural drivers and psychological processes of decision-making, its messages are ineffective which results in minimal behavioural change and a lack of sustained activity. Therefore, the proposed model introduces a deeper, data-driven model which contains a combination of insights concerning behaviour and cultural adaption. The model's focus on work designed for an audience results in messages that are not only heard and seen but also that induce behaviour change. For example, via its use of emotional appeals, urgency, and social affirmation, the model leverages psychological triggers for behaviour change to maximise the impact of the messages. Via the implementation of a concentrated approach, long-term, sustained behaviour change in water conservation is amplified.

For policymakers, advertisers, and conservationists, this study provides an effective tool for honing campaign operations. By adopting this model, they can produce efficient and effective campaigns that are context-specific and address the realities and needs of target groups. In contrast to passive information dissemination and general information use, the model advocates for active campaign programs with public involvement that employ messages and platforms which are attuned to a region's values, customs, and cultures.

Although the study is Jordanian in orientation, its values can be applied globally to other locations with similar environmental concerns (Altz-Stamm, 2012). Contextual orientation of the model can, therefore, have a range of applications in a range of cultural, geographical, and socioeconomic environments. In countries where environmental concerns (such as water scarcity and water pollution) are an issue, such an approach re-emphasises the effectiveness of localised strategies (i.e., those that consider specific settings and cultures) for communicating with communities. This study advocates for a transition away from a general, one-size-fits-all messaging approach to a geographically specific, culturally sensitive, scientifically sound paradigm that facilitates deeper connectivity with its audience to inspire behavioural change and create meaningful impact. The implications of this study can contribute to the creation of a new field of environmental stakeholder communication (between governments, NGOs, private companies, and the media) in which campaign efforts are coordinated to mobilise collective action. Additionally, this study emphasises the importance of continuous feedback and monitoring in honing and refining advertising campaigns: adopting such an approach can facilitate prompt responses to the fluctuating needs of water conservation.

## **8. CONCLUSION AND RECOMMENDATIONS**

The objective of the proposed model contained within this study concerns the creation of effective, behaviourally motivated, and regionally specific water conservation campaigns for Jordan. By amalgamating key advertising techniques with behavioural theory, the model introduces a concrete and feasible model for campaign development that not only raises public awareness but also induces behavioural change. Additionally, it identifies a need for messages that intellectually and emotionally address the unique social and cultural dynamics of Jordanian society while utilising effective behaviour modification techniques.

### **Key Recommendations**

#### **1. Strengthening Stakeholder Collaboration**

The first recommendation concerns strengthening collaboration between the principal stakeholders (such as the government, NGOs, and private companies). Conservation campaigns cannot function in a vacuum; therefore, forging alliances between these sectors can enhance campaign effectiveness and maximise their reach. Each stakeholder group can make contributions: Government ministries can enact supportive policies; NGOs can establish grassroots networks; and private companies can provide funding and innovation. Successful collaboration can maximise campaign effectiveness via a unified approach and coordinated action.

#### **2. Incorporating Interactive Elements**



To drive activity and participation, any campaign must incorporate interactive elements. Contests on social media, QR codes, and reward programs can make a significant contribution to audience participation. For example, mobilising the public via gamification (by organising contests for conserving water or tweeting conservation tips) can transform a general cause into a community-owned cause. Incentives (such as discounts and rewards) for water-saving actions can stimulate activity and create sustained behaviours. Interactive methodologies make a campaign exciting and convenient and (for youth and technology-conscious groups) make them easier to use and act on.

### 3. Establishing Ongoing Evaluation and Refinement Processes

Ensuring campaign effectiveness and ongoing relevance over a duration requires continuous evaluation and refinement. By regularly measuring campaign success (campaign activity, water use statistics, and citizen feedback), leaders can develop their understanding of which approaches are effective, and which are ineffective. This approach enables campaign leaders to continually improve and refine the messaging, delivery, and participatory methodologies of their campaigns in response to the fluctuating demands of the population and the constantly evolving environment.

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