

Transferring the UK experience of raising water awareness to the Saudi situation: perceptions of Saudi students in the UK

A. Alsululi 

ABSTRACT

This paper presents the perceptions of 20 Saudi students in the UK investigating how to transfer experiences from the UK into the Saudi situation through a focus-group methodology. This method was made with such a focus group to get the general perceptions of Saudis students who have lived in the UK. The research concluded that the UK water companies present a useful model that will encourage the Saudi public to see themselves as stakeholders in addition to being consumers. There are significant barriers regarding the level of public participation required by these UK models. A cultural change is required to make the Saudi public see water conservation as their responsibility. Moreover, the concept of children educating adults in a mildly humorous way may not be transferrable to Saudi society.

Key words | cultural change, Saudi Arabia, unsustainable human activity, water awareness, water resources

A. Alsululi 
 Department of Civil Engineering,
 College of Engineering,
 Taif University,
 Al Huwaya District, P. O. Box 11099, Taif 21944,
 Saudi Arabia
 E-mail: amalsululi@tu.edu.sa;
alsalula@uni.coventry.ac.uk

HIGHLIGHTS

- UK models of raising water awareness may encourage the Saudi public to see themselves as stakeholders in addition to being consumers.
- There are barriers regarding the level of public participation required by UK models.
- A cultural change is required to make the Saudi public see water conservation as their responsibility.
- The concept of children educating adults in a mildly humorous way may not be transferable to Saudi society.

INTRODUCTION

The Kingdom of Saudi Arabia (KSA) has an area of approximately 2.25 million km² and a total population of approximately 30 million. According to the water scarcity index, the country is in a situation of extreme water scarcity (Abderrahman 2006). Total municipal water use in Saudi Arabia has been estimated at 2.28 km³ per year in 2010, or 13% of total water use. Agriculture accounts for

83% of water use and industry for only 4% (Al-Zubari 2015).

Alsululi *et al.* (2015) investigated the issue of water awareness in general education from the teachers' perspective by collecting different views of 60 teachers from three of the main cities in KSA which have different geographical conditions. Teachers in 60 schools, one teacher per school, covering primary, intermediate and secondary (30 male & 30 female teachers from different schools) were surveyed using questionnaires consisting predominantly of open questions, administered on a one to one basis. The findings of this

This is an Open Access article distributed under the terms of the Creative Commons Attribution Licence (CC BY 4.0), which permits copying, adaptation and redistribution, provided the original work is properly cited (<http://creativecommons.org/licenses/by/4.0/>).

doi: 10.2166/ws.2020.309

part of the study suggested that most school students have a low level of awareness of water issues. And while the teachers find this discouraging, they generally have a high level of commitment towards their potential role in raising awareness. Also, they commonly indicated that there is a need for more educational materials relating to water issues and more formalised inclusion in the curriculum. Moreover, [Alsululi et al. \(2015\)](#) identified the religion of Islam/the Islamic culture as a factor that should enable raising awareness, whereas accepted (wasteful) practice and the lack of financial incentives are identified as factors that will make raising water awareness a challenge.

Background

On 23 July 2020, the [Saudi Press Agency \(SPA\)](#) declared that the Ministry of Education (ME) and the Ministry of Environment, Water and Agriculture (MEWA) in KSA signed a memorandum of understanding between the ME & the MEWA to develop cooperation in the scientific and research fields to integrate the issues of ‘environmental protection’, ‘water security’ and ‘food security’ in educational curricula, to advance the knowledge-based economy in the realization of the Kingdom’s vision 2030, and sustainable development in the environmental, water and agricultural fields.

RESEARCH METHODOLOGY

Data collection (focus group)

The primary research data was obtained by conducting the methodology of a focus group with 20 Saudi students (10 males and 10 females) who were studying in the UK, all of the students having a background in water management in KSA. Some of the materials about water-saving were presented to assess their perceptions about the possible efficacy of the materials in raising awareness about conservation in Saudi Arabia. Videos and flyers were presented and the participants were asked to consider three options. These were a video, a flyer or a face-to-face campaign. A discussion took place among the participants through considering the materials and responding to questions about what they thought as individuals and which approaches might work in Saudi Arabia.

More specific questions were used as prompts to keep the discussion flowing and to ensure that the participants considered the issues as deeply as possible. Examples of these questions included:

- Do you think this video/flyer will be effective in promoting water conservation awareness in Saudi Arabia? If yes, what is your opinion about this method in raising awareness in Saudi Arabia?
- Do you think the tenor of this video/flyer will be effective for older or young people in general education? Which group of people will this video will be more suitable for?
- What do you feel yourself after watching this video/flyer? Is it effective in helping and convincing you to save water or make an effort not to pollute water and the environment?
- What elements do you think could be used in Saudi? The humour? The use of children? What would work in Saudi that wouldn’t work in the UK?

The focus group was recorded and the participants were supplied with the necessary information and consent forms.

RESULTS

The focus group, of Saudi students who were studying in the UK, discussed two videos and one flyer about raising awareness of water issues in the UK. The first video, entitled *A Pleasant and Water-Efficient Day* from Southern Water Company features a young British girl called Emily, which also plays on the viewers’ sense of humour. The second video was made by Wessex Water Company about delivering water and sewage services within South West England. The flyer was a fifteen-page guide entitled *A guide to using water wisely* from United Utilities. The 20 Saudi students watched the video and read the flyer. In the ensuing discussion, specific questions were asked to encourage them to consider the issue of saving water as deeply as possible.

According to the focus group results, there is little evidence on whether programs effect children’s attitudes towards water usage as the impact, in the long run, cannot be recorded. The multitude of approaches exists to change people’s minds regarding water conservation with education being widely viewed as the key. The outcomes revealed that students’ education is viewed as a key to changing their attitudes and behaviours specifically among younger age groups

because of the belief that pro-environmental behaviours are effectively embedded in such groups. Conversely, the participants had a limited idea with regards to water conservation while on the other hand, the majority of participants believed that taking shorter showers and turning the taps off were not effective strategies that anyone would adopt to accomplish increased water conservation. It is found that there are many educational programs conducted in schools in the UK but very little evidence of changes in water usage and conservation. The responses from the focus group highlight that people are aware of the problems with water but could be limited by their poor knowledge of how they can save water potentially. The findings underscore the importance of education programs intended to inform water users regarding water usage and how they can change it.

The sample of 20 was based on the fact that so many Saudi students have studied in the UK since 2008. It was decided by the researcher that 20 would be a fair representative sample for such a large number of students. On the whole, although the students were aware that the current levels of water use in the KSA were unsustainable, they were unaware of the extent of the over-use.

‘In general, the truth is that the issue of water supply in the Arab countries will be in a very, very difficult situation in the next fifty years.’ (Saudi student)

Intervention by the researcher: ‘I would like to tell you that the daily domestic consumption rate per capita in Riyadh, the capital of the Kingdom, is 350–400 litres per day, which is one of the largest water consumption rates in the world.’

The students’ groups also felt that there was a need for a cultural change.

‘The matter of raising awareness is related to the culture and therefore the culture of society must change, for example, not taking a long time to take a shower.’ (Saudi student).

The focus group were then questioned as to the likelihood of a video campaign contributing to such a cultural change.

A: Questions after the viewing of the first video from Southern Water:

- Do you think that the tenor and content of this video (*A Pleasant and Water-Efficient Day*) would be applicable in Saudi Arabia?
- Do you think that the use of children and a sense of humour in the process of raising awareness will have a positive impact in Saudi Arabia or the Arab Gulf Countries?
- Is it possible to apply this method of using humour as seen in this video in Saudi Arabia?
- Will this approach succeed in influencing our Arabic culture and what would you expect to be the reactions to this video?

B: Questions after the display of the second video from Wessex Water and the flyer from United Utilities:

- What is your opinion about the use of flyers, leaflets and videos in raising awareness?
- What do you feel after watching this video and reading this flyer? Is it effective in helping and convincing you of the necessity of saving water?
- Do you think that the content of the video and the flyer will be most effective for older or younger people in the KSA?
- Do you think that there is another category of people who will interact more with this flyer or this video, in your opinion?
- What are the tools that could be used to raise water awareness in the Arabic Gulf countries, especially in Saudi Arabia?
- What would work in Saudi that would not work in the UK?

All of the Saudi students believed that, in general, the use of videos and flyers to raise awareness will be effective in the Kingdom of Saudi Arabia and also in the Arab Gulf countries.

‘There should be a brief video that lasts for 2 minutes to explain what will happen if there is a water shortage in the Kingdom and to explain the extent of the disaster that would happen, to make people aware about water status.’ (Saudi student)

Concerning utilising methods from the UK such as the use of children and a sense of humour, most students believed that these methods would not have a positive effect in Saudi Arabia or the Arabic community as a whole because

it would not appeal to adults. However, some students think that the style would appeal to children.

There was interest in the videos and brochures used by the UK water companies to raise awareness in the UK. In particular, some students drew attention to the way UK companies enable consumers to calculate their domestic usage and understand how much water can be saved through conserving water or using water-saving devices. Therefore it could be used in the Saudi situation. According to the outcomes, analysis revealed some knowledge of factual data and some efforts made to enhance engagement, which does suggest some behavioural change toward water usage and conservation. This corresponds to the work done by Walid (2006), who found that communication is important in encouraging attitudes positively. Similarly, the outcomes revealed that the majority of participants thought that the UK doesn't have a secure amount of water that can be employed in abundance. Students of both genders had split opinions after the participants were prompted with the fact that the UK had less water compared to the other European countries.

'It is possible to take advantage of technology by replacing traditional taps with taps which save water and then urge citizens to buy these kinds of taps or buying taps that are working by water-saving sensor especially in public places such as mosques and schools.' (Saudi student)

Some of the students also agreed that water meters and sanctions may be necessary to encourage responsible water usage.

'Human nature is such that if he or she was not observed or monitored, he or she will be excessive in using anything so that there should be meters for observation operations.' (Saudi student)

The students also believed that in addition to meters, there should be laws restricting water usage as they were on the whole not hopeful of engaging the public through positive messages.

'One of the things that will affect raising awareness is the application of the law. We have no laws relevant to determine the limit of daily water consumption, and I expect that if there is a law limiting the quantity of daily

consumption it must be followed by a very expensive fine because a cheap fine will not force people to conserve water.' (Saudi student)

Also, a large number of Saudi students indicated that the way of raising awareness about water conservation in the UK and Europe tends to focus on saving money. However, the majority of students in the sample did not feel that the Saudi public would respond because they are perceived to be affluent and therefore less interested in financial incentives, especially as such a large percentage of the costs are subsidised by the government. This is expressed in the following two quotes.

'About the videos, they were concentrating on the economic and financial aspect, and the European Union countries including Britain are well-known for this but it is known that the Saudi citizen is considered to have a high income per year compared to some countries, and for that reason, if it is focused on raising awareness through economic benefits, there will be no response, and therefore it is possible that instead you motivate consumers to conserve water by explaining that the water sources in the Kingdom will dry out and the water condition is in danger.' (Saudi student)

'Yes, there must be raising awareness about water and its conservation from the perspective of talking about the negative consequences of the lack of water resources in the Kingdom, and of focusing on informing people about the scientific information that could confirm the need for water conservation, but no mentioning of the economic benefits, because citizens in Saudi Arabia or the Arabian Gulf countries are not affected by financial aspects.' (Saudi student)

DISCUSSION

According to the outcomes, the attitudes and behaviour of the students towards improving water conservation vary from individual to individual, from business to business, from community to community and from one point in time to another. Thus, the study has identified that this research must seek to not only comprehend attitudes and water conservation in a different range of settings but also

seek to change the behaviours and attitudes of students over time as an outcome of the external events that may trigger a shift in resultant attitudes towards improving water conservation for the students who have lived in the UK.

Some students felt that targeting young people, especially in elementary schools would have a positive impact. The discussion suggests that water conservation had a significant impact on the attitude of the participants themselves. This demonstrates water conservation and usage understanding for the students. The outcomes indicate that engaging communication is the key in promoting pro-environmental behaviours along with interactivity with the audience. Moreover, while conducting the study, it was observed that students come back on consecutive days with colleagues to learn new facts regarding water conservation. This suggests that interactivity is the key in raising the understanding regarding the water conservation.

'If we want to change the behaviour of future generations, we must start from the nursery stage.' (Saudi student)

Some students also suggested ideas from the UK could improve the curriculum in KSA schools.

'I think that it is good to take advantage of the British curriculum for the process of educating students on water conservation in Saudi Arabia.' (Saudi student)

Also, there was discussion about the importance of the religious side in promoting awareness by reminding people about the verses and Hadiths (Prophet Muhammed's says) that urge Muslims to save water.

Intervention by the researcher: 'As you know that the Islamic religion advises and urges the conservation of water even in the performance of ablution, do you feel that we have to target mosques to raise awareness?'

'I support that mosques have to be targeted to raise awareness because there is a study that says that every Muslim who performs ablution extravagantly, he/she consumes 12 litres of water; so to apply the Islamic religion instructions, they would need less, since the Messenger of Allah, Mohammed, peace be upon him, consumed almost half of a litre of water for ablution, so some Muslims have a

problem with following the correct teachings of Islam.' (Saudi student)

The students also felt that in addition to the personal usage of water, there were institutional issues, as the water industry had not taken steps to raise awareness. Other students believed that water institutions were responsible for the inconsistency of supply in the Kingdom.

'There is a problem on two levels, one level is at the individual and another is at the level of governmental organisations, in which there are Saudi citizens who do not care about water; and at the institutional level, I see there is a lack of awareness about the importance of taking advantage of the seasonal rains in the Kingdom where there is no good drainage for rainwater.' (Saudi student)

'The water problem in Saudi Arabia is institutional because the water supply is at fault where you find areas that have swimming pools in homes and other areas that do not get supplied with water except by trucks.' (Saudi student)

The approach to raise awareness about water conservation in the UK and Europe focuses on the economic factors which remind consumers that they will save some money by conserving water. However, this approach is not felt to encourage or convince consumers for water conservation in Saudi Arabia; as the Saudi students perceive that people in Saudi Arabia do not care much about the financial incentives for saving water; but that they may respond to panic stories about running out of water.

Significantly, the students emphasise the religious and environmental concerns, assuming that Saudi citizens will be unconcerned about material savings. They also show a strong belief that fundamentally the public does not care or have much interest in water conservation, which they see as a cultural issue.

Although many students felt that members of the public did not have much interest in water issues and that in many cases sanctions would be required to enforce responsible usage, the data from the general public showed otherwise, suggesting that many people were concerned and had

some (if limited) level of awareness. About half of the sample believed they had some awareness, which, although requiring improvement, is better than the perceptions of this focus group towards the general public. Also, not everyone has access to plentiful supplies of water that they have the luxury to waste. These contradictions are probably inevitable in a situation where there has never been, until the research carried out, a comprehensive collection and analysis of data about water users in the KSA.

CONCLUSIONS

To transfer the UK experiences and strategies of raising water awareness, these UK experiences can, in theory, be transferred to the Saudi situation. However, it has been found that there are significant barriers concerning the level of public participation required by these UK models. It has been suggested (as in the students' data) that a cultural change is required so that the Saudi public see water conservation as their responsibility in addition to that of the mosques, the schools and the Kingdom. It will not be possible to successfully plan campaigns to raise awareness or to produce changes in behaviours unless the water authorities have a good understanding of their customers' base. When a comprehensive picture has emerged, it will be possible to use some of the ideas from the UK models by the water authorities in the KSA.

The behaviour of the students living in the UK is known to be alterable via education and technology. The results emphasized the need to educate those who are pursuing education to promote pro-environmental attitudes. It has been argued that universities are important transformation centres that drive social change. From the data gathered in the study, it was found that those in higher education were not aware of retrofit programs but were willing to measure water conservation after they were provided with the facts. It was found that females were more aware of water usage compared to males who were supportive in this case. The results were significant as it found that behaviours can be changed in the educational setting if the way of interaction and presentation of the facts with the consumers is made memorable.

Furthermore, it shows that the water situation is comprehensive that it needs to be considered as a whole, rather than

as a series of actions that may lead to an improvement. The Saudi student focus group also expressed the opinion that current levels of awareness are at a low level. The focus group made several general comments about the role of mosques, schools and awareness campaigns as a means of increasing public engagement, but to stimulate public engagement successfully, there needs to be more specific information about the nature of these campaigns unpicked from the data. Some of the Saudi students confirmed that the media can play an important part in promoting and improving campaigns through educational programmes.

ACKNOWLEDGEMENT

The author would like to acknowledge the support provided by the Deanship of Scientific Research and Development at Taif University.

DATA AVAILABILITY STATEMENT

All relevant data are included in the paper or its Supplementary Information.

REFERENCES

- Abderrahman, W. A. 2006 *Groundwater Resources Management in Saudi Arabia: Special Presentation and Water Conservation Workshop*. Al Khobar, Saudi Arabia
- Alsululi, A., Ahmed, A. & Davies, J. 2015 Public engagement in integrated urban water management in Saudi Arabia: teachers' perceptions about water awareness. *Water Science & Technology: Water Supply* 15 (4), 871–880.
- Al-Zubari, W. K. 2015 Sustainable water resources management in the Gulf Cooperation Council countries. In *WWAP (United Nations World Water Assessment Programme). Facing Challenges. Case Studies and Indicators*, Paris. UNESCO, p. 13.
- Saudi Press Agency (SPA) *The Ministers of Education and Environment Signed A Memorandum of Cooperation in the Scientific and Research Fields, Promoting 'Environmental Protection' and the Reduction 'Water and Food Waste' in Educational Curricula*. Available from: <https://www.spa.gov.sa/viewstory.php?lang=ru&newsid=2113330> (accessed 12/8/2020).