frontiers | Frontiers in Water

TYPE Original Research
PUBLISHED 14 December 2022
DOI 10.3389/frwa.2022.1062835

OPEN ACCESS

EDITED BY
Reza Kerachian,
University of Tehran, Iran

REVIEWED BY
Brighton Austin Chunga,
Mzuzu University, Malawi
Carlos Gutiérrez-Martín,
University of Cordoba, Spain

*CORRESPONDENCE
Anand N. Asthana
aasthana@pucp.pe

SPECIALTY SECTION
This article was submitted to Water Resource Management, a section of the journal Frontiers in Water

RECEIVED 06 October 2022
ACCEPTED 28 November 2022
PUBLISHED 14 December 2022

CITATION
Asthana AN (2022) Impact of mindfulness on irrigation water consumption. *Front. Water* 4:1062835. doi: 10.3389/frwa.2022.1062835

Impact of mindfulness on irrigation water consumption

Anand N. Asthana[1,2]*

[1]CENTRUM Católica Graduate Business School (CCGBS), Lima, Peru, [2]Pontificia Universidad Católica del Perú (PUCP), Lima, Peru

As two irreversible trends—population growth and climate change advance further, demand for water conservation will increase. Since irrigation is the major source of use (and waste) of freshwater, the professionals in this field will be under pressure to find innovative ways to increase physical irrigation efficiency. Irrigation water management promotes the delivery of water in a quantity that meets the needs of the crop while avoiding runoff and prolonged soil saturation. Water and energy can be conserved by improving application precision and decreasing unused applications. The adoption of water conservation technologies do not always increase the physical irrigation efficiency. Paradoxically, in many cases it may also increase water withdrawal. However, there are non-economic reasons because of which farmers invest their time and effort to reduce wastage of water. Higher irrigation efficiency is likely to depend on behavioral characteristics of the farmer. This research looks at whether mindfulness is one of the characteristics that influences water conservation. It also looks at the mechanism of this effect and the mediating role of environmental concern. It is found that mindfulness has a direct effect as also an indirect effect (through environmental concern) on increase in physical irrigation efficiency. The estimated effect of mindfulness through environmental concern is about two-thirds of the total effect, the remaining one-third of the effect coming directly from mindfulness.

KEYWORDS

irrigation, mindfulness, environmental concern, irrigation efficiency improvement, IWRM (integrated water resources management)

Introduction

Irrigation has many uses in agriculture: applying chemicals like fertilizers and herbicides, breaking the soil crust so that young plants can emerge, weeding up the beds and ground softening, to name a few. But the main use is replacing water that plants need to grow. Accordingly, the classical definition of irrigation is as "the artificial application of water to soil for the purpose of supplying the water essential to plant growth" (Israelsen, 1932, p. 1).

Water in the context of irrigation is a common good that has unique characteristics. Depending on the circumstances, it acquires aspects of public goods (non-excludable and non-rival), private goods (excludable and rival) and common property resource (non-excludable but rival). Irrigation can also be regarded as an insurance as it empowers irrigators to produce dependable harvests, usually much higher than rain-fed crops. Although it cannot completely eliminate the hazards of a water shortage, irrigation

can significantly lessen the effects of even severe droughts. Due to an asymmetry, irrigation systems have an inherent technical externality: the withdrawal of water by the irrigators at the head reaches affects the irrigators at the tail, but not the other way round. All irrigators want assured supply of water as and when they need it. In most case it is not possible to provide this assurance but a good distributive system takes factors like assurance, reciprocity and fairness into account. In most parts of the world, water is not sold on demand in cubic meters. Irrigators are given a date and time slot during which they can withdraw the water from the source. Since the cost of water is low, farmers take their full quota. Often due to reasons like weather conditions, when the required quantity is less than the allocated quantity, the water goes waste. Reducing the quantity of water imposes costs on the farmer whereas water charges (determined on acreage of the irrigated area) remain the same. Not as much water goes waste though as some economists would imagine. There are non-economic reasons because of which farmers invest their time and effort to reduce wastage of water. Higher irrigation efficiency is likely to depend on behavioral characteristics of the farmer. This research looks at whether mindfulness is one of the characteristics that influences water conservation. It also looks at the mechanism of this effect and the mediating role of environmental consciousness.

Materials and methods

The study area

This research examines of farmers' behaviors relating to water saving in catchment area of irrigation projects in Cambodia. Prior to the start of this study, these projects were chosen randomly in a larger research project by the Japanese Bank of International Cooperation (JBIC) through Mott MacDonald as part of a larger research project. The study required discussions with the staff of the Cambodian Ministry dealing with Water Resources and as well as the consultants employed by international organizations.

Due to its sophisticated irrigation systems and the several canals going into the Mekong delta's watercourses, which contributed to its economic prosperity, the historians have often referred to Cambodia between the ninth and fifteenth centuries as having had a "hydraulic economy". The rivers and Cambodia's religious and cultural traditions are inescapably intertwined. Ancient rulers reportedly calculated the day on which two rivers, the Mekong and the Bassac, would yearly swiftly begin to flood, unite, and appear to turn around their flow back into the Tonle Sap lake under tremendous water pressure. There was "a ceremony at which the "divinely appointed" King would order the water to flow backward. In modern times, the showman King Norodom Sihanouk exploited this phenomenon to considerable effect" (Asthana, 2010, p. 151). Due to neglect and lack of use after the Khmer Empire fell in the fifteenth century, the elaborate system of canals and reservoirs began to silt up and the irrigation infrastructure continued to be neglected for centuries.

In 1975, after this long neglect, "irrigation infrastructure was given priority, in fact too high a priority, when the genocidal Khmer Rouge came to power. Between 1975 and 1979, the provision of irrigation was taken to extremes and the whole population was effectively reduced to slave labor" (Asthana, 2022, p. 1064) in a rural programme of mainly irrigation works. During these 4 years, millions of Cambodians suffered forced labor, torture and starvation and mass executions causing the death of about 1.7 million Cambodians—approximately one quarter of the Cambodian population at that time (Stammel et al., 2020). Engineers were among the many educated professionals who perished as a result of the Khmer Rouge's policy of evacuating the cities. Khmer Rouge's comrades had no understanding of hydrology and the majority of the systems constructed by them were poorly designed and engineered. Canals were arranged in parallel lines 1 km apart whatever being the topography, sometimes rushing drainage from areas at higher levels and inundating lower levels areas. The demise of Khmer Rouge administration led to further disorder and confusion as a result of which the performance of the projects went from bad to worse.

International aid organizations began working in the area around 1990 and a few pilot initiatives were launched. These agencies have been focussing on rehabilitation of the irrigation systems and training of officials and the village communities in irrigation water management. On the other hand, the Chinese companies and banks are investing in new dams. The environmental consequences of these projects are not clear due to non-availability of sufficient relevant data (Parsons, 2022). The details of project wise financing are not in the public domain either. The political consequences of such huge loans are being debated (e.g., Blake, 2020) but the projects are being completed in time. Irrigation development in Cambodia is going on at fast pace.

Water resource management

After an irrigation the water is deposited in the soil for the plant to use. Transpiration efficiency, "which is defined as the amount of biomass produced per unit of water transpired" (Fletcher et al., 2018, p. 1) involves the process of plant growth, thus making it essentially a biological concept. Only water that is within the reach of the roots of the plant (the root zone) is useful to the plant. Soil has a limited water holding capacity. The water below the plant's roots is of no use to the plant. If the time the water remains on the surface (opportunity time) is long, water is wasted through deep percolation. If the time taken by the water to reach the end of the watering lane (advanced time) is long, water is wasted through runoff unless the runoff irrigates

another field or is pumped back to the same field. The amount of time the water is left running (set time) is therefore important. Uniformity can be achieved through set time and flow rate. For each field there is particular combination of flow rate and set time that will result in minimum waste of water while giving sufficient water to the plant. This combination will depend on the slope and length of the field, the direction of the slope, the type of soil, the condition of the furrows and the depth of the root zone. Physical irrigation efficiency has long been considered an important aspect of water conservation as it evaluates the performance "as the dimensionless ratio of water consumed by the crop to total water withdrawals" (Israelsen, 1932, p. 310).

At a time when environment science was in its infancy water resource management confined itself to technical improvements for profit maximization. Irrigation was seen as a civil engineering discipline, rather than a scientific endeavor in its own right. A cadre of civil engineers staffing hydraulic bureaucracy (hydrocracy) led the process of sophisticated manipulation of natural riparian environment. The scientific foundation for irrigation engineering constituted of hydraulics, hydrology and soil mechanics. During this time which lasted through the 1970s—often called "the hydraulic mission" — a large number of vast irrigation systems were built. These systems included water control and monitoring systems, designed and built using hydraulic principles to allow for regulated flow of water. Hydrology was concerned with the patterns of rainfall, estimates of overflow and of the loss of water from farm land through evaporation and transpiration. For calculating evapotranspiration from the meteorological data, various algorithms were created. Expansion of irrigated agriculture contributed a lot toward achievement of food security in poor countries. Hydraulic mission that saved millions from hunger in the developing world has now gone out of fashion. Big dams that provided food security and electricity to vast areas are being labeled as anti-people. Brilliant engineers who brought greenery to the arid lands are being criticized for their attitude of damming the river and damning the consequences (Cummings, 1995). Engineering prowess has given been subordinated to environmental concerns.

Advances made through research in the domains of soil physics, plant physiology and micrometeorology during the second and third quarters of the twentieth century focussed on the state and water flow in the soil–plant–atmosphere continuum (Kijne, 2011). When growing salinity of irrigated farms began to impair the soil structure and crop production, the quality of water gained importance. Advances in soil physics enhanced knowledge of water flow and storage in various types of soil as also that of the energy needed for water uptake by plants in arid soils; whereas advances in crop science revealed data relating to the water needed by various crops as well as their vulnerable seasons to water stress (Hatfield and Dold, 2019). The development of deterministic models to replicate water flow and salt transport in the crops has revolutionized irrigation performance evaluation. From soil and crop data soil hydraulic functions are estimated that would be valid in field settings. Researchers examine farm level water distribution and irrigation system management to improve irrigation water efficacy. Farmer engagement and co-management have also become an important feature of water management. In the 1980's, irrigation practice evolved into water resource management and became an increasingly important aspect of development studies. This meant that the social sciences would play a bigger role in irrigation research and practice. Irrigation discourse has taken environment protection seriously and has expanded to encompass subjects such as the importance of irrigation in food security and poverty alleviation in developing countries.

Hydrocracy is being replaced by Integrated Water Resources Management (IWRM). IWRM is a set of actions to use a particular water resource to meet a particular set of water demands by using knowledge of how a system responds to input fluctuations, where obstacles could be found in the system, and which alternatives should be included. It has been argued that the concept of integrated water management was replacing primarily single-purpose management way back in the early twentieth century (White, 1998). In the federal polity of the US, this multidecadal progression might be viewed as a new equilibrium for merging macrosocial goals established by a federal democratic system with devolved institutions with scientific thinking on water management. Yet across the world, IWRM is discussed as if it is a modern innovation. It is seen as a way to control and decide what would work best given the site-specific circumstances of the water availability and the social system that needs to be managed. Global Water Partnership (2000) describes the concept of IWRM as "a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" (p. 13).

Irrigation water conservation

Policymakers usually estimate water conservation improvement of an irrigation project by increase in the command area. This increase in command area can be brought about at a high cost by better engineering; but often at low cost by better administrative arrangements (Asthana, 2022). The literature on behavioral response to water conservation usually assumes an irrigator to be homo economicus whose utility is a function of profit or often multiple attributes including risk aversion etc. in addition to profit (e.g., Graveline, 2016). As rational agents in an agroecological system, they seek to maximize their utility subject to constraints like water availability. The adoption of

a water conservation technology (WCT) may not increase the physical irrigation efficiency. Paradoxically, in many cases it may also increase water withdrawal. Since the cost of WCT offsets the incremental revenues, profit maximization could be realized at low physical irrigation efficiency levels at low operational costs (Pérez-Blanco et al., 2020, p. 220). When WCT decreases the marginal transpiration efficiency, the irrigator may reduce water withdrawal; but if WCT is subsidized (which is common across the world), the effect on water consumption is unclear. Moreover, when the WCTs improve the marginal transpiration efficiency, water consumption will always go up.

Mindfulness

Mindfulness is rooted in ancient Buddhist tradition as a part of Buddha's eightfold path toward enlightenment (Thera, 1941). The concept was introduced to psychology and management literature by Langer (1989). Buddhist and Western conceptualisations of mindfulness are quite different. While Western Psychology seeks a "a short-term, incremental, self-improvement and wellbeing focus, Buddhist mindfulness is part of a path which seeks nothing less than a total and radical transformation of self and consciousness directed at the elimination of suffering at its root, and in its entirety" (McCaw, 2020, p. 265). Western academics tend to separate spirituality from mindfulness and view mindfulness as only a cognitive function. Mindfulness is considered "as an enhanced attention to and receptive awareness of the present that includes acceptance and non-judgement" (Asthana, 2021a). As a result of its disassociation from any specific religious system, modern mindfulness practices are fundamentally appealing to a wide range of people in secular societies (Monteiro et al., 2014).

As research into environment is growing in the West, it has been suggested that "mindfulness may provide an antidote to consumerism, as this quality of consciousness encourages reflection on the ecological impact of one's behavior and facilitates choicefulness in the face of consumerist messages designed to encourage materialistic pursuits" (Brown and Kasser, 2005, p. 351). There is emergent research in the connection between mindfulness and specific pro-environmental behaviors. Theoretical research "indicates that mindfulness can contribute to environmentally friendly and sustainable behavior" (Ericson et al., 2014, p. 78). Amel et al. (2009) devised a Green Scale and testing it on visitors to Living Green Expo found that mindfulness is positively related to self-reported "green behavior". Errmann et al. (2021) on the basis of hypothetical choices offered to potential tourists conclude that mindful tourists would be willing to pay a little more for environment friendly hotels. Hunecke and Richter (2019) find positive correlation "between mindfulness and self-reported sustainable food consumption" (p. 454). These studies indicate that mindfulness contributes to environmentally friendly and sustainable behavior.

Very little empirical research on this relationship is available in the water sector. In a recent paper, Pereira et al. (2022) examine impact of mindfulness on self-reported drinking water conservation in a Portuguese municipality and find a positive relationship. The present research adds to the storehouse of knowledge by estimating impact of mindfulness on water conservation in irrigation while avoiding the biases inherent in self-reports.

Environmental concern

As environmental problems started engaging world's attention in the 1960s, environmental attitude surveys focussing on specific easily identifiable objects started multiplying. However, there was no agreed definition of environmental attitude or environmental concern. In an early review, Heberlein (1981) pointed out to the "ambiguity of the object itself" (p. 242) explaining that "the environment as an object is constantly present and has multiple sub-objects which do not, as individual objects, represent the totality. The environment is an experiential object, but no one experiences "the environment" as a whole". However, Heberlein suggested that attitudes have "some general orientation" (p. 252). Over time emerging new threats, often interrelated, made as the environmental problems became more complex and the meaning of environment more ambiguous. Increasing access to information conflated the local issues and global issues, and the attitude relating to the role of various levels governments was also influencing attitude formation on environmental issues (Eagly and Kulesa, 1997). Reser and Bentrupperbäumer (2000) noted that while the meaning of environmental concern may seem obvious to some but "we clearly need a more useful and precise language for talking about environmental concern" (p. 19). At the same time, there was a growing realization that the environmental attitudes can be described and categorized in the same ways as other types of attitudes since they are not fundamentally different from them. In other words, although a person's attitudes toward particular environmental issues may differ in certain respects, they ultimately represent a single, general environmental attitude, also known as environmental concern (Dunlap and Jones, 2002). After reviewing the burgeoning literature, Dunlap and Jones (2002) veered round to the view that "environmental concern refers to the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution" (p. 485).

Hypotheses

Based on the literature cited in the previous two sections the following hypotheses are posited:

H1 Mindfulness will be positively related to physical irrigation efficiency.
H2 Mindfulness will be positively related to environmental concern.
H3 Environmental concern will mediate the relation between mindfulness and physical irrigation efficiency.

Sample and measures

To an extent this research piggybacked on the abovementioned large scale research project. A random sample of 250 farms was drawn from the households covered in the project. Physical irrigation efficiency data (percentage of the designed command area actually irrigated) of the farms was obtained from that research project. Field visits found the data to be reliable. For measuring mindfulness, the Mindful Attention Awareness Scale (MAAS) a unidimensional mindfulness scale was used because our theorizing does not differentiate among different mindfulness dimensions. MAAS is a psychometrically sound instrument (Brown and Ryan, 2003) with 15 items on 1–6 Likert scale. It is the most widely used of the measures currently in use. MAAS has been validated in investigations in various types of populations (e.g., Carlson and Brown, 2005) and has established a high level of reliability.

In this research, environmental concern is being considered a mediating variable, not a moderating one as "mediation is an attempt to establish *mechanisms* by which one variable may be affecting another" (Shapiro et al., 2006, p. 384). It is particularly challenging to map the limits and distinguishing characteristics of environmental concern since its domain is intricate, dynamic and always growing. A consensus is emerging that a measure for environmental concern should have "a rather small number of items that sufficiently measure all aspects of environmental concern, but which can be easily included in international surveys in order to provide reliable and valid data to the research community" (Schaffrin, 2011, p. 18). Cruz and Manata (2020) advise against creating improvised tools of measurement for a particular study. In their highly cited article in *Frontiers in Psychology* they review various measures of environmental concern, mainly popular and classic scales and conclude that "there would be a number of benefits of using the Schultz (2001) environmental concerns scale in future studies. In addition to producing excellent fit to the data, this scale had by far the highest reliabilities of any instrument. Thus, this scale would be an excellent choice for any study" of environmental concern (p. 11). The scale is quite popular as it is brief and the questionnaire is understandable across cultures and languages. The questionnaire distributed in Khmer was as follows:

"People around the world are generally concerned about environmental problems because of the consequences that result from harming nature. However, people differ in the consequences that concern them the most. Please rate each of the following items from 1 (not important) to 7 (supreme importance) in response to the question: I am concerned about environmental problems because of the consequences for" - Plants, - Marine life, - Birds, -Animals, -Me, - My lifestyle, - My Health, - My future, - People in the community, - All people, - Children -My children and grandchildren.

Results

The means, standard deviations, correlations and reliability statistics are given in Table 1. The correlations are significant and positive, as predicted. Mindfulness, in particular, is linked to environmental concern and both are positively linked to irrigation efficiency. The next step is to see if environmental concern increased through mindfulness plays a mediating role or is it merely a side benefit. For this research, we use the PROCESS macro SAS for regression (Hayes, 2022). Table 2 shows the regression findings of the mediation model. Our findings demonstrate partial mediation, which means significance of the mediation as also the direct effects.

Hypothesis 1 predicts that mindfulness would be linked to physical irrigation efficiency. The total effect of mindfulness on physical irrigation efficiency is significant and positive which supports the hypothesis. Hypothesis 2 predicted that mindfulness would be positively linked to environmental concern. The impact of mindfulness on environmental concern is found to be significant which supports the hypothesis 2.

The effect of mindfulness on physical irrigation efficiency through environmental concern is shown to be significant when the mediation hypothesis 3 was examined. Mindfulness also has a significant direct influence on physical irrigation efficiency. Thus, mindfulness has a direct effect as also an indirect effect (through environmental concern) enhanced on physical irrigation efficiency. The estimated effect of mindfulness through environmental concern is 67.7 per cent of the total effect, the remaining 32.3 per cent effect coming directly from mindfulness.

Discussion and conclusion

It is almost a truism to say that demand for fresh water will continue to increase in a world where billions more people will need to be fed. Yet, "there is surprisingly little information on more basic questions regarding the role of water in the economy" (Damania, 2020). However, the information gap will close soon as two irreversible trends -population growth

TABLE 1 Means, standard deviations, correlations, and reliabilities.

S. no.	Characteristic	M	SD	1	2
1	Mindfulness	4.19	0.76	(0.92)	
2	Environmental concern	2.74	0.45	0.35**	(0.88)
3	Physical irrigation efficiency	52.31	9.22	0.33**	0.39***

$N = 150$; Reliabilities (Cronbach alphas) are in parentheses on the diagonal.
$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

TABLE 2 Regression results for mediation model.

	Environmental concern			Physical irrigation efficiency		
	b	SE	*t*	*b*	SE	*t*
Constant	1.99	0.25	7.96***	15.25	4.78	3.19**
Mindfulness	0.19	0.06	3.17***	2.00	0.90	2.22*
Environmental concern				6.94	1.67	4.16***
Indirect effect				6.09	2.91	2.07*
(Confidence Interval)					(BCLB = 0.39, BCUB = 11.79)	
Direct effect				2.51	1.12	2.24*
(Confidence Interval)					(BCLB = 3.15, BCUB = 6.90)	
Total effect				9.00	4.49	2.00**
(Confidence Interval)					(BCLB = 0.78, BCUB = 17.80)	
F	9.48***			9.55***		
R^2	0.33			0.45		

Unstandardised coefficients are reported. BCLB (Bias corrected lower bound) refers to lower limit of 95% confidence interval and BCUB (Bias corrected upper bound) refers to upper limit of the 95% bootstrapped confidence interval.
$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$.

and climate change advance further. Homo sapiens (literally, the species that is aware) as a part of the evolutionary glide path will progressively know themselves better (Kabat-Zinn, 2021). Reviewing Noah Harari (2018) bestseller *21 Lessons for the twenty-first Century*, Gates (2018) states that an important message of the book is that "life in the twenty-first century demands mindfulness—getting to know ourselves better" (p. 4).

Management scholars are acquiring insights from neuroscience to know why consumers make certain decisions. This convergence and cross-fertilization of ideas is increasing attention to a strand of research developed under the heading of "mindfulness" with inputs mainly from Psychology and Decision Sciences but also from related streams of knowledge including Environmental Science. Furthermore, an increasing number of "scientists are demonstrating an unprecedented openness to insights from the world's contemplative traditions" (Wallace, 2005, p. 3). This development is very significant as it symbolizes the convergence of two spheres of human knowledge and endeavor that have never before met each other: Western science and Eastern contemplative practices. However, research on impact of mindfulness on environmental issues in general and conservation of water in particular is a trickle as compared to research on therapeutic uses of mindfulness.

Whatever little research is available on impact of mindfulness on water conservation relates to domestic water use in urban areas. This water consumption constitutes barely 5% of the freshwater use, whereas irrigation "accounts for roughly 70% of freshwater withdrawals worldwide and constitutes the lowest value use of freshwater resources" (Pérez-Blanco et al., 2020, p. 216). This research attempts to add to the thin literature in the field by examining decision making by consumers in the field of irrigation water conservation.

The authors of previous empirical studies of mindfulness on environmental issues quoted earlier have mentioned that their samples are not representative of the population. Moreover, previous research on impact uses self-reports as outcome variables. Although self-reports are generally a convenient and reliable method to gauge real behavior, validity issues might still arise (Corral-Verdugo, 1997; Steg and Vlek, 2009; Vining and Ebreo, 2002). This research uses random sampling and avoids biases inherent in self-reports. For the first time this research measures the impact of mindfulness on irrigation water

conservation and dissects it to calculate how much of comes from environmental concern and how much directly from mindfulness.

While the results are robust, one needs to admit that sophisticated statistical analysis techniques used may not result in a complete knowledge of mindfulness-based practices. Mindfulness is not a sensory toy that can be made perfect through theoretical and empirical studies. There could be modes of mind the working of which may only be accessible through far more advanced research capacities yet to be developed. Following Bishop et al. (2004), this research subtracts spirituality from mindfulness and takes a secular approach believing that in contrast to institutionalized religion, mindfulness relates to the direct conscious experience of the practitioner. However, some philosophers consider such an approach a Eurocentric parochial prejudice (e.g., Lewin, 2017). They believe that the world is now in a post-secular age and argue that in order to understand the full benefits of Eastern contemplative practices, these practices must be connected to their spiritual roots. Disregard of religious traditions that go beyond narrow practical ideas negate the benefits and a denaturised practice detached from its soteriological setting is less useful. These concerns could be looked at in future research.

For reasons explained earlier we have used MAAS for measurement of mindfulness. Some scholars prefer multidimensional scales. Multidimensional scales are not free from controversy; even so it could be interesting to see what type or component of mindfulness affects environmental concern and physical irrigation efficiency in different settings. While internal validity has been checked, external validity remains a problem and projectability of results to other groups could be compromised on account of cultural reasons. This research was conducted in a country where Buddhism is the state religion and the society is steeped in Buddhist traditions. In our Mindfulness is a universal human capacity (Kabat-Zinn, 2021). Even so further studies could be useful for further endorsement of the results in different places. Continuing research is required for creative ferment and new insights. Hopefully, this research shall provide food for thought for further research as also enhanced level of conversation between scholars in the field of mindfulness and water resources management.

A lot of research is going on in the field of water conservation in irrigation as evidenced from recent papers published in this journal (e.g., Chai et al., 2022; Jahangirpour and Zibaei, 2022). It is also becoming evident to water professionals that many WCTs actually increase water use (Ward and Pulido-Velazquez, 2008) and non-economic issues are also relevant. Yet, there is little conversation between researchers in water sector and those in mindfulness. Research in mindfulness is focussed on its therapeutic uses to the relative neglect of non-clinical applications, especially conservation issues. Since nature abhors a vacuum, this field is being taken over by journalists making exaggerated "claims about its benefits—as if a shiny word, seductively Eastern, bolstered by science can fix the human condition" (Asthana, 2021b). In business lounges of airports one finds glossy magazines with pictures of attractive models in lotus poses describing how mindfulness can make us super-efficient and simultaneously save the world. At this stage it is difficult to predict whether the residual uncharted territory in the realm of mindfulness and its impact on water conservation will be filled by journalists and entertainers or reclaimed by serious scholars.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by ICPE Ethics Committee. The patients/participants provided their written informed consent to participate in this study.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Acknowledgments

The author thanks to PUCP Centre for Sustainability and Social Innovation for helpful suggestions. Excellent research support from Omayoga Ltd. is acknowledged.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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