

Walter Leal Filho

Adriana Consorte McCrea *Editors*

# Sustainability and the Humanities



Springer

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Walter Leal Filho · Adriana Consorte McCrea  
Editors

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# Preface

There are strong links between sustainability and the humanities, which go well beyond the mere inclusion of the social sciences. Yet, the debate on the contribution of the humanities to a better understanding of sustainable development is not as intensive as it should be. There is also a paucity of publications which have specifically focused on exploring the links between sustainability and humanities. As a result, interesting opportunities are being missed, and a holistic discussion on the intellectual and moral aspects of sustainable development is not fully taking place.

It is against this background that the book ‘Sustainability and Humanities: linking social values, theology and spirituality towards sustainability’ has been produced. It contains a set of papers derived from the symposium ‘Sustainability and Humanities: linking social values, theology and spirituality towards sustainability’, which was organised by the Inter-University Sustainable Development Research Programme, the World Sustainable Development Research and Training Centre and Canterbury Christ Church University in Canterbury, England. The event gathered researchers in the field of humanities and sustainable development in the widest sense.

This book serves the purpose of showcasing experiences from research, field projects and best practice in the field of sustainability and humanities. Consistent with the need for more cross-sectoral interactions among the various stakeholders working in this field, the book aims to:

- i. provide research institutions, universities, NGOs and enterprises with an opportunity to display and present their works in the field of sustainability and humanities;
- ii. foster the exchange of information, ideas and experiences acquired in the execution of projects, especially successful initiatives and good practice from across the world;
- iii. introduce methodological approaches and experiences deriving from case studies and projects, which aim to show how sustainability and humanities may be better integrated.

Last but not least, a further aim of this book is to document and disseminate the wealth of experiences available today.

We thank the authors for their willingness to share their knowledge, know-how and experiences, as well as the many peer reviewers, which have helped us to ensure the quality of the manuscripts. We hope this publication provides a forum for the humanities to share ongoing practices as part of the overall debate on sustainable development in both teaching and research programmes and that, by doing so, it will contribute to the further development of this central topic.

Enjoy your reading!

Hamburg, Germany  
Canterbury, UK  
Autumn 2018/2019

Walter Leal Filho  
Adriana Consorte McCrea

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# Contemplative Sustainable Futures: The Role of Individual Inner Dimensions and Transformation in Sustainability Research and Education



Christine Wamsler

**Abstract** Humanity is facing increasingly complex sustainability challenges. It is now clear that they cannot be resolved by new technology, policy or governance approaches alone. They require a broader, cultural shift. Consequently, the role of human beings' "inner dimensions" (e.g., their mindsets, worldviews, beliefs, social values, and motivations) and their potential "inner transformation" (embodied in notions such as mindfulness and compassion) are increasingly attracting attention from practitioners and researchers alike. As a result, in 2015, the "Contemplative Sustainable Futures Program" was set up at the Lund University Centre for Sustainability Studies to explore the role of inner dimensions and transformation for sustainability. It aims to create space and opportunities for learning, networking, and knowledge development on this topic, which entails the creation of closer linkages between sustainability and the humanities (e.g., philosophy, theology, spirituality). The Program consists of different building blocks, including research and teaching activities. This chapter presents the outcomes, as well as the institutional and academic challenges encountered in setting up the Program. The outcomes so far include the establishment of (i) a new Masters-level course on "Sustainability and Inner Transformation", (ii) an Experimental Learning Lab on mindfulness in sustainability science, practice, and teaching, (iii) a professional knowledge database and network, and (iv) different research studies and resultant frameworks for future, more integrated research. Finally, the lessons learned, ongoing gaps, and the future work needed to overcome these gaps are presented.

**Keywords** Inner transformation · Inner transition · Mindfulness · Compassion Well-being · Contemplation · Contemplative education · Mindful climate action Integral adaptation · Sustainability science

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# 1 Introduction

I used to think the top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought with 30 years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy... And to deal with these we need a spiritual and cultural transformation - and we scientists don't know how to do that.—James Gustave Speth

Humanity is facing increasingly complex sustainability challenges, such as climate change, disasters, and energy, food, land or water conflicts (Kates et al. 2001; Sol and Wals 2015; Wals and Corcoran 2012; WEF 2018). The influence of human activities on their environment and climate system is so profound, and unprecedented, that a new geological epoch—the *Anthropocene*—has been declared (Lewis and Maslin 2015).

Despite the prominence of sustainability as a concept, societies trajectories remain deeply unsustainable (WEF 2018; WWF 2016). While sustainability scholarship has led to substantial analytical advancements over the past two decades, it does not seem to have catalyzed the necessary change (Ives et al. 2018; Wamsler et al. 2017). Now that sustainability science is well-established as a field of scholarship, it is timely to question how it has progressed and where the field needs to go in the future.

A critical review shows that the vast majority of sustainability scholarship has, so far, focused on the external world of ecosystems, wider socioeconomic structures, technology and governance dynamics. At the same time, a critical second dimension of reality has been neglected: the inner dimensions of individuals (Ives et al. 2018; Wamsler et al. 2017).

In order to fill this gap, sustainability also has to be looked at from “the other end”, by investigating how individual inner transformation could impact global sustainability. To this end, at the end of 2015, the Contemplative Sustainable Futures Program was set up at the Lund University Centre for Sustainability Studies (LUCSUS). It aims to critically assess the potential role of inner dimensions and transformation in societies’ transition toward sustainability and create space and opportunities for knowledge development, learning, and networking on this topic, which entails closer linkages between sustainability and the humanities (e.g., philosophy, theology, spirituality). It is based on the assumption that human beings’ inner dimensions (such as mindsets, worldviews, beliefs, social values, emotions, and motivations) lie at the root of sustainability challenges; therefore, they can be important leverage points for change, and are thus fundamental to the solutions to some of the world’s greatest challenges (Meadows 1999; O’Brien 2013). At the same time, they have evaded explicit analysis because they cannot only be understood via traditional scientific approaches and sustainability science terminology (O’Brien and Hochachka 2010; Wamsler et al. 2017).

The Contemplative Sustainable Futures Program consists of different building blocks, including teaching, networking, and research activities. These include: (i) a Masters-level course on “Sustainability and Inner Transformation”, (ii) an Experimental Learning Lab on mindfulness in sustainability science, practice, and teaching,

(iii) a professional knowledge database and network, and (iv) different research studies and resultant frameworks for future integral enquiry. This chapter summarizes the results of the activities that have been put in place<sup>1</sup> and presents a personal account of the challenges in setting up the Program. On this basis, some lessons learned and future prospects are presented.

## 2 Contemplative Sustainable Futures—Education

You cannot teach the mind until you reach the heart.—Wolpow et al. (2016)

The initial inspiration for establishing the Contemplative Sustainable Futures Program emerged out of teaching sustainability issues (cf. Sect. 4) and led to the development of new educational approaches and activities, which are described in this section. These involved the review and application of contemplative, mindfulness-based approaches in sustainability education, including the establishment of an Experimental Learning Lab and the development of a new Masters-level course.

### 2.1 *Mindful Teaching and Learning*

While mindfulness is playing an increasing role in pedagogy in general, it has received limited attention in the context of sustainability teaching and learning (Wamsler 2015/2016). Mindfulness is the psychological process of bringing one's attention to the present moment. But it is more than just moment-to-moment awareness. It is a kind, curious, and nonjudgmental awareness that helps us relate to ourselves, others, and our environment with compassion (Kabat-Zinn 1990).

It is only recently that mindfulness-based teaching methods have explicitly been promoted as a new way to address socio-ecological challenges and create a more just, compassionate, reflective, and sustainable society (ACMHE 2016; Gugerli-Dolder and Frischknecht-Tobler 2011; Gugerli-Dolder et al. 2013; Litfin and Abigail 2014; Schoeberlein 2009).

Especially in the context of climate change associated with growing risk and uncertainties, sustainability is increasingly being seen as a learning challenge. It is argued that in addition to appropriate forms of governance, legislation, and regulation, alternative forms of education and learning are needed for people to develop capacities and qualities that allow them to contribute to alternative (climate adapted) behaviors, lifestyles, and systems, both individually and collectively (Doppelt 2016; Sol and Wals 2015).

Consequently, contemplative teaching and learning methods are being explored in sustainability education, and particularly in the context of courses that address climate change issues. Examples are the revision and development of new syllabuses

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<sup>1</sup>Accordingly, this chapter includes text extracts and summaries from related research studies.

on global environmental politics, sustainability leadership development, and “mindful climate action” (e.g., Barret et al. 2016; Litfin and Abigail 2014).

In addition, the notion of “ecological mindfulness” has been emerging in sustainability teaching (Mueller and Greenwood 2015; Sol and Wals 2015). Underlying this notion is the idea that the proliferation of “adjectival education” (including sustainability education) is inconsistent with the interdisciplinary and hybrid learning needed to foster scientific and cultural understanding and actions, leading to socio-ecological change. Hence, ecological mindfulness suggests that the integration and blending of thought, rather than its disintegration and separation, should be the purpose of sustainability teaching and learning (Mueller and Greenwood 2015). Ecological mindfulness of teachers is said to be crucial in shaping students’ understanding of nature–society relations, and it requires integrating indigenous cultural knowledge and sustainable practices within existing scientific frameworks (Chinn 2015).

An increasing number of pioneering scholars are thus calling for mindfulness-based approaches to improve educational bodies and curricula oriented toward sustainability and well-being. In line with the Contemplative Sustainable Futures Program they argue that in the context of sustainability, teaching and learning require spaces where diverse holistic, and place-responsive perspectives can take root, be nurtured, and flourish into ways of knowing, being, and becoming that serve people, places, and the planet (cf. Greenwood 2013; Gugerli-Dolder and Frischknecht-Tobler 2011; Sameshima and Greenwood 2015). Accordingly, teaching should also become a way to work toward a “learning system”, in which people collectively become more capable of withstanding setbacks and dealing with insecurity, complexity, and risks (Sol and Wals 2015). The Contemplative Sustainable Futures Program was set up to support such a learning system.

## 2.2 *Experimental Learning Lab*

The development of the Experimental Learning Lab began in 2015 (cf. Sect. 2). In 2016, it ran for 3 months and included 70 students from two sustainability-focused Masters’ Programs. The aim was to explore mindful approaches in sustainability teaching and learning and assess the potential to make them an integral part of the curriculum.

Contemplative teaching and learning practices were integrated into mandatory course activities (reflecting, listening, debating, working together, etc. [Box 1]). In addition, written assignments on sustainability and mindfulness were offered as graded tasks, and a total of 16 voluntary mindfulness sessions were conducted outside the usual course activities (i.e., lectures, seminars, group work, and field trips). The mindfulness sessions were implemented in coordination with the Students’ Health Centre, and related information was provided in the course schedule, the students’ course portal, and a closed Facebook group. The sessions lasted between 15 and 30 min and included a variety of techniques.

**Box 1:** Integration of mindfulness-based teaching and learning approaches. Source: Wamsler et al. (2017).

Mindfulness-based approaches in teaching and learning were explicitly integrated in the following ways:

- Moments of silence and reflection were incorporated into course activities to improve self-reflection, self-awareness, social regulation, and empathy (cf. Goleman 2011).
- Mindful interactions during listening, debating, reflecting, and working together were explicitly encouraged in lectures, exercises, and seminars.
- The literature seminar included a written reflection on students' learning in relation to the five key aspects of mindfulness: observing, describing, acting with awareness, nonjudgment, and reactivity (cf. Baer et al. 2006).
- Group assignments required students to establish rules for mindful interaction and learning.
- Written assignments on the topic of sustainability and mindfulness were offered as graded tasks. More specifically, in the context of the overall theme of the assignment (i.e., urban and/or rural sustainability, with a focus on risk reduction and adaptation planning), groups were free to select a specific topic (including gender, livelihoods, food security and farming, municipal governance, climate networks, climate change mitigation, living labs, nature-based solutions, city–citizen cooperation, citizen participation, sectoral mainstreaming, or mindfulness).
- Voluntary mindfulness sessions were offered and conducted outside the usual course activities.

Written and oral course evaluations (response rates: 50/100%), two surveys and a group discussion (response rates: 71/23/29%) were conducted to assess participants' understanding and knowledge of mindfulness and sustainability, and the impacts of their mindfulness practices on learning. The first survey was conducted before the lab was implemented, while the second survey and the group discussion took place afterward. Literal reading and qualitative coding were used to analyze and triangulate the results (cf. Glaser and Strauss 1967; Strauss and Corbin 1998).

The results of the Learning Lab showed that a majority of students were open to including mindfulness in sustainability learning and teaching. Sixty percent of survey participants felt that mindfulness was relevant to sustainability teaching and learning (including issues of climate change adaptation and risk reduction), which increased to 79% after the Lab ended. In addition, those who had participated in the voluntary mindfulness sessions agreed that they had a positive influence on their learning. Overall, around 80% welcomed the integration of mindfulness into the course, and 20% were neutral (based on the pre-Lab survey and the oral evaluation). Around 64% stated that the Lab added extra value to the course in general. Only one

out of 70 students thought that its continuation would not be worthwhile (oral course evaluation).

In addition, the results of the Learning Lab supported the outcomes from the literature review (cf. Sect. 3.1). A total of 83% of participants said that they had not come across the issue of mindfulness in their environmental studies and sustainability science reading, including risk reduction and climate change adaptation literature. Those participants who had come across mindfulness in their reading referred to the practice-related approaches found in green movements. In addition, whilst a total of 79% of respondents felt that mindfulness had an influence on their daily life in terms of sustainable behavior, knowledge of its potential relevance for wider sustainability issues was rare.

### **2.3 Course on “Sustainability and Inner Transformation”**

The successful implementation of the Experimental Learning Lab resulted in the development of a new Masters-level course on “Mindfulness, Compassion, and Sustainability”, later broadened and renamed “Sustainability and Inner Transformation” (cf. Sect. 4). The overall aim of the course is to critically assess the potential role of inner dimensions and transformation for sustainability. The objectives are threefold. First, it allows students to develop a critical understanding of the potential interlinkages between inner transformation and sustainability (theories and practices). Second, inner transformation theories and practices are assessed in relation to a specific sustainability field, such as climate change adaptation or disaster risk reduction. Third, the course allows students to engage and critically reflect on the nature of inner transformation and its salience to sustainability learning. Accordingly, upon the completion of the course, students should be able to:

- Demonstrate the ability to critically investigate the potential role of inner dimensions and transformation in societies’ transition toward sustainability.
- Demonstrate the ability to critically reflect on the notion of inner transition in the context of a specific sustainability field, associated theories, concepts, and practices.
- Discuss in speech and writing the notion of inner transformation in (current) sustainability science and learning.

The drivers and challenges encountered in setting up the new course are described in Sect. 4.



### 3 Contemplative Sustainable Futures—Research

Change has a considerable psychological impact on the human mind. To the fearful it is threatening because it means that things may get worse. To the hopeful it is encouraging because things may get better. To the confident it is inspiring because the challenge exists to make things better.—King Whitney Jr

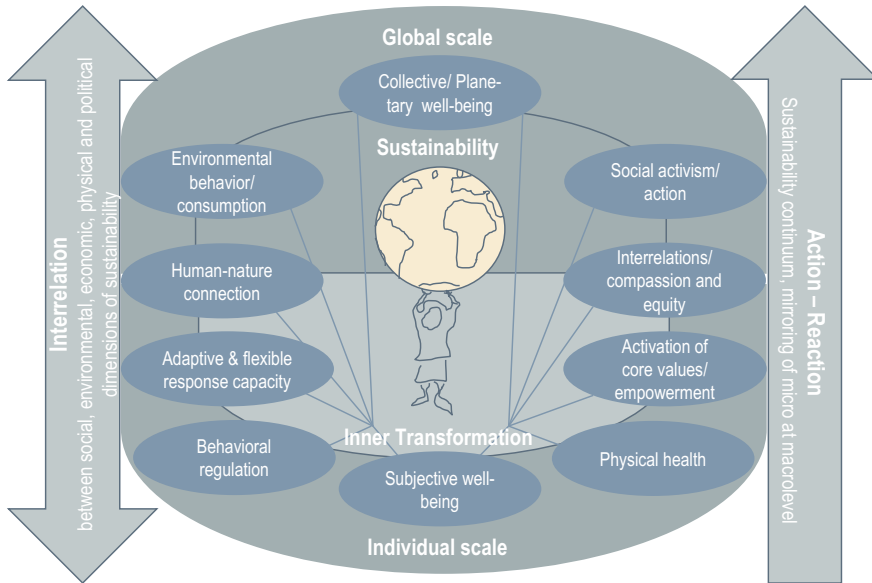
The first three research studies, which were conducted under the Contemplative Sustainable Futures Program, focused on mindfulness as a potential aspect of inner transformation toward sustainability (presented in Sects. 3.1, 3.2 and 3.3), followed by broader studies on the influence of inner dimensions on sustainable climate adaptation (Sect. 3.3). Mindfulness is often viewed as a prerequisite to the development of compassion, and is said to involve a fundamental shift in the way we think about, and ultimately act on, local and global economic, social, and ecological crises (Carroll 2016; Ericson et al. 2014; Scharmer 2009/2016). Neuroscientists argue that mindfulness can literally rewire our brains (Goleman and Davidson 2017).

#### 3.1 *Mindfulness in Sustainability Research, Practice, and Teaching*

The first step was to explore whether there are any linkages between mindfulness and sustainability, and how this is reflected in current sustainability research, practice, and teaching. Based on a qualitative literature review that was complemented by the results from the Experimental Learning Lab (cf. Sect. 2.2), the mindfulness–sustainability relationship was investigated (cf. Wamsler et al. 2017).

The results showed that mindfulness has so far been vastly neglected in both sustainability science and teaching. Notably, ideas such as “inside-out sustainability”, “sustainability from within”, “ecological mindfulness”, “organizational mindfulness”, and “contemplative approaches” have received little attention. At the same time, there is a growing body of research that provides scientific support for the positive effects of mindfulness (and the associated cultivation of compassion) on (1) subjective well-being; (2) the activation of (intrinsic/ nonmaterialistic) core values; (3) consumption and environmental behavior; (4) the human–nature connection; (5) equity issues; (6) social activism; and (7) deliberate, flexible, and adaptive responses to sustainability challenges, such as climate change. The results also showed that in contrast to sustainability research and teaching, mindfulness is gaining widespread recognition in practice (e.g., by the United Nations, governmental and nongovernmental organizations). The United Nations office that coordinates global climate action (the United Nations Framework Convention on Climate Change Secretariat) asked the Buddhist leader Thich Nhat Hanh to provide a statement ahead of the Paris Climate Summit in late 2015, for instance.

Based on the identified mindfulness–sustainability linkages, the study concluded that mindfulness can contribute to understanding and facilitating sustainability, not



**Fig. 1** Framework for contemplative scientific inquiry, practice, and education in sustainability. Source Wamsler et al. (2017)

only at the individual level, but at all scales, and should, thus, become a core concept in sustainability science, practice, and teaching. It called for more research that recognizes inner dimensions of sustainability, spirituality, and mindfulness in particular, acknowledging that: (1) the micro and macro are mirrored and interrelated, and (2) nonmaterial causation is part of sustainability. To support related endeavors, it provided the first comprehensive framework for contemplative scientific inquiry, practice, and education in sustainability (Fig. 1). While until now, reductionist research and materialism has been adopted as the intellectual and social model, the study has opened up a new discourse on the role of individual inner dimensions and transformation in sustainability. At the same time, it has provided a springboard for discussions on how we conduct research in sustainability and how we construct knowledge, highlighting the importance of including multiple perspectives and entry points.

### 3.2 Mindfulness in Climate Adaptation Research

The second study conducted under the Program built upon the first by looking deeper into specific sustainability challenges—i.e., climate change and disasters—and the associated sustainability field of climate adaptation. Based on a literature review, it explored the potential role of mindfulness in adapting to increasing risk and climate change (cf. Wamsler 2018).

The results showed that research on mindfulness in climate adaptation is scarce and fragmented. The few studies that explicitly link mindfulness with climate-related risk reduction mostly assesses the potential of specific mindfulness-related interventions for individual psychological resilience after extreme climate events. These interventions are aimed at different groups, such as victims, aid workers (firefighters, healthcare professionals, and volunteers), and researchers. Broader analyses and foci are missing.

At the same time, new scientific domains are opening up in cognate fields that illuminate the mindfulness–adaptation nexus from certain perspectives. These include studies in the fields of (1) disaster management; (2) individual well-being; (3) organizational management; (4) environmental behavior; (5) social justice; and (6) knowledge production. They demonstrate the positive influence of mindfulness (and the associated cultivation of compassion) for the development of capacities that are crucial in all phases and contexts of climatic events (including pro- and reactive climate adaptation).

The study concluded that mindfulness has the potential to facilitate adaptation at all scales (through cognitive, managerial, structural, ontological, and epistemological change processes) and should, therefore, become a core element in climate and sustainability research. In addition, it sketched the conceptual trajectories of the mindfulness–adaptation nexus and presented a pioneering, comprehensive framework for “mindful climate adaptation” (Box 2).

**Box 2:** Framework for mindful climate adaptation. Source: Wamsler (2018).

The framework for mindful climate adaptation illustrates the core conceptual trajectories, which imply the critical consideration of mindfulness in supporting:

- **Private adaptation:** for instance, by reducing vulnerability (e.g., psychological and physical well-being, and risk perception), improving post-disaster response, recovery, and growth (e.g., the ability to cope with stressful situations), and increasing motivation and action-taking for reducing risk (e.g., clarification of values, increased empathy and compassion, adaptive capacity, and pro-social and pro-environmental behaviors).
- **Public–private adaptation and governance:** for instance, by improving climate change communication, climate policy support, and new social approaches, norms, and values that challenge the business- and power-as-usual norm. Mindfulness can thus be seen as another pillar in institutional attempts to support transformation, which can complement other angles. Criticism of existing institutions and power relations as drivers of vulnerability and risk thus also need to be extended to include a critique of these institutions as inflexible, unimaginative, and emotionally dead (classically seen as the characteristics of bureaucracy).

- **Adaptation policy integration and mainstreaming:** for instance, by influencing organizational reliability (organizational learning and innovation), nurturing social capital (good leadership and staff support), providing an ethical grounding, and a legitimate basis to negotiate adaptation objectives across cultures and inspire better practices (compassion for others, social activism, equity, and justice).
- **Adaptation science:** for instance, by shaping new research questions, methodologies (deep listening, cross-hybrid learning, nonmaterial causations) and, ultimately, knowledge production. This requires the incorporation of local knowledge, acknowledging and respecting humanity (including citizens, bureaucrats, and even corrupt leaders), possibly leading to dialog and positive change.

### 3.3 *Mindfulness in Climate Adaptation Practice*

The third study of the Program aimed at filling the gaps identified in the two previous investigations together with their limitations (cf. Wamsler and Brink 2018). As new concepts and approaches have emerged, they require critical construct validation and empirical testing. Accordingly, the third study was designed as an empirical investigation. It was the first empirical exploratory investigation of the potential correlation between individuals' intrinsic mindfulness (as opposed to external mindfulness interventions) and both pro- and reactive climate adaptation. Based on a survey of citizens at risk from severe climate events, it showed that individual mindfulness can be linked to climate adaptation at different scales. In fact, it is consistent with an overarching motivation to take or support climate adaptation actions, especially actions that are "other-focused" (pro-social) or support pro-environmental behavior. Mindfulness may also be consistent with the acknowledgement of climate change and associated risk perception, and it may steer people away from fatalistic attitudes.

This empirical work supported the two previous studies as it indicated that mindfulness might not only influence how we think about the social and environmental crises that affect our world, but might also help us to take the actions needed to build a more sustainable society. The study concluded with a call for more research into the relationship between human beings' inner dimensions and climate adaptation in the wider public domain. Further research is needed to follow up on the identified correlations to depict potential causations. While this study provided important new insights, it was limited in breadth (number of participants, context) and depth (four dimensions/items of mindfulness disposition) (cf. Wamsler and Brink 2018).

Consequently, the fourth and fifth study explored the role of inner dimensions in climate adaptation more broadly (cf. Brink and Wamsler 2018; Wamsler and Raggars 2018). Based on a survey of Swedish citizens at risk from severe climate events,

the fourth study showed that citizens' adaptation is mediated by personal values, worldviews, and place attachment—aspects rarely considered in public adaptation. It highlighted that motivation to adapt goes beyond “rational” (economic) self-interest. In fact, the potential of an adaptation action to contribute to green, thriving surroundings and mitigate global climate change was found to be nearly as (and among female respondents, more) motivating. Women also reported being more motivated to engage in adaptation if this supported other community members at risk. Meanwhile, past adaptation action was not linked to motivation to adapt, and negatively correlated with communitarian and environmental values or worldviews. These results indicated a “mitigation–adaptation dichotomy” in climate awareness, which may lead to ineffective climate responses. On this basis, alternative approaches to supporting increased citizen engagement and more effective, transformative climate action were discussed in the study, ending with a call for more value- and worldview-sensitive public adaptation and risk communication. The fifth study presents related contemplative approaches and design principles (Wamsler and Riggers 2018).

Together, these five studies show that inner transformation and global sustainability are more connected than we think, but we need to know more about the link between them. It is high time to explore the practical impact that contemplative practices for inner transformation, such as mindfulness, can have on sustainability, and how we can tap into this potential to drive global change. Importantly, the role of the humanities and associated methods of enquiry (e.g., the performing arts) have to be further explored in this context.

## 4 Setting up the Program

We're teaching the wrong things. And you have to be strong enough to say if the culture doesn't work, don't buy it. Create your own.—Albom (1997):35

An important driver for setting up the Program came in 2015, from the Social Science Teaching Academy at Lund University. The Teaching Portfolio I presented to the Academy drew upon mindfulness-based, contemplative perspectives, and provoked many questions about both what and how we teach (Wamsler 2015/2016). However, after two rounds of interviews and scrutinizing, the jury was convinced. Even better, they were supportive of making such perspectives more explicit and prevalent in both teaching and research.

The Contemplative Sustainable Futures Program was set up to provide a platform for such endeavors. Exploring the role of inner dimensions and transformation, embodied in notions such as mindfulness and compassion, in sustainability science and education became my declared aim.

The financing of related activities, which do not fall within traditional funding schemes seemed, however, challenging. Consequently, to generate an initial financing stream and create momentum, I built aspects of inner transformation into ongoing projects. At the same time, I was contacted by a group of five Master's students,

who asked if they could conduct mindfulness sessions in the context of my course in environmental studies and sustainability science. Things thus began to move in both research and education.

The students shared my enthusiasm, and this led to the creation of the “Experimental Learning Lab on Mindfulness in Sustainability Science, Practice and Teaching” (cf. Sect. 2.2), and a joint paper on the issue (cf. Sect. 3.1). The Lab stimulated students’ interest in more dialog and learning around the issue of inner dimensions in sustainability, which motivated me to take the next step: the development of a new course, and the move from temporary activities to a more sustainable integration of the topic into existing academic structures.

While the students were asking for more (cf. Astin 2007), my proposal to develop a new course on “Mindfulness, Compassion, and Sustainability” was, however, also met with skepticism. Some colleagues were opposed to the idea that issues such as mindfulness and spirituality should enter the academic field, and certainly not sustainability science. The separation of church and state seems to have become so deeply embedded that academic institutions have almost completely rejected any mention of aspects that may be interpreted as spiritual, something that has been reported in various cultural contexts (cf. Astin et al. 2006; Burchell et al. 2010; Lee 2012; Goleman and Davidson 2017). Given the existing structures, the course description was reworked into an acceptable format, which explicitly highlights its critical and scientific approach to sustainability and inner transformation. After several rounds of discussions at the faculty level, it was accepted in 2018.

While working with institutional structures proved challenging, the research conducted under the Program quickly spread, and received international recognition and positive feedback throughout, which was unexpected. It helped to establish a professional network of mutual support and engagement, without which it would have been difficult to continue to “walk the path”.

## 5 Conclusions

The greatest effort is not concerned with results.—Athisa n.d.

Unlike practitioners, scholars have been slow to assess the potential of inner transformation for sustainability. The vast majority of sustainability science and education has focused on the external world of ecosystems, wider socioeconomic structures, technology, and governance dynamics. It has neglected a critical, second aspect of reality: the inner dimensions of individuals.

The Contemplative Sustainable Futures Program was set up to address this gap. It set out to make clear what works and what does not. Some of what is proclaimed about inner transition and transformation pathways (such as mindfulness, meditation, and other contemplative practices) may be wrong. But we might not (yet) know what is true.

We need to shift the conversation and undertake a critical analysis of what the potential benefits of inner transformation *are*—and *are not*. An increasing number of authors seek to show how mindfulness and meditation can change our minds, brain, and body (cf. Goleman and Davidson 2017). But we have to go further, and this also means establishing closer links between sustainability and the humanities (e.g., philosophy, theology, spirituality, the performing arts).

Establishing platforms for related enquiry, teaching and learning that can take the conversation to the next level, and connect current knowledge to changes on a wider scale are needed. How are the micro and macro interrelated or mirrored to support sustainability?

The experience of setting up the Contemplative Sustainable Futures Program shows that bureaucratic, institutional and academic obstacles to establishing such a platform might be overcome by beginning with a spirit of experimentation (here, the Lab) and then continuing, step-by-step, to transform existing structures from within (e.g., new course development), while creating a supportive community (here, through developing scholarship and supporting networks). Faced with resistance, it was good to have the company of supporters such as Professor Davidson, Director of the Healthy Minds Institute. When he said that he wanted to focus his PhD work on meditation, the response of his Harvard professors was blunt: this would be a career-ending move (Goleman and Davidson 2017:6). Such reactions seem typical of the opposition from some authorities, who might respond with knee-jerk negativity toward anything to do with consciousness or spirituality (cf. Sameshima and Greenwood 2015; Goleman and Davidson 2017; Lee 2012).

It is therefore crucial to unite efforts to create spaces where new research approaches and learning can take root, be nurtured and flourish into ways of knowing, being, and becoming that serve people, places and the planet (cf. Sameshima and Greenwood 2015; Powietrzynska et al. 2015; Chinn 2015). As scholars, researchers, and educators, we have a choice of how we position our work with respect to (neoliberal) institutional norms, growing worldwide resistance to these norms, and more integrated approaches—even if it means throwing ourselves into the humility of Not Knowing.

## References

- ACMHE. (2016). Transforming higher education: Fostering contemplative inquiry, community, and social action. In *The 8th annual conference of ACMHE, the Association for Contemplative Mind in Higher Education*.
- Astin, A. (2007). *Mindworks: Becoming more conscious in an unconscious world*. Charlotte, N.C.: Information Age Publishing.
- Astin, A. W., Astin, H. S., Chopp, R., Delbanco, A., & Speers, S. (2007). A forum on helping students engage the “big questions”. *Liberal Education*, 93(2), 28.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27–45.

- Barrett, B., Grabow, M., Middlecamp, C., Mooney, M., Checovich, M. M., Converse, A. K., et al. (2016). Mindful climate action: Health and environmental co-benefits from mindfulness-based behavioral training. *Sustainability*, 8(10), 1040.
- Brink, E., & Wamsler, C. (2018). *Citizen engagement in climate adaptation surveyed: The role of values, worldviews, gender and place* (forthcoming).
- Burchell, J., Lee, J. J., & Olson, S. (2010). Student affairs staff and their spiritual discussions with students. *Religion and Education*, 37(2), 114–128.
- Carroll, J. (2016). Formless meditation and sustainability. In S. Dhiman & J. Marques (Eds.), *Spirituality and sustainability: New horizons and exemplary approaches*. Switzerland: Springer.
- Chinn, P. W. U. (2015). Place and culture-based professional development: Cross-hybrid learning and the construction of ecological mindfulness. *Cultural Studies of Science Education*, 10(1), 121–134.
- Doppelt, B. (2016). *Transformational resilience: How building human resilience to climate disruption can safeguard society and increase well being*. UK: Greenleaf Publishing Limited.
- Ericson, T., Kjønsstad, B. G., & Barstad, A. (2014). Mindfulness and sustainability. *Ecological Economics*, 104, 73–79.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine de Gruyter.
- Goleman, D. (2011). *The brain and emotional intelligence: New insights*. USA: More than Sound.
- Goleman, D., & Davidson, R. (2017). *Altered traits: Science reveals how meditation changes your mind, brain, and body*. New York, USA: Avery Books.
- Greenwood, D. (2013). A critical theory of place-conscious education. In R. Stevenson, M. Brody, J. Dillon, & A. J. Wals (Eds.), *International handbook of research on environmental education* (pp. 93–100). New York: Routledge.
- Gugerli-Dolder, B., & Frischknecht-Tobler, U. (Eds.). (2011). *Umweltbildung Plus. Impulse zur Bildung für nachhaltige Entwicklung*. Zürich: Verlag Pestalozzianum.
- Gugerli-Dolder, B., Traugott, E., & Frischknecht-Tobler, U. (2013). *Emotionale Kompetenzen in der Bildung für Nachhaltige Entwicklung*. Schweizerische Koordinationskonferenz Bildung: BNE-Konsortium COHEP.
- Ives, C. D., Freeth, R., & Fischer J. (2018). Inside-out sustainability: The neglect of inner worlds for sustainability. *Sustainability*, forthcoming.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. New York: Delacourt.
- Kates, R. W., Clark, W. C., Corell, R., Hall, J. M., Jaeger, C. C., Lowe, I., et al. (2001). Sustainability science. *Science, New Series*, 292(5517), 641–642.
- Lee, J. J. (2012). Teaching mindfulness at a public research university. *Journal of College and Character*, 13(2), 1–6.
- Lewis, S., & Maslin, M. (2015). Defining the anthropocene. *Nature*, 519(7542), 171–180.
- Litfin, K., & Abigail, L. (2014). Contemplating enormity: Climate change. In *Conference presentation/paper. The 6th annual conference of ACMHE, the Association for Contemplative Mind in Higher Education*.
- Meadows, D. (1999). *Leverage points: Places to intervene in a system*. Hartland VT: Sustainability Institute Papers, Sustainability Institute.
- Mueller, M. P., & Greenwood, D. A. (2015). “Ecological mindfulness and cross-hybrid learning” Editorial. *Cultural Studies of Science Education*, 10(1), 1–4.
- O’Brien, K. (2013). The courage to change, adaptation from the inside out. In S. C. Moser, & M. T. Boykoff (Eds.), *Successful adaptation to climate change: Linking science and policy in a rapidly changing world*. Routledge.
- O’Brien, K., & Hochachka, G. (2010). Integral adaptation to climate change. *Journal of Integral Theory and Practice*, 5(1), 89–102.
- Powietrzynska, M., Tobin, K., & Alexakos, K. (2015). Facing the grand challenges through heuristics and mindfulness. *Cult Sci Educ*, 10(1), 65–81.



- Sameshima, P., & Greenwood, D. A. (2015). Visioning the centre for place and sustainability studies through an embodied aesthetic wholeness. *Cultural Studies of Science Education*, 10(1), 163–176.
- Scharmer O. (2009/2016). *Theory U: Leading from the future as it emerges*. San Francisco: Berret Koehler.
- Schoeberlein, D. (2009). *Mindful teaching and teaching mindfulness: A guide for anyone who teaches*. USA: Wisdom Publications.
- Sol, J., & Wals, A. E. J. (2015). Strengthening ecological mindfulness through hybrid learning in vital coalitions. *Cultural Studies of Science Education*, 10(1), 203–214.
- Strauss, A. L., & Corbin, J. (1998). Basics of qualitative research. Techniques and procedures for developing grounded theory, 2nd edn. Thousand Oaks: Sage.
- Wals, A. E. J., & Corcoran, P. B. (Eds.). (2012). *Learning for sustainability in times of accelerating change*. Wageningen: Wageningen Academic Publishers.
- Wamsler, C. (2015/2016). *Teaching portfolio*. Lund: Teaching Academy, Lund University.
- Wamsler, C. (2018). Mind the gap: The role of mindfulness in adapting to increasing risk and climate change. *Sustainability Science*, 13(4), 1121–1135.
- Wamsler, C., & Brink, E. (2018). Mindsets for sustainability: Exploring the link between mindfulness and sustainable climate adaptation. *Ecological Economics*, 151, 55–61.
- Wamsler, C., & Riggers, S. (2018). Principles for supporting city–citizen commoning for climate adaptation: From adaptation governance to sustainable transformation. *Environmental Science & Policy*, 85, 81–89.
- Wamsler, C., Brossmann, J., Hendersson, H., Kristjansdottir, R., McDonald, C., & Scarampi, P. (2017). Mindfulness in sustainability science, practice and teaching. *Sustainability Science*, 13(1), 143–162.
- Wolpow, R., Johnson, M. J., Hertel, R., & Kincaid, S. O. (2016). *The heart of learning and teaching: Compassion, resiliency and academic success*. Washington, US: Washington State Office of Superintendent of Public Instructions (OSPI) Compassionate Schools.
- WWF. (2016). *Living planet report 2016: Risk and resilience in a new era*. Switzerland: Gland.
- WEF. (2018). *The global risks report, 13th edn*. Insight Report. Geneva: World Economic Forum.

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