Journal of Health and Environmental Research
2017; 3(3-1): 1-15
http://www.sciencepublishinggroup.com/j/jher
doi: 10.11648/j.jher.s.2017030301.11
ISSN: 2472-3584 (Print); ISSN: 2472-3592 (Online)

Principles and Practice of Sustainability in Maharishi Vedic Science

Lee Fergusson[1], Geoffrey Wells[2], David Kettle[3]

[1]Maharishi Vedic Science and the Environment, Maharishi Vedic Research Institute, Gold Coast, Australia, and School of Business, Education, Law and the Arts, University of Southern Queensland, Toowoomba, Australia

[2]Maharishi Vedic Science, Ethics and Sustainability, Maharishi Vedic Research Institute, Adelaide, Australia

[3]Maharishi Vedic Science, Ethics and Sustainability, Maharishi Vedic Research Institute, Auckland, New Zealand

Email address:

lee@maharishivedicresearch.org (L. Fergusson)

To cite this article:

Lee Fergusson, Geoffrey Wells, David Kettle. Principles and Practice of Sustainability in Maharishi Vedic Science. *Journal of Health and Environmental Research.* Special Issue: Maharishi Vedic Science: Creating a Sustainable Future. Vol. 3, No. 3-1, 2017, pp. 1-15.
doi: 10.11648/j.jher.s.2017030301.11

Received: October 27, 2016; **Accepted**: November 4, 2016; **Published**: January 17, 2017

Abstract: Concepts such as the "self-sufficient" and "self-perpetuating" nature of human consciousness and "man must learn to live in harmony with nature", and programs such as Vedic organic agriculture and creating a "global green revolution", are situated centrally in Maharishi Vedic Science—the complete science of the Veda and Vedic Literature as presented by Maharishi Mahesh Yogi. A *prima facie* case can therefore be made that these and other elements suggest Maharishi Vedic Science may play a part in creating a sustainable future for humanity. However, the potential role of Vedic knowledge and technology in, and its practical contribution to, the conversation surrounding sustainability science have yet to be fully explored. Research undertaken to date, while extensive, has been restricted mostly to the relationship of Maharishi Vedic Science to agriculture (with a particular focus on soil science and genetically-modified food) and, to a lesser degree, architecture and forestry. For this reason, the present paper considers the fundamental principles and practice of sustainability in Maharishi Vedic Science and explores its possible impact on creating a sustainable world future.

Key words: Sustainability, Veda, Vedic Science, Vedic Literature, Maharishi Mahesh Yogi, Maharishi Vedic City, Vedic Organic Agriculture, Maharishi Vāstu Architecture

1. Introduction

Lang *et al.* (2012, p. 25) have proposed that contemporary sustainability practices require new modes of knowledge production and decision-making, and Egmose (2016) has posited the dimensions of these new modes of sustainability and their relation to democracy. One domain of traditional knowledge which appears to provide a vast and integrated sense of humanity and sustainable use of the environment (but one which has largely escaped the gaze of Western scrutiny) is Vedic knowledge, both as it has been described in the Vedic Literature as well as how it has been applied through what Cort (2006) calls a "lived ethic". For example, the relationship of the "earth" to Vedic Literature has been explored (Isra, 1993), the disposition of the four Vedas (Ṛk Veda, Sāma Veda, Yajur Veda and Atharva Veda) to ecology has been investigated (Prime, 2002), a specialist international conference on "Yoga and Ecology" has been convened (Chapple, 2009), and Steingard *et al.* (2004) have presented what they call "natural law-based environmental management", which purports to be an extension of the philosophy of Vedānta, an important branch of Vedic Literature.

Existing academic treatments of specific ancient Vedic texts have also suggested a relationship with concepts and principles seen in contemporary sustainability science and ecology. Most notable in this field is the work of Kumar (2008) who demonstrated that sustainable forestry was a central tenet of ancient Vedic civilization (he specifically cites Atharva Veda [12.1.35] which declares: "Whatever I dig from you, O' Earth, may that have quick regeneration again; may we not damage thy vital habitat and heart"). Similarly, Vannucci (1999) showed that Ṛk Veda (III:33) documents a

"dialogue" between Rishi Viśvāmitra and the rivers Vipāśā and Śutudrī in order for him to gain an understanding of the water cycle, including evaporation, cloud formation, precipitation and percolation. Vannucci (1999) also maintains that Pŕthivī (or Mother Earth, often identified with Aditi, described as the "infinite one, free from bonds") is associated with the five fundamental "ecological" elements—earth (pŕthivī, प्रिथ्वी), water (jala, जल), fire (agni, अग्नि), air (vāyu, वायु) and space (ākāsha, आकाश); she also notes that the concept of a sustainable "forest" (i.e., Aranyani, the counterpart to Aditi, is "the [unfettered] mother of all forest beings who tills not, but has stores of food" and who "shares her fruits and products with those who respect her laws")—along with mountains and hill-tops—is frequently mentioned in Ṛk Veda (e.g., V:42-43), the Aranyakas and Puranas. The forest, according to her view, is revered for its fecundity and is considered sacred from the ancient Vedic perspective.

Vannucci (1999, p. 37) has therefore concluded that the Vedas, examined using what she calls "a biological-ecological decoding key", show a profound "knowledge of the relations of cause and effect of natural phenomena, [e] specially those that are related to life processes. The Vedas are a treasure-mine of information about the science of ancient man". However, this specialist research often focuses more on obscure accounts of ecology in the Vedas (such as "the Wedding of Sūryā" and the "material and immaterial realities of Indra and Varuṇa") than on the underlying principles of Vedic knowledge and technology (including knowledge contained in the other 36 aspects of Vedic Literature, such as the Upāngas, Upanishads and Vedāngas) and, as a consequence, may largely be inaccessible to the lay reader interested in sustainability more generally.

Maharishi Mahesh Yogi—founder of Maharishi Vedic University in Europe, Maharishi University of Management in the United States, and Maharishi Mahesh Yogi Vedic Vishwavidyalaya University in India—has presented an entirely new understanding of, and approach to, Vedic knowledge. Of relevance is the introduction of his Vedic Science, the systematic investigation into ancient principles and practices of the Veda and Vedic Literature as brought to light since the late 1950s (e.g., Maharishi, 1957, 1969). Indeed, Maharishi Vedic Science is unique in that it contains not only the theoretical bases to "explain" and the experiential methods to subjectively and objectively experience and thereby "know" the Veda and Vedic Literature, but it has also "operationalized" these concepts into applied technological social welfare programs to achieve the goals it has set itself. In agreement with Lang *et al.* (2012), Maharishi (1991a, p. 12) too has therefore said that "only a new seed with yield a new crop" in regard to transforming our unsustainable world into a stable, prosperous and worthwhile human future.

A cursory examination of Maharishi Vedic Science suggests it may address issues related to sustainability, particularly when it points out that contemporary approaches to knowledge isolate the individual from his or her environment; in contrast to modern science, Maharishi (1991b, p. 22) identifies and encourages "a very intimate connection between the individual and the universe". Moreover, references in Maharishi Vedic Science point to a "self-sufficient" and "infinitely correlated" state of pure consciousness, which is the source of manifest creation (a level of life which can be lived by every human being), and when coupled with programs which suggest a need for "creating a global green revolution" to achieve food self-sufficiency, indicate this body of integrated ancient and contemporary scientific knowledge may offer valuable insights into, and practical programs for, creating a sustainable future. Certainly some of Maharishi's pronouncements, including "to make full use of nature, man must learn to live in harmony with nature" (Maharishi, 1978a, p. 9) and governments should only make decisions in a "neat, clean, pollution-free atmosphere" (Maharishi, 1996a, p. 16), would suggest such a reading.

Preliminary research has been conducted on the contribution of Maharishi Vedic Science to sustainability, particularly as it applies to activities like farming. Fisher (2011), for example, has outlined conventional concepts of sustainability and their relation to what he refers to as "consciousness-based sustainability" in agriculture; Fagan (2011) has discussed renewable fertilizers, crop rotation and diversification, soil conservation and natural means of pest control in the context of genetically engineered horticulture; Scaroni-Fisher and Fisher (2011) have considered Vedic knowledge in the light of sustainable forestry; and Wallace (2011) has examined Vedic technologies in the context of organic agriculture.

More recently, Heaton (2016) has investigated the relationship of Maharishi Vedic Science to sustainable architecture and what Maharishi (1993, pp. 445-446) calls "higher states of consciousness". However, the data that exist on sustainability and Maharishi Vedic Science, while comprehensive, relate primarily to ecology, organic agriculture, forestry, genetic engineering, food production, control of pests and soil science (particularly in relation to erosion), but not specifically to its core principles and how these might be applied to "yield a new crop".

For this reason, the present paper asks the following two research questions: 1) what are the main principles of sustainability described in Maharishi Vedic Science; and 2) what practices of sustainability are championed by Maharishi Vedic Science?

[As a general point of orientation, unless otherwise noted, we use the term "sustainability" to simply mean something—for example, a process, program, system or practice—that can be maintained or kept going without depleting itself and its inputs, and which does not damage its surroundings. We recognize, however, that the term has many meanings, particularly when applied to different domains of praxis, and therefore we appreciate that multiple types and levels of usage are possible in different contexts. A "principle" is commonly formulated around a core concept based on societal ethics, values and/or tradition, as well as on scientific knowledge, and we use the term to mean a foundational or

fundamental "truth" or axiom in Maharishi Vedic Science; we use the term "practice" to mean the design and analytical processes, as well as those steps taken by Maharishi Vedic Science, to achieve a sustainable outcome.]

2. Overview of Maharishi Vedic Science

Maharishi declares that his Vedic Science is the science of "Veda", the science of "pure knowledge" and the "infinite organizing power" inherent in the structure of pure knowledge, inherent in the unmanifest field of Natural Law. He explains that "Veda is the structure and function of pure knowledge. It encompasses the whole range of science and technology; it is theory and practice at the same time; it is the structure of total knowledge…the togetherness of the observer, process of observation, and object of observation. Therefore, 'Vedic' includes the whole path of knowledge from the knower to the known—the whole field of subjectivity, objectivity, and their relationship; the whole field of life, unmanifest and manifest; the whole field of 'Being' and 'Becoming'; the whole range of knowledge from its source to its goal—the eternal source, course, and goal of all knowledge" (Maharishi, 1994, p. 5). The term "Vedic Science" is therefore used by Maharishi to indicate both the ancient, traditional origins of this body of knowledge (i.e., the "Vedic tradition") and its modern commitment to experience, systematization, testability, and the demand that knowledge be useful in improving the quality of human life (i.e., in accord with the tradition of modern science). The recent enlivenment of this ancient knowledge is referred to as "Maharishi Vedic Science" in honor of Maharishi giving a modern scientific meaning and practical application to the ancient knowledge of the Veda and Vedic Literature.

Introduction of the theory and practice of Vedic Science by Maharishi thus represents an important turning point in our understanding of the Veda and Vedic Literature. This claim can be argued from: 1) the evidence provided by published research, specifically the approximately 600 published experimental, quasi-experimental, meta-analytical, descriptive, theoretical and mixed-method studies conducted over the last 46 years ago beginning with Wallace (1970); 2) the ontological, epistimological and axiomatic perspectives of Maharishi's teaching, the framework around which he developed his "science of consciousness"; and 3) analysis of the applied teachnologies and programs introduced and implemented by Maharishi (a subject to which this paper will return in the context of sustainability). Coupled with the direct experience of people in many different parts of the world and from many diverse backgrounds (e.g., Dillbeck, 1989), the introduction of Maharishi Vedic Science provides a compelling case for further systematic investigation.

The nature and scope of Maharishi Vedic Science have been described in detail elsewhere (e.g., Chandler, 2011; Fergusson & Bonshek, 2015; Maharishi, 1995a, 1995b), from which four fundamental axioms can be identified: 1) an unmanifest field of intelligence and consciousness, which can be experienced by anyone, lies at the basis of human life and all physical creation; this field of life Maharishi calls "Natural Law"; 2) human beings can experience the field of pure consciousness and rise to live higher states of consciousness; 3) "coherence" or harmony and order can be created in the collective consciousness of society in order to better direct life in a progressive direction; and 4) a variety of important practical social and environmental outcomes have been observed as a result of applying the knowledge contained in axioms 1), 2) and 3).

Understanding and experiencing the properties and function of Natural Law is therefore central to an understanding of Maharishi Vedic Science and its relation to sustainability science, because Natural Law is "the first law" of nature (Maharishi, 1977a, p. 25). According to Maharishi, Natural Law is:

> The law of evolution. Where is the origin of this law? It's a wonderful field. This field is omnipresent, present all over, everywhere, at all times, and in all places. The field of natural law is wherever creation is; wherever nature is, it is on the basis of that law. What is that law? That life on that level is profound, perfect, infinite, unbounded, self-sufficient. In its full dignity it is self-sufficient and infinite—perfect orderliness…It is so perfect, so profound, so powerful, it's so full of knowledge of potentiality of all action that all knowledge, all action, all performances, all behavior of all laws, are inherent in its very nature; and its nature is awareness, consciousness, intelligence, pure existence which knows itself, pure intelligence. (p. 23)

In this sense, Natural Law can be defined as the one unmanifest, integrated source of all the laws of nature which guides life in a progressive, sustainable direction, in the direction of "evolution". Clearly Natural Law, being a field of infinite "self-sufficiency" and "perfect orderliness", is of great relevance in the context of sustainability science because at the core of the many diverse definitions of "sustainability" lies the cornerstone leitmotif of "progress and maintenance without depletion or harm".

Maharishi (1996a, p. 46) has further stated that "the administrative intelligence of the universe—Natural Law—has eternally demonstrated its ability to spontaneously maintain absolute harmony". A central premise of this paper therefore suggests that alignment of individual consciousness (and the behavior that flows from it) to Natural Law means alignment of individual thought, speech and action to the same intelligence with which nature is governed in a self-sufficient and harmonious manner. The method advocated by Maharishi for achieving this outcome is the Transcendental Meditation and TM-Sidhi program, a simple, natural and effortless process of self-development which has been thoroughly examined and documented since the 1970s (e.g., Dillbeck, 1989, 2011). The suggestion that society as a whole might also align its activity to Natural Law then also touches upon the possibility for sustainable behavior on a larger and more critical scale.

Thus, three overriding observations will guide the following discussion: 1) in agreement with Nelson Mandela,

who said "you can never have an impact on society if you have not changed yourself" (Gilmore, 2012), Maharishi Vedic Science advocates changing the consciousness, intelligence and creative capacity of the individual in order to change the character and direction of society because "the power of consciousness is infinite" (Chiti shaktiriti, चितिशक्तिरिति, Yoga Sūtra, 4.34); 2) in order to change human consciousness such that thought, speech and action become more progressive, balanced and harmonious, the intelligence, creativity and progress of humans and society must be aligned with the infinite intelligence of Natural Law, simultaneously described as the first law of nature and the "home of all the laws of nature"; and 3) Maharishi Vedic Science maintains that "the world is my family" (Vasudhaiva kutumbakam, वसुधैव कुटुम्बकम्, Mahā Upanishad, 6.71), indicating a unified worldview of man and nature. In other words, Maharishi Vedic Science sees individual consciousness as the key contributor to and motivator of collective consciousness, and views the world as an integrated, holistic reality in which everything and everyone is guided by the intelligence of nature; everyone and everything is connected to everything and everyone else, and thus what affects one person affects all people.

Based on this evidence, a *prima facie* case can therefore be made that this vast body of Vedic knowledge brought to light in Maharishi Vedic Science bears directly on the topic of sustainability, both as it has traditionally been understood and explained by many cultures throughout the world and as it has been promoted and practiced in the last 20 years by government and industry. In this paper, we will focus on the axiomatic bases of this claim, using technological applications as examples with supporting data as appropriate.

3. Principles of Sustainability in Maharishi Vedic Science

Following earlier separation between disciplines concerned with a sustainable future, the concept of "sustainability" has evolved in the last 15 years to become the integrated discipline of "sustainability science" (e.g., Clark & Dickson, 2003; Heinrichs *et al.*, 2016). This science has emerged as a result of key concerns of scientists, politicians and the general public that "there is increasing evidence we have approached, or perhaps even surpassed, the capacity of the planet to support continued human population growth and socioeconomic development"

Lindsay (2011) maintains there are as many definitions of "sustainability" as there are entitities striving to achieve it. Thus, the concept of realising a sustainable future can be viewed from many different perspectives environmental, ecological, commercial, industrial, administerial and identifying common themes is critical in achieving a sustainable future. In addition to definitional uncertainty, the multidisciplinary nature of sustainability makes it a challenging field to measure, although this is usually done through "sustainability indicators"; these too can take many different forms, with indicators sometimes representing a single quality of sustainability or representing the sum of many qualities in what are called composite or "headline" indicators.

For the purposes of this paper, two indicator systems have been used: a) "outcome indicators", such as freshwater limits and loss of biodiversity; and b) "principle-based indicators", such as equity and integrity. [While the concept of harvesting or using resources such that they are not depleted or damaged while encouraging lifestyles and practices which embrace this goal are fundamental to each definition of sustainability, since the early 2000s some scholars have maintained there has been a general and growing disappointment in the gap between the rhetoric of sustainability and the outcomes achieved (e.g., Voss & Kemp, 2006)].

A summary of six Maharishi Vedic Science Sustainability Principles and their corresponding sustainability science principle, with a brief explanation, is presented in Table 1. These six Sustainability Principles, synthesised from the published literature on Maharishi Vedic Science, appear relevant in the context of contemporary sustainability themes, however we do not claim they are either exhaustive or definitive but taken together provide a platform for discussing the contribution of Maharishi Vedic Science to thinking about sustainability.

Table 1. *The relation of six fundamental principles of sustainability as identified in Maharishi Vedic Science and principles in contemporary sustainability science.*

Maharishi Vedic Science	Sustainability Science
Sustainability Principle #1: Do not perform actions which potentially lead to an unsustainable, catastrophic future and only then try to correct them but prevent social and environmental problems before they begin (Yoga Sūtra, 2.16).	**Integrity and the Precautionary Principle:** Acting with integrity leads to preventing social and environmental problems before they begin (Gibson, 2001, p. 12 and p. 20).
Sustainability Principle #2: By connecting the "parts" of life, (such as specific thoughts or actions of individuals through to the behaviour of companies or government policy formation) to the "wholeness" of life in the unified field of Natural Law, the field of pure consciousness or pure intelligence, pollution-free progress can be maintained in society (Maharishi, 1994).	**Interconnectedness and Integration:** Fully connected and integrated parts to provide mutually supportive benefits lead to a whole which is more than the sum of the parts (Gibson, 2001, p. 21; Hawken et al., 1999, p. xi); Aristotle is credited with the phrase "the whole is greater than the sum of its parts".
Sustainability Principle #3: By taking recourse to the unified field of Natural Law, the level of pure consciousness or pure intelligence, individuals can align their thinking and behavior to the self-sufficient, self-perpetuating, infinitely balanced level of life, a level of life which is	**Sufficiency and Opportunity (i.e., Capability):** Ensure that everyone has enough for a decent level of life and opportunities (or capabilities) for people to choose what they are able to do and to be (Gibson, 2001, p. 14); a complete description of the Capability Approach, first articulated by Amartya Sen in the

Maharishi Vedic Science	Sustainability Science
never depleted, the level of true sustainability (Maharishi, 1978a). **Sustainability Principle #4:** Life lived in accord with Natural Law—lived in higher states of consciousness—is a progressively sustainable life (Maharishi, 1995a, 1996b). **Sustainability Principle #5:** Due to the reciprocal nature of Natural Law, if a society lives in accord with the laws of nature and does not violate the basic principles of sustainable living then Natural Law will support its efforts and the result will be progress in society (Maharishi (1978b). **Sustainability Principle #6:** As coherence, order and balance are created in both the individual consciousness of its citizens and in the collective consciousness of society, the sustainable qualities of the unified field of Natural Law are naturally displayed in the pollution-free progress of society as a whole (Maharishi, 1982).	1980s, has been advanced by Ingrid Robeyns (Robeyns, 2006). **Equity:** An equitable society, one that treats everyone fairly and in the same way, has a unifying quality; such equity, it can be argued, is attained in higher states of consciousness (Alkire, 2010; Gibson, 2001, p. 16; Wells, 2013a). **Efficiency and Effectiveness:** Living in accord with Natural Law supports sustainable living through naturally doing things right (efficiency) and doing the right thing (effectiveness) (Alkire, 2010, p. 44; Gibson, 2001, p. 18). **Civility, Participation and Transparency:** The sustainable qualities of Natural Law are naturally displayed in a better informed society and the courteous, participatory and transparent actions of all its citizens (Alkire, 2010 p. 44; Gibson, 2001, p. 18; Wells, 2013a, 2013b).

The descriptions of Maharishi Vedic Science Sustainability Principles also make reference to pertinent indicators, taken from the following list of the 12 precursors of sustainability (i.e., harbingers of an unsustainable future, hereafter referred to as P-1, P-2, etc.). These precusors have been identified as fundamental to informing, framing and guiding any meaningful discussion about social and environmental sustainability, irrespective of the sphere of human activity.

Diamond (2005) has also pointed out that the interplay of these and other precursors can in some cases have more serious consequences for a sustainable future than the impact of any one factor in isolation, thereby highlighting an even greater need for viable, practical and sustainable solutions to humanity's short- and long-term problems.

The precursors are: P-1) loss of habitat and ecosystem services; P-2) threats to food and water security; P-3) loss of biodiversity; P-4) soil erosion, contamination and degradation; P-5) reaching energy and fossil-fuel source limits; P-6) reaching freshwater limits; P-7) reaching photosynthetic capacity limits; P-8) widespread advent of toxic chemicals and pollution; P-9) introduction of invasive species; P-10) climate change and global warming; P-11) population growth; and P-12) unsustainable human consumption levels, including waste generation (adapted from Costanza *et al.*, 2007a, p. 525).

It should be noted that precursors P-1 through P-10 are mostly aligned to nature and the built environment, and P-11 and P-12 are aligned to human and social domains, thus the precursors do not encapsulate every harbinger of an unsustainable future.

To answer research question 1), we consider the principles of sustainability in Maharishi Vedic Science by noting that the question of creating a sustainable environment and future for mankind has always been central to Maharishi's teaching.

It would appear reasonable to conclude that when Maharishi declared one of his primary early goals was "to maximize the intelligent use of the environment" (Maharishi, 1974, p. 3), which is part of a "global endeavour to improve the quality of life on earth" (Maharishi, 1974, p. 13), he was speaking broadly about "sustainability".

Maharishi Vedic Science Sustainability Principle #1: Do not perform actions which potentially lead to an unsustainable, catastrophic future and only then try to correct them, but prevent social and environmental problems before they begin. Perhaps the most fundamental sustainability principle highlighted by Maharishi from the Vedic Literature is for mankind to "avert the danger which has not yet come" (Heyaṃ duḥkham anāgatam, हेयं दुःखमनागतम्, *Yoga Sūtra*, 2.16); in sustainability terms, rather than perform actions which potentially lead to an unsustainable, catastrophic future and only then try to correct them, mankind should prevent problems (such as loss of habitat [P-1], loss of biodiversity [P-3], soil erosion, contamination and degradation [P-4], pollution of the environment [P-8], or unsustainable levels of human consumption [P-12]) before they begin. The principle of prevention guides virtually every aspect of Maharishi's teaching in regard to living a sustainable life, irrespective of whether the application applies to general health and well-being, government decision-making and administrative structures, industry and commerce, or the environment.

The application of what Maharishi (1996a, p. 11) calls this "Vedic principle of prevention" extends to individual and collective healthcare (Maharishi, 1996b), to crime prevention and rehabilitation (Maharishi, 1977), and even to the military defense of a nation (Maharishi, 1996a). For example, in the context of creating and maintain a healthy body, Maharishi (1996b, p. 35) explains that "the system of prevention, through knowledge of Natural Law and its applications, naturally inspires the mechanics of rectification of any imbalance. Prevention is the process of restoration of balance; it is an effective procedure for maintaining balance and for protecting the system from the growth of imbalance".

Maharishi Vedic Science Sustainability Principle #2: By connecting the "parts" of life, (such as specific thoughts or actions of individuals through to the behavior of companies or government policy formation) to the "wholeness" of life in the perfect orderliness of the unified field of Natural Law—the field of pure consciousness or pure intelligence—pollution-free progress can be maintained in society. Maharishi (1966, p. 30) introduced axiom 1) when he said an unmanifest field of pure intelligence or pure consciousness "is the essential, basic nature of the mind. But since the mind ordinarily remains attuned to the senses, projecting outward towards manifest realms of creation, it misses or fails to appreciate its own essential nature, just as the eyes are unable to see themselves". Pure consciousness, he goes on to explain, "lies at the root of everything, beyond relative

existence, beyond all forms and phenomena. Because it has its pure and full status in the [transcendental level of life] it lies beyond the realm of time, space and causation, the boundaries of the ever-changing, phenomenal field of creation. [Pure consciousness] enjoys, always has and always will enjoy, the status of its absolute purity. It enjoys the status which knows no change" (Maharishi, 1966, p. 31).

For this reason, the Vedic Literature states pure consciousness can be described as "the Self established in itself" (Tadā drashtuḥ swarūpe avasthānam, तदा द्रष्टुः स्वरूपेऽवस्थानम्, Yoga Sūtra, 1.3); it is the fourth state of human consciousness, after waking, dreaming and sleeping, and is "one reality without a second" (Ekam evādvtīyam, एकमेवाद्वितीयम्, Chhāndogya Upanishad, 6.2.1). Thus, pure consciousness can be described as both the unmanifest, unbounded, silent source of the human mind as well as the source of physical creation (i.e., the home of all the laws of nature, Natural Law), an identification which has been thoroughly elaborated elsewhere by theoretical physicists and others (e.g., Hagelin, 1987, 1989). In this sense, pure consciousness, whether viewed as the source of thought, speech and action or the home of all the laws of nature responsible for all the forms and phenomena in creation, can in the words of Maharishi Vedic Science be seen as the "dwelling of the Administrator, the Creator" (Īshā vāsyam idaṃ sarvaṃ yat kin cha jagatyāṃ jagat, ईशा वास्यमिदं सर्वं यत्किञ्च जगत्यां जगत्, Ishā Upanishad, 1); elsewhere, Maharishi (1995a, p. 4) has described pure consciousness, the silent administrator of life, as the "unified field of Natural Law" and the "eternal continuum of life" (Maharishi, 1977, p. 23).

The "whole field of Natural Law", Maharishi (1994, p. 297) elaborates, "is so complex that it is not possible to select any specific law without taking into consideration the total involvement of all the laws of nature. All the laws of nature are so intimately connected that the isolation of any one law will create imbalance in any field of life". He explains that the only way to take full advantage of what he calls "the connectedness of 'part with the whole' is to enliven the total potential of Natural Law in one's awareness and spontaneously initiate all thought and action from this level of the total potential of Natural Law. For all the thinkers and researchers in any area of science and technology, it is vital to maintain wakefulness of the total potential of Natural Law—self-referral consciousness. Only this will ensure purity of principles on the theoretical level of scientific research and pollution-free technology" (Maharishi, 1994, pp. 297-298).

Consistent with other traditions of knowledge (e.g. Chapple, 2006; Kumar & Narayan, 2003), the Vedic understanding that the world is interconnected and reciprocity exists in nature can be traced to this fundamental experience and view of the world; as Heaton (2016, p. 126) has pointed out, some contemporary thinkers have arrived at exactly the same conclusion. He cites Erich Jantsch who describes a "conscious universe which is self-organising", David Bohm who describes the universe as "an unbroken whole in which information about the whole—the implicate order—is enfolded in every part", and Willis Harmon who maintains ecology "goes beyond the contemporary scientific framework to a subtle awareness of the oneness of all life, the interdependence of its multiple manifestations, and the irresistibility of its tendencies toward evolution and transformation", an awareness which leads to a sustainable future.

In this sense, pure consciousness can be thought of as a self-sufficient level of Natural Law which is "self-perpetuating" (Maharishi, 1995a, p. 354) and "can eternally sustain itself" (Maharishi, 1996a, p. 26), but "if the part is not connected with the whole, then pollution is inevitable", Maharishi (1994, p. 299) explains. The "only way to have pollution-free progress", Maharishi (1994, p. 299) suggests, is "through new research [which] comprehends how each area of infinite variety in creation always expands but does not produce pollution, because in this theme of evolution of nature the part is always connected to the whole, so total organising power of Natural Law is persistently available to every stage of evolution of everything". Maharishi (1995b, p. i) therefore goes on to explain that pure consciousness has several important attributes; he maintains that it can be thought of as "pure knowledge…the state of awareness in which consciousness knows itself alone, when awareness has nothing else but itself in its structure. This state of pure knowledge, when knower, known and process of knowing are in the self-referral state, is that all-powerful, immortal, infinite dynamism at the unmanifest basis of creation".

In addition to being the home of all the laws of nature, pure consciousness has been described as having the following qualities: infinite correlation (i.e., all aspects of nature's intelligence are completely interrelated), infinite creativity, perfect order, purifying, and infinite balance; in short, pure consciousness is a field of unlimited prosperity and abundance (Maharishi, 1991a, p. 285). From a sustainability perspective, the Vedic Literature even describes pure consciousness as the source of the five "ecology" elements (along with the mind, intellect and ego of human beings): earth, water, fire, air, ether, mind, intellect and ego, which are described as the eightfold nature of pure consciousness (Bhūmir āpo 'nalo vāyuḥ khaṃ mano bhuddhir eva cha ahankāra itīyaṃ me bhinnā prakṛitir ashtadha, भूमिरापोऽनलो वायुः खं मनो बुद्धिरेव च अहङ्कार इतीयं मे भिन्ना प्रकृतिरष्टधा, Bhagavad-Gītā, 7.4). In this context, pure consciousness could be described as the "unified field of innate sustainability", the home of Natural Law and hence the "source of nature's sustainability", where everything is fundamentally balanced, ordered and self-perpetuating.

Maharishi is by no means the only one to speak of the need to "change consciousness" or "raise consciousness". For example, James Gustave Speth, Dean of the Yale School of Forestry & Environmental Studies has stated: "Many of our deepest thinkers and many of those familiar with the scale of the challenges we face have concluded that the changes needed to sustain human and natural communities can only be achieved in the context of the rise of a new consciousness" (cited in Leiserowitz & Fernandez, 2008, p.

5). In this sense, "consciousness" may be described as something akin to a social or ecological awareness, a type of environmental ethic; indeed Speth himself goes on to describe it as a "…transformation of the human heart...[more of an] intellectual process of coming to see the world anew and deeply embracing the emerging ethic of the environment and the old ethic of what it means to love thy neighbor as thyself" (p. 5).

However, Maharishi uses of the word "consciousness" to mean something more holistic and more fundamental—an awareness of awareness itself, an awareness of the self-referral level of unbounded, eternal wakefulness or pure intelligence which lies at the basis of all manifest creation as the source of thought and the source of all the forms and phenomena in creation. This intelligence keeps the planets orbiting the sun and is the same intelligence that keeps our body functioning. Thus, pure consciousness can be seen as another name for nature's intelligence, that intelligence responsible for maintaining orderliness throughout creation. For ourselves, consciousness can be viewed as an "inner awareness", an inner or "holistic intelligence"—an internal knowingness that we can become familiar with in our everyday lives, and consequently use in our interactions with others and our environment.

Maharishi also states that because "pure consciousness is a field of infinite correlation pervading the whole of nature…any negative or positive impulse at any single point is instantly transmitted to the entire field and accordingly [that impulse] damages or enriches all life everywhere…. The relationship between man and nature is indivisible" (Maharishi, 1978a, p. 9). He goes on to point out that "all the laws of nature are so intimately connected that the isolation of any one law will create imbalance in any field of life…if the part is not connected to the whole, then pollution is inevitable" (Maharishi, 1994, pp. 297-299). For this reason, pure consciousness is described in the Vedic Literature as that one unbounded level of life which is worth knowing above all others, and thus "Know that [pure consciousness] by knowing which everything else can be known" (Kasminnu bhagavo vigyāte sarvam idaṃ vigyātaṃ bhavatīti, कस्मिन्नु भगवो विज्ञातेसर्वमिदं विज्ञातं भवतीति, Muṇdaka Upanishad, 1.1.3).

Maharishi Vedic Science Sustainability Principle #3: By taking recourse to the unified field of Natural Law, the level of pure consciousness or pure intelligence, individuals can align their thinking and behavior to the self-sufficient, self-perpetuating, infinitely balanced level of life, a level of life which is never depleted, the level of true sustainability. Perhaps most importantly, the level of pure consciousness can be directly experienced and its qualities spontaneously harnessed through practice of the Transcendental Meditation program, a phenomenon verified by innumerable research studies (for example in the early work of Wallace [1970] and Orme-Johnson [1973]). This practice "provides a systematic procedure by which the [conscious thinking] mind is allowed to settle naturally into a state of restful alertness, the self-referral state of pure consciousness, in which the mind is completely silent and yet awake. In this way, the state of pure consciousness, which has been the subject of philosophical speculation throughout the centuries, can now be investigated on the basis of direct experience" (Chandler, 2011, p. 409).

In this way, Maharishi (1986, p. 30) explains that the creative process "owes its emergence and draws its vitality from that self-referral performance of pure intelligence. This self-referral state of pure consciousness, while remaining uninvolved with the creative process in nature, is an infinitely dynamic, inexhaustible source of energy and creativity. On that basis the whole of creation goes on perpetually in its infinite variety, multiplying itself all the time". Maharishi further points out that the qualities of pure consciousness, many of which are relevant to a discussion of sustainability, can thereby be enlivened in the conscious thinking mind of every individual as a result of practicing the Transcendental Meditation and further enhanced through the TM-Sidhi program.

A range of sustainability outcomes have been observed in relation to this phenomenon, including improved physiological health and increased longevity (e.g., Alexander *et al.*, 1989; Argawal & Kharbanda, 1981; Barnes *et al.*, 2005), reduced drug and alcohol use and dependence (e.g., Aron & Aron, 1983), and reduced anxiety, depression and anger (e.g., Eppley *et al.*, 1989; Hartani & Hemni, 1990) for individuals who practice Transcendental Meditation when compared to controls. Maharishi (1991a, p. 285) therefore also explains that through the Transcendental Meditation program, "when individual awareness is grounded in the state of pure consciousness, the infinite creativity of the field of pure intelligence is available in every thought and action. All possibilities are open to the individual, whose every impulse of desire is supported by the unbounded intelligence and creativity of Nature", a conclusion leading us to the second axiom of Vedic Science, which states that once established on the level of pure consciousness, every individual can rise to "higher states of consciousness" (Alexander & Boyer, 1989; Maharishi, 1995c). "Only such unity with nature", Maharishi (1978a, p. 9) explains, "can guarantee that in our actions we will always protect nature and in turn be protected by it".

Maharishi Vedic Science Sustainability Principle #4 states: Life lived in accord with Natural Law—lived in higher states of consciousness—is a progressively sustainable life. Maharishi reveals that there are three "relative" states of consciousness normally lived by each individual on a daily basis: waking state of consciousness (*Jāgrat chetana*, जाग्रत् चेतन, in the language of Vedic Science); deep sleep (*Swapn chetana*, श्वप्न् चेतन); and the dream state of consciousness (*Sushupti chetana*, शुशुप्ति चेतन). After learning the practice of Transcendental Meditation, human experience expands to include the direct experience of a fourth state of consciousness, pure consciousness (*Turiya chetana*, टुरिय चेतन). As a result of repeated meditation, and the subsequent alternation of silence with dynamic activity, a fifth style of consciousness emerges called Cosmic Consciousness (*Turyatit chetana*, टुर्यतित् चेतन), a state of human enlightenment. In the fifth state of consciousness, the qualities of pure consciousness are lived on a permanent

basis, not merely experienced howsoever briefly during Transcendental Meditation, and as a result every thought, speech and action is now conducted in harmony with the home of all the laws of nature, in accord with Natural Law (Maharishi, 1977). Maharishi (1991a, p. 284) has therefore declared: "the full development of human consciousness is the highest expression of this knowledge".

The obvious benefit of such a life is that the qualities of pure consciousness, which were lively in the silence of consciousness during waking state of consciousness, have now been fully activated and put to use for purposeful achievement and fulfilment in Cosmic Consciousness, a phenomenon of great consequence for sustainable living. The physiological and psychological benefits of living higher states of consciousness have been reported elsewhere (e.g. Fergusson & Bonshek, 2015, pp. 373-411), and indeed Ṛk Veda states that for those established in pure consciousness, the infinite organizing power of the Creator [i.e., Natural Law] becomes the "charioteer" of all action (Yatīnāṃ Brahmā bhavati sārathiḥ, यतीनां ब्रह्मा भवति सारथिः, Ṛk Veda, 1.158.6); that is, Natural Law spontaneously guides life in an "evolutionary", progressive, prosperous and sustainable direction. As a consequence, Maharishi (1982, p. 4) maintains that "Natural Law will support life everywhere, seasons will come in time, crops will be abundant, peace and happiness will reign through society". Such a life is "organized from within itself so that the infinite diversity of the universe is sustained in a unified state of absolute order and harmony" (Maharishi, 1995a, p. 15). Thus, a life lived in accord with Natural Law—lived in higher states of consciousness—is what we might term a "progressively sustainable life", a finding supported by an extensive body of empirical and experiential evidence (Alexander & Boyer, 1989; Gelderloos & van den Berg, 1989).

Maharishi Vedic Science Sustainability Principle #5: Due to the reciprocal and "indivisible" nature of Natural Law, if a society lives in accord with the laws of nature and does not violate the basic principles of sustainable living then Natural Law will support its efforts and the result will be progress in society. Maharishi (1978b) goes on to point out the relationship between individual and collective consciousness, and the importance of developing "coherence" or orderliness in collective consciousness (i.e., the totality of all the individuals' consciousness in any given social group) to create harmony and balance on a societal level. This phenomenon occurs particularly as a result of the practice of the TM-Sidhi program, an advanced, experiential aspect of Maharishi Vedic Science which has been described as "a technique to enliven and activate [pure consciousness] and develop the habit of projecting thoughts and action from this simplest state of human awareness, enabling the individual to fulfil desires effortlessly with the full support of all the laws of nature" (Gelderloos & van den Berg, 1989, p. 375).

Maharishi maintains that as optimal states of psychophysiological functioning grow in all areas of individual life—such as in thinking, perception and behavior—so, too, does the individual's contribution to the harmony and integrity of society increase as a result of the reciprocity principle of nature, especially when the TM-Sidhi program is practiced in groups, a finding supported by extensive scientific evidence (for an example of this phenomenon in the Middle East, see Orme-Johnson *et al.*, 1988). He explains that "our experience around the world has shown that when individuals awaken Natural Law in their awareness, and when they awaken Natural Law together in a group, the radiance of a very powerful evolutionary effect is the result. That means people can make Natural Law more powerful…. When the TM-Sidhi program is practiced in groups, Natural Law can be revitalized, and can be made to serve the community more effectively" (quoted in Gelderloos & van den Berg, 1989, p. 390). In the Vedic Literature, the phrase which encapsulates this principle is: he who cares for Natural Law, Natural Law will care for him (Dharmo rakshati rakshitaḥ, धर्मो रक्षति रक्षितः, Manu Smṛiti, 8.15).

Maharishi Vedic Science Sustainability Principle #6: As coherence, order and balance are created in both the individual consciousness of its citizens and in the collective consciousness of society, the sustainable qualities of the unified field of Natural Law are naturally displayed in the pollution-free progress of society as a whole. On an international level, Maharishi (1982, p. 7) concludes that "to be meaningful and effective, collective self-reliance must be nothing less than the coming together of equally self-reliant nations. Such nations ask nothing of others and need not make collective efforts to gain strength to prevent other groups from dominating or exploiting them. Collective self-reliance based on national self-reliance is a celebration among equals". However, he goes on to point out that "if every member of the group is not self-reliant, each drags the other down just as shipwrecked people drown one another by clinging to their friends".

Due to the Vedic discoveries of the nature and function of pure consciousness, the means of gaining higher states of consciousness, and the relationship between individual and collective consciousness—each promoted through of the practice of the Transcendental Meditation and TM-Sidhi program—a range of individual, social and environmental benefits have been posited and observed, findings which have been summarized in Orme-Johnson's (1995) annotated bibliography of 508 research studies and elsewhere (e.g., Dillbeck, 2011). These include, but are not limited to, on a social level an improved quality of life as measured by decreased crime and violence, improved collective health, and an improved national mood, through to improvements in economic indicators and increased optimism and confidence and prosperity. We will now turn to the application of these principles as they apply to sustainable praxis.

4. Sustainability Practice in Maharishi Vedic Science

Maharishi's national and international initiatives over more than 50 years have included the implementation of

educational and healthcare programs, which have affected the lives of millions of people throughout the world (e.g., Maharishi, 1995c, 1996a; Sharma, 1993), corporate development programs to improve the working lives of individuals and the performance of companies (e.g., Swanson & Oates, 1989), rehabilitation programs to reduce crime, drug abuse, violence and recidivism (e.g., King, 1987a; Maharishi, 1990), economic, governmental and administrative programs, including poverty removal initiatives to promote social and national balance and economic well-being for everyone on the planet (e.g., King, 1987b; Maharishi, 1977, 1993, 1996b), and programs to create world peace and prosperity in the family of nations (e.g., Maharishi, 1987, 1991a, 1991b; Oates, 1976). Many of these initiatives are related to agriculture, food production and security, and "economic self-sufficiency" (Maharishi, 1991a, pp. 37-44), and can collectively be referred to as a "Vedic sustainable development" program.

The identification of such initiatives suggests a profound connection between Maharishi Vedic Science and sustainability practices, and clearly advocates a direct contribution to a sustainable future for humanity, particularly when Maharishi (1991a, p. 57) says "creating pollution-free industry and a noise-free, pollution-free healthy atmosphere through [the] profuse use of solar energy—creating a post-industrial era free from the stress and strain of the industrial age" is one of the aims for his Vedic Science. Therefore, to answer research question 2), we examine six contemporary applications of Maharishi Vedic Science and assess their relevance to the principles of sustainability described above:

Maharishi Vedic Organic Agriculture. Fagan (1995) and Scaroni-Fisher and Fisher (2011) have documented the Maharishi Vedic Science approach to agriculture, farming and horticulture (what Maharishi [1994, p. 274] collectively refers to as "sustainable farming techniques" which result in "fresher and purer food"), James (2011) has focused specifically on how it provides a solution to the widespread use of toxic chemical pesticides, and Konhaus (2011) has even presented a detailed analysis of the certification standards associated with Maharishi Vedic organic agriculture. Indeed, many of the precursors to an unsustainable future, such as alarmingly reduced levels of food and water security (P-2), loss of biodiversity (P-3), reduced accessibility to freshwater (P-6), and the introduction of invasive species (P-9), bear directly upon the sustainability of modern farming practices, and a compelling case for promoting greater agricultural sustainability has been made elsewhere (e.g., Pretty, 2008).

After agricultural principles developed by Maharishi (1978b, pp. 586-589), which include "the dominant concern of agriculture will be on developing the consciousness of the farmer", Wallace (2011, pp. 189-190) contrasts the practice of conventional agriculture with those of Vedic agriculture by showing: 1) where conventional agriculture elevates the importance of the seed, the soil and the weather, the Vedic approach rather focuses on developing the consciousness of the farmer; 2) where floods, storms, plagues and droughts cause famines and suffering, the Vedic approach aligns farming to Natural Law and creates balance and harmony in nature, resulting in seasons and rain coming on time and greater agricultural abundance; 3) where conventional agricultural practices focus on the most efficient methods for maximizing profits but are less concerned with quality of the food (i.e., what is important is that it sells), the Vedic approach focuses on improving the farmer's consciousness and thereby on the quality of food produced; 4) where conventional agriculture uses industrialized methods, including the widespread application of chemical fertilizers (i.e., P-8), pesticides (P-8), and genetically modified organisms that are harmful to humans and the environment, the Vedic approach (which also makes "full use of modern mechanized farming technology", according to Maharishi [1991a, p. 37]) is founded on principles of purity and self-sufficiency, and promotes sustainability through organic farming methods which bring only "life-supporting" effects to humans and the environment; 5) where farmers typically attempt to solve problems in farming by manipulating isolated, surface values of the farm through a "reductionist approach", the Vedic farmer utilizes the qualities of infinite correlation, interconnectedness, and support of Natural Law to prevent the birth of problems, which can be described as a more "holistic approach" to farming; and 6) where conventional agriculture has failed to eradicate world hunger and poverty because its focus is on large-scale agribusiness which mostly benefits multinationals and wealthy landowners, the Vedic approach has been shown to eradicate hunger and poverty by resorting to ethical and cultural values in society leading to the use of traditional organic farming methods, creating agricultural self-sufficiency and hence economic balance. These principles and practices of farming, horticulture and agriculture are being applied in Nepal, recently touted as the world's first "organic" country (Saha Astitva Foundation, 2010), and Butan (PRWeb, 2013), among other locations, and include the manufacture of commercial Maharishi Honey products (Tokyo Food Sanitation Association, 2003).

Vedic Forestry. Scaroni-Fisher and Fisher (2011, p. 269) maintain that because of "exponential population growth [i.e., P-11] and modern technology, the future health of the world's forests hangs in a delicate balance. Deforestation and the industrial pollution [i.e., P-8] that weakens the forest have grown quickly over the past few decades. How the profession of forestry responds to these challenges today will determine its effectiveness tomorrow". They, too, maintain that a new knowledge (and new technology), encompassing "all layers of life—mind, body, behavior and environment—is required for new approaches that will solve the challenges and promote progress in the field of forestry" (Scaroni-Fisher & Fisher, 2011, p. 270). Uniquely, Scaroni-Fisher and Fisher (2011, pp. 272-273) also provide an organizational tool for the industry, called a "Unified Field Chart", which frames the discipline of forestry in such a way as to show both its applied facets and their relationship to the unified field of Natural Law as well as the role Transcendental Meditation

plays in aligning the forester's consciousness to Natural Law. For example, they suggest that the forester, the forest and the dynamics of the forest form the three fundamental elements of the discipline of forestry.

According to Scaroni-Fisher and Fisher (2011), for forestry to be effective, the forester has to be well-versed in a wide variety of forestry sciences, including timber, wildlife and fire management. Similarly, the forester must know and understand the forest itself, including plant physiology, stand formations and forest biomass accumulation of the specific forest in which they work. These two aspects of the discipline (i.e., the forester and the forest) are then coupled with the "dynamics of the forest", which includes the forest life of microorganisms, fungi and vertebrates and invertebrates, as well as soil and weather formations, biotic and abiotic interactions, and developmental and climatic impacts on the forest, to map the entire discipline. Due to this enormous complexity of forestry, Scaroni-Fisher and Fisher (2011, p. 280) maintain it is vital that the awareness of the forester is "in tune with Natural Law [and he or she] knows how to select the best course of action when different interests are involved". To achieve this level of comprehensive awareness, they acknowledge that the sustainability principles of Maharishi Vedic Science are crucial to establish a long-term, viable future for forestry.

According to Kumar (2008), these practices were widespread in ancient India and date back more than 5,000 years. He contends the standard narrative of history suggests sustainable forest management is a "Western phenomenon", but evidence shows it documented in sections of the Vedic Literature called the Aranyakas (which literally means "in the forest") and in the Brihadaranyaka Upanishad (or "great fire text"). In fact, Kumar shows the foresters of the Vedic tradition had identified and maintained three types of forest called *mahavan* (महवन् or "great forest", comparable to contemporary national parks), *shrivan* (श्रिवन् or "forest of prosperity", comparable to contemporary "production forests" or forests which provide goods and services, such as timber plantations), and *tapovan* (तपोवन् or "forest of religion", i.e., places held to be sacred and must never be touched); in ancient times, each village (administered by a *panchavati* [पन्चवति] or committee of five elders, each representing and responsible for maintaining one of the five "ecology" elements—space, air, fire, water and earth in that area) was responsible for maintaining all three types of forest in its region, including the maintenance of woodlands around houses and in communal areas. Such sustainable forest management represents a model for maintaining balance in nature and life lived in accord with Natural Law; a Vedic goal is to see the entire world treated like a sustainable forest, thereby keeping "the world-forest intact" (Kumar, 2008, p. 303).

Creating a Global Green Revolution. Maharishi (1991a) has articulated a program for creating "heaven on earth" which includes what he calls a "global green revolution". In this program, creating sustainable national outcomes and "balance in nature" in less-developed countries through poverty removal, rural and urban development, eradication of poverty through proper education, and creating economic balance through a "global trading system, are cornerstones in his plan to "reconstruct the whole world". Such a plan for "glorification of outer life" is predicated on the "glorification of inner life", achieved by developing higher states of consciousness to gain support of nature through the various technologies of Maharishi Vedic Science.

The relationship between poverty and sustainability has always been central to sustainability science (World Commission on Environment and Development, 1987), and the link between rural poverty and environmental degradation has been the subject of significant global research (e.g., in Iran by Karami & Hayati, 2005). Similarly, the link between multidimensional poverty, including poverty in health and education, and sustainability has been examined (Alkire & Sumner, 2013), and many researchers have gone further by stating that "planetary stability" and human wellbeing are both functions of a reduction in global poverty (e.g., Griggs *et al.*, 2013). Thus, Maharishi's (1991a) claim for a global green revolution through education is not unfounded, and his conclusion that, as a result of his program, "life will be so pure; the environment so clean, fresh, and unpolluted, and human brain physiology will function in such an uncomplicated way that no one will ever lose balance, no one will make a mistake" justifies such an effort.

Non-genetically Modified, Pure Food. It is reasonable to state that Maharishi is opposed to genetically modified food. The reasons for this position center on a colloquial expression from the Vedic tradition which maintains the quality and functionality of the human mind depend on the quality of food one eats (Jaisā khāve ann vaisā bane mann, जैसा खावे अन्न वैसा बने मन्न). For this reason, as early as the 1960s, Maharishi (1966, p. 124) contended that "food has a very great influence on the mind because everything we eat and drink is transported by the blood which sustains the nervous system. Therefore the quality of food [we eat] has a great deal to do with the quality of the mind". In short, if we want to create a sustainable future for humanity, we have to be eating pure, organic and non-genetically engineered food and we have to access to, and only drink, clean water in order to function appropriately and in accord with nature.

Fagan (1995; 2011) has written extensively on this topic, specifically on the hazards associated with genetically modified organisms in food from the Vedic perspective, and has investigated the impact of this practice in the context of environmental pollution and disruption. For example, he suggests that genetic engineering in agriculture results in a significant disintegration of local and global ecosystems, leading to the loss of biodiversity (P-3) and disruption of the food chain, including reductions in soil fertility (i.e., P-4) and the weakening or destruction of species that are environmentally or economically crucial to human wellbeing (Fagan, 1995, pp. 102-103). Moreover, he posits a relationship between the increase in carcinogenic and mutagenic agrichemicals and water pollution (P-8) which

leads to an increased incidence of cancer, birth defects and other illnesses, and cites evidence for the creation of new plant diseases, pests and weed varieties that are resistant to antibiotics, pesticides and herbicides (Fagan, 1995, p. 103).

Fagan (1995) goes on to provide specific risk evidence associated with a genetically modified bacterium (*Klebsiella planticola*) used in ethanol production which competes with naturally occurring microorganisms that are important to soil fertility. Specifically, *K. planticola* suppresses the activity of mycorrhizal fungi which help plants take up nitrogen and other nutrients from soil, thus drastically altering the complex balance of the organic and inorganic properties of soil, resulting in a particularly adverse impact on plants grown in the soil (Holmes *et al.*, 1999). With news headlines like "Klebsiella planticola—the gene-altered monster that almost got away" and "How a biotech company almost killed the world" it is clear Fagan is not alone with his concerns, although there has been debate as to the veracity of claims about *K. planticola* (e.g., Krebs, 2000).

Maharishi Vāstu: Sustainable Architecture and Town Planning. Application of the sustainability principles of Maharishi Vedic Science has found significant expression in so-called "unified field-based" architecture and town planning (e.g., Institute of Vedic City Planning, 2013; Maharishi Vedic University, 1998; Scaroni-Fisher & Fisher, 2011). Derived from Sthāpatya Veda, one the 40 aspects of Vedic Literature and a discreet discipline of Maharishi Vedic Science, Maharishi Vāstu is the science of design and construction in accord with Natural Law, and represents one of what Maharishi calls "the five pillars" of sustainable health (Maharishi Vedic University, 1998, p. 2).

Several core ideas drive this discipline, but all are directed at creating an effect of sustainability in the lives of a building's inhabitants; these include: orientation of structures toward the sun (usually toward the eastern morning sun) because the "strongest [salutary] influence of Natural Law comes from the sun's energy" (Maharishi Vedic University, 1998, p. 4); the placement and dimensions of rooms, doors and windows, as well as the length, width and elevation of the building; and shape and slope of the land (particularly in relation to the sun and water bodies) calculated individually using ancient mathematical formulas found in Vāstu Vidya (or "knowledge of Vāstu") derived from Sthāpatya Veda (the Upaveda or "subsidiary Veda" of Atharva Veda, as cited above). Other highlighted sustainability features include deep considerations of energy types and consumption, "healthy" building materials, environmentally friendly heating and cooling systems, and sustainable water and waste management (Scaroni-Fisher & Fisher, 2011). A great many building types have been designed and constructed according to these principles of sustainable architecture. For example, Bonshek *et al.* (2009, pp. 251-270) have reported on a range of residential and commercial structures that the authors call "holistic architecture", including a cancer clinic in Bakersfield, California, a university student center in Fairfield, Iowa, and two commercial office towers in Bethesda, Maryland; design and construction using these principles even extend to a "Vedic Observatory" in Iowa, which is said to represent "the fundamental structure of physical creation, the physiology, and the universe" (p. 190).

While many of these concepts may seem foreign to the Western reader, research on Maharishi Vāstu has begun to reveal the importance of these architectural principles. For example, Benedetti (2001) has shown that the orientation of hospitalized patients to the morning sun plays a role in length of time spent in a hospital, and Travis *et al.* (2005) have shown that house orientation is positively correlated to the prosperity of a home's occupants and their mental health; even the orientation of a bed when sleeping affects mental states such as depression and anxiety (Travis *et al.* (2005). Moreover, consistent with today's "green technologies", Maharishi Vāstu utilizes a range of what are both traditional and contemporary sustainability practices. These include the incorporation of "green" (i.e., non-toxic) and energy-efficient construction materials, site selection with reference to auspicious environmental parameters such as purity or cleanliness of soil, generous green spaces and adequate fresh air and cross-ventilation, the use of renewable energy sources (solar and wind are favored), recycling of waste, including composting, and other practices that align individual life with the laws of nature and the natural environment (Maharishi Global Construction, 1997).

Maharishi Vedic City. While a number of cities have been cast as "sustainable cities" or "eco-cities" (e.g., the Tianjin Eco-City [Caprotti, 2014]), the example of Maharishi Vedic City in Iowa, USA, is unique because each of the aforementioned Vedic practices have been integrated into the city's Constitution, and each of the four Maharishi Vedic Science axioms and six sustainability principles cited above underpin daily life in the city (Lee, 2001; Lydersen, 2004). For example, Maharishi Vedic City has passed a resolution which bans the sale of non-organic, genetically-modified food within its city limits, and Maharishi Vedic Agricultural methods have been integrated into greenhouse vegetable and fruit production. Moreover, all 300+ homes and office buildings in Maharishi Vedic City have been designed according to the principles of Maharishi Vāstu architecture. Thus, reasserting the importance of Maharishi Vedic Science Sustainability Principle #1, Maharishi concludes that "Vedic city planning uses principles of auspicious Vāstu. Any city properly designed does not allow entry of negative influences from outside. This knowledge should be in every system of planning so that the city is saved" (Maharishi Vedic University, 1998, p. 38).

5. Conclusion

In this paper we have introduced Maharishi Vedic Science and have shown that its principles in research question 1) and practices in research question 2) are largely consistent with contemporary themes of sustainable living and development. We have shown that Maharishi Vedic Science identifies the foundations of sustainable living in the domain of consciousness, in the unified field of Natural Law. Moreover,

Maharishi Vedic Science has developed and applied a range of personal and collective technologies for developing higher states of consciousness and for generating coherence in the collective consciousness of the nation, leading to greater balance and harmony between individuals and their environment. However, the core sustainability tenet of Maharishi Vedic Science is based upon the aforementioned need to "avert the danger which has not yet come".

Maharishi Vedic Science has gone further and identified a number of specifically fundamental application areas where its sustainability principles can be applied, including in agriculture, forestry, food production and architecture, each finding expression in Maharishi Vedic City, a recently incorporated city in the United States which is been designed to operationalize Maharishi's principles of sustainability. Thus, in addition to Maharishi Vedic Science being called a "science of consciousness", it might just as easily be called a "sustainability science", as sustainability lies at the core of its mission to transform the future of humanity in which the life of everyone and every group is lived in accord with all the laws of nature.

For this reason, Maharishi has pointed out that the Vedic Literature declares the possibility for Rām-rāj duḥkh kāhu na vyāpa (राम राज दुःख काहु न व्यापा), Rāma Charita Mānasa, Uttara Kāṇda, 20.1): where Natural Law is lived, suffering belongs to no one, and in such a world, the trees in the forest are ever full of flowers and fruit, the air is cool, fragrant and splendidly mild, bees are laden with honey and make a pleasant humming, the earth is ever clothed with crops, and every river flows with an abundance of refreshing water—cool, pure and delicious to the taste. The sea remains within its bounds, the moon floods the earth with her radiance, the sun gives as much heat as is necessary, and the clouds poured forth showers (*Rāma Charita Mānasa*, *Uttara Kāṇda*, 20.1-4; 22.1-4; 23.1). Such a world, asserted by Maharishi to be possible through his Vedic Science, is a truly sustainable world.

References

[1] Alexander, C. N., and Boyer, R. W. (1989). Seven states of consciousness: Unfolding the full potential of the cosmic psyche in individual life through Maharishi's Vedic Psychology. *Modern Science and Vedic Science*, *2* (4), 325-371.

[2] Alexander, C. N., Langer, E. J., Newman, R. I., Chandler, H. M., and Davies, J. L. (1989). Transcendental Meditation, mindfulness, and longevity: An experimental study with the elderly. *Journal of Personality and Social Psychology*, *57* (6), 950-564.

[3] Alkire, S. (2010). *Human development: Definitions, critiques, and related concepts*. Human Development Research Paper 2010/01, Oxford Poverty & Human Development Initiative, Oxford Department of International Development, Queen Elizabeth House, University of Oxford.

[4] Alkire, S., and Sumner, A. (2013). Multidimensional poverty and the post-2015 MDGs. *Development*, *56* (1), 46-51.

[5] Argawal, B. L., and Kharbanda, A. (1981). Effect of Transcendental Meditation on mild and moderate hypertension. *Journal of the Association of Physicians of India*, *29*, 591-596.

[6] Aron, A., and Aron, E. N. (1983). The pattern of reduction of drug and alcohol use among Transcendental Meditation participants. *Bulletin of the Society of Psychologists in Addictive Behaviors*, *2* (1), 28-33.

[7] Barnes, V. A., Schneider, R. H., Alexander, C. N., Rainforth, M., Staggers, F., and Salerno, J. (2005). Impact of Transcendental Meditation on mortality in older African Americans with hypertension—eight-year follow-up. *Journal of Social Behavior and Personality*, *17* (1), 201-216.

[8] Benedetti, F. (2001). Morning sunlight reduces length of hospitalization in bipolar depression. *Journal of Affective Disorders*, *62*, 221-223.

[9] Bonshek, A., Bonshek, C., and Fergusson, L. (2009). *The big fish: Consciousness as structure, body and space*. Amsterdam and New York: Rodopi.

[10] Burger, J. R., Allen, C. D., Brown, J. H., Burnside, W. R., Davidson, A. D., Fristoe, T. S., Hamilton, M. J., Mercado-Silver, N., Nekola, J. C., Okie, J. G., and Zuo. W. (2012). The macroecology of sustainability. *PLoS Biology*, *10* (6), e1001345.

[11] Caprotti, F. (2014). Critical research on eco-cities? A walk through the Sino-Singapore Tianjin Eco-City, China. *Cities*, *36*, 10-17.

[12] Chandler, K. (2011). Modern science and Vedic science: An introduction. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 397-430], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[13] Chapple, C. H. (ed.) (2006). *Jainism and ecology: Nonviolence in the web of life*. Motilal Banarsidass Publishers, Delhi, India.

[14] Chapple, C. H. (ed.) (2009). Dharma for the earth. Proceedings of two of the sessions at the *Fourth Danam Conference*, American Academy of Religion, Washington, D. C., 17-19 November 2006, Deepak Heritage Books.

[15] Ciegis, R., Ramanauskiene, J., and Martinkus, B. (2009). The concept of sustainable development and its use for sustainability scenarios. *Engineering Economics*, *62* (2), 28-37.

[16] Clark, W. C., and Dickson, N. M. (2003). Sustainability science: The emerging research program. *Proceedings of the National Academy of Sciences* (PNAS), *100*, 8059-8061.

[17] Cort, J. E. (2006). Green Jainism? Notes and queries toward a possible Jain environmental ethic. In C. H. Chapple (ed.), *Jainism and Ecology: Nonviolence in the Web of Life* [pp. 63-94], Motilal Banarsidass Publishers, Delhi, India.

[18] Costanza, R., Graumlich, L., Steffen, W., Crumley, C., Dearing, J., Hibbard, K., Leemans, R., Redman, C., and Schimel, D. (2007). Sustainability or collapse: What can we learn from integrating the history of humans and the rest of nature? *AMBIO: A Journal of the Human Environment*, *36* (7), 522-527.

[19] Diamond, J. (2005). *Collapse: How societies choose to fail or succeed*. New York: Viking.

[20] Dillbeck, M. C. (1989). Experience of the Ved—Realization of the cosmic psyche by direct perception: Opening individual awareness to the self-interacting dynamics of consciousness. *Modern Science and Vedic Science*, *3* (2), 117-152.

[21] Dillbeck, M. C. (Ed.) (2011). *Scientific research on Maharishi's Transcendental Meditation and TM-Sidhi program: Collected papers, volume 6*. Maharishi University of Management Press, Fairfield, Iowa.

[22] Egmose, J. (2016). *Action research for sustainability: Social imagination between citizens and scientists*. London and New York: Routledge.

[23] Eppley, K., Abrams, A., and Shear, J. (1989). Differential effects of relaxation techniques on trait anxiety: A meta-analysis. *Journal of Clinical Psychology*, *45* (6), 957-974.

[24] Fagan, J. (1995). *Genetic engineering—the hazards; Vedic engineering—the solutions*. Fairfield, Iowa: Maharishi International University Press.

[25] Fagan, J. (2011). Feeding the world without genetic engineering or chemical poisons—Maharishi Vedic approach to sustainable agriculture. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 107-121], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[26] Fergusson, L., and Bonshek, A. (eds.). (2015). *The unmanifest canvas: Maharishi Mahesh Yogi on the arts, creativity and perception*. Fairfield, Iowa: Maharishi University of Management Press.

[27] Fisher, D. (2011). The nature and history of conventional concepts of sustainability. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 13-18], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[28] Gelderloos, P. and van den Berg, W. (1989). Maharishi's TM-Sidhi program: Participating in the infinite creativity of nature to enliven the totality of the cosmic psyche in all aspects of life. *Modern Science and Vedic Science*, *2* (4), 373-412.

[29] Gibson, R. B. (September, 2001). *Specification of sustainability-based environmental assessment decision criteria and implications for determining "significance" in environmental assessment*. Prepared by the Department of Environment and Resource Studies, University of Waterloo and Sustainable Development Research Institute, University of British Columbia, under a contribution agreement with the Canadian Environmental Assessment Agency Research and Development Programme.

[30] Gilmore, K. (2012). Nelson Mandela's birthday and biography: A timeline of events. *Bio.*, July 12, 2012.

[31] Griggs, D., Stafford-Smith, M., Gaffney, O, Rockström, J., Öhman, M. C., Shyamsundar, P, Steffen, W., Glasser, G., Kanie, N., and Noble, I. (2013). Policy: Sustainable development goals for people and planet. *Nature*, *495* (7441), 305-307.

[32] Hagelin, J. S. (1987). Is consciousness the unified field? A field theorist's perspective. *Modern Science and Vedic Science*, *1* (1), 29-87.

[33] Hagelin, J. S. (1987). Restructuring physics from its foundation in the light of Maharishi's Vedic Science. *Modern Science and Vedic Science*, *3* (1), 3-72.

[34] Hartani, T., and Henmi, T. (1990). Effects of Transcendental Meditation on health behaviour of industrial workers. *Japanese Journal of Public Health*, *37*, 729.

[35] Hawken, P., Lovins, A., and Lovins, L. H. (1999). *Natural capitalism*. Boston and New York: Little, Brown and Company.

[36] Heaton, D. (2016). Higher consciousness for sustainability-as-flourishing. In S. Dhiman and J. Marques (eds.), *Spirituality and Sustainability: New Horizons and Exemplary Approaches* [pp. 121-137], Springer International Publishing, Switzerland.

[37] Heinrichs, H., Wiek, A., Martens, P., and Michelson, G. (2016). *Sustainability science: An introduction*. Dordrecht, Germany: Springer Science + Business Media.

[38] Holmes, M. T., Ingham, E. R., Doyle, J. D., and Hendricks, C. W. (1999). Effects of Klebsiella planticola SDF20 on soil biota and wheat growth in sandy soil. *Applied Soil Ecology*, *11*, 67-78.

[39] Institute of Vedic City Planning. (2013). *Vastu city planning: Sustainable cities in harmony with natural law*. The Netherlands: Maharishi Vedic University Press.

[40] Isra, B. (1993). Concept of earth in various branches of Indian literature. *Journal of Dharma, 18*, 35.

[41] James, S. (2011). The application of Maharishi Vedic Science to agriculture as a solution to the problem of pesticides. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 67-78], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[42] Jaramillo, F., and Destouni, G. (2015). Comment on "planetary boundaries: Guiding human development on a changing planet". *Science*, *348* (6240), 1217c.

[43] Karami, E., and Hayati, D. (2005). Rural poverty and sustainability: The case of groundwater depletion in Iran. *Asian Journal of Water, Environment and Pollution*, *2* (2), 51-61.

[44] King, M. S. (1987a). *Natural law and consciousness*. Perth, Australia: Gantheaume Press.

[45] King, M. S. (1987b). *Transcendental Meditation, consciousness and government*. Perth, Australia: Gantheaume Press.

[46] Konhaus, J. (2011). Maharishi Vedic organic agriculture certification program standards. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 359-393], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[47] Krebs, A. V. (June, 2001). Commentary: Searching for a fair resolution concerning controversial story on possible effects of Klebsiella p. on the environment. *The Agribusiness Examiner*, *119*.

[48] Kumar, B. M. (2008). Forestry in ancient India: Some literary evidences on productive and protective aspects. *Asian Agri-History*, *12* (4), 299-306.

[49] Kumar, J., and Narayan, R. (2003). *Ecology and religion: Ecological concepts in Hinduism, Buddhism, Jainism, Islam, Christianity and Sikhism*. Muzaffarpur, India: Institute for Socio-Legal Studies.

[50] Lang, D. J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., Swilling, M., and Thomas, C. J. (2012). Transdisciplinary research in sustainability science: Practice, principles, and challenges. *Sustainability Science*, *7* (Supplement 1), 25-43.

[51] Lee, J. (2001). In many ways, a new Iowa town looks to east. *The New York Times*, 17 April, 2001.

[52] Leiserowitz, A. A., and Fernandez, L. O. (2008). *Toward a new consciousness: Values to sustain human and natural communities—A synthesis of insights and recommendations from the 2007 Yale School of Forestry & Environmental Studies Conference*. New Haven, Connecticut: Yale School of Forestry & Environmental Studies.

[53] Lindsey, T. C. (2011). Sustainable principles: Common values for achieving sustainability. *Journal of Cleaner Production*, *19* (5), 561-565.

[54] Lydersen, K. (2004). Iowa town booms on eastern ways: Meditation, business draw residents. *The Washington Post*, 9 August 2004, AO3.

[55] Maharishi Global Construction. (1997). *Designs according to Maharishi Sthapatya Veda: Promoting health, happiness, and good fortune*. Fairfield, Iowa: Maharishi Global Construction.

[56] Maharishi Mahesh Yogi. (1957). *Beacon light of the Himalayas*. Kerala, India: International Meditation Society.

[57] Maharishi Mahesh Yogi. (1966). *The science of being and art of living*. Age of Enlightenment Press, Washington, D. C.

[58] Maharishi Mahesh Yogi. (1969). *Maharishi Mahesh Yogi on the Bhagavad-Gita: A new translation and commentary, chapters 1-6*. London: Penguin.

[59] Maharishi Mahesh Yogi. (1974). *A glimpse of the practical philosophy of life that has demonstrated the possibility of eliminating the age-old problems of mankind in this generation*. West Germany: Maharishi International University Press.

[60] Maharishi Mahesh Yogi. (1977). *First world assembly on law, justice and rehabilitation*. West Germany: World Government of the Age of Enlightenment.

[61] Maharishi Mahesh Yogi. (1978a). A time of crisis: Environment. *World Government News*, *9*, 5-13.

[62] Maharishi Mahesh Yogi. (1978b). *Enlightenment for every individual, invincibility to every nation*. Germany: Maharishi European University Press.

[63] Maharishi Mahesh Yogi. (1982). *Alliance with natural law: A simple solution to all international problems of the U. N. O. and national problems of every government*. Buckinghamshire, England: Maharishi University of Natural Law.

[64] Maharishi Mahesh Yogi. (1986). *Life supported by natural law: Lectures by His Holiness Maharishi Mahesh Yogi*. Washington, D. C.: Age of Enlightenment Press.

[65] Maharishi Mahesh Yogi. (1987). *Maharishi's programme to create world peace: Demonstrating the mechanics to create coherence in world consciousness, the basis of world peace*. Netherlands: Maharishi Vedic University Press.

[66] Maharishi Mahesh Yogi. (1990). *New horizons in criminology and penitentiary science: The Maharishi Unified Field Based Integrated System of Rehabilitation in Senegalese prisons*. Faroukh Anklesaria (trans.), Vlodrop, The Netherlands: Maharishi Vedic University Press, 1990 (first printed in French by National Press of Senegal, Rufisque, 1988).

[67] Maharishi Mahesh Yogi. (1991a). *Maharishi's master plan to create heaven on earth*. Holland: Maharishi Vedic University Press.

[68] Maharishi Mahesh Yogi (1991b). *The Maharishi Effect: Creating coherence in world consciousness, promoting positive and evolutionary trends throughout the world—Results of scientific research 1974-1990*. Fairfield, Iowa: Maharishi International University Press.

[69] Maharishi Mahesh Yogi. (1993). *Maharishi's absolute theory of government: Automation in administration*. Holland: Maharishi Vedic University Press.

[70] Maharishi Mahesh Yogi. (1994). *Maharishi Vedic University: Introduction*. Holland: Maharishi Vedic University Press.

[71] Maharishi Mahesh Yogi. (1995a). *Maharishi's absolute theory of government: Automation in administration*. India: Maharishi Prakashan.

[72] Maharishi Mahesh Yogi. (1995b). Maharishi on modern science and Vedic science. *Modern Science and Vedic Science*, *6* (1), i-iii.

[73] Maharishi Mahesh Yogi. (1995c). *Vedic knowledge for everyone: An introduction*. Holland: Maharishi Vedic University Press.

[74] Maharishi Mahesh Yogi. (1995d). *Maharishi University of Management: Wholeness on the move*. India: Maharishi Ved Vigyān Vishwa Vidyā Peetham.

[75] Maharishi Mahesh Yogi. (1996a). *Maharishi's absolute theory of defence: Sovereignty in invincibility*. India: Maharishi Vedic University.

[76] Maharishi Mahesh Yogi. (1996b). *Maharishi forum of natural law and national law for doctors*. India: Maharishi Vedic University Press.

[77] Maharishi Vedic University. (1998). *Building for the health and happiness of everyone: Creating ideal housing in harmony with natural law*. The Netherlands: Maharishi Vedic University Press.

[78] Oates, R. (1976). *Celebrating the dawn*. New York: G. P. Putnam & Sons.

[79] Orme-Johnson, D. W. (1973). Autonomic stability and Transcendental Meditation. *Psychosomatic Medicine*, *35*, 341-349.

[80] Orme-Johnson, D. W. (1995). Summary of scientific research on Maharishi's Transcendental Meditation and TM-Sidhi program. *Modern Science and Vedic Science*, *6* (1), 61-155.

[81] Orme-Johnson, D. W., Alexander, C. N., Davies, J. L., Chandler, H. M., and Larimore, W. E. (1988). International peace project in the Middle East: The effects of the Maharishi Technology of the Unified Field. *Journal of Conflict Resolution*, *32*, 776-812.

[82] Pretty, J. (2008). Agricultural sustainability: Concepts, principles and evidence. *Philosophical Transactions of the Royal Society of London* (Series B, Biological Sciences), *363* (1491), 447-465.

[83] Prime, R. (2002). *Vedic ecology: Practical wisdom for surviving the 21st century*. San Rafael, California: Mandala Publishing.

[84] PRWeb. (2013). MUM's sustainable living department hosts Bhutanese Vedic organic agriculture expert. *PRWeb*, Fairfield, Iowa, 14 May, 2013.

[85] Robeyns, I. (2006). The capability approach in practice. *Journal of Political Philosphy*, *14* (3), 351-376.

[86] Saha Astitva Foundation. (2010). Experts prescribe ancient Vedic knowledge of Nepal as antidote for modern ills in education and agriculture. Conference proceedings of *Practical, Scientifically Proven Solutions to Contemporary Problems that Grip Nepal and the World*, Shangri-La Hotel, Kathmandu, Nepal, 24 September 2010.

[87] Scaroni-Fisher, M., and Fisher, D. (ed.) (2011). *Consciousness-based education and sustainability, Volume 11*. Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[88] Sharma, H. (1993). *Freedom from disease: How to control free radicals, a major cause of aging and disease*. Toronto, Canada: Veda Publishing.

[89] Steffen, W., Richardson, K., Rockström, J., Cornell, S., Fetzer, I., Bennett, E., Biggs, R., and Carpenter, S. 2015. Planetary boundaries: Guiding human development on a changing planet. *Science*, *348* (6240), 1217.

[90] Steingard, D. S., Fitzgibbons, D. E., and Heaton, D. (2004). Exploring the frontiers of environmental management: A natural law-based perspective. *Journal of Human Values*, *10* (2), 79-97.

[91] Swanson, G., and Oates, R. (1989). *Enlightened management: Building high-performance people*. Fairfield, Iowa: Maharishi International University Press.

[92] Tokyo Food Sanitation Association. (2003). *Comparing Maharishi honey with manuka honey*. Food Research Laboratory, Tokyo Food Sanitation Association, Report no. 01911, 16 September, 2003.

[93] Travis, F., Bonshek, A., Butler, V., Rainforth, M., Alexander, C. N., Khare, R., and Lipman, J. (2005). Can a building's orientation affect the quality of life of people within? Testing principles of Maharishi Sthapatya Ved. *Journal of Social Behavior and Personality*, *17*, 553-564.

[94] Vannucci, M. (1999). *Human ecology in the Vedas*. Restructuring Indian History & Culture, No. 19, New Delhi, India: D. K. Printworld.

[95] Voss, J-P., and Kemp, R. (2006). *Sustainability and reflexive governance*. Cheltenham, United Kingdom: Edward Elgar.

[96] Wallace, P. G. (2011). Approaching material well-being: Maharishi Vedic organic agriculture. In M. Scaroni-Fisher and D. Fisher (eds.), *Consciousness-based Education and Sustainability, Volume 11* [pp. 123-217], Consciousness-based Education: A Foundation for Teaching and Learning in the Academic Disciplines (a series of 12 volumes), Maharishi University of Management Press, Fairfield, Iowa, USA.

[97] Wallace, R. K. (1970). Physiological effects of Transcendental Meditation. *Science*, *167*, 1751-1754.

[98] Wells, G. (ed.) (2013a). *Sustainable business: Theory and practice of business under sustainability principles*. Cheltenham, United Kingdom: Edward Elgar Publishing.

[99] Wells, G. (2013b). The sustainable firm as an ethical construct. In G. Wells (ed.), *Sustainable Business: Theory and Practice of Business Under Sustainability Principles* [pp. 52-70]. Cheltenham, United Kingdom: Edward Elgar Publishing.

[100] World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University Press.