Changing Our Worldview for A Sustainable Future and The Role of Dialogue

Azizan Baharuddin

Introduction

THIS topic deserves serious attention because humanity is in danger of loosing its future due to unsustainability issues touching upon the socio-economic, environmental and cultural (values) dimension of life. The world's attention was first drawn to the above matter since the 1960's with the discoveries and writings of the American Zoologist, Rachel Carson, who published her Book **Silent Spring**[1] in 1962. **Silent Spring** first alerted the global community to the dangers of applying science and technology without due regard to its unwanted/unexpected aspects such as pollution and the changing of man's values.[2]

After many studies have been carried out, it is agreed that one of the proposals/fundamental ways to change the unsustainable condition of the world towards sustainability is to change human consciousness. The currently dominant man-centered worldview[3] sees nature as a mere vast 'supermarket' with infinite resources, and it (nature) only has instrumental value. Morally the post Enlightenment over-rationalistic philosophy posits that no real meaning of life exists giving rise to relativism and nihilism. Today, however, post-modernistic relativism together with extreme capitalism have led to the realization that our scientific enterprise is in need of a life-centred outlook. As Rachel Carson had begun to prove, science, technology and development today require an alternative and a new worldview which will be the basis of values (beliefs based on evidence) for thinking and action that can lead to sustainability in the aforementioned areas.[4] One of the efforts that can lead to such a worldview is what we call/label as empiricising religion or spirituality and spiritualizing science, a project requiring the harmonizing of indigenous value systems with scientific thinking. Such an effort could be regarded as the inevitable response to the Earth Charter's message which reminds us that:

> "**We stand at a critical moment in Earth's history, a time when**

> **humanity must choose its future.** As the world becomes increasingly interdependent and fragile, **the future at once holds great peril and great promise**. To move forward **we must recognize** that in the midst of a **magnificent diversity of cultures** and **life forms we are one human family and one Earth community with a common destiny**. We must **join together** to bring forth a **sustainable global society** founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that **we**, the peoples of Earth, **declare our responsibility to one another**, to the **greater community of life**, and to future generations."

The best mechanism for us to declare our responsibility to each other would be through dialogues—incultural, interfaith and even interdisciplinary dialogue, as for example between the natural and social-human sciences.

Dialogue is the meeting of hearts and minds in the form of cooperative and positive interaction between people of different faith, traditions, spiritual or humanistic beliefs, at the individual or institutional level. Its aim is to derive a common ground in belief and strategy for common action, through a concentration on similarities between faiths, understanding of values and commitment to the common good.

Dialogue is communication between people of faith (who agree to disagree on certain issues such as their differences for example); it is the experience of travelling together and working in projects that are of mutual importance. To engage in dialogue also means to be able to take oneself out of one's own group; seeing oneself as others would see oneself and seeing the future of humankind as a whole as exemplified by the Islamic philosophy that Islam stands for *rahmatanlilalamin*—blessing for the whole world.

Science and Religion/Humanising Science

Einstein[5] once observed "without religion science is lame, without science religion is blind", and S. H. Nasr[6] explained that the environmental crisis is reflective of the spiritual crisis faced by mankind. After several decades (1960's–2000's) such observations finally led to the realization that science and technology are critical effecters of environmental, social/cultural and economic dimensions of life. There is a need for science and technology practitioners (thinkers, producers, users, consumers, teachers, students, policy-makers) to be aware of their role, and responsibilities in ensuring sustainability for the future. Science and

technology cannot run away from this responsibility because science and technology is part of culture of life. Science and technology practitioners are members of the wider society, and they would/should be the basic actors for the "Empiricisation of Spirituality and the Spiritualization of Science (ESSS)" Project.

For science and technology to play its role to the maximum, a shift in worldview and paradigm (holistic instead of mechanistic worldview or life-centred instead of man-centred) needs to be the basis of Research and Development (R&D), education, policy and the economic activities related to science and technology.

Internationally, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and other like-minded organizations have committed themselves to what is known as the ESTI (Ethics for/in Science, Technologies and Innovation) program under the commission For Ethics in Science, Technology and Innovation.[7] Through ESTI the international community has decided to:

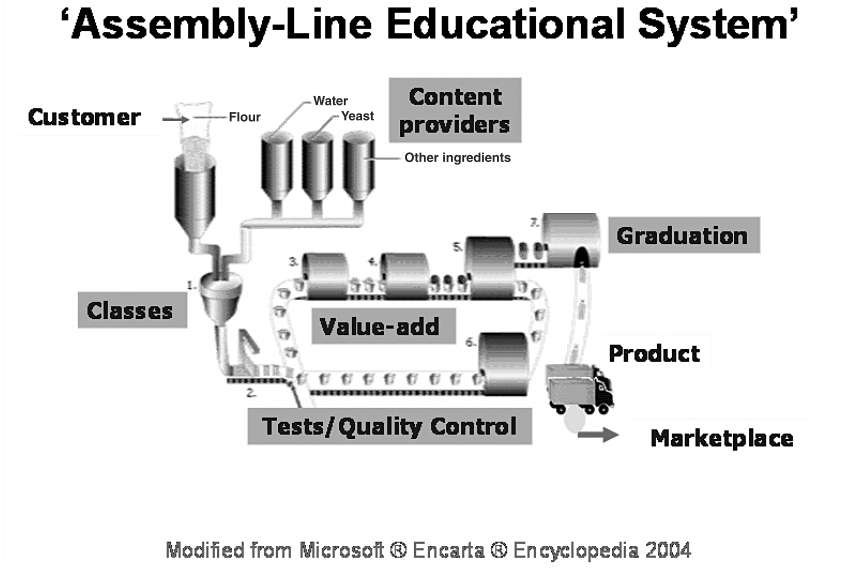
1) acknowledge that ethics is to be rooted in philosophical reflection;
2) allow ethics to be embedded in science whilst not thwarting freedom of inquiry;
3) introduce ethics in education (especially science education) and strengthen the ethical link between scientific advancement and the cultural, legal and religious contexts of where it occurs.

Scientific support for ethics which eventually led to sustainability being taken more seriously in the empirical context can also be seen in the emergence of "sustainability science" as a field of study which aims at providing the concept of sustainability, stronger analytic and scientific underpinning.[8]

A broad-based definition of Sustainability Science has been given by Kieffer as:

> "The cultivation, integration, and application of knowledge about Earth systems gained especially from the holistic and historical sciences (such as geology, ecology, climatology, oceanography) coordinated with knowledge about human interrelationships gained from the social sciences and humanities, in order to evaluate, mitigate and minimize the consequences, regionally and worldwide, of human impacts on planetary systems and on societies across the globe and into the future —that is, in order that humans can be knowledgeable Earth stewards."[9]

In the context of Higher Education, academics and those responsible for shaping the minds (worldviews, values, and aspirations) of future leaders must ensure the balance between the bottom line and the life of the mind and spirit (of the students) because if we are not careful, a university can become undifferentiated from a business corporation engaged in the delivery and exploitation of research and educational 'products' including graduates.



In this connection we also have to review and redefine what we mean by progress and development. Both these concepts have to be realized in a holistic way taking care to fulfill the needs of man's spiritual and physical needs in a manner that is not injurious to nature (and this includes man's physical and psychological make-up as well). This is an imperative that has been highlighted now and recently (June 2012) in the Rio + 20 Conference[10] where it is now propagated that the human happiness index of development must take on board the human dimension.

Underlying Unsustainability

As we have mentioned, the man-centred worldview currently dominant has its roots in the mechanistic-reductionistic approach to the study of nature. This approach was historically supported by several factors such as the misrepresentation of God by interpreters of Newton who saw God

as a clock-maker for example. As a clock would be wounded up when it is constructed using a spring mechanism by the clock-maker, so too the universe 'runs on its own' after God had instituted it in His laws (laws of gravity, motion, etc). This notion may be useful in imagining how God 'runs' the world that He creates, to a certain degree but, it sidelines the providentiality of God in his creation and who provides guidelines through His revelations to man whom He expects to be ethical in using nature for his needs. Such a mechanistic outlook finally led to the view that nature is nothing more than a machine, as expressed by Laplace (1749–1827) who thought that since science can potentially tell us everything that we need to know, God was deemed as no longer important.[11] This expectation was based on the Pre-Eisteinian and Newtonian science which saw the characterstics of matter and motion to be the same under all or any condition.

However, when the new relativistic paradigm arrived on the scene at the end of the 19th Century and early in the 20th Century with Einsteins' revolutionary $E = mc^2$ formula, a new space for understanding another dimension of reality was created. In this new post-Einsteinian view of reality, even emotions are, or can be, understood/traced to be energy forms that can change physical realities. With this also came the realization that religion and spirituality may have interpretations that have been side-lined before. To put it in simple words, and as explained by the famous English Mathematician—philosopher, Alfred North Whitehead, today it is increasingly realized that the future of mankind depends on the relationship between science and religion, between knowledge and ethics.[12]

Change of Worldview

In the **20th century, physics** has gone through several **conceptual revolutions** that clearly revealed the limitations of the **mechanistic worldview** and this led to an organic, **ecological worldview** of the world to be favoured instead. Reality is fluid and is open to the influence of human intention as explained by the new field of psychokinesis based on the theory of intention/intentionality which is related to what is called the noetic sciences. Intention is a purposeful plan to perform an action which leads to desired outcomes. Its about time that we realize that the **universe** is **not a machine** with a multitude of separate objects, that appears as a harmonious indivisible whole but it is actually a **network of dynamic relationships** that **include the human** observer and his consciousness in an essential way, and this process should begin

with us changing our MCW to the LCW.

Significant effects of the mechanistic-reductionistic outlook included the compartmentalisation of knowledge, the separation between science and religion as mentioned, which meant the peripheralisation of values, meanings, purposes as well as the importance of the demarcation of 'rights' and 'wrongs' that affect all areas of life through the currently dominating man-centered worldview (MCW). T. Miller explains this worldview as being the most dominant in industrial societies of today.[13] Known also as the "planetary management worldview", and prominent in the last 100 years, this worldview among others sees man as the most dominant species who can and should manage the planet for his benefit alone. Other species have instrumental value only man being the most important species who exists **apart from** nature instead of understanding that he is actually **a part of** nature. In terms of resources the MCW believes that there will always be more and it is all for us. The MCW also sees that all forms of economic growth is good and a healthy environment depends on a healthy economy. A summary of the values/principles of this worldview is given below:

Man-Centered Worldview (MCW)

a) We are the planet's most important species, we live apart from and are in charge of nature.
b) There is always more (resources) and it's all for us.
c) All forms of economic growth is good.
d) A healthy environment depends on a healthy economy.
e) Our success depends on how well we can understand, control and manage the planet for our benefit.
f) Other species have instrumental value only.
g) As the most dominant species, man can and should manage planet for his benefit alone.

The MCW is also known as, as already mentioned the 'planetary management worldview' and it has been the most dominant in the last 70 years. Opposing this view is the ecologically informed world-view called the Life-Centred (LCW). Some of its principles include the following:

Life-Centered Worldview (LCW): Working with the Planet

a) Nature exists for all of earth's species.
b) There will not always be more and not all resources are for us.

c) Some forms of economic growth are beneficial, some harmful.
d) A healthy economy depends on a healthy environment.
e) Our success depends on learning to cooperate with one another and with the rest of nature.
f) Other species have a right to exist regardless of whether they have/do not have commercial/instrumental value.
g) Man may be the most important species in terms of him having reason, but he is also a moral-ethical being and his ethics should be extended to other species as well.

The LCW is closer to reality and it is in harmony with many spiritually-based, empirically verifiable belief systems of many western as well as non-western societies in the world.

From the above discussion, and from the list above what can be concluded is that we need a change of worldview in the world, from an over materialistic, man-centered philosophy to a life-centered one. The tenableness/reasonableness of the LCW can be justified through the field of ecology and environmental science.

This outlook has been illustrated by Miller in his efforts to put forward the new 'sustainable' worldview in the last three decades.[14] The increasing success of this new worldview is shown perhaps by the fact that his book "Living in the Environment" has been through, 17 editions, the latest being in 2012. From the religious perspective or the perspective of those whose indigenous philosophies such as the Islamic and Buddhistic principles for living in harmony with the environment, the LCW principles are already inherent in their sacred texts and teachings. However, the actual practices of their followers may not match the environmental/sustainability ideals spoken by the sacred texts. Why this is so is perhaps because of the lack of 'context' when the religious principles are being taught. This is one of the important arguments for empiricising religion or spirituality. Likewise, imbuing scientific training with a sense of respect, awe, humility and responsibility (ethics) towards nature would go a long way in spiritualizing science. Therefore, here we see the need for the spiritually motivated, to be acquainted with the LCW and the scientific evidence that lie behind the worldview. Indirectly, in so doing, we can persuade the religious communities to become environmentally 'aware' and change their habits. Because it is scientifically based, the LCW should be seen as an important topic for Interfaith Dialogue for example.

Implementations/Efforts towards Sustainability via a Humanised Science

To begin with, we may ask the question of why science & technology and ethics are said to be not expanding together. The popular public perception seems to be that science and technology are either value free or are at least value neutral, devoid of any distinctive attitudes save the scientific attitude. By definition, value means material or monetary worth of something; desirability of things or what we hold clear. There is generally a confusion about facts and values because it is thought that there is no relation between them.

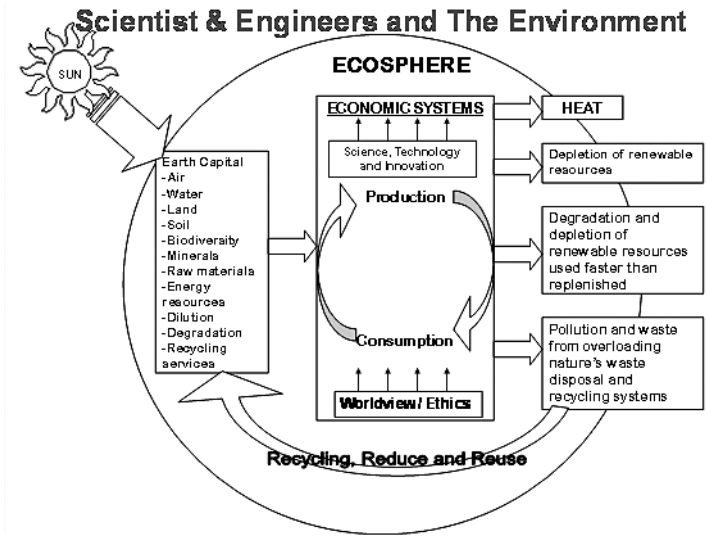
Such a confusion also reflects disagreements regarding the nature of truth and the pathways to knowledge especially the 'religious pathways'. In reality, the religious moral tradition is grounded in reason as well as revelation, and great religious traditions possess a rich body of wise reflection.[15] The power of science must be used wisely, courageously and humbly.[16] The question is not about how fast we can run (to catch up with technology) but do we want to, to begin with.[17]

To move towards sustainability, major shifts are required in terms of our beliefs (values), culture, economy, relationships and attitude. These shift/s will translate into fundamental change in policy priorities (including educational, science and technology research) production and consumption pattern and lifestyles. Such a scenario could perhaps be shown by the illustration, next page:

The illustration shows how policy-makers, scientists and consumers must work together whilst applying the paradigm (worldview) shifts that have been talked about.[18] Hopefully, this change would lead to sustainability which requires as we have explained a multidisciplinary approach especially harmonizing the natural sciences, social sciences and humanities. The notion of sustainability is sometimes reduced to 'long lasting,' 'endurance' and/or 'continuity.' What is important is that endurance is possible only if sustaining factors are in place. Such factors include the:

a) Physical—energy and resources are used in a sustainable manner.
b) Economic systems—non-polluting, ensuring justice.
c) Social—legal, political conflicts and wars are avoided.
d) Cultural—ideas, values, ideologies (beliefs/worldviews) should lead to stewardship towards the environment.

As we have discussed also in the last ten years, we can witness the emergence of sustainability science which requires a holistic approach.



Adapted from G.T. Miller (2000) chpt. On Ethics

In line with this development, we see currently the rise of trans-disciplinarity which reflects holistic human development which is elaborated by a revived science of self-development which draws on many disciplines for an integrated view of human development. One of the earliest groups to work in this field was the Harvard Sustainability Science Programme 20.[19]

An illustration in the Islamic context for encouraging ESTI as well as a change of worldviews among Muslim scientists is an Islamic framework elaborated by Ziauddin Sardar in his book **The Touch of Midas**.[20] Sardar builds his framework on the writings of al Ghazali (d.1111) the famous Muslim theologian who expoused the following principles as the basis of Islamic ethics:

— *Tawhid* (Unity)—scientific knowledge must be utilized in tandem with ethics.
— *Khilafah* (Stewardship)—humans are stewards of the environment.
— *Ibadah* (Service)—science and technology must be utilised, first and foremost to serve humankind.
— *Ilm* (Knowledge)—knowledge is essential for human survival, Muslims must master science and technology.
— *Halal* (Good, Praiseworth)—science and technology that is good are *halal*.
— *Haram* (Not Good, Harmful)—science and technology that are

harmful is *haram*.

— *Adl* (Justice)—science and technology must not cause social injustices.
— *Zulm* (Injustice, Tyranny)—a *zulm* science is one that cause injustices.
— *Dhiya* (Wasteful)—science and technology must not encourage wasting.
— *Istislah* (Public Interest)—science and technology development must consider public interest.

Likewise, from the perspectives of other religions such as Buddhism and Hinduism we can learn wisdom and guidelines vis-à-vis the use of knowledge, especially in science and technology.[21]

The Importance of Dialogue

Finally, as espoused by the Earth Charter, a pluralistic world requires indigenous cultures to not only find/relive what is the best within their traditions but they need also to sit together to find common values that can be promoted for the sake of sustainability for all. They should be inspired by thinkers such as Stephen Toulmin who says that for a variety of reasons, the time has come to attempt the construction of a unified world-view—one that relates to both the natural world and to nature's transcendent ground.[22] Thinking in a similar vein Alvin Toffler observed that there is no doubt that the rapid process of globalization taking place as a result of technology will not lend to sustainability if it is not accompanied by a movement of global ethics at an equally rapid pace.[23]

Finally, dialogue needs quickly to be institutionalized as the mechanism for promoting sustainability. Alongside interdisciplinary dialogues under Sustainability Science, another important form of dialogue that can enhance the critical needs for a LCW is interfaith dialogue.

Notes

[1] Rachel Carson (1962), **Silent Spring**, Houghton Mifflin, New York.

[2] Robert E. McGinn (1990), **Science, Technology and Society**, Pearson, Portland.

[3] See G. Tyler Miller Jr. and Scott Spoolman (2011), **Living in the Environment: Principles, Connections, and Solutions**, Cengage Learning, Chapter 1.

[4] See Fritjof Capra (1991), **The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism**, Shambhala Pubs. Berkeley.

[5] See for example, Max Jammer (2002), **Einstein and Religion: Physics and Theology**, Princeton University Press.

[6] S. H. Nasr is a famous Muslim writer (Geologist, Philosopher, Historian of Sci-

ence), **Man and Nature: The Spiritual Crisis of Modern Man** (1968).

[7] COMEST (The World Commission on the Ethics of Scientific Knowledge and Technology) www.unesco.org/new/en/social-ang-human sciences/.../comest/

[8] Ibid.

[9] Kieffer, S. W. Barton, P., Palmer, A. R., Reitan, P.H. & Zen, E. (2003), **Mega-scale events: Natural disasters and human behavior**, Geol. Soc. America, Abstracts with programs: 432.

[10] Heywood, S. and Oria, R (eds) (2012), **An Introduction to Sustainable Human Development** (p. 25) http://rio plus20education.info/…

[11] P. S. Laplace (1902), **A Philosophical Essay on Probabilities**, A reprint of this book was done by J. Wiley, New York in 2010. Laplace said "We may regard the present state of the universe as the effect of the past and the cause of the future. An intellect which at any given moment knew all of the forces that animate nature and mutual positions of the beings that compose it, if this intellect were vast enough to submit the data to analysis, could condense into a single formula the movement of the greatest bodies of the universe and that of the lightest atom; for such an intellect nothing could be uncertain and the future just like the past would be present before its eyes."

[12] See J. H. Brooke (1991, **Science and Religion: Some Historical Perspectives**, Cambridge University Press, Chapter 1.

[13] See G. Tyler Miller Jr. and Scott Spoolman (2011), **Living The Environment: Principles, Connections, and Solutions**, Cengage Learning.

[14] See G. Tyler Miller Jr. and Scott Spoolman (2011), **Living The Environment: Principles, Connections, and Solutions**, Cengage Learning, Chapter 1.

[15] Jonathan W. Mills (2007), **Ethically Challenged: Big Questions for Science**, Meigunyah Press

[16] Margaret Somerville, Professor of Law, Faculty of Medicine, Founding Director of Center for Medicine, Ethics and Law, McGill University, Montreal.

[17] Daniel Bell (2001), **The Future of Technology**, Pelanduk Publications Malaysia Sdn Bhd.

[18] Illustration adapted from G. Tyler Miller Jr. and Scott Spoolman (2011), **Living The Environment: Principles, Connections, and Solutions**, Cengage Learning, Chapter 1.

[19] http://www.hks.harvard.edu/centers/mrcbg/programs/sustsci

[20] Z. Sardar (1984), **The Touch of Midas**, Manchester University Press.

[21] See for example, John McKenzie (2012), **Hindu Ethics**, **A Historical and Critical Essay**, Oxford University Press.

[22] S. Toulmin (1982), **The Return to Cosmology: Post-Modern Science and the Theology of Nature**, Berkeley, University of California Press.

[23] Alvin Toffler (1980), **The Third Wave**, Bantam Books, New York.

References

1. Rachel Carson (1962), **Silent Spring**, Houghton Mifflin, New York.
2. Robert E. McGinn (1990), **Science**, **Technology and Society**, Pearson, Portland.
3. G. Tyler Miller Jr. and Scott Spoolman (2011), **Living in the Environment: Principles**, **Connections, and Solutions**, Cengage Learning.
4. Fritjof Capra (1991), **The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism**. Shambhala Publications Berkeley.

5. Max Jammer (2002), **Einstein and Religion: Physics and Theology**, Princeton University Press.
6. S. H. Nasr, **Man and Nature: The Spiritual Crisis of Modern Man** (1968).
7. COMEST (The World Commission on the Ethics of Scientific Knowledge and Technology) www.unesco.org/new/en/social-ang-human sciences/.../comest/
8. Kieffer, S. W. Barton, P., Palmer, A. R., Reitan, P. H. & Zen, E. (2003), **Mega-scale events: Natural disasters and human behavior**, Geol. Soc. America, Abstracts with programs: 432.
9. Heywood, S. and Oria, R (eds) (2012), **An Introduction to Sustainable Human Development** http://rio plus20education.info/…
10. P. S. Laplace (1902), **A Philosophical Essay on Probabilities**, A reprint of this book was done by J. Wiley, New York in 2010.
11. J. H. Brooke (1991), **Science and Religion: Some Historical Perspectives**, Cambridge University Press.
12. Jonathan W. Mills (2007), **Ethically Challenged: Big Questions for Science**, Meigunyah Press.
13. Daniel Bell (2001), **The Future of Technology**, Pelanduk Publications Malaysia Sdn. Bhd.
14. Z. Sardar (1984), **The Touch of Midas**, Manchester University Press.
15. John McKenzie (2012), **Hindu Ethics**, **A Historical and Critical Essay**, Oxford University Press.
16. S. Toulmin (1982), **The Return to Cosmology: Post-Modern Science and the Theology of Nature**, Berkeley, University of California Press.
17. Alvin Toffler (1980), **The Third Wave**, Bantam Books, New York.