

# The Paradigm of Sustainability

**Prof. Shashi Kant**  
**Director, MScSM Program**  
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Dear Family Members,

I am excited to welcome you all to our family – the Sustainability Management Family. The family, which started in September 2014, is small and young but highly promising; it is focused on the most challenging issue of this century – sustainability – sustainability of the human race or *Global Sustainability*. The issue is critical not only to the family but for the survival of the human race and other forms of life.

One of the distinguishing features of the MScSM program is to look sustainability in a comprehensive way – sustainability includes social, economic, and environmental aspects, and there is nothing like separate “social” or “economic” or “environmental sustainability”. To fully comprehend and address sustainability from holistic perspective, we need a different/new paradigm – and let me call it the *Paradigm of Sustainability*.

Many so-called experts are confused about sustainability. Some are not even willing to accept the challenges faced by society such as climate change, pollution, new viruses (Zika), and terrorism. Some even question the concept of sustainability and claim that there is no clear definition of sustainability; but there is no clear and single definition of anything including democracy, dictatorship, economics, and management. Economists believe that the market can take care of everything, but they forget that the market cannot take care of itself; there are no markets without people and people drive markets. Scientists believe that science and technology can take care of everything, but they forget that the current sustainability problems are mainly due to advancement in science and technology. The reality is that many so-called experts have no real solutions to issues and problems associated with sustainability.

There are two main reasons for such a state of crisis/challenge. First, sustainability problems are complex, and experts try to find solutions in their narrow range of expertise. Second, experts’ expertise are not value-neutral but they believe that their own world of expertise is value-neutral, and try to find solutions within their own value system while that value system is not universal.

Sustainability related issues and problems are system’s related problems which are interconnected and interdependent. These problems cannot be addressed or solved using the dominant fragmented methodology of academic disciplines where there is no respect or acceptance of other disciplines or even sub-disciplines within a discipline. The fragmented methodology tends to shift

problems from one area to other such as economic to social to ecological but does not solve the problem. For example, it is believed that poverty leads to social problems such as crime, ecological problems such as deforestation and pollution, and health problems but policy makers and economists try to address poverty issues through economic tools only. In fact, poverty is also a cultural concept and not totally measurable by monthly or annual monetary income. That is why you find more happy people in so called “poor” countries. In fact, the solution of poverty, and similarly many other similar problems, is not in economic tools only but an integrated approach, in which all aspects of the problem are incorporated, is required to address these problems.

To address sustainability problems we have to shift from our current dominant paradigm of *reductionist* and *narrow* approach to *integrated* and *very broad* approach. This is a challenge to humanity; and it is not easy to transform paradigms. There are many examples of breakdowns of civilizations after reaching their peaks of vitality. It happens because rigid social, intellectual, and other institutions cannot adapt to new realities. However, it is true that when the mainstream protects itself by closing its doors to new ideas and theories, some creative minorities emerge to challenge the mainstream and transform the dominant paradigm by accepting the realities and adopting the process of challenge-and-new ideas instead of the process of challenge-and-recycling old ideas. So, we as members of the Sustainability Management family have to accept challenges posed by sustainability as opportunities, and establish the paradigm of sustainability.

To achieve this, we have to understand the roots of the dominant paradigm of reductionisms, individualism, and narrow view.

The initial thinking of the so-called scientific worldview started in the 16<sup>th</sup> century. Prior to the emergence of scientific worldview, the world was organic: people had organic relations with nature as well as with other people, and communal needs were placed at higher order than individual needs. This worldview was similar to the worldview of Aboriginal peoples of Canada and other indigenous communities in many countries. In the western world, the foundations of this worldview are attributed to Aristotle and the Church, but a similar worldview existed throughout the world and many great scholars from different great civilizations and religions contributed to this perspective. In the organic worldview, the goal of the methods of acquiring knowledge was to understand the occurrence and the meaning of different natural phenomena and not their control or manipulation. The questions related to the meaning of our existence, the creator, the soul and ethics were of highest importance.

The contributions of many scientists transformed the worldview of an organic and spiritual world to mechanistic and non-spiritual world during the 16<sup>th</sup> and 17<sup>th</sup> centuries. Nicolas Copernicus (1473-1543) was the first one to challenge the worldview of the earth being the centre of the universe. Johannes Kepler (1571-1630) proposed the laws of planetary motion. Galileo Galilei (1564-1642) proved the Copernicus hypothesis as a valid scientific theory and clashed with the Church. Rene Descartes (1596-1650) developed the Cartesian view of the world and was successful in establishing its universal application. Isaac Newton (1643-1727) formalized the Cartesian view by his laws of motions of particles and gravity. During the 1700s and 1800s, the Cartesian view became the foundation of all disciplines including social science and medical science.

Quantum Theory (QT), developed during the first three decades of 20<sup>th</sup> century, challenged the Cartesian view and laid the foundation of the system's view. The discussions of QT started in 1905 with two articles by Albert Einstein focused on the special theory of relativity and the theory of atomic phenomenon which later came to be known as Quantum Theory/Physics. Physicists working on atomic phenomenon faced a new paradox with every new experiment because they attempted to explain their findings using classical/Newtonian concepts. These puzzles were resolved only when they realized the need of a new theory – Quantum Theory. The conceptual framework of QT required profound change in the concepts of space, time, matter, and object, and which was very difficult to accept because it challenged the fundamentals of the existing paradigm of physics (Capra, 1987). Albert Einstein (1949, p.45) once observed<sup>1</sup>:

*“All my attempts to adapt the theoretical foundation of physics in this knowledge failed completely. It was as if the ground has been pulled out from under one, with no firm foundation to be seen anywhere, upon which one could have built”.*

As per atomic theory, everything is made up of atoms, which are not hard solid particles, but electrons circling around the nucleus that includes protons and neutrons. Even electrons, protons, and neutrons are not solid objects; they exhibit dual nature of particles and waves depending upon the context of observation. The sub-atomic particles do not have any intrinsic property independent of its environment. The particle or wavelike properties depend on the experimental setting, the instrument being used to observe and particles forced to interact with; to capture this feature Werner Heisenberg (1901-1976) proposed the Principle of Uncertainty.

To explain the dual nature of particles, Niels Bohr (1885-1962) proposed the complementarity principle – in which the particle and wave are two complementary states of the same reality, each being partly correct and having limited applications.

In addition, no sub-atomic particles can exist in isolation; all these particles can be understood as interconnections between different particles. So one of the basic foundations of QT is interconnections, an elementary particle is not an independent identity but a set of relationships. John Bell (1928-1990) demonstrated that due to non-local connections, the two particle system is an indivisible whole even if particles are far apart, and therefore the system cannot be analyzed as two independent units.

David Bohm (1917-1992), in his S-Matrix theory, suggested “unbroken whole” or “each part, in some sense, contains the whole”. This scientific theory is similar to the famous quote by Jalāl ad-Dīn Muhammad Rūmi: “You are not a drop in the ocean. You are the entire ocean in a drop.”

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<sup>1</sup> Einstein, A. 1949. Autobiographical Notes Albert Einstein: Philosopher-Scientist. Ed. P. A. Schilpp. The Library of Living Philosophers, Evanston, Ill: Open Court

In the words of Fritjof Capra<sup>2</sup>, the world view of QT can be summarized as:

*“In contrast to the mechanistic Cartesian view of the world, the world view emerging from modern physics can be characterized by words like organic, holistic, and ecological. It might also be called a systems view, in the sense of general systems theory. The universe is no longer seen as a machine, made up of multitude of objects, but has to be pictured as one indivisible, dynamic whole whose paths are essentially interrelated and can be understood only as patterns of a cosmic process.” (Capra 1987, p.77-78)*

A similar worldview - interdependence of all phenomenon and human beings embedded in and dependent on nature – was articulated by Norwegian Philosopher Arne Næss in his theory of Deep Ecology and Karl-Henrik Robèrt, a Swedish Cancer specialist and the founder of The Natural Step.

However, this worldview has not received universal acceptance and almost all academic disciplines as well as most of our business, governments, and necessary services such as health and welfare continue to follow the reductionist paradigm. The challenge to all of us is to make a big leap towards the new paradigm – the sustainability paradigm - which will not be limited to physical systems and will include social as well as physical systems and their integration. We all can contribute to this goal. Let me give you an example.

Dr. Toby Cosgrove was appointed the CEO of the Cleveland Clinic in Ohio in 2004. The hospital was known for cutting edge treatments at lower prices, and the hospital was considered a model hospital. Dr. Cosgrove delivered an invited lecture in 2006 at the Harvard Business School. After his lecture, student Kara Barnett asked<sup>3</sup>:

*“Dr. Cosgrove, my father needed mitral valve surgery. We knew about Cleveland Clinic and the excellent results you have. But we decided not to go there because we heard you have no empathy. We went to another hospital instead, even though it was not as highly ranked as yours” (p.193)*

*“Dr. Cosgrove, do you teach empathy at Cleveland clinic?” (p. 193)*

After 10 days, Dr. Cosgrove attended an opening of a new hospital in Jeddah hosted by the Saudi King. In his speech, the new head of the hospital observed: “This hospital is dedicated to the body, spirit, and soul of the patient.” (p.194). Cosgrove also observed tears rolling down of the eyes of the King after the opening speech.

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<sup>2</sup> Capra, F. 1987. The Turning Point. Bantam Books: New York

<sup>3</sup> All the discussion related to Dr Cosgrove and the Cleveland Clinic is based on Tett, Gillian (2015). The Silo Effect, Chapter 7 (Flipping the Lens), pp. 192-217.

Cosgrove pondered over many ideas and after some time made some drastic changes at the Cleveland Clinic: (i) he changed the terminology from doctors and nurses to “caregivers”; (ii) he reorganized the hospital into new multidisciplinary institutes that handled diseases (such as cancer) or body systems (such as the brain), and surgeons, physicians, and others worked collaboratively together in treating patients; and (iii) to address empathy, he appointed a Chief Experience Officer. All these changes have made great impact on the Clinic’s culture.

This example highlights two very important points. First, the real change agent in this case was Kara and not Cosgrove himself. Second, health issues are not simply physical issues but are emotional issues also. In fact, medical anthropology has recognized that health is, in addition to biological, a cultural phenomenon too. The concept of sickness may vary across cultures, and a good example of this can be found in First Nations of Canada where traditional social, cultural, and land use activities play a critical role in their health<sup>4</sup>. On the same lines, poverty as well as other issues related to sustainability is influenced by cultural context.

The sustainability paradigm will include all the key features of QT paradigm, their interpretation and applications to social systems, inclusion of unique features of social systems such as emotions, relations, empathy, and love, and integration of social and natural systems. Many of the findings of QT are as applicable to social systems as they are to natural systems.

For example, human beings, similar to natural particles, have dual nature/interests - self-regarding and other- or community-regarding. What is observed in human interactions depends on with whom they interact – their kids, parents, siblings, friends, work colleagues or teachers and who is observing; and what is observed are patterns and not a single identity. Every time you observe only a part of the individual. The concept of Heisenberg’s principle of uncertainty is as applicable to social science as to natural science, but the variables and constant will be different. In fact, in social systems due to their cultural variations, there may be more than one constant.

The same is the case with Bell’s Theorem. The family, or for that matter any other social system, cannot be analyzed by analyzing different members of the family separately irrespective of how far the members are living. This is again due to non-local connections. Sometimes, you observe these non-local connections: for example, you may call your Mom or girlfriend/boyfriend and that person says “I was just thinking of calling you!” – an outcome of non-local connection or sometimes you say telepathy.

In fact, examples can be found for applicability of all findings of QT. Let me give the last example. When you go on travel/holidays, after certain time, you want to come back. Why? Probably, due to your relations with living and non-living environments. You sleep best on your own bed – a

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<sup>4</sup> Kant, S. Vertinsky, I., Zheng, B., and Smith, P. 2013. Social, cultural, and land use determinants of the health and well-being of Aboriginal peoples of Canada: A path analysis. *Journal of Public Health policy*, 34(3), 462-476.

relationship. You want privacy, from whom? – from people with whom you have relationships; otherwise you do not need privacy. At the same time, you cannot imagine a world only of yourself – you will go crazy.

Finally, the key challenge to sustainability managers is to transform the dominant paradigm from reductionist to sustainability paradigm. The key features of this paradigm are – holistic, organic, and integrative while its pillars are emotions, relations, empathy, and love.

Transformation of the dominant paradigm to the sustainability paradigm means creating a new culture – the culture of love, relationships, and sustainability, and you are the people who will create that culture – in this program as well as after completing the program.

All the best,

Shashi Kant