

Energy and Spirituality

Dr.B.S.K.Naidu

**Institute of Energy Management and Research, Gurgaon-122015
India**

Abstract

Energy environment interface has a divine dimension. Nations depending more on the naturally gravitating water falls and circulating winds are demonstrating blossoming economies, while fossil fuel (decayed remains of plants and animals) dominated energy generation is contributing to \simeq 60% of the green house gas emissions responsible for global warming & pollution. A change in mindset of communities can swing the development process in favor of a safe and prosperous common future.

Energy and consciousness being at the root of all cosmic creation can never be separated in the entire supply chain from generation to distribution. This depth of understanding from Indian philosophy can be imbibed into the deeper paradigms of energy education through 3-orbits of learning, graduating from intellectual inputs to emotional intelligence and further to social/spiritual consciousness.

1. Introduction

Science and Spirituality are the two sides of the coin if it has to circulate for the cause of sustainable progress of mankind across generations. Deep insights on intellectual, psychological and spiritual approaches for the well-being of mankind are essential at this point of time in the history when everyone around is keenly observing the "Emerging India" willing to integrate with global economy. However, present education with an over emphasized importance to science and technology without a spiritual foundation is a cause for concern for the imbalance evident in the self, the society, the nation and the world.

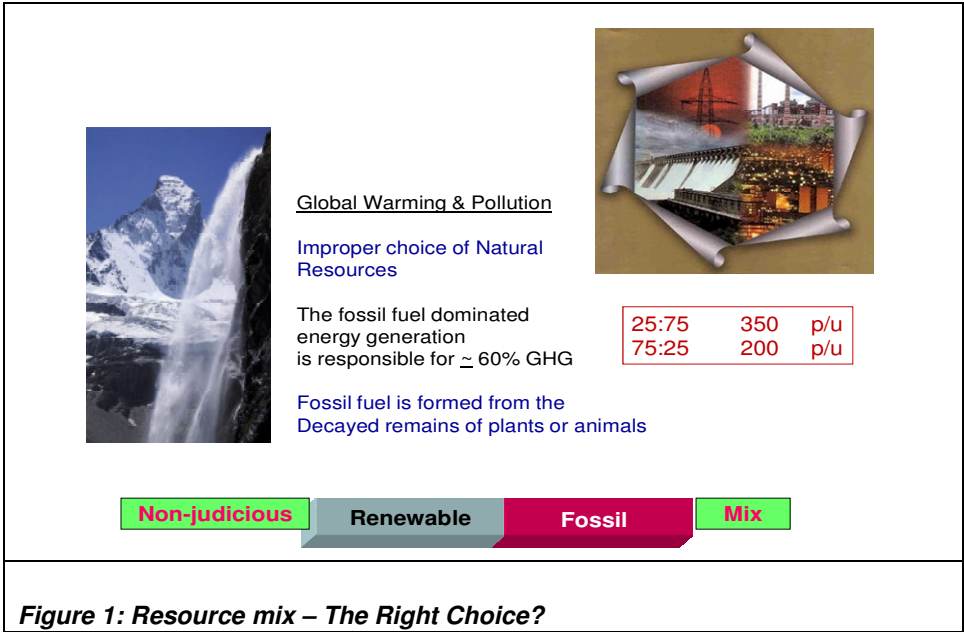
The desired balance cannot be restored with intellectual inputs alone. Innovative models and paradigms which can indeed help, will come out of holistic thinking and graduating to higher orbits of Emotional Intelligence and Social/Spiritual Consciousness. These have to take roots in the Education System to start with, in

order to create superior mindsets and thought leaders in emerging India enabling her to play a leading role in creating a new world order.

2. Energy and Spirituality

The present theme paper attempts to indicate the philosophical and resource oriented sentimental relationship between mankind and the environment and depicts the impact of improper choice of resource mix for power generation and also its reflection on national economies (Fig. 1-2 and Table 1). A definitive change in the mindset of the communities with spirituality

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at the core can help towards the noble cause of targeting a long term solution for saving our planet. Man-made threatening Green House is a clear example where human mindset has to integrate internationally for a safer common future, going

beyond the mere arithmetic's of carbon credits, not depending on technological solutions alone, but resorting to the right choices of renewable energy sources.

Prime Movers of National Economies

- China has become second largest economy in the world....Reaching the largest Hydro installed capacity in the world,commissioning the world's largest Hydro-Three Gorges 22,500 MW
- Brazil has surpassed Canada's GDP by building 75% hydro capacityincluding world's second largest Hydro- Itaipu 14,000 MW against 57% hydro in Canada




Figure 2: Prime Movers of National Economies

S. No.	Country	2010 GDP (IMF) Trillion USD	Total Capacity (Thousand MW)	Hydro Capacity (Thousand MW)	% Hydro
1	USA	14.6	977	78	8
2	China	5.7	624	129	20.7
3	Brazil	2	97	73	75.3
4	Canada	1.6	126	72	57.1

China has reached world's highest hydro installed capacity of 171,000 MW and world's highest wind power installed capacity of 41,800 MW, as of today.

Table 1: Relationship of GDP with hydropower capacity

3. Shiva-Shakti Concept of Sustainability and Harmony

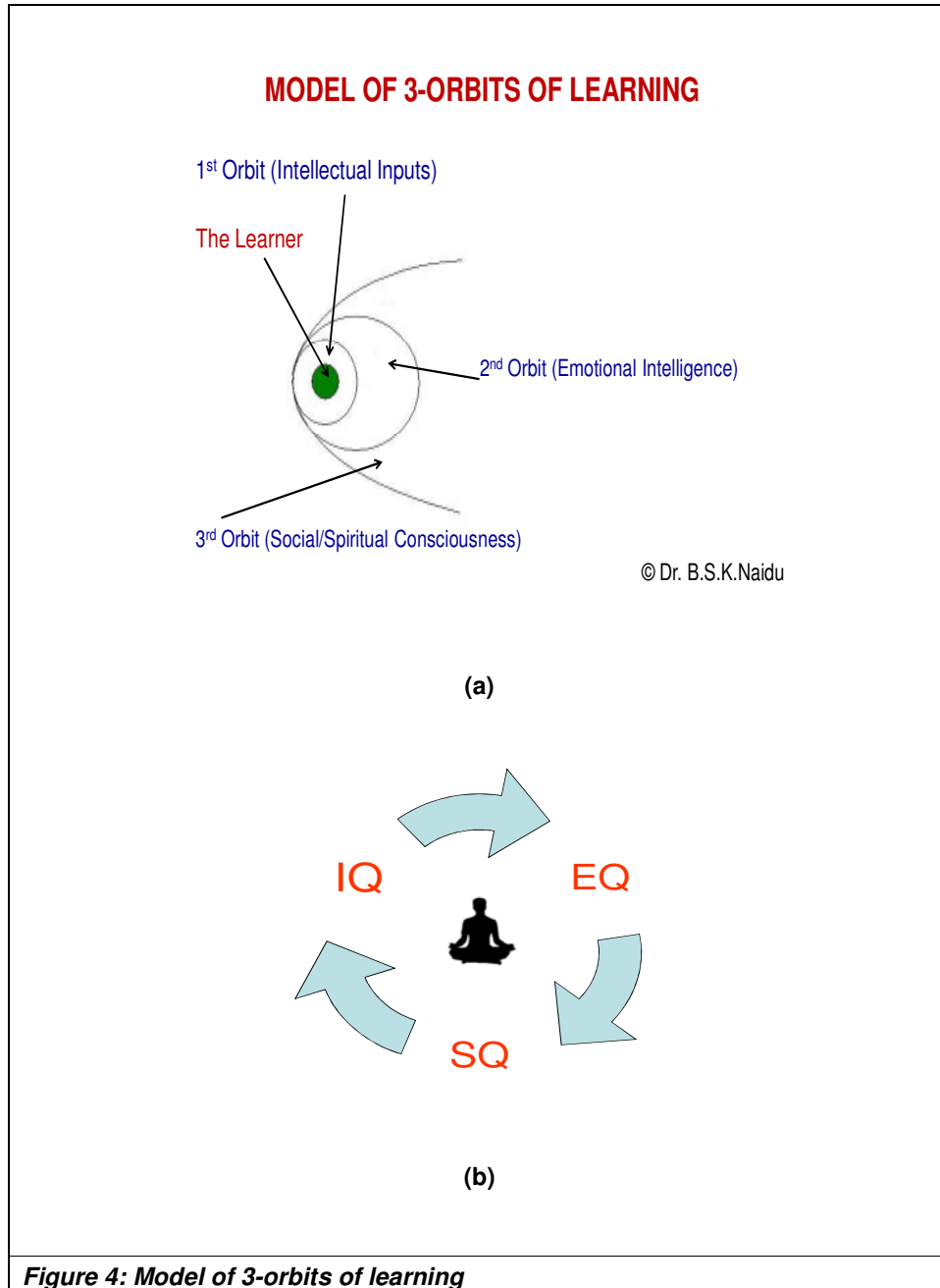
According to Indian belief, the ultimate reality is totally balanced and harmonized and is therefore represented by a perfect mathematical figure, the sphere. When the focal point of the sphere divides itself into two poles, representing consciousness (Shiva) and energy (Shakti), an Ellipsoid (Lingam) is formed which represents the root of all cosmic creation, (Fig. 3). Unless Energy is generated and supplied with consciousness, it cannot be sustainable !

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- Unless Energy is generated and supplied with consciousness, it can not be sustainable !



Figure 3: Shiva-Shakti concept of sustainability and harmony



4. Deeper Paradigms of Energy Education

In today's education system we are making all out efforts to impart 360 degree exposure in "Techno-commercial-innovation-creative" aspects but all of it in the single orbit of intellectual inputs, neither supporting it with emotional intelligence, nor reinforcing it further by social or spiritual consciousness in a systematic and designed manner. We need to develop an educational system with following inputs getting infused hand-in-hand from 3-orbits alongside: - Intellectual Inputs, emotional Intelligence and Social/Spiritual Consciousness (Fig. 4 a-b). Consciousness is the 'group name' for various abilities such as: consistent awareness, continued curiosity, inquisitiveness, surging ideas and rational thinking, imagination and ability of focusing, capacity to reflect etc. Holistic vision can come out of a combination of IQ, EQ and SQ. If IQ can germinate a flower, its fragrance can come out of EQ & SQ.

For the above, we need subject Experts to take care of the domain knowledge, Psychologists to take care of the emotional intelligence and Philosophers and Spiritual Scientists to develop the spiritual consciousness. The group has to work in close coordination and synchronization in order to figure out the deeper paradigms of learning.

5. Energy Conservation expanded to 3-Orbits

A shocking question was posed to the author after concluding his session on "Energy Conservation". Why should we promote energy conservation when we are in energy supply business? Every extra unit we supply, we make profit out of it. An interesting question emerging out of perceptual inadequacy and lack of values and consciousness....!

I had to make an effort to answer the question. I answered in 3-steps taking the audience through 3-orbits of intellectual, emotional and social/spiritual domains.

I said first of all please don't worry as a hardcore businessman engaged in energy supply business for any units saved, since there is a queue waiting for new connections, which is a profit making proposition for you. This argument fitted well in the conversant 1st orbit of intellectual logic.

Subject	Intellectual Inputs (IQ)	Values, Acumen (EQ)	Social/Spiritual Consciousness (SQ)
Orbit	1 st Orbit	2 nd Orbit	3 rd Orbit
Energy Conservation	Energy saving for new connections	Supply in energy starved areas	Saving Resources for sustainability and Eco-system's health

Table 2: Holistic Learning - Energy Management

Now, as a good businessman would you like to supply energy in energy surplus/wasting area or an energy starved area? I quoted a couple of examples. In Hawaii sugar Industries, at the reception, one is offered sugar as-well-as sugar-free crystals along with the tea. If you ask them as to why they offer sugar-free, as sugar producers, their reply is “we don’t produce sugar for consumption of sugar surplus people”. Similarly, as responsible energy producers and suppliers, good businessmen should have a clear preference to supply energy to energy-starved area and not energy-surplus or energy-wasting area.

Expanding on the 2nd orbit of emotional intelligence, the other example I gave was that of Kingfisher Airlines who innovate ways and means to add value to their customer service continuously. For instance, when the airhostess offers to clean your spectacles while you are working on your laptop, the world becomes much brighter thereafter. They term it as “Kingfisher Experience”. As good businessmen in Energy supply industry, “Tata power Experience” & “Reliance Experience” will have to be created most innovatively not only for competitive advantage but also for the customer to see the Energy conservation benefits getting passed on to him and the society at large.

At last, taking the audience to the 3rd orbit of social and spiritual consciousness, I said that after 10 years, even if the supply equals demand, for every unit saved, there will be a saving of:

- 1 kg of Coal (from the fixed stocks, encroaching upon the rights of future generation)
- 1 kg of CO₂ (responsible for Greenhouse effect)
- 0.4 kg of Ash (responsible for atmospheric pollution)
- 6 gm of Nitrous Oxide (polluting the environment)
- 1 gm of Sulphur di oxide (responsible for Acid Rain)

It is clear from the above, what we need is holistic education where intellectual inputs are supported by emotional intelligence, further reinforced by social and spiritual consciousness (Table 2&3, Figure 5). Spiritual paradigm of value based education has the key to the problems the society faces today all over the globe.

Intellectual Inputs	Emotional Intelligence	Social/Spiritual Consciousness
Talent	Sensitivity	Values
Analytical Skills	Empathy	Envisioning
Creativity Innovation	Teamwork Leadership	Conceptualization Intuition
Cognitive skills	Achievement Drive	Ethics/Ethos
Expansion of Intellect	Mindset/Attitude	Social awareness

Table 3: The coverage of 3-orbits

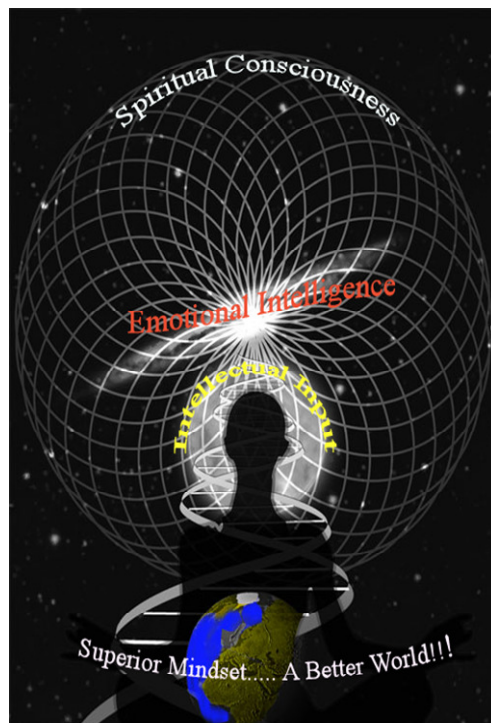
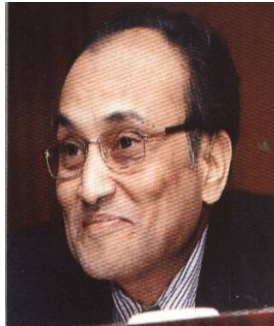


Figure 5: *Spiritual Mindset....A Better World!*

6. Concluding Remarks

Technology decides the 'edge' of the age whereas 'mindset' sets its direction. By integrating Mindset with Technology, success results can surprise the societies. Spiritual path focusing on values and consciousness needs to be road mapped for reaching the goal of an ideal energy solution for a safe common future of mankind. The ancient spiritual wisdom has for us not only a treasure of values but it also enlightens us on what is necessary to know about the cosmos and the consciousness in order to have a coherent world-vision and to acquire right outlook and to place our relationships with nature on right lines to create a better world !

About the Author



Dr. B.S.K. Naidu is the chairman of the prestigious Institute of Energy Management & Research (IEMR) at Gurgaon, NCR, Delhi, India which is known for its unique models and spiritual paradigms behind its management programs. He is the immediate past Director General (Trg & Dev) of Reliance Energy Ltd. and Senior Advisor to Advanced Engineering Associates International Inc. (AEAI), Cambridge, Massachusetts, USA. Previously, he was the Director General of NPTI & CPRI – the two Apex Central Govt. Organizations in Power Training & Research in India.

A fellow of the Indian National Academy of Engineering (INAE), Dr. Naidu has been on the Advisory Committee of the CSIR who decide the Shanti Swaroop Bhatnagar Award-country's most coveted award in Science & Technology. He has been on the Boards/Governing Councils of 7-Organizations in Government, public, joint and private sectors including international formations. He was an Expert Consultant to UNDP for their "UNDP-GEF" Project, having addressed the First GEF Assembly.

A Double Doctorate in Power Engineering and Business Management, he has undergone advanced studies in Europe and USA. The architect of National Perspective Plan for R&D in Indian Power Sector, National Master Plan for R&M of Hydro Power Plants and the man behind the National Training Policy for the Sector, he offered the Art and Science of "Power Management" to the Reforming Power Sector by way of First Ever AICTE/UGC approved MBA Program on the subject.

During his tenure, NPTI and CPRI experienced unbelievable quantum jumps in productivity parameters – highest in 4 decades of their existence - making a history in Turnarounds. His success story of rejuvenating NPTI has been accepted in B-Schools as a Case Study on "Transformational Leadership" for MBA students. A transnational speaker, Dr. Naidu has delivered 70-Guest Lectures abroad, across 5-continent, including his Lead Speech in United Nations. He is an acclaimed thought leader who has a unique way of mapping management thoughts with engineering acumen. He has addressed more than 30,000 intellectuals so far.

Naidu/ *Energy and Spirituality*

Author of 150- publications including 15-books, he is recipient of more than a dozen awards besides 6-Institutional awards which he received as Director General of 3-large organizations in India.

Paper presented at the Plenary session of the All India Conference on “Science and Spiritual Quest-Integrating Capabilities with Values” organized at Delhi Technological University, Delhi during 12th to 14th March 2011.