



## ECO-LITERACY NECESSARY, TO SAVE NOT ONLY THE ENVIRONMENT BUT TO COMBAT FOOD CRISIS & RESOURCE SHORTAGE

Dr. Kapil Bansal\* Dr. Mini Jain\*\*

\*Assistant Professor, Institute of Business Management, GLA University, Mathura, India.

\*\* Assistant Professor, Institute of Business Management, GLA University, Mathura, India.

### Abstract

*Education is the most powerful weapon to change the World. Rather than going against nature, we must work with nature. We all must understand our responsibility and act, as if we all are the Collector of our city. It reveals one fact that we have to be progressive towards virtuous cycle from vicious cycle & can't adopt the status- quo approach. One area where there is a maximum needs to focus on, like ecological techno-architecture & design, organic farming, etc. India produces enough food and has at its disposal enough arable land not only to feed its population, but also to export. It produces some of the largest volumes of food products. Yet millions live without two square meals per day. Without the use of eco-lens our society is going no-where. Therefore the first step is eco-literacy.*

*This paper aims at presenting a vivid picture of an alternative future: sustainable and fair systems for the provision of food, energy, fiber and textiles, housing and water that are environmentally benign and involve positive interventions in natural cycles. The overall aim of this paper is to provide a framework for positive change by increasing literacy rate and supplying relevant and easily accessible information to decision makers at all levels, from households up to the international level.*

**Keywords:** *Eco-Literacy, Eco-Lens, Vicious cycle, Virtuous Cycle.*

### INTRODUCTION

One should work with nature rather than going against nature. It reveals one fact that we have to be progressive towards virtuous cycle from vicious cycle & can't adopt the status- quo approach. As we all know technological innovations in every area are at their pace but still one area where there is a maximum need to focus on, like ecological techno-architecture & design, organic farming, etc .Taking first step is necessary to overcome all the crises (food crises, resource shortage, excessive use of fossil fuel, solid waste, green house gas emissions etc.)

In recent years, simultaneous crises in energy costs, the price and availability of food, water supplies, biodiversity loss, the financial system and climate change have all had a major impact on lives and livelihoods across the globe. The latest surge in food prices has been the most marked of the past century in its magnitude, duration and the number of foodstuffs affected – some food products increased in price by between 50 and 200%. For many households there has not only been a large increase in the cost of food, but also of electricity, fuel, water and other basic needs. These sharp price rises have driven more people into poverty and meant that an additional 100 million people can no longer afford to eat adequately; for the first time since 1970, the number of undernourished people in the world is over one billion. Indications are that this situation is unlikely to improve. The International Energy Agency (IEA) predicts that global energy demand will increase by 40% by 2030, while at the same time oil and gas production will decline significantly and prices increase sharply. If this demand for energy is met by fossil fuels then average global temperatures could increase by up to 6°C this century—an increase that will have dramatic impacts worldwide. The impacts of climate change on agricultural output and water supplies in particular will exacerbate the situation, and the end result will be a world spiraling ever more rapidly into a vicious cycle of food shortages, climate chaos, famine and disaster.

Certainly, there are major challenges ahead. This is especially true of the two giants, India and China, in respect to the interrelated issues of water, energy, environmental and food security.

India featured prominently in the emerging economies cavalcade narrative. “**India Shining**” and “**Incredible India**” were two political and tourism slogans India’s government promoted in the early 2000s. In fact, they could have added “**Malnourished India.**” However, while India may not be a starving country, large swathes of the population, especially children, are still malnourished.

India has the world’s highest percentage of arable land area and second largest in total (after the United States); it also ranks first in gross irrigated croplands. So how did it get to this point?



Food security is a multidimensional problem that goes beyond the physical shortage of food. According to the FAO (Food and Agricultural Organization), “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.”

India produces enough food and has at its disposal enough arable land not only to feed its population, but also to export. It produces some of the largest volumes of food products. Yet millions live without two square meals per day. In 2012, India was ranked 66th in the Global Hunger Index compiled by IFPRI (International Food Policy Research Institute). It is one of only three countries in Asia where the level of hunger is deemed “alarming”; the other two are Nepal (ranked 60th) and Bangladesh (ranked 68th).

India may be included in the “BRIC” category of high growth dynamic economies. However, insofar as feeding its population is concerned, India is in the exclusive company of LDCs (least developed countries, mainly in Sub-Saharan Africa).

### NEED AND IMPORTANCE OF THE STUDY

There are two basic reasons underlying the food, energy, water and climatic crises:

- a) The systems that have evolved to supply us with our basic needs are totally dependent on fossil fuels; the inevitable consequence of this is large amounts of greenhouse gas emissions, as well as solid waste and water and air pollution. It is especially unsustainable given that the era of cheap energy, crude oil and natural gas in particular, is about to end. Our addiction to fossil fuels means that virtually everything we eat, purchase or do is dependent on crude oil, natural gas and their derivatives. A linear approach to the supply of electricity, in which the combustion of finite resources results directly in carbon dioxide and other polluting emissions, has large and widespread consequences. Increasing demand for fossil fuels, particularly in OECD and transition countries such as China, Brazil and India, is contributing to higher energy costs. More importantly, prices are increasing due to supply constraints and the peaking of oil production. ‘Peak oil’—the point at which half of the total oil known to exist has been consumed, and beyond which extraction goes into irreversible decline—means that every time demand grows the price of oil (and gas) will rise, and will do so ever more steeply as supply constraints increase.

Joint ownership is required to make this successful. In urban areas solid waste is one of the major problem than rural areas (urban areas generate more waste per day)& for this we have to take certain steps to properly segregate, collect, treat & dispose of the waste, but without government intervention this is not possible.

- b) Our current way of providing basic needs – be they food, water, waste management or energy - involves industrialized systems that are linear, centralized and globalised. The inevitable result is resource shortages on the one hand and solid waste, climate change and air pollution problems on the other.

### CONCLUSION

This paper paints a vivid picture of an alternative future: sustainable and fair systems for the provision of food, energy, fibre and textiles, housing and water that are environmentally benign and involve positive interventions in natural cycles. The overall aim of this paper is to provide a framework for positive change by supplying relevant and easily accessible information to decision makers at all levels, from households up to the international level.

So, if we want life to thrive, we keep foremost the question, what conditions enhance life? And, more specifically, what specific conditions bring out the best in our species? My hypothesis is that three conditions — the wide and fluid dispersion of power, transparency, and an assumption of mutual accountability — are at least a good part of the answer. An eco-mind is also able to see that our own species' thriving, through our *consciously creating the essential context for that thriving*, determines the well-being, even the continuation, of other species and whether key dimensions of our wider ecology remain conducive to life.

Using our eco-minds, we soon realize that in our complex human ecology, many of the most important causal interactions may not immediately meet the eye — just as they don't in the wider ecosystem: When you or I look at a forest, for example, we see distinct trees. We don't see that beneath the forest floor trees intermingle for mutual support, sometimes through their roots, sometimes through "mats of cooperating fungi," explains the late sustainability genius Donella H. Meadows. Mycelia, the underground part of fungi, can spread "cellular mats across thousands of acres."

The implication? Cutting one tree is never about just cutting one tree. Every act has multiple effects. . . .



The good news is that we face this historic challenge just as our understanding of life's rich complexity, and human nature itself, is expanding exponentially. I am pretty sure, for example, that I'd never even heard the word "ecology" until I was in my twenties. And that was only because I was fortunate enough to marry one of our country's most brilliant ecological thinkers, the late Marc Lappé. Now we are realizing that ecology is not merely a particular field of science; it is a new way of understanding life that frees us from the failing mechanical worldview's assumptions of separateness and scarcity.

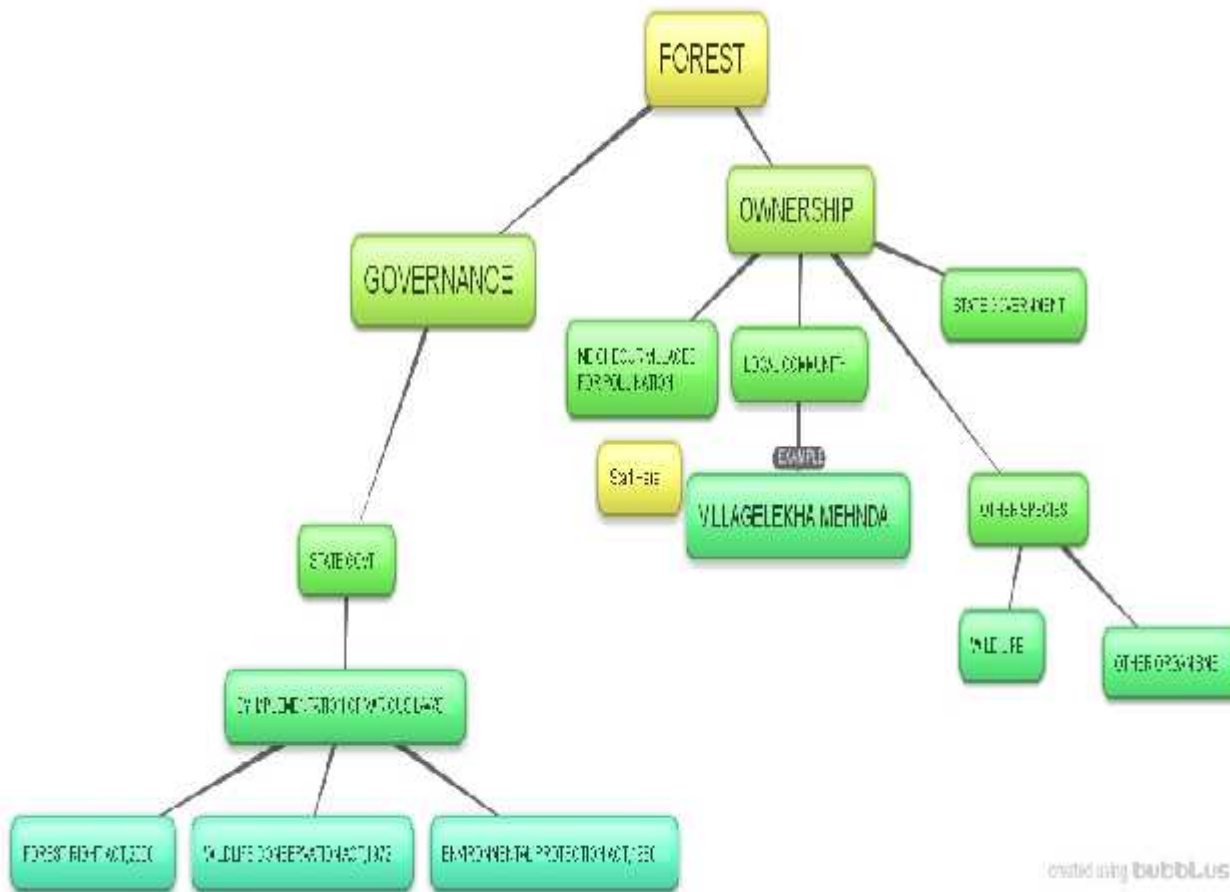
### FINDINGS

Organic farming "can undoubtedly reduce poverty" because of increased production selling at higher prices. And because some of the additional income from greater food production goes to paying school fees, "education of the wider community" increases, notes the study.

Use of bio-gas plant (and stopping the use of fertilizers, pesticides) has now become an emergency. Environmental exploitation due to rapid growth in industrialization & more importantly without the use of eco-lens is taking our society to no-where. Due to excessive energy demand we are continuously allowing companies to deplete non-renewable energy resources, like we are using unconventional energy resources & sincerely getting involved in depleting them.

We cannot do all the things without imparting spiritual education to our children. It strengthens our eco value system, as through various mythological stories we remain more concern about nature by worshipping them. Our ancestors therefore make us learn to worship earth, rivers as mother & some trees as demi-Gods. Spiritualism also gives us a good conscience to understand the things & make rational decision to quantify the benefits for our future generations.

Government also plays an important role in curbing the harm to environment. Collaborative participation of both government & individual can make the things easier. Sanction (punishment) is necessary to have strict implementation of rules & regulations. There are various other issues like corruption need to be sorted out at the earliest. It's the time to really wake up & do everything to protect the environment.

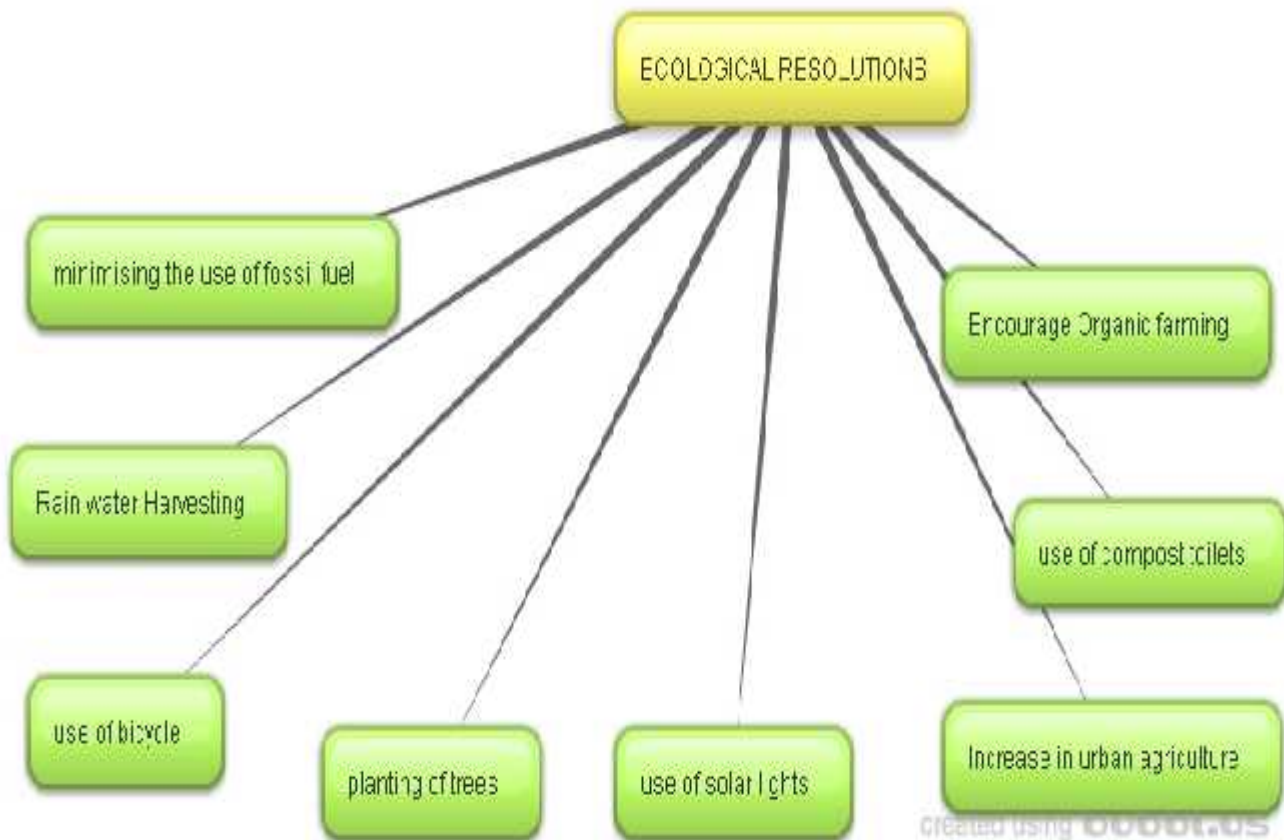




## SUGGESTIONS

Education is the most powerful weapon to change the World. Therefore the first step is eco-literacy. Why we can't provide our children the basic learning of agro-ecology, rain-harvesting & many more things, but the main problem is, we only learn what we see (sanskaras). So the pre-requisite for parents themselves is to build a eco-community (at both rural +urban level) forming a group of 200-250 peoples living in a society & than we can think big as we saw in Havana (Cuba), where they magically develop eco-agro culture.

In this eco-community everyone has to participate actively at their maximum by taking some ecological resolutions like as follows:



## REFERENCES

1. Armstrong, J. (2000). Let us begin with courage. In Z. Barlow & M. Crabtree (Eds.), *Ecoliteracy: Mapping the terrain* (pp. 8-10). Berkeley: Living in the Real World. Also available electronically at [http://www.ecoliteracy.org/publications/pdf/jarmstrong\\_letusbegin.pdf](http://www.ecoliteracy.org/publications/pdf/jarmstrong_letusbegin.pdf)
2. Andy Jones, Michel Pimbert and Janice Jiggins, (2011) *Virtuous Circles: Values, Systems, Sustainability*. IIED and IUCN CEESP, London.
3. Barnes, C. (2010), *Energy for Asia: an overview*, Apollo Investment Management, 23 March 2010 (updated 15 & 19 April 2010) at [www.apolloinvestment.com/asianenergy.htm](http://www.apolloinvestment.com/asianenergy.htm)
4. Bateson, G. (1979). *Mind and nature: A necessary unity*. New York: Dutton.
5. Bell, Beverly (2010), "Agriculture and Haiti's Long-Term Future: An Analysis", *Lambi Fund Spring 2010 Newsletter* at [www.lambifund.org/Newsletter2010-1/2010-1p2.shtml](http://www.lambifund.org/Newsletter2010-1/2010-1p2.shtml)
6. Blas, J. (2009), "UN Sees Rise in Land Grab for Food Security", *Financial Times*, September 17 2009 18:28.
7. Blythman, J. (2007), *Shopped: The Shocking Power of British Supermarkets*, Harper Perennial; Reissue edition, 2 April 2007.
8. Blythman, J. (1998), *The Food We Eat*, 2nd Revised edition, 3 September, 1998, Penguin Books Ltd, London.



9. Böge, S. (1995), “The Well-Travelled Yoghurt Pot: Lessons for New Freight Transport Policies and Regional Production”, *World Transport Policy & Practice*, Vol. 1 No. 1, pp. 7-11.
10. Borrini-Feyerabend, G., M. Pimbert, T.M. Farvar, A.Kothari and Y. Renard (2007) *Sharing Power: A Global Guide to Collaborative Management of Natural Resources*
11. Brown, L. (1982). *Building a sustainable society*. New York: W.W. Norton.
12. Browne, M. and J.Allen (2004), “Applying Life Cycle Assessment to Investigate the Balance of Energy Consumption between Production and Transport Activities”,
13. Brundtland, G. H. (Ed). (1987). *Our common future: The World Commission on Environment and Development*. Oxford: Oxford University Press.
14. Calder, W. (2005). The UN Decade of Education for Sustainable Development – A progress report. *Association of University Leaders for a Sustainable Future*,7(2), 1-8.
15. Capra, F. (1996). *The web of life*. New York: Anchor Books.
16. Catherwood, D. (1999). New views on the young brain: Offerings from developmental psychology to early childhood education. *Contemporary Issues in Early Childhood*, 1(1), 23-35.
17. Corrie, L. (1999). Politics, the provision of physical amenities, and the ‘push-down’ curriculum. *Australian Journal of Early Childhood*, 24(3), 5–10.
18. Cutter-Mackenzie, A. (2004). *Eco-Literacy: The "Missing Paradigm" in Environmental Education*. Unpublished PhD, Central Queensland University, Rockhampton.
19. Cutter-Mackenzie, A., & Edwards, S. (2006). *Does composting the fruit scraps count? Environmental education as a content area in early childhood curriculum*. Paper presented at the Australian Association Research in Early
20. Cutter-Mackenzie, A., & Smith, R. (2003). Ecological literacy: The "missing" paradigm in environmental education (Part One). *Environmental Education Research*, 9(4), 497-524.
21. Davis, J., and Elliott, S. (2003). *Early childhood environmental education: Making it mainstream*. Canberra: Early Childhood Australia.
22. Edwards, S. (2005a). Talking about a revolution: Paradigmatic change in early childhood education. From developmental to sociocultural theory and beyond.
23. Fleer, M. (2002). Socio-cultural theory: Rebuilding the theoretical foundations of EC education. *Policy and Practice in Education. Early Education: Policy, Curriculum and Discourse*, 54(1&2), 105–121.
24. Guay, L. (2001). Social Management of the Environment. *Horizons*, 4(4), 20–22.
25. Hedges, H., & Cullen, J. (2005). Subject knowledge in early childhood curriculum and pedagogy: beliefs and practices. *Contemporary Issues in Early Childhood*, 6(1), 66–79.
26. Kendall, J. (2003). Settings standards in early childhood education. *Educational Leadership*, 60(7), 64–68.
27. Kessler, S., & Hauser, M. (2000). Critical pedagogy and the politics of play. In L.Soto. (Ed). *The politics of early childhood education* (pp. 59–71). New York: Peter Lang.
28. Maturana, H. & Varela, F. (1980). *Autopoiesis and cognition*. Dordrecht, Holland: D. Reidel.
29. Michael S, P. J., & Balling, R. C., Jr. (2000) *the satanic gases: Clearing the air about global warming*. Washington, DC: Cato Institute.
30. Nyberg, B. (2001). Adaptive management – moving from theory to practice. *Horizons*, 4(3), 12–14.
31. Prigogine, I. & Stengers, I. (1984). *Order out of chaos*. New York: Bantam.