Journal of Advances in Science and Technology

Vol. VIII, Issue No. XV, November-2014, ISSN 2230-9659

ECO-DEGRADATION: A THREAT TO NATURE

AN INTERNATIONALLY INDEXED PEER REVIEWED & REFEREED JOURNAL

www.ignited.in

Journal of Advances in Science and Technology
Vol. VIII, Issue No. XV, November-2014, ISSN 2230-9659

Eco-degradation: A Threat to Nature

Tasvir Singh[1] Dr. Chander Mohan[2]

[1]Lecturer of Geography, Govt. College, BHIWANI

[2]Assistant Professor of Geography, Govt. College, Narnaul, Email: cmgeography@gmail.com

Abstract – Human have come a long way from the unicellular form, through intermediary stages, to the developing civilization and finally to what we are now. It is not the memory but the knowledge which brought profound changes in human life. The breakthroughs where knowledge became science, came with a number of systems (language, institutions, agriculture, writing, printing, schools, communication, computers, internet…) human developed. It is obvious that the power of knowledge has multiplied very rapidly in the past few years, but so have our environmental problems. The question now is, whether our knowledge tool will be able to outrun our problems and will be able to keep doing so forever. It may well be that a new class of problems will manifest, outside the scope of knowledge, and that a new way of thinking will be needed. Albert Einstein has once said that the problems that exist in the world today cannot be solved by the level of thinking that created them. If science, technology and human nature have caused our global problems, what hope do we have of solving them using the same? Science, scientists and technology, are our hope for the future, but do we know their strengths and weaknesses? Scientists are often not aware of their limitations and those imposed by the systems they have created themselves, or the confines placed upon them by society. Scientists by nature of their specialization have isolated themselves from the public and society at large. Communication is necessary to allow the public to play their part and to make science benefit society. Technology is behaving like a runaway monster, totally out of control. The question remains: can we control it and do we want to? Perhaps we won't be able to solve our problems because our world view is incorrect. The new world view requires us to alter our laws, placing sustainability at the top and all else below it. Perhaps we will need to turn all our thinking upside down. No small task indeed, but this will make future look brighter and the human to rule nature.

----------♦----------

INTRODUCTION

The idea should not be surprising, since the purpose of science has always been to control nature, not leave it alone. The western obsession with controlling nature goes back at least to the 11th century, when water power was applied industrial processes. For several centuries however progress was slow because science and technology remained somewhat apart. Technology was largely the domain of working-class toolmakers and craftspeople, while science was the ivory-tower business of the intellectually-curious and radical academic philosophers. But this was changed forever in the 1600s, especially by the writings of two European intellectuals, René Descartes and Francis Bacon.

Early modern humans quickly distinguished themselves from their ancestors, who had spent most of their time just surviving. Early modern humans launched a technological revolution when he used stone, bone, and wood to fashion more than 100 different tools. For thousands upon thousands of years, humans survived by hunting game and gathering edible plants. The shift from food-gathering to food-producing culture represents one of the great breakthroughs in history. As populations slowly rose, hunter-gatherers felt pressure to find new food sources. Farming offered an attractive alternative. Unlike hunting, it provided a steady source of food. Like farming, domestication of animals came slowly. From there, farmers could keep the animals as a constant source of food and gradually tame them. But the new settled way of life also had its drawbacks—some of the same that affected hunter-gatherer settlements. Floods, fire, drought, and other natural disasters could destroy a village. Diseases, such as malaria, spread easily among people living closely together. Jealous neighbors and roving nomadic bands might attack and loot a wealthy village. Despite problems, these permanent settlements provided their residents with opportunities for fulfillment—in work, in art, and in leisure time.

MECHANISTIC WORLDVIEW

Starting with the now famous statement, “I think, therefore I am,” Descartes tried to build a system of knowledge based purely on rational thought. He ended up with a view of the universe as a colossal

machine, all functions of which could be measured. Today, a mechanistic worldview is still known as “Cartesian,” and the belief that all questions can be reduced to calculation is, of course, a hallmark of modern scholarship and problem-solving. Descartes also contributed to the conceptual separation of humans from nature: The quest for pure objectivity requires a kind of godlike detachment on the part of the observer (humans) from the observed (nature). This separation also made nature an object of possession, control, and exploitation. But the man who really linked science and technology was Francis Bacon. His book, New Atlantis, was a utopian vision of a research community churning out all manner of data to “the effecting of all things possible”. Following these come a long line of individuals and institutions to further “the effecting of all things possible.” Thus having been increasingly about power and control, Western science has furthermore been a patriarchal institution— funded by men with power motives and conducted almost exclusively by males in highly competitive milieus. . They perhaps have more to do with “conquering” or “controlling” nature than they care to acknowledge. They want a little chaos left behind as, out of necessity; we become more organized and systematized in order to deal with the crowdedness and dangerous machinery with which our science has presented us.

The seventeenth century Scientific Revolution spanned the period between the Renaissance and the Enlightenment during the expansion of pre-industrial capitalism. All over Europe a flurry of new activities that transformed nature through machines and inventions was taking place. Tunneling into the earth for coal and metals, building forges for refining ores and hammering metals, constructing mills for wind and water power, and erecting machines for lifting and boring provided humanity with a new sense of power over nature. The development of the coal and iron industries, the enclosure of the commons for wool production for the textile industry, the cutting of enormous tracts of timber for shipbuilding, and the expansion of trade changed the natural landscape. Knowledge of the crafts, mechanics, inventions, and the properties of matter was essential to creating a storehouse of reliable, replicable information about the practical arts that would be available not just to the few, but to the many.

NATURE AND HUMAN

For most of human history, nature had the upper hand over human beings, and humans fatalistically accepted the hand that nature dealt. People lived at the mercy of nature's storms, droughts, frosts, and famines. They accepted fate while propitiating nature with gifts, sacrifices, and prayer (often within hierarchical human relationships). Failed harvests, famines, and droughts were considered God's, or the Great Spirit's, way of blaming human beings for acting in an unethical way. Only in the last few centuries have technologies and attitudes of domination stemming from the Scientific Revolution turned the tables, enabling humans to threaten nature with deforestation and desertification, chemical pollution, destruction of habitats and species, nuclear fallout, and ozone depletion. Through mechanistic science, technology, capitalism, and the Baconian hubris that the human race should have dominion over the entire universe, humanity has gained an increasing ability to destroy nature as we know it today. Some groups of people have gained great power over nature and other human groups using the interlinked forces of science, politics, and religion.

THEORY TO DOMINATE NATURE

In the early seventeenth century, Francis Bacon (1561-1626) forcefully proclaimed a secular program for the domination of nature and a pathway to recovering the paradise lost by Adam and Eve. Bacon saw science and technology as the way to control nature and thereby to recover the right which was lost by Adam and Eve. Bacon’s ultimate goal was to transform the individualistic efforts of the alchemist and the magus into a method of obtaining knowledge that would serve all of humanity. The parks, gardens, caves, deep mines, wells, pools, streams, and fountains were strategically sited to facilitate the investigations. By the end of the seventeenth century, the synthesis of the experimental and mathematical methods had given humanity the optimism that the control of nature and the secular recovery of the Garden of Eden were both possible. Francis Bacon's vision of dominion over creation and Descartes's revival of the mathematical method for knowing nature set up modernity's mechanistic view of nature. God was re-envisioned as an engineer and nature. God was re-envisioned as an engineer and mathematician, nature as a machine to be manipulated by human ingenuity. For mechanistic science, the changing imperfect world of everyday life partakes of Plato's ideal world, hence it can be described, predicted, and controlled, just as the physical machine can be controlled by its human operator. Science depends on a structural reality that allows for the possibility of control whenever phenomena are predictable, regular, and subject to rules and laws. The assumption of the order of nature is fundamental to the concept of power over nature, and both are integral parts of the modern scientific worldview. Such a worldview is completely consistent with a master narrative of remaking the world in the image of the Garden of Eden. As E. J. Dijksterhuis characterized it in the mid-twentieth century, that the adoption of the mechanistic view has had profound and far reaching consequences for the whole of society is an historical fact which gives rise to the most divergent opinions.

CHALLENGES TO MECHANISM

The optimism generated by the Enlightenment and the synthesis of the sciences of mechanics, hydrology, thermodynamics, and electricity and

magnetism by the late nineteenth century were challenged in the twentieth century. The first challenge to the mechanistic world view began with the science of ecology. Ecology deals not with mechanism's closed systems, isolated from the environment, but with open systems in which matter and energy are transferred across boundaries. The second challenge to the mechanistic world view came from the sciences of relativity and quantum mechanics, in the early twentieth century. A third challenge to mechanism came in the 1970s and 1980s from the sciences of chaos and complexity theory. We must therefore relinquish the mechanistic worldview's idea that we can predict everything in the natural world and hence humanity's ability to dominate and control nature. Classical physics and mechanistic science hold well in many dimensions of the world in which we live, but that world is nevertheless a limited domain of human experience. The unusual situations are in fact the closed systems of classical mechanics where prediction works well. However, the usual situation, rather than this very narrow domain, is that nature is fundamentally unpredictable. In the open systems of ecology, chaos, and complexity theory, prediction is far more difficult.

HUMAN PARTNERSHIP WITH NATURE

Hence there is a need for a new ethic, based not on the prediction and control of nature, but instead on a human partnership with nature. It is based on the idea that people and nature are equally important. If both people and nature are acknowledged to have rights, we have the possibility of a mutually beneficial situation. Equally innovative is the idea that the term "partners" refers not only to societal entities and institutions, but to individuals and even natural entities. A partnership ethic may offer guidelines for moving beyond the rhetoric of environmental conflict and toward a discourse of cooperation. A human community in a sustainable relationship with a nonhuman community is based on the following precepts:

- Equity between the human and nonhuman communities.
- Moral consideration for both humans and other species.
- Respect for both cultural diversity and biodiversity.
- Inclusion of women, minorities, and nonhuman nature in the code of ethical accountability.
- An ecologically sound management that is consistent with the continued health of both the human and the nonhuman communities.

A partnership ethic recognizes both continuities and differences between humans and nonhuman nature. It admits that humans are part of and dependent on nature and that nonhuman nature has preceded and will postdate human nature. But also it recognizes that humans now have the power, knowledge, and technology to destroy life as we know it today. A partnership ethic therefore goes beyond egocentric and homocentric ethics in which the good of the human community wins out over the good of the biotic community to a new ethic which entails the good of both the human and the more-than-human communities.

CONCLUSION

As partner, Nature's language differs from our own; we still have the possibility of working cooperatively with it. The result is a healthier, more aesthetically pleasing environment for our own and future generations.

REFERENCES

- Adger, W.N., N. Brooks, M. Kelly, S. Bentham, S. Eriksen (eds.), 2004: New indicators of vulnerability and adaptive capacity. Centre for Climate Research.
- Alcamo, J., D. van Vuuren, C. Ringler, W. Cramer, T. Masui, J. Alder, and K. Schulze, 2005: Changes in nature's balance sheet: Model-based estimates of future worldwide ecosystem services. Ecology and Society, 10(2), pp.19.
- Aldy, J.E., 2005: An environmental Kuznets Curve analysis of U.S. state-level carbon dioxide emissions. Journal of Environment and Development, pp. 48-72.
- Anderson, R., 2004: Climbing Mount Sustainability. Quality Progress, February 2004, pp. 32.
- Arthur, W.B., 1989: Competing technologies, increasing returns, and lock-in by historical events. The Economic Journal, 99, pp. 116-131.
- Beck, U., 1992: Risk Society: Towards a New Modernity. Sage, London.
- Behera, B. and S. Engel, 2005: Institutional analysis of evolution of joint forest

management in India: A new institutional economics approach. Forest Policy and Economics, (8)4, pp. 350-362.

- Bell, S. and S. Morse, 1999: Sustainability Indicators: Measuring the Immeasurable. Earthscan, London.
- Bojo, J., K.-G. Mäler, L. Unemo, 1992: Environment and development: An economic approach. Second Revised Edition. Kluwer Academic Publishers, 211 pp.
- Cocklin, C., 1995: Agriculture, society, and environment: discourses on sustainability. International Journal of Sustainable Development and World Ecology, 2, pp. 240-256.
- Davis, T.S., 1999: Reflecting on voluntary environmental partnerships: Lessons for the next century. Corporate Environmental Strategy, 6(1), pp. 55-59.
- Dietz, T. and P.C. Stern, 1995: Toward a theory of choice: Socially embedded preference construction. The Journal of Socio-Economics, 24, pp. 261-279.
- Doppelt, B., 2003: Leading change toward sustainability: A change-management guide for business, government and civil society. Greenleaf Publishing Ltd., Sheffield.
- Haas, P., 1990: Saving the Mediterranean: the politics of international environmental cooperation. Columbia University Press, New York City.
- Kumar, P., 2001: Valuation of ecological services of wetland ecosystems: A case study of Yamuna flood plains in the corridors of Delhi. Mimeograph, Institute of Economic Growth, Delhi.
- MNP, 2005: Quality and the future. Sustainability outlook. Netherlands Environmental Assessment Agency, Bilthoven, Netherlands, 500013010, 28 pp.
- Ostrom, E., 2000: Collective actions and the evolution of norms. Journal of Economic Perspectives, 14, pp. 137-158.
- Schaefer, A. and A. Crane, 2005: Addressing sustainability and consumption. Journal of Macromarketing, 1, pp 76-92.
- Senge, P. and G. Carstedt, 2001: Innovating our way to the next industrial revolution. MIT Sloan Management Review, Winter, pp. 24-38.
- Sharma, S., 2002: Research in corporate sustainability: What really matters? In Research in Corporate Sustainability: The Evolving Theory and Practice of Organisations in the Natural Environment. S. Sharma and M. Starik (ed.), Edward Elgar, Cheltenham, pp. 1-22.
- Wilbanks, T., 2003: Integrating climate change and sustainable development in a place-based context. Climate Policy, 3(S1), pp. S147-S154.
- Zaelke, D., D. Kaniaru, E. Kruzíková (eds), 2005: Making Law Work: Environmental Compliance & Sustainable Development. Vol. 1 & 2. INECE.