

**THE TWO CULTURES REVISITED: SOME REFLECTIONS ON
THE ENVIRONMENT-DEVELOPMENT DEBATE IN INDIA**

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I am privileged to be delivering this prestigious lecture dedicated to a most

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Over half a century ago, while giving the Reith Lectures over the BBC, the eminent British physicist-author C.P. Snow spoke of how the breakdown of communication between the “two cultures” of modern society—the cultures of the science and that of the humanities—was becoming a hindrance to understanding and addressing pressing public issues. The Lectures were later published as a book which the Times Literary Supplement in 2008 included in its list of 100 books that have most influenced Western public discourse since World War II.

This afternoon, I wish to speak of a later-day facet of these “two cultures” syndrome—the apparent gap between those espousing the case for faster economic growth and those calling for greater attention to protection of the environment. On the face of it, there should be no gap at all—who can argue against faster economic growth since that alone will generate more jobs and at the same time who can argue against the preservation of our rivers, lakes, mountains and wonderful biodiversity in its myriad forms, since that alone will make for sustainable development. But I am afraid that the two groups are not talking **to** each other—they are talking **at** each other and with every passing day, the gap seems to be widening. It seems so for a number of reasons. For one, our growth aspirations themselves have changed perceptibly and anything less than an 8-9% annual rate of real GDP growth is deemed a “slowdown”. For another, an energetic and exuberant environmental community has emerged with a very large number of well-educated youngsters in its vanguard. And, of course, our track record on environmental management certainly does not inspire much confidence.

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When pushed, a growth protagonist will say “there must be a proper balance between environment and GDP growth”. When pushed, an environmentalist will say “there must be balance between GDP growth and environment”. Notice the slight shift in the sequence in the two statements. The first implies that a fetish is being made of the environment but in the final analysis a balance must indeed be struck. The second implies that a fetish is being made of economic growth but in the final analysis a balance must indeed be struck. *Balance*, therefore, is the key. Both sides will agree on the importance of faster economic growth. Both sides will also agree on the need to reflect and factor in ecological concerns in the fast growth

One of the most interesting innovations introduced over the last decade relates to valuation of ecological cost of projects. This initiative, the entire credit for which must go to the Supreme Court, is the concept popularly known as “CAMPA” or “NPV”. CAMPA, which stands for Compensatory Afforestation Management and Planning Authority, is an innovation ordered by the Supreme Court in 2002, according to which every party, whether government or private, that wishes to divert forest area for non-forestry purposes, has to deposit a certain sum equivalent to the total value of ecological benefits lost per hectare diverted for such purpose. The value of benefits lost is arrived at by taking into account the net present value (NPV) of benefits lost, the stipulated compensatory afforestation amount and the funds accrued under the catchment area treatment plans submitted. This approach has served us well – today we have almost Rs.

product as a broad measure of national income and also estimate NDP which is net domestic product which accounts for the use of physical capital. But as yet, we have no generally accepted system to convert *Gross Domestic Product* into *Green Domestic Product* that would reflect the use up of precious depletable natural resources in the process of generating national income. Many years ago, the noted Indian environmentalist Anil Agarwal had advocated the concept of a *Gross Nature*

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Let me suggest another way of handling this new “two cultures” phenomenon. And this is to look at environment not as some sort of elitist or upper middle-class clean air or tiger protection issue *per se* but more as a public health issue. Even as India scales new heights of economic growth, it cannot afford to do so at the cost of the health of its population, its greatest asset. Recent reports show that people in different parts of India are raising serious concerns about a series of health issues due to air, water and industrial pollution. Climate change is expected to exacerbate these already serious public health problems. From unprecedented industrial and vehicular growth to the dumping of chemical waste and municipal sewage in rivers, the build up to a public health catastrophe is already underway. India faces the prospect of a significant increase in cancers and respiratory illnesses. Most of urban India faces some form of toxic health threat due to the environment.

If environmental control is seen, managed and sold as a public health enhancing intervention, then I would argue that much of this cacophony over “environment versus development” would subside. That is why recently I have taken the initiative to bring the Ministry of Environment and Forests into a partnership with the Indian Council for Medical Research and the Public Health Foundation of India. Central to the objective of this initiative is the growth of environmental public health as an academic and practical discipline and creating a new cadre of trained professionals. Environmental public health as a formal discipline should ideally integrate streams of knowledge from diverse disciplines, integrating learnings and perspectives from life sciences, especially human biology, immunology and ecology; quantitative sciences such as epidemiology, biostatistics and demography; social sciences such as environmental health economics and policies; environmental toxicology; waste management; and occupational health.

One of the more visible and even successful environmental conservation efforts in India has been Project Tiger, launched under the leadership of Indira Gandhi in April 1973. True, there are just about 1400-1600 tigers left in the wild in our country today, although this accounts for around half of the world’s tigers in the wild. There is an argument raging now on why these project tiger reserves should be protected with such ferocity, especially when they come in the way of using our coal reserves, for instance, for generating electricity needed by a burgeoning population.

Again, if the terms of the debate are posed thus—protection of tigers alone versus opening of new coal mines—I think we are headed nowhere. But when we highlight the fact that the 39 Project Tiger reserves account for some 5% of our forest areas and are home not only to tigers and other forms of biodiversity but are also places from where many of our rivers originate, critical to our livelihoods, then I believe there is a greater chance

I have to say that for too long a time, we have taken these laws and the discipline they enforce for granted. Industry has assumed that somehow these laws can be “managed” and governments too have not insisted that the laws be implemented both in letter and spirit. We have now reached a crucial juncture when *fait accompli* will not do any longer. Gopal Gandhi put it to me recently in his own inimitable way—the thrill of circumvention must be replaced by the joy of compliance.

Of course, I would be the first to accept the need to relook at the ways in which regulations are enforced. Our traditional approach has been to automatically assume that tough regulations mean an army of regulators. There is a legitimate fear that this could end up being another source of what economists call “rent seeking” or what ordinary human beings would call “harassment” or “corruption”. Of course with RTI, accountability of public agencies has increased manifold. But this may well not be enough. That is why I have been saying that we need to think of market-friendly instruments for enforcing regulations.

If you go back to the seventies and see how the US dealt with the acid rain problem, you will find that while the US Environmental Protection Agency (EPA) set the standards, what ensured cost-effective success was an emissions trading system. Recently, I invited four leading economists from MIT and Harvard to design the outline of a market-based system for us so as to enforce air quality standards more effectively. The team has prepared a concept paper which is available on our website (www.moef.nic.in) and we are going to start with pilot programmes in Tamil Nadu and Gujarat. On-line monitoring is clearly a pre-requisite for such an innovation to bear fruit.

I am also deeply conscious of the need to improve the system of environmental governance itself so as to enhance its credibility and integrity. This will go a long way in bridging the gap between the new “two cultures”. Parliament has already passed the National Green Tribunal Act, 2010 and this specialized network of courts will come into being soon. We are now finalizing the establishment of a National Environmental Protection Authority (NEPA) that will be a permanent professional body to appraise projects and monitor compliance. Right now these appraisals are done by *ad hoc* expert committees which have been plagued by a number of conflict-of-interest issues. NEPA will bring greater focus, objectivity and professionalism in our environmental appraisal and monitoring process.

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There is no doubt in my mind that India desperately needs to sustain a high growth trajectory for at least two-three decades. This is absolutely essential for meeting our pressing social objectives and also our key strategic objectives. At the same time, the “growth first at all costs and environment later” approach is clearly unacceptable. India needs to press into its development all that modern science and technology has to offer. At the same time, the notion that we can impose technological fixes without caring for their larger ecological consequences and without addressing larger social concerns is clearly untenable anywhere, but even more so in an open, argumentative society like ours.

And increasingly these concerns are of the poor and the traditionally disadvantaged sections of society. This is giving a whole new dimension to the environment *versus* development debate. In fact, it is, in some ways, making the debate as formulated largely exaggerated. Sunita Narain puts it well when she says that India’s environmental movement is about ofatlat 6.7425em1873TD0.00061489 Tw(disadvand)1(ly)0.0007 Tc0.328(social cor

the presence and participation of women in institutions of local green governance so essential for achieving the goals of sustainable development.

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I am now coming to the end of this lecture. Let me end as I started—by remembering Professor Satish Dhawan. His academic credentials were impeccable. He was steeped in modernity. Yet, he was never oblivious of the larger social context in which he operated. It is this spirit that we need to recapture—this spirit of public engagement cutting across disciplinary boundaries but with discipline and in a spirit of humility. This engagement is essential if we are to bridge the two cultures. I had spoken earlier of the breakdown of communications between the two sides. I saw this most vividly during the course of the public consultations I had on *bt-brinjal*. Incidentally, the gap was at its vociferous peak in the two cities which pride themselves as representing the scientific and technological face of a new India—namely, Bangalore and Hyderabad. Here particularly, and in other cities too, I found the scientific community unable to communicate in a language and in an idiom that is co