

Rethinking Growth, Redefining Development Addressing India's Water and Energy Needs

Shripad Dharmadhikary

*First Annual Girish Sant Memorial Lecture**

Friends,

I wish to start by appreciating the initiative by the Batch of 1986 in instituting this annual lecture in the memory of Girish. I think it will be an important contribution to keeping alive his memory and the inspiration that he created through his work. Girish showed that one could be different, even a little "crazy" and yet enrich society. His work showed that one must dream, but also that it is necessary to build institutions that can carry out the dreams in an effective manner. The institution of this lecture is a recognition by his peers - often the most important of all acknowledgements - of what he stood for.

I would also like to thank the Organising Committee and IIT Bombay for inviting me to deliver this lecture.

Girish was not only a close friend, but also a fellow professional whom I greatly admired and respected. Girish and I had several occasions to work together, and I cherish those moments as being personally enjoyable and intellectually stimulating. A lot of our initial learning was also done together. I remember a visit in early 1994 to Singrauli, on the border of UP and MP. Both of us were members of a team that was visiting the area to study the impacts of the large number of coal mines and thermal power plants there. Singrauli then was known as the energy capital of India, with a large concentration of coal based power generation capacity. With the Rihand dam and the Govind Ballabh Pant sagar reservoir at its heart, the many coal mines and the pit head thermal power stations, Singrauli was what could be called an engine of growth.

Of course, the proposed thermal power development in Singrauli region today - with close to 40,000 MW in pipeline - would dwarf the Singrauli of 1994, but that is also the reason why our 18 year old visit is still relevant.

Our team found that conditions within this engine of growth were abysmal. On one hand was the township of the thermal power plants. Entering it, one found broad roads, bright lighting, large gardens and big buildings. It was as if we

* Text of the **First Annual IIT Bombay - Girish Sant Memorial Lecture**, 7 November 2012, at IIT Bombay, delivered by Shripad Dharmadhikary. Actual delivery may differ slightly from the written text.

were in another country. Yet, outside this enclave, were the mess and litter of ordinary India.

Thousands of people who had been displaced by the dam, by the mines and the power plants were stranded in the area without any resettlement, living in colonies without much infrastructure. They and other residents bore the brunt of severe air and water pollution. To cap it all, many villages and communities in the area - ironically even those whose lands had been acquired and on which lands now stood power houses - did not have electricity. An unforgettable photo taken around that time by leading photojournalist Prashant Panjiyar captured this in an eloquent manner. It showed an old man reading a book under the light of a lantern, even as the bright lights of a power plant were shining in the background.

Every period has its symbols for development, of progress, of growth. Singrauli was one such symbol. Big dams like Rihand, like Bhakra were another such symbol. Those of you belonging to my generation will remember these being famously described by Nehru as Temples of Modern India. One such temple which has been a work in progress for many decades is the Sardar Sarovar Dam on the Narmada river in Gujarat. I have had the benefit of seeing this project from inside out, from close quarters, particular from the eyes of those who have borne the brunt of the impacts of this project.

Sardar Sarovar project is a massive project with a 120 m high dam located near Rajpipla in Gujarat, whose submergence spreads 214 km behind to include 245 villages in Gujarat, Maharashtra M.P. Its vast canal network is supposed to irrigate 1.8 million ha of land, provide drinking water to over 8000 villages and has an installed capacity of 1450 MW. It will displace - officially - more than 44,000 families, and have massive environmental impacts.

For years, thousands of people affected by the Sardar Sarovar have been struggling against it, challenging its impacts. This struggle, popularly known as Narmada Bachao Andolan (NBA), is one of the well known mass movements of post independent India. The fierce protests led by NBA have challenged not only the injustice and inequity of this specific project, but have raised fundamental questions about the larger model of development that the project represents.

I have been privileged to have been a full time activist of this struggle for more than 13 years, where I lived amongst and shared the struggle of the affected populations.

The Narmada project mirrors in every way what we saw in Singrauli.

A Symbol of India's Progress

On 5th April 1961, a helicopter carrying the then Prime Minister of India, Jawaharlal Nehru landed at the remote village of Kevadia in the state of Gujarat. The tribals of the surrounding villages thronged the place to try and get a glimpse of the Prime Minister - a rarity in the days when there was no television and there were hardly any roads to bring the newspapers to the villages - and his helicopter! Kevadia's claim to fame was that it was on the banks of the Narmada river, and just a few kilometres away from the site of the proposed dam, then known as the Broach Irrigation project. Nehru's mission was to lay the foundation stone for this project, another in the series of large dams that the Prime Minister had described as "new temple[s] of a resurgent India and the symbol[s] of India's progress".¹

Soon after the ceremonies, Nehru departed in his helicopter. And he left behind what was indeed "a symbol of India's progress".

The person whose field had been taken for the helipad had been paid paltry cash compensation that was not sufficient for him to buy replacement land. The acquisition of more lands in six villages including and around Kevadia soon followed². These lands were taken for the construction of warehouses, depots, guesthouses and a colony to house the engineers and staff of the project.

The compensation to these families too was just some cash. They were told that they are being paid only for the 'standing crop' but found later to their dismay that this was the full and final compensation for their lands. They had little idea of why their lands were being taken let alone have any say in it. Most were not able to even read what they had signed off on - rather, given their thumb impression on.

These families lost their livelihoods, and many lost their homes. There were no resettlement plans or provisions for them and they had nowhere to go. So some moved to the periphery of their old lands and villages, some continued to live where they were, but now considered as illegal squatters, in makeshift huts in clustered settlements, and watched as the colony was built for the engineers and staff. The colony - now known as Kevadia Colony - had wide roads, plenty of space between the houses, and lots of open lands. After all, one did not expect the officials to shift to remote dam sites without proper housing, water, schools and other facilities.

With their major source of income gone, most of the tribals sought employment with the project and its offices. The men became loaders, labourers and peons in the offices. The women became domestic servants at the homes of the officers. Once proud farming families were reduced to serving water and running errands for the staff, or washing clothes and utensils in houses erected

on what were once their lands. Dignified farming households were transformed to daily wage labourers, dependent on the benevolence of others.

Meanwhile, men, machinery, contractors, vehicles from outside flooded the area. Slowly but surely, they took over the physical, social and community spaces. The project became the dominant identity of the place, all major activities and decisions revolving around it. Local people, already pushed to the periphery physically and economically, became inconsequential in their own lands. Village Kevadia became Kevadia Colony.

Kevadia colony is not an exception, it is typical. Kevadia colony indeed symbolises progress in India - though not in a sense that Nehru had probably meant - the progress of an elite few, at the cost of the poorest and the weakest of the society³.

The Narmada Struggle

What followed in the Narmada valley was an extension of the happenings at Kevadia - the complete bypassing of the people in the valley, the promises of large benefits to justify the project, the underestimating of costs and impacts, and pushing it with the use of brutal force.

The NBA recognised this process and that is the reason why NBA made it clear right from the beginning that the first and foremost issue for it was not that of resettlement but of displacement. That is, before one could talk of how the people are to be resettled, it was important to answer the more fundamental question - why were they being displaced, and was this displacement justified?

Such projects - and the financial, social, environmental costs paid for them - are justified on the grounds of larger "national interest", or development or growth. NBA argued that such a national interest could not be concluded merely because the government said so; that it needed to be established through a due process. Such a process would involve comprehensive studies of the costs and benefits of the project, the distribution of these, the various alternatives available and of course making a judgment about the balance of these costs and benefits. The key element was that the affected people should have a meaningful role in the process of making this judgement.

In the specific case of the Narmada project, the people demanded that all the studies be made public, that the people be allowed to ask questions about this, and then the viability and desirability of the project be judged based on these studies, through a process in which the affected people would have a central role.

The state refused this demand of the NBA. Undeterred, the NBA started looking at these studies on its own. It found that many crucial studies remained to be

done. It also found that the studies done till then showed many serious adverse impacts. It discovered that not only were the benefits overestimated, but that the most benefits were to accrue to already better off areas, even as the justification offered was of the water needs of the drought prone regions. It also found that the resettlement of the thousands of families to be displaced was impossible. After a three year long process, the NBA decided to completely oppose the project.

So long as NBA was talking about resettlement, it was acceptable, and the government was ready to engage with it. However, when NBA started questioning the displacement, and as a corollary the project itself, its stand began to be seen as "extreme". NBA was labelled as anti-development.

I am very much tempted to talk about the Narmada struggle itself, for it is a testimony to the courage, determination and tenacity of thousands of ordinary people in face of huge odds, including the full deployment of state power, and the power of large economic interests. However, time does not permit it, and it would be a digression from the main theme at hand today. I do hope that all of you will have an opportunity at some time to know more about the struggle.

Suffice to say that it has been a long and intense fight, with thousands and thousands of people putting everything they have into the movement. Many people staked their very lives, braving rising waters, police repression and attacks from non-state actors. The movement drew support from all over the country and the world. One of the most important impacts of the Narmada movement has been to create a debate about the very nature of the development paradigm.

Today, more than 50 years after the foundation stone was laid, the dam and project still remains incomplete, partly due to its own internal contradictions and partly due to the struggle.

Questioning Development

The reason to dwell at length on the experiences of Singrauli and Narmada is that they reveal important reasons why we need to rethink the process of development that they represent. And also offer important insights into what needs to be done.

Of course, over the years, the symbols of development may have changed. For today's generation, other things may be better icons of development - the ubiquitous cell phone, the computer, the shining mall, and of course, the automobile. Yet, behind the glitter of all these lurk good old fashioned dams and mines and coal plants. Even if they are no longer the visible symbols of development, they remain essential to run the entire apparatus of growth and progress. The water and the energy (electricity) needed to drive growth -

today's central developmental preoccupation - is to come essentially from these big dams, the coal mines, the thermal power plants. In other words, they may have moved behind the scenes, but they still are the central to the paradigm of development that holds sway.

A compilation of figures from the Ministry of Environment and Forests showed that as on April 2012, more than 700,000 MW of thermal power plants were in the pipeline. About 80% of this, or 560,000 MW was coal based capacity⁴. This is around 4.7 times the existing coal capacity in the country. Meanwhile, various plans to build dams and hydropower projects in the Himalayan states suggest more than 300 projects totalling to more than 90,000 MW are in the pipeline⁵. Further, much of India's surface water use is expected to come from hundreds of large dams built and to be built on almost all the rivers of the country. In addition, the massive Interlinking of Rivers project will, if implemented, need more than a hundred large dams to be built.

Unfortunately, the reality of all these coal mines, thermal power plants and dams has not changed much from what Singrauli and Narmada have shown. That is why there is an urgency to learn from their experiences. The current development and growth process retains three key characteristics revealed by the struggles around Narmada, Singrauli and others.

First of all, its implementation involves gross injustice. Local communities are bypassed, have little say but often suffer severe impacts including disruption of their lives, livelihoods, culture and even identity.

Two, it is often iniquitous in sharing of benefits, and costs. Local communities are mostly left out of the share of benefits. Even when the benefits are to accrue to society at large, the poorest and the most marginalised are the last, if at all, to receive the benefits.

Three, it is based on large scale extraction of natural resources with severe impacts on the environment.

These require that we need a radical re-look at development and growth from three aspects: its process, its sharing of benefits and its very nature.

Participatory Development

One of the most important changes that is needed is to meaningfully involve local and potentially affected communities in decision-making processes. The vision of how to use local resources must necessarily involve - if not initiate from - local communities. In particular, use and allocation of resources like land, water, forests - all key to the livelihoods of the poor, must be done with the consent of the community.

There is some recognition for this, both internationally and nationally, but actual implementation still remains mostly as lip service.

The need for Free and Prior Informed Consent is now an integral part of the international discourse for projects in tribal areas. The World Commission on Dams has recommended it for dams in tribal areas. India's own PESA (Panchayat (Extension to Scheduled Areas) Act 1996) provides for the *gram sabha* to be consulted, in Fifth Schedule (Tribal) areas. The proposed new land acquisition law will require consent of 66% of the land owners before land can be forcibly acquired for private projects from the rest. But all this is still very limited. The meaningful involvement of local and affected communities in decision making needs to be far deeper and more comprehensive.

Some people express a fear that such a process will give a virtual veto to local communities over resource use, and can be used either in an obstructionist manner, or as a tool to blackmail for disproportionate gains.

Such apprehension is an expression of an implicit assumption that local communities do not value development of their local resources, that they are unreasonable. If the community sees - or can be shown - that it is in their greater interest to develop resources in a particular manner (say by building a dam on the river), that they will gain great benefits, then why would they not support it? Of course, in some cases we may see communities refusing projects with great material benefits due to some other reasons - cultural importance attached to a place, for example. But such cases will be few, and in any case, need to be respected.

We need to ask ourselves the question -does development have to appear to local communities as an aggressive attack rather than an opportunity for bettering their lot? Why should communities be passive victims (or even passive gainers) and why should they not have a meaningful say in matters that gravely impact their lives?

Sometimes, people ask me what keeps a struggle like the NBA going. How can ordinary people, with limited resources, keep going on year after year, with protests actions, facing police excesses, taking out precious time from earning their meagre livelihood? It is certainly not due to the small material benefits they (may) get in the form of enhanced compensation. One of the main reasons why people spend so much time and energy in struggles like these is because it offers them basic dignity. It offers them a sense of being in control of their own lives (and resources).

Unless the development process can offer such control and say to local communities, we are going to see escalation in conflicts, and /or escalation in pushing growth with the use of force.

Enshrining Benefit Sharing

This brings us to the second important change. As we have seen, large development projects have often bypassed local communities as far their benefits are concerned. Electricity, water, employment - all seem to go to someone else. Benefits accruing to local communities are incidental or limited to a few. That is why it is crucial to enshrine formal benefit sharing mechanisms in development projects. Such mechanisms can ensure benefits to individuals, households and communities. The benefits can be monetary, non-monetary (e.g. electricity) or in terms of common infrastructure.

Apart from it being a part of basic rights, it is clear that sharing of benefits is crucial for achieving local acceptance of a project. Again, there are some welcome steps. For example, the proposed Mines and Minerals (Development and Regulation) Bill 2011 provides for 26% of profits of coal mines to go to a District Mineral Foundation, part of which will be used to make recurring payments to affected people. But such measures are far and few, and their efficacy remains to be tested.

However, sharing benefits is not only about local communities. Even at the larger level, it is necessary to ensure that benefits from developmental projects and programs go preferentially to the marginalised, the poor and those left out so far. This will require several things. One, it will require earmarking certain benefits for such population. Second, it will require putting in place mechanisms to ensure that this happens.

Third, it will entail taking a re-look at the assumption that economic or GDP growth will automatically address the needs of the marginalised and the vulnerable. Unfortunately, the ground reality does not bear out this last assumption. Witness how, since the 1991 liberalisation of the economy, we have had massive increase in the electricity generation capacity and electricity consumed (from about 190 Billion units to 690 billion units annually). Yet, 33% of our households are still without electricity.

Currently, a number of developmental projects are justified saying they will help achieve a high GDP growth. The implicit assumption is what the World Bank calls (the Bank is fond of coming up with such one-liners) "A rising tide lifts all boats". But all boats are not equal. There is a need for an unravelling of the GDP growth to see really where the fruits of development are going, and then design policies that will ensure projects and programs that will better target the under-privileged.

Environment and Development

The third aspect is of environment and development. Every human action has an impact on the environment. We cannot have any intervention, any

developmental activity that has zero impact on the environment. So the aim has to be to minimise the impact on the environment and balance developmental needs.

There are many problems with the tools and methods being used currently to assess environmental impacts and managing them. The quality of EIAs (Environmental Impact Assessments) is often shoddy, they are prepared more with the intention of securing clearances rather than any consideration for safeguarding the environment, and they come very late in the project cycle and hence do not play any role in the decision-making around the project. These problems need to be addressed.

There are other issues also, like involving the local communities in preparation of the EIAs and also in the decision-making process.

However, the impact of the current model of growth and development is so overwhelming that it needs thinking on a much more fundamental level.

We - as a society - need to step back and think about what we want our world to be. For example, do we want our rivers to flow?

Today, the way water and energy plans are being made and rolled out, they require every river to be dammed and / or diverted, not just at one point, but at many many points. Rivers in peninsular India like the Krishna have been so heavily dammed and so much water has been diverted that they have become closed basins, that is, they don't reach up to the sea any longer. We have already seen that massive plans are afoot to build several hundred dams on Himalayan rivers. Virtually every river is likely to end up with a cascade of dams, and most rivers will end up running large parts of their lengths through tunnels as water is diverted from the river course. For example, in the Lohit basin in Arunachal, a cascade of six projects totalling to 7918 MW are being planned, all within a length of 86 kms. There are debates about whether 1 km is too short a distance to have between successive dams on a river and whether this should be extended to 2 kms.

In short, if current plans - for water and electricity generation - go on as planned, it is likely that there will be no free flowing river left in the country soon.

We need to think about whether this is what we want for our future. Of course, I will vote for a future where we still have our rivers flowing.

We will need to extend - or rather build - this vision of the future to include water, and energy and minerals, and rivers and forests and hills. And many other things.

This larger vision we collectively have for our environment -and that includes the human communities in it - will determine how we view growth. I would argue - strongly and unequivocally - for a vision in which we are much kinder to our environment, and that means to ourselves, than we are presently. Being kinder to environment may mean less material output, and less consumption, since any consumption will be derived directly from extraction from the environment, but this is likely to be compensated for in terms of other important things, things we can value and cherish.

Indeed, any vision is about values. Values not only mean a code of ethics, but what we collectively find important, what is worth more to us than something else. In articulating a new vision, we are essentially articulating a different set of values, and reshaping the notions of growth and development in alignment with these values.

A number of people's movements across the country challenging large projects show what elements of such a vision could be. In all these cases, while the struggles - just like the Narmada struggle - are rooted in survival for the communities, they also advance some critical values. Indeed, survival often includes the preservation of these values, not just economic or material survival.

In Kerala, the people of the Chalakudypulza have been opposing the construction of the 163 MW Athirapally dam. One of the reasons for opposing the dam is that it will destroy the stunningly beautiful Athirapally water fall. In Arunachal, the Idu Mishmi people of the Dibang valley are fiercely battling the 3000 MW Dibang hydropower project. One of the reasons is that the flowing Dibang is the core of their identity. The fight of the Dongaria Kondh against global giant Vedanta to protect the Niyamgiri mountain in Odisha is well known. The tribals assert that the mountain is sacred for them. On one side is bauxite worth millions of dollars. On the other side is the Niyamraja whose value is beyond price. The Dongaria Kondh tribes have a vision of the world. In that vision, the rightful place for bauxite is in the ground, inside the hill. The untouched Niyamgiri has the pride of place.

These and many other movements, campaigns, thinkers, communities are putting forward threads that can be woven into a tapestry of a different vision of environment and development. In this vision, there is likely to be less coal, less aluminium, less steel, may be less electricity. But there are likely to be more forests, more flowing rivers, more unscathed hills. Not just this, by its very definition this vision values more equity, more justice, a decent living for everyone.

Is such a vision possible? I believe the answer is a "yes". There are hundreds of people who are working on developing some elements of such a vision, of making it into a reality. My own work is currently centred on this. A part of

Girish's wide range of work in his last days related to this. Indeed, his last article, published just 2 days before his untimely demise talked about "a multi-dimensional solution" to India's energy crisis that would have a three-pronged strategy to "replace, improve, and reduce"⁶. I can recommend a recent book written jointly by an environmentalist and an economist, *Churning the Earth* that has an excellent compilation of efforts engaged in the realisation of this vision on the ground⁷. Even with all this, a lot more work needs to be done to define and detail this vision and how it can be realised in all its complexity.

But there is enough evidence to see that such a vision - where development and growth is participatory, has more equitable sharing of benefits and costs, and is in harmony with the environment - is possible, and is also urgently required.

The creation and practise of such a vision what I mean by Rethinking Growth, Rethinking Development.

Thank You.

Shripad Dharmadhikary

manthan.shripad@gmail.com
www.manthan-india.org

¹ Speech by then Prime Minister, Jawaharlal Nehru during the dedication to the Nation of Bhakra-Nangal Dam and Project in October 1963. Website of Bhakra Beas Management Board http://bbmb.gov.in/english/history_nangal_dam.asp Accessed October 3, 2009

² In India, land for such projects is compulsorily acquired under the Land Acquisition Act 1894.

³ This section on the Kevadia colony taken from a paper by this author that was presented at "**Reversing the Flow: Big Dams, Power and People in Global Perspective**", a Conference to explore the historical and cultural contexts of world dams in Ghana, India, China, Canada, Afghanistan, and the Columbia River Basin. Organized by Center for Columbia River History, at the Washington State University Vancouver, Vancouver, WA Washington, November 7, 2009.

⁴ Compilation by Prayas Energy Group, updating the Prayas Report "*Thermal Power Plants on the Anvil: Implications and Need for Rationalisation*", of May 2011. Original Report at <http://www.prayaspune.org/peg/publications/item/download/343.html>

⁵ *Mountains of Concrete – Dam Building in the Himalayas*, International Rivers. Authored by Shripad Dharmadhikary. December 2008. Available at <http://www.internationalrivers.org/resources/mountains-of-concrete-dam-building-in-the-himalayas-3582>

⁶ "Handling the energy crisis", GIRISH SANT, Hindu Business Line, 30 January 2012, at <http://www.thehindubusinessline.com/opinion/article2845265.ece?homepage=true>

⁷ *Churning the Earth – The Making of Global India*, Ashish Kothari and Aseem Shrivastava, Penguin / Viking Press, New Delhi. Published 2012.

Girish Sant (1966-2012)

An IIT Bombay alumnus, Girish Sant obtained his B.Tech. in Chemical Engineering in 1986 and Master's in Energy Systems Engineering in 1988. As a student, Girish was a keen mountaineer and loved spending time in the Himalayas.

Girish started his professional career by teaching Chemical Engineering in the Bharati Vidyapeeth College, Pune, followed by a short stint with the Systems Research Institute where he researched trends in energy and appliance usage with changing urbanization in Western Maharashtra. In 1989, Girish began work on macro-level energy policy and planning, starting with a detailed Integrated Resource Plan for Maharashtra - inspired by the pioneering work of his mentor, Prof Amulya K.N. Reddy from the Indian Institute of Science, Bangalore.

Girish's firm belief that professional skills should be used to address pressing social questions led him along with his doctor and engineer friends to start PRAYAS in 1994. The word 'Prayas' means 'focused effort'. It is a non-governmental, non-profit organisation based in Pune. He represented India in several international fora on climate and energy issues; authored a range of scientific papers; won several awards; and was a member of various committees of government as well as civil society. His hard work, his commitment and dedication to the cause of the marginalized are an example for everyone to emulate. He always strived for and was driven by the need for tangible impacts.

Girish was truly a great team leader and team builder and had an innate ability to inspire and motivate everyone to strive for something higher. Above all, his friends and colleagues remember him for his humility, simplicity, and the humane touch in his professional and personal relationships.

Shripad Dharmadhikary

Shripad completed his Bachelor of Technology (B.Tech.) in Mechanical Engineer from Indian Institute of Technology, Bombay in 1985.

After a couple of years' work with small scale industry, his interest veered to issues of environment and development, seen in a framework of justice, equity and sustainability. His work since has remained rooted in these concerns.

From 1988 to 2001, he was a full time activist with the *Narmada Bachao Andolan* (NBA) - a mass movement of the people affected by large dams on the Narmada. He lived among and worked with the affected people. Responsibilities handled in the NBA included documentation, research and analysis, village level mobilisation, planning and participating in mass action programs, networking with other organisations, the international campaign of the NBA, the Supreme court case filed by the NBA.

Shripad was associated with the World Commission on Dams (WCD) since its inception in Gland, Switzerland, and later as a member of the WCD Forum. He represented NBA on the Steering Committee of the UNEP- Dams and Development Project from 2001-2004 and as an Alternate Member till the end of the project in 2006.

From Oct. 2001, he relinquished day-to-day responsibilities in the NBA and set up the *Manthan Adhyayan Kendra*, a policy studies centre engaged in researching, monitoring and analysing water and energy issues. Apart from several articles and booklets on issue of water privatisation, Shripad Dharmadhikary led a major research on and authored the report of a study of India's well know dam and power project, the Bhakra Nangal project. The report is titled *Unravelling Bhakra*.

Since 2011, he is also working with Prayas Energy Group, Pune (part time).

He is on the Steering Committee of the *Forum for Policy Dialogue on Water Conflicts in India*.

He was a member (in 2011) of Government of India's Planning Commission's two Working Groups for 12th Plan on *Urban and Industrial Water Supply*, and on *Model Bill for State Water Regulatory System*.

Shripad writes regularly on the issues of water, energy and development. He is based near Pune, India.

----- END -----