



South Asian Network for Development and
Environmental Economics

IN THIS ISSUE

- **From the Editors** 1
- **Research News** 2
 - New SANDEE Grants
 - Research Completed
- **Publications and presentations** 4
- **Focus** 6
 - Tribals and Forests: A discussion of
Ground breaking legislation in India
- **Discussion**
 - Tribals with tigers, or tribals vs. tigers? 8
 - Recognition of Forest Rights: An
opportunity to correct legal anomalies 9
 - Four hectares of Forests: Correcting
history or destroying collective future? 9
 - Survival with dignity: made possible 10
- **Eco-news** 11
- **SANDEE Activities** 12
- **Other News** 13
 - Articles of possible interest

Dear Friends and colleagues:

SANDEE saw many changes in 2006. We adjusted to SANDEE life without our long time colleague Manik Duggar, strengthened our governance structure and welcomed Dr. Y.K. Alagh as a management committee member, and Priya made a big move to settle in Bangkok for a few years. Many changes, some hiccups but all positive in our evolution as a network.

We have also made some significant programmatic choices. Over the last few years, we have had a strong focus on resource institutions, poverty and valuation of environmental-health costs. We will continue to address these issues but we have taken on another challenge – global climate change and its implications for South Asia. Last December we organized a workshop on the economics and science of climate change and were privileged to have faculty such as Profs. Ramanathan from San Diego, Will Steffen from Australian National University and Partha Dasgupta. We hope to be able to support some exciting research in this area as we move forward.

We are pleased to bring you a different type of newsletter with a policy focus on a very topical issue in India. Read on to find out more and learn about how proud we are of the many achievements of members of the SANDEE family.

- Rucha, Priya and others at the SANDEE secretariat.

SANDEE....

The South Asian Network for Development and Environmental Economics is a regional network that seeks to bring together analysts from the different countries of South Asia to address environment-development problems. SANDEE's mission is to strengthen the capacity of individuals and institutions in South Asia to undertake research on the inter-linkages among economic development, poverty, and environmental change and to disseminate practical information that can be applied to development policies.

RESEARCH NEWS

NEW SANDEE GRANTS

In response to SANDEE's 13th call for pre-proposals, SANDEE received 95 concept notes from around the region. A rigorous review process involving SANDEE's Management and Advisory Committee and regional and international reviewers was undertaken in mid 2006. The following three projects received the grants:

Transactions costs and innovations among new institutions in community-based water resource management in Nepal

– Ramchandra Bhattarai

In Nepal, as elsewhere, there is now a major push to strengthen community managed irrigation systems and devolve more responsibilities to farmers. In this context, Ramchandra seeks to estimate the transaction costs associated with farmer managed irrigation systems. In an attempt to understand the evolution and sustenance of institutions, his study will identify transaction costs, evaluate their components and examine factors influencing them. The study will collect and use both secondary and primary data from about fifty irrigation systems and four hundred households. The results of this study will guide policy makers in the context of their support for community-managed irrigation.

Poverty alleviation through forest resource management: An analysis of Leasehold Forestry in Nepal

- Bishnu Prasad Sharma

Nepal adopted the Leasehold forestry (LHF) programme in the 1990s to tackle the twin problems of regenerating degraded land as well as alleviating rural poverty. This programme provides a poor household with about one hectare of degraded land for raising forest-based products for 40 years, extendable by another lease. The LHF programme is a demand-based programme

that has rapidly expanded to 26 of the 75 districts of Nepal within a short span of time. Bishnu will study the degree of success LHF has had in reducing poverty among participating households. The results of this study will provide policy makers with important insights on management of degraded land for poverty alleviation and will be useful not only in Nepal but in other countries in South Asia, where similar problems are faced.

Economics of an urban drainage system: A case study of Cuttack City, Orissa, India (Study Grant)

- Jogasankar Mahaprashasta
Cuttack, flanked by two rivers, is now beset with problems of unplanned urbanization and inadequate drainage. A major difficulty it faces is periodic flooding and waterlogging. This creates health hazards, foul smell, disrupts communication and endangers lives and property. Jogasankar believes that efforts to improve drainage infrastructure has run into financial difficulties with local authorities that underestimate the demand for it. This study, therefore, seeks to estimate the willingness to pay by urban households for an improved drainage system in Cuttack City. There is already a plan to invest in drainage infrastructure and Jogasankar's study will identify the benefits of undertaking this action. It will aid policy makers in devising revenue instruments that would help pay for improved urban drainage.

RESEARCH COMPLETED

This section presents abstracts from the SANDEE's working paper series. Full papers are available online at www.sandeeonline.org

Groundwater Irrigation In North India: Institutions and Markets

- A. Banerji, Gauri Khanna and J.V. Meenakshi
SANDEE Working paper No. 19
a.banerji@gmail.com

This paper analyses the institutions and markets that govern groundwater allocation

in the sugarcane belt of Uttar Pradesh, using primary, plot-level data from a village which shares the typical features of this region. Electricity powers tubewell pumps, and its erratic supply translates into randomness in irrigation volumes. The paper finds that plots are water-rationed, owing to inadequate supply of power. A simple model shows that a combination of such rationing and the village-level mechanism of water sales can lead to misallocation of water across plots, and result in large crop losses for plots that irrigate using purchased water. The authors infer the existence of a social contract that mitigates these potential losses in the study area to a remarkable extent; in its absence, average yields are estimated to be 18% lower. This finding that the water allocation is close to efficient (given erratic power supply) marks a sharp contrast with much of the existing literature.

Notwithstanding the social contract, the random and inadequate supply of power, and therefore water, is inefficient. This dysfunctional power supply is part of a larger system of poor incentives to produce reliable and adequate power. In simulations the authors find that such reliability can improve yields by up to 10%, and pay for a system of electricity pricing that gives incentives to the power supplier to actually provide adequate power. A rough first analysis suggests that a 15% mark-up on the economic unit cost of providing electricity would make for inter-temporally efficient water use.

Pesticide Use in the Rice Bowl of Kerala: Health Costs and Policy Options

- P. Indira Devi
SANDEE Working Paper No. 20
induananth@yahoo.com

This study examines pesticide use in Kuttanad, India, an ecologically sensitive area often referred to as the rice bowl of Kerala. Using primary data collected from pesticide applicators and farm labour, the study assesses short-term health costs associated with pesticide exposure. It finds

that the toxicity level and dose of pesticides can exert a significant effect on the health of pesticide applicators. The average expected health costs from pesticide exposure are Rs. 38 (US \$0.86) per day or approximately a quarter of the average daily earnings of the applicator.

The study finds that health costs can be mitigated considerably by reducing the dose of pesticides used. For example, a 25% reduction in either the dose of the most toxic chemical used, or in all pesticide doses, results in a 16% and 24% reduction in health costs respectively. Dose reduction is a desirable and feasible strategy that can be achieved either by restricting the quantity of pesticide used or by diluting the amount sprayed with the recommended levels of water. Less than 2% of the applicators understood the toxicity levels of the pesticides they used. Thus, there is ample scope for reducing pesticide exposure through training and agricultural extension services.

Estimating Economic Benefits from Arsenic Removal in India: A Case Study of West Bengal

- Joyashree Roy
SANDEE Working Paper No. 21
jroy@cal2.vsnl.net.in

People living in almost 50 percent of the districts in West Bengal are exposed to arsenic contaminated water. The paper aims at estimating the economic costs of arsenic related health problems. Households undertake various averting and mitigating actions to either decrease the exposure of their family members to unsafe water or to alleviate the health effects of consuming arsenic contaminated water. In order to identify the benefits from arsenic safe water, the study estimates a three-equation system that includes averting actions, medical expenditures, and a sickness function. The data comes from a primary survey of 473 households carried out in the districts of North 24 Parganas and Midnapore, West Bengal. Parameter estimates are used to derive annual

marginal benefits of reducing arsenic exposure to a representative household.

The study finds that for a representative household, reducing arsenic concentration to the safe limit of 50 µg/l will result in a benefit of Rs. 297 per month. The current cost of supplying filtered piped water by the Kolkata Municipal Corporation to households is Rs 127 per month per household. Thus, investing in safe drinking water is economically feasible and households are willing to pay for such investments if made aware of the effective gain in welfare. Poor households, who makeup the highest proportion of arsenic affected households and incur the largest number of sick days, will be the major beneficiaries of such investments.

PUBLICATIONS & PRESENTATIONS

Adhikari, B. and J. C. Lovett (2006), 'Transaction costs and community-based natural resource management in Nepal', *Journal of Environmental Management* 78(1): 5-15.

Saudamini Das (2007) 'Storm protection Value of Mangroves from the Valuation of Expected damages to Properties and Lives due to cyclones in Coastal Orissa', in P. Kumar and S.Reddy (eds.) *Ecology and Human Well-being*, New Delhi:Sage Publication.

Himayatullah Khan (2006) 'Poverty, Environment and Economic Growth', in *Troubled Times: Sustainable Development and Governance in the Age of Extremes*, Karachi: SDPI and Sama Editorial and Publication Services, 187-203

Mukhopadhyay, L (2006), 'Potential of successful voluntary participation in effort regulation programme in common property resource field nested in private property regime with inequality' Kumar, P and Reddy, S (Eds) *Ecology and Human Well Being*, Sage Publication, Delhi.

S. Madheswaran (2007), 'Measuring the value of Statistical Life: Estimating Compensating Wage Differentials among Workers in India', *Social Indicators Research*, Springer publication.

Kishore Atreya (2006), 'Health and environmental costs of pesticide pollution in Nepal'. Paper presented in "International Seminar on Environmental and Social Impacts of Agricultural Intensification in Himalayan Watershed", by Kathmandu University in collaboration with Norwegian University of Life Sciences and Bioforsk, Norway Kathmandu, October 15 -17.

Kishore Atreya (2006), 'Acute health symptoms and costs of pesticide pollution in Nepal'. Paper presented in "National Conference on Integrated Pest Management" jointly organized by Plant Protection Society/Nepal, Plant Protection Directorate and FAO, Kathmandu, August 25 - 26.

Saudamini Das (2007), 'Mangroves of Orissa, Super cyclone 1999 and Storm Protection'. Paper presented at National Seminar on "National Environment Policy-2006. Objectives, Strategies and Implementation", organised by the Department of Economics of Jamia Milia Islamia in association with the Nelson Mandela Centre for Peace and Conflict Resolution at Jamia Milia Islamia, New Delhi, Feb-20-21.

P. Indira Devi (2006). 'Pesticide or "Healthicides"? An attempt at estimating health costs of Pesticide Applicators'. Paper presented in "International Seminar on Environmental and Social Impacts of Agricultural Intensification in Himalayan Watershed", in Kathmandu, by Kathmandu University in collaboration with Norwegian University of Life Sciences and Bioforsk, Norway, October 15-17.

**SANDEE Panel Presentations at International Society for Ecological Economics (ISEE)
Conference, New Delhi, Dec 2006**

SANDEE PANEL -1

PROMISE, TRUST AND EVOLUTION. MANAGING THE COMMONS OF SOUTH ASIA - LESSONS FROM SANDEE RESEARCH

Ensuring Collective Action In Participatory Forest Management
- Rucha Ghate, India

Is Cooperation Costly With Diverse Economic Agents?
- Bhim Adhikari, Nepal

Explaining Enclosures Under Non-Limiting Supply Conditions In Bhutan
- Edward L. Webb and Lam Dorji

State Control, Devolution, & Community Action
- Arabinda Mishra, India

The Stake-Net Fisheries Association Of Negombo Lagoon, Sri Lanka - Why Has It Survived Over 250 Years And Will It Survive Another 100 Years?
- Asha Gunawardana and Paul Steele, Sri Lanka

SANDEE PANEL – 2

ENVIRONMENTAL PROBLEMS AND ECONOMIC ANALYSES

Ground Water Irrigation In North India: Institutions And Markets
- A.Banerji, Gauri Khanna and J.V. Meenakshi, India

Acute Health Damages From Pesticides Pollution In Nepal: Cost-Of-Illness Approach
- Kishor Atreya, Nepal

Value Of Mangroves In Reducing Human Casualties Cyclones
- Saudamini Das, India

Estimating Economic Benefits From Arsenic Removal In India: A Case Study Of West Bengal
- Joyashree Roy, India

SANDEE PANEL – 3

EXAMINING THE LINKS BETWEEN POVERTY AND THE ENVIRONMENT

Who Collects Resources When The Environment Degrades?
- Shreekant Gupta, Neetu Chopra, Supriya Singh, Urvashi Narain and Klaas van .t Veld

Burden Of Indoor Air Pollution And Viability Of Its Mitigation Efforts: A Case Study Of Rural Nepal
- Min Bikram Malla Thakuri, Nepal

Economic Analysis Of Health Impacts Of Households: Case Of Cement Air Pollution In Puttalam District, Sri Lanka
- C. Bogahawatte and J. H. Bandara, Sri Lanka

Conservation and Tourism: A Case Study In Indian Sundarbans,
- Indrila Guha and Santadas Ghosh, India

Valuing Benefits Of Soil Conservation In Hill Areas Of Bangladesh
- M. A. Monayem Miah and S. M. Fakhru Islam

P. Indira Devi presented her SANDEE based paper in the Kerala State Science Congress Organised by the State Council for Science Technology and Environment. Held between 29-31 Jan, 2007.

Mrutyunjaya Mishra (2007), 'Air Pollution and Respiratory Morbidity Among Children: An Econometric Analysis'. Paper presented and Abstract published in the 43rd Annual Conference of The Indian Econometric Society at IIT, Bombay, Powai, Mumbai, India, January 5-7.

Mrutyunjaya Mishra (2006), 'Air Pollution and Health of Women: A Case Study'. Paper submitted and Abstract published in the 90th Annual Conference of Indian Economic Association, Kurukshetra University, Haryana, India, December.

Mrutyunjaya Mishra (2006), 'Air Pollution and Daily Morbidity in Angul-Talcher Industrial Agglomeration in Orissa: An Environmental Economics Analysis'. Paper presented in the National Seminar on Environment and Development, by the Environmental Planning and Coordination Organisation, Bhopal, India, January - 16-17.

Lekha Mukhopadhyay (2006), 'Institutional Dysfunctionality: A Case Study In Participatory Management Of Forest In Buxa Tiger Reserve In North Bengal, India', ISEE conference, New Delhi, Dec. 2006.

E. Somnathan (2007), 'Livelihoods and Sustainable Development. Paper presented at the Centre for Development Economics conference, Delhi School of Economics, Feb 6-8.

FOCUS

Tribals and Forests – A Discussion of a ground breaking legislation in India

To this issue of the newsletter, we invited a group of experts and stakeholders to discuss a very important piece of legislation that has

recently been introduced in India. We are very thankful to our contributors for their willingness to discuss this bill and its implications

The Forest Rights Act 2006: history (not quite) repeated

- Bhaskar Vira*
bv101@cam.ac.uk

Almost two years after it was first conceived, the Indian Parliament enacted the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (hereafter Forest Rights Act) in December 2006. The Act itself is a significant piece of legislation, both in its implications for the future governance of Indian forests, as well as in its recognition of historic injustice in the way in which the rights of *adivasis* and other forest dwellers were dealt with by the colonial and post-colonial state.

An important dimension of the present legislation is that it was initially promoted by the Ministry of Tribal Affairs, based on their legitimate jurisdiction over the well-being of tribal communities resident in and around forest areas in various parts of the country. There was an attempt to introduce a draft Bill in Parliament in February 2005. It was at this point that the Ministry of Environment and Forests got involved in the discussions, and was able to mobilise sufficient opposition to ensure that the Bill was not introduced in that session of Parliament. Subsequently, the debate extended to include a range of interests, especially the scientific conservation community as well as a number of high-powered Members of Parliament, who suggested that the proposed legislation constituted an immediate and serious threat to forests and biodiversity in the country in the wake of the tiger crisis in Sariska and other reserves in India.

Set in this context, the proposed legislation reinvigorated the long-standing debate

* Department of Geography, University of Cambridge. Downing Place, Cambridge CB2 3EN.

between forest bureaucrats and some elements of the conservation community on the one hand, and subsistence users and activist and non-governmental organisations on the other. While these are somewhat simplistic formulations of the two positions, they represent adversaries who have long been sparring partners in the context of forest governance. This was not the first time that they had crossed swords over proposed legislative changes in the forest sector.

As early as the 1960s, the Central Board of Forestry had recognised the need for new legislation, reiterated by the National Commission on Agriculture in 1976. The resultant draft Forest Bill which was circulated in 1982, attempted to strengthen the powers of the forest bureaucracy, and allowed State Governments to commute rights enjoyed by local populations. This bill was contested by a broad coalition of activists and academics, who argued that the system was already over-centralised, and the only way forward was to recognise and legitimise the rights of users in the immediate vicinity of forests.

The controversy fuelled a broader debate about the orientation of forest policy. On the one hand, some members of the forest bureaucracy and conservationists argued that customary access to forests by the growing population of subsistence users was leading to unsustainable pressures on the resource. At the other end of the spectrum were those in favour of more radical change, who argued that it was the *denial* of customary rights, and the commercial exploitation of resources under state forestry, which was responsible for the degraded state of the forests.

Following the adoption of the National Forest Policy Resolution in 1988, a process of consultation commenced for the amendment of the Forest Act. The detailed contents of the proposed Conservation of Forests and Natural Ecosystems Bill (CFNEB) became public in 1994, triggering a similar controversy to that surrounding the

1982 Bill. CFNEB 1994 translated the principles outlined in the 1988 Forest Policy into legislation, but in doing so made explicit choices between competing claimants in the forest sector. Despite the extensive references to participation in forestry programmes (especially under the Joint Forest Management programme from 1990) the Bill reasserted the control of the forest bureaucracy. The 1994 Bill was never introduced in Parliament.

The dialogue that surrounded the Forest Rights Act 2006 was very strongly resonant of these two previous periods of controversy. However, the political context was somewhat different. Organisationally, the 'tribal coalition' had a new champion in the form of the Ministry of Tribal Affairs, which was constituted in 1999. The issue of tribal rights was very clearly under their jurisdiction, despite the overlap in this case with the remit of the Ministry of Environment and Forests. The involvement of the conservation community and some Members of Parliament in the debate gave it public visibility through the media, in a manner that would have been unlikely in the 1980s and early 1990s. Of course, once in the public domain, the controversy was seized upon by other actors. Perhaps most notable amongst these were the coalition partners of the United Progressive Alliance (UPA) government, and the National Advisory Council to monitor the implementation of the National Common Minimum Programme of this government. These combined forces ensured that the Bill did get introduced in Parliament and subsequently referred to a Joint Parliamentary Committee (JPC) for further refinement.

The Act as currently formulated is, paradoxically (at least for the conservation lobby), even broader than the original draft, covering as it does both Scheduled Tribes *and* Other Forest Dwellers. In Parliament itself, the Act was introduced after final modification by a high-level Group of Ministers, but there was never any doubt over its passage. No political party was

willing to risk the political fall-out from opposing the provisions of such a 'progressive' piece of legislation.

What lies ahead, however, is the much more important process by which rules and guidelines for the Act are formulated and framed. The bureaucratic establishment that has managed India's forest estate has suffered a defeat, but is unlikely to see this as the end of the battle. Whether the Act will be able to fundamentally alter the relationships between the forest administration, forest-dependent rural people and the lands on which they depend remains to be seen. As Kafka famously remarked "Every revolution evaporates and leaves behind only the slime of a new bureaucracy". Perhaps this time, however, things will be different?

DISCUSSION

Tribals with tigers, or tribals vs. tigers?

- Ashish Kothari*
ashishkothari@vsnl.com

The Forest Rights Act is finally with us. Will it lead us in the direction of more justice and livelihood security for forest-dwellers along with better conservation of forests? Frankly, it is impossible to say. The impacts of the Act as it is, are likely to be very mixed. Depending on the ground situation, it could be misused to destroy forest, or constructively used to protect it.

Of concern are the following provisions:

1. The cut-off date of December 2005 is already leading to political moves in some states, to incite fresh encroachments into forests, with the promise that these will be shown as over a year old and therefore eligible for regularization.
2. The exemption of a range of developmental facilities for forest-dwelling communities, and could lead to fragmentation of forest areas.

3. Rights-holders have not been committed to specific conservation responsibilities (as was the case with the original version of the Bill).

4. Non-tribal forest-dwellers will be eligible only if they are residing for at least 3 generations.

5. There is a lack of clarity on how the Wild Life Act will continue to operate in protected areas.

On the flip side, however, there are a number of positive provisions:

1. Communities who have been conserving forests now have the right to protect them against destructive forces.

2. Forest and protected area management could move towards greater participation of local people.

3. Forcible displacement of communities would not be allowed.

4. Communities have the right to protect their traditional knowledge.

5. Critical wildlife habitats, once declared, cannot be diverted for any other purpose.

It is imperative and urgent that the following be done:

1. Ask for amendments to the cut-off date, taking it back to a period when at least it would be easier to detect more recent encroachments; and for the Forest Conservation Act to apply (perhaps through a decentralized mechanism so that no delay takes place) to development facilities that need diversion of forest land.

2. Rules are formulated to build in a much clearer conservation framework, such as responsibilities of *gram sabha* towards conservation; the process of declaring "critical wildlife habitats"; and processes of taking consent from.

3. The capacity of communities to pro-actively use the Act's provisions for both staking traditional claims and for ensuring conservation of forests they live within or adjacent to, needs to be enhanced where it is weak.

For all the above and other steps, the first step in implementation of the Act should be the setting up of a high-level commission,

* Ashish Kothari is with Kalpavriksh – Environmental Action Group. This article represents his personal views.

consisting of forest and revenue officials, conservation and social action groups.

Finally, if this is not done successfully, I fear that the only winner will be the industrialist and mine-owner that is waiting on the sidelines to quietly slip into forests to make a quick profit and run.

Recognition of Forest Rights: An opportunity to correct legal anomalies

- Sanjay Upadhyay*
sanjay@eldfindia.com

The letter and spirit of any law needs to be distinguished from perceptions about law. This was amply evident by the numerous debates appearing in the public domain by both the advocates of the tiger and the tribals indulged. The difference between 'recognition of a right over land' and 'allocating land', recognition of a finite land area as opposed to transfer of land, irrelevance of this law in the north-eastern context are just few of the examples polarized. While the above seem to be a debate on technical jargon, it is important to place this law in its right historical context. Forest settlements (for that matter revenue settlement) and reservation processes on forest land have been admitted to be not only faulty but also insensitive to forest dwelling communities. This fact was recognized in the 19th century by a British forest officer, Brandis, who admitted that ".the first attempts to manage forests were to secure a permanent supply of timber and this resulted in an attempt to establish, in total disregard of private rights, a Government monopoly of timber". The aim of this legislation is simple. To secure tenurial rights to the most vulnerable population of India where they had traditionally stayed and where they currently occupy their ancestral land and recognize a minimum land area for subsistence agriculture. The other fundamental concern was the problem relating to lack of legal

evidence to prove their claim for residence. The idea was not only to expand the nature of evidence but shift the burden of proof to the state which is far more equipped to help them establish their claims on the land from which they derive sustenance.

But what happened after that? The conservationists' enthusiasm and passion choked the voice of legal reasoning and a political entity (Joint Parliament Committee) not necessarily legally equipped, took up on itself to redraft the legislation seemingly more to cater to passion and political aspirations rather than the reason of law. The cut off date for this legislation, which is supposedly aimed at undoing historical injustice is now 2005! The extent of land from 2.5 ha (which has legal basis in Forest Village Rules of several states) changed to 'as is where is basis' by the JPC which is now corrected to an unexplained "four ha"! It is not surprising that a petition filed in the Supreme Court is reserved for hearing on this matter much before the draft was finalized. However, the reality despite the above is that the Forest Rights Act is a historical legislation that is now in the statute books. The biggest challenge, therefore is, operationalizing the frame to meet the objectives in a manner that the rights are recognized with responsibilities as an instrument of justice to the poor and not fall prey to the vested interests on either side.

Four Hectares of Forests: correcting history or destroying collective future?

- Praveen Bhargav*
pbsolus@vsnl.com

Burgeoning human population, lack of political will to enforce land reforms and the abysmal failure of the bureaucracy to equitably settle the rights of people inside Wildlife Reserves over the last two decades have ultimately triggered the passage of the

* Advocate and Managing Partner, Enviro Legal Defence Firm. The Author was a Member of the Technical Support Group to draft the Scheduled Tribes and other Forest Dwellers (Recognition of Forest Rights) Bill 2005.

* Conservationist and Trustee of Wildlife First, a conservation advocacy organization working in Karnataka's Western Ghats.

Forest Rights Bill, 2006. Its underlying goal of correcting historical injustices is indeed laudable. However, the *unsuccessful inalienable land grant* approach on which the Act is anchored will fail to deliver social justice. The other premise that forest dwellers are integral to the survival and sustainability of forest ecosystems does not hold true today in the face of advancing human pressures - developmental and recreational demands of the urban rich as well as the livelihood needs of the rural poor.

Cutting edge scientific research carried out over the last three decades has identified habitat fragmentation as the single largest threat to biodiversity. Landscape level fragmentation is also recognized as a particularly serious threat to several endangered species, which may even affect the stability and functioning of entire ecosystems. Ignoring such scientific findings, the Bill has set the stage for yet another round of massive fragmentation of forested landscapes. Post independence, huge tracts of village/community forests and wooded areas granted and under the control of local communities have since been converted into farm land.

Notwithstanding the assumptions in the statute, granting *in-situ* rights in wildlife reserves, which are already down to 3 % of land area will cause serious human-wildlife conflict. The myth of harmonious co-existence will be exposed. Hitherto well Protected Areas will now become vulnerable and open to illegal hunting, logging and commercial forest product exploitation. India's ecological security will be in peril.

There are other serious concerns. The addition of "*Other traditional forest dwellers*" to the original bill, and shifting of the cut off date October 1980 to December 2005 will surely unleash a fresh tsunami of encroachments considering that rights will be provided to those people who are in actual occupation of forest land. The weak procedures prescribed for identifying and

vesting forest rights will be exploited to the hilt by powerful land grabbers. As in the past, many tribal beneficiaries will be short changed. And riding piggyback on this, mining, logging and 'eco'-tourism interests will intrude into inaccessible forest areas.

The Act comes at a time when majority of adivasis are already straddling two worlds – the forests, which they exploit, and the towns where they commercially market forest produce. They have all the aspirations as the rest of us and must be provided true choices.

Decent livelihood opportunities and social amenities that they are demanding must be delivered but not in the interiors of wildlife reserves and large blocks of forests. Thankfully, the Act does not stop the implementation of voluntary, incentive driven resettlement projects in critical wildlife habitats and that is about the only silver lining.

Survival with dignity: made possible

- Shankar Gopalkrishnan*
shankargopal@myfastmail.com

On December 18th, 2006, Parliament passed a law that has been the subject of decades of popular struggle and two years of heated press controversy, political outcry and mass mobilisations across India. The Act in discussion, is not just another law. Encapsulated in this legislation is the story of the struggle over the livelihoods of India's poorest people, and the fight to establish democratic control, to whatever small extent, over the resources and the forests of this nation. This is the end of an era. Never again will any government be able to dismiss all tribals and forest dwellers as criminals, poachers or thieves.

But, that said, the passage of this law was in no sense simply a victory. For, at the last minute, the government ensured that the law was gutted from within; clauses were included, phrases tweaked, and legal sleight

* Shankar was associated with Campaign for Survival and Dignity.

of hand used to ensure that the vast majority of both tribal and non-tribal forest dwellers would receive no concrete benefits from this law.

To understand this, we first have to understand the background to this law. It is now well accepted that the Indian Forest Acts, 1927 had nothing to do with environmental conservation. Rather, the British wanted to undertake unhindered exploitation of timber, which required that the government assert its ownership over forests and suppress the traditional systems of community forest management that existed in most of the country. The Forest Acts empowered the government to declare its intention to notify any area as a reserved or protected forest, following a "settlement" process, which would systematically deny the rights of communities, turning them into encroacher in their own homes. This places them in a legal twilight zone, where at any time they can be beaten, jailed, fined or evicted simply for living their lives.

The tribal rights act came out of this history. Its aim was to record and recognise the rights of forest dwelling communities and, in the process, to contribute towards a new political management system for India's forests. But no sooner was it drafted in February 2005 that it ran into a shrill opposition campaign orchestrated by the forest authorities. It could see the light of the day only because of enormous pressure from within political parties and from the streets, which witnessed unprecedented mass demonstrations and mass *jail bhara andolans*.

Unfortunately the government succeeded in modifying key provisions of the JPC-recommended bill at the last minute, thereby undermining the legislation itself. The power over recognition of rights was returned to government officials, though now with some elected representatives also allowed to participate. Legal provisions were

altered to make it easy for the courts and the authorities to intervene and restrict rights.

The net result is that the government has conceded the principles for which the law was framed and fought for – while gutting its ability to make any practical difference on the ground. It is for this reason that the Campaign for Survival and Dignity described this law as "both a victory and a betrayal." The struggle for amendments in the law, and for an effective implementation mechanism, has already begun. It will be an uphill battle, but a battle fought in the knowledge that victories, however fragile, have already been won.

ECO NEWS

Bangladesh

According to research results published online by Environmental Science and Technology, rice grown in Bangladesh could be as dangerous as arsenic contaminated water. Irrigation by contaminated water is linked to skin diseases and cancer. Of the 25 districts studied, barring one district, rice samples contained arsenic as high as 0.51 microgram per gram, while maximum available limit of consumption of arsenic through food by a person is 0.2 microgram per day.

Pakistan

Pakistan has formulated 'Policy for Development of Renewable Energy for Power Generation - 2006', for using all alternative energy sources to generate electricity to meet the growing demand by 10 to 12 percent annually. The policy is to encourage employing of small hydra, wind, and solar technologies by offering attractive incentives to attract investment. For example, small projects for self-use will not require any permission from government.

India

Government of Goa approved the 'Revised Regional Plan Goa Perspective 2011' in 2006. However, various activist groups opposed it, as it will lead to land use changes in the state with serious repercussion on ecology and environment. The government had proposed an increase in land under settlements by 54% at the cost of state's protected habitat areas, forest and agricultural lands, mangroves, orchids etc. For the government this land use change is essential to meet growing developmental needs and halt on-going haphazard development resulting from the existing plan. However, public pressure has resulted in abandoning the proposed plan, and now another plan has been proposed. But is this only the beginning of another fight over 'environment vs. development'?

Sri Lanka

Kalpitya Dutch Bay Island Project has been recently launched by the Ministry of tourism, Government of Sri Lanka with a total proposed expenditure of Rs. 350 Million. The project aims at developing Kalpitiya, on the northwestern coast, as a tourist zone. It will cover a total area of 5000 acres. The project although approved by the Sri Lanka Cabinet, will have to get approval and clearance from the Central Environment Board, Coastal Conservation Department, Ministry of Fisheries and Ministry of Defense, for infrastructure development.

Nepal

Nepal Water Supply Corporation will hand over the water supply and management of Kathmandu valley to a UK based firm in 2007. This is likely to lead to introduction of new water tariffs, which will subsequently make water more expensive for the poor, by almost 150 percent. Now water supply sources like public standpipes, used by half the poor of the valley, will also be subjected to tariffs. It is estimated that with this new tariff structure the rich will pay Rs. 50 for

first 10,000 liters and the poorest will pay Rs. 161 for the same consumption!

ACHIEVEMENTS

Jeffrey Vincent, Chairperson, SANDEE Management and Advisory Committee, got the PNAS Cozzarelli Prize, 2006 along with V. Ramanathan and Auffhammer Maximilian.

Ostrom Elinor and Harini Nagendra, 'Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory', published online Nov 6, 2006; *PNAS*. *This paper is another recipient of the prestigious Cozzarelli Prize.*

Purnamita Dasgupta has been awarded a Visiting Fellowship at the University of Cambridge, UK for the forthcoming Easter term. During the fellowship period she will be developing the ideas from her SANDEE study and will be presenting a seminar based on the SANDEE study.

Himayatullah Khan has been promoted to the position of Professor on a higher grade from January 2007 at NWFP Agricultural College, Pakistan.

Congratulations to all!

SANDEE ACTIVITIES

1. Seminar on 'Pesticides or 'Healthicides'? An attempt at estimating the health costs of pesticide applicators'
19 Oct 2007, Harihar Bhawan, Nepal

Plant Protection Society Nepal jointly with Nepalese Society of Environmental Economists and IUCN/ SANDEE organized a policy discussion on 'Pesticides or 'Healthicides'? An Attempt at Estimating the Health Costs of Pesticide Applicators' on 19th October, 2006 in the training Hall of Department of Agriculture, Lalitpur, Nepal. In the talk program Dr. P. Indira Devi – SANDEE associate, discussed the outcome

of her SANDEE project. The program was well attended by government dignitaries, officials, researchers, policy makers, and others interested scholars.

2. Global Warming: Climate Science and Economics. An Advanced Course

Dec 1- 4, 2006, AIT, Bangkok, Thailand

Global Warming is regarded as one of the biggest environmental crises facing life on planet earth. There is a broad scientific consensus that human beings are primarily responsible for the current heating of the planet. Scientists involved in interdisciplinary research have revealed the causes and consequences of global warming. Economists on the other hand are debating the extent of damages climate changes would cause and the costs that would be incurred to undertake adaptation or mitigation. What is indeterminate is the predictability of climate change (how quickly, how much) and how this would irreversibly alter life on earth.

SANDEE's Advanced course on "Global Warming: Climate Science and Economics" brought together leading climate scientists and economists to talk about the current state of knowledge on Climate Change. This course provided an overview about causes and consequences of Global Warming, climate models and their predictions of future climate cycles, as well evaluations of alternate scenarios with different levels of public and private intervention to slow down climate change. V. Ramanathan, (University of California, San Diego, USA), alongwith Will Steffen (Australian National University, Canberra, Australia) gave an overview of the scientific findings on Global Warming. Satya Priya (RMSI, New Delhi, India) showed different scenarios of future land use with a special focus on India. Partha Dasgupta (Cambridge University, UK) discussed the economics of Climate Change in the backdrop of the recently released Stern Report. Jeff Vincent (UC San Deigo) made a presentation on his joint work with M. Auffhammer (UC Berkeley, USA) and V. Ramanathan on climate

change impact on Indian agriculture which has now been awarded the Cozzarelli Prize from the US National Science Academy for 2007.

3. A training course in Micro Economic Tools for Environmental and Natural Resource Economics

3 – 20 Jan 2007, Dhulikhel, Nepal

SANDEE organized a training course in Micro Economic Tools for Environmental and Natural Resource Economics from 3rd – 20th January 2007 in Dhulikhel, Kathmandu, Nepal. The three week course imparted training in the use of mathematics in maximization problems, both in standard Microeconomics and Natural Resource Management. The objective of this course was to strengthen the skills of colleagues in parts of South Asia who are less familiar with mathematical economics or who haven't had hands on experience with it for a while. This is a precursor to SANDEE's annual Introductory course to Environmental Economics.

Partha Sen from Delhi School of Economics, India, A. K. Enamul Haque from East-West University and R. N. Bhattacharya from Vishwabharati, Shantiniketan were the faculty for the course. Twenty-four participants, from Nepal, North-east India and Bhutan participated in this training workshop.

OTHER NEWS

ARTICLES OF POSSIBLE INTEREST...

We recommend these interesting and important papers for you to read and digest.

Murray Michael P. 'Avoiding Invalid Instruments and Coping with Weak Instruments', Journal of Economic Perspectives—Volume 20, Number 4—Fall 2006—Pages 111–132. *All budding*

econometricians and everybody interested in program impacts, please read this paper.

Auffhammer Maximilian, V. Ramanathan, and Jeffrey R. Vincent, 'Integrated model shows that atmospheric brown clouds and greenhouse gases have reduced rice harvests in India', published online Dec 8, 2006; *PNAS*. *Climate change is a big deal – what are some implications for Indian agriculture – if interested, read this paper.*

Information about SANDEE, membership form, and our activities are available online at www.sandeeonline.org. Our mailing address is IUCN Nepal, PO Box 8975 EPC-1056 Kathmandu, Nepal. Telephone: 977-1-552 8761; Fax 977-1-553 6786. Please write to anuradhak@sandeeonline.org if you have comments or queries.

SANDEE BLOGS

Dear All,

Welcome to the world of Blogging. Blogs are the new medium of communication. There was time when getting an e-mail id was *Hip*. It is passé now. Blogs are in. They have become an extremely popular medium of communicating with the world. You can have your own blog, and all organizations, commercial and non-commercial have their own blog space for people to send comments, information, etc. As part of our process of facilitating communication we have established two blogs.

First, see

<http://sandeediscussion.blogspot.com>

This is a "By invitation Only" site and is meant exclusively for SANDEE associates, grantees and resource persons to use as a forum for academic interaction. It is our private lounge to discuss forthcoming programs, workshops, put up notices, anything that would be useful for SANDEE researchers. Invitations have been e-mailed to all our grantees, resource people and associates. If you have for some reason not received it or not been able to log-on, please contact anuradhak@sandeeonline.org

<http://sandeeonline.blogspot.com>. This second blog is an open page where anyone can leave comments on each post. The posts are managed by us as of now. If you want to post something that would be of interest not only to our associates but a larger audience, please do send the material to us and we will put it up. As of now you can only send comments on the post already put up on the web page. Happy blogging!

- Pranab Mukhopadhyay