RIO to RIO + 20

Saving the Nilgiri Mountains of South India

Editor
Dharmalingam Venugopal

Nilgiri Documentation Centre
Kotagiri,The Nilgiris
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Painting of Kalhatti Waterfalls by Richard Barron, c1830,
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Editor in front of Sullivan Memorial
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Foreword

Among the 32 districts of Tamil Nadu, the Nilgiris occupies the 26th position in geographical extent and the 31st position in population. Notwithstanding these factors, the district has always engaged the special attention of governmental and non-governmental authorities and members of the public for various reasons. The location of the district in the Western Ghats, the salubrious climate, the scenic beauty, the performance of plantation and horticulture crops, the various species of mammals, birds, reptiles, butterflies, herbs and trees, the large ethnic population of Badagas and Todas, the rich cultural heritage – all these have made the Nilgiris a fascinating subject for extensive studies.

During the British times, persons like John Sullivan highlighted the many significant aspects of this region and made valuable contributions to make it well known. After the exit of the British, some work has been done by persons like Prof. Paul Hockings which has been documented. *The Encyclopaedia of the Nilgiri Hills* (vols. 1 & 2), edited by Prof. Hockings, published in the current year, is a comprehensive work.

During recent decades, this interest in the Nilgiris has been kept alive by the Save Nilgiris Campaign under the dynamic leadership of persons like Mr. Dharmalingam Venugopal and Mr. B. J. Krishnan. This is a unique organisation,the kind of which no other district has.

The present publication is a collection of writings relating to the district most of which have appeared in various journals and newspapers. Though, by no means, comprehensive, this is a good source for researchers and a pointer for the further studies necessary.

Mr. Venugopal deserves our thanks for his deep commitment to the cause of the Nilgiris and all that it stands for. I wish him all success.

Signature scan

Chennai
07. 04. 2012

(B. Vijayaraghavan)

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Preface

The UN Conference on Sustainable Development (Rio+20) is being held at Rio de Janeiro, Brazil on June 20-22, 2012. It will mark the 20th anniversary of the Earth Summit, UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. Intense campaigning and awareness created by governments and nongovernmental organizations in the past two decades have totally changed mankind's view of economy, environment and development.

Several unique spots in the world which were ravaged in the name of development have been saved. One such unique patch of green is The Nilgiri hills of south India.

Between Rio and Rio+20 dedicated and determined campaigning by the natives combined with timely governmental intervention has brought about a remarkable recovery in the Nilgiris.

But this is not enough. The Nilgiris deserves to be promoted as one of the premier mountains of India and one of the top tourist destinations of Asia. The Nilgiris has four unique 'Ts' to recommend itself for global recognition – Toda (tribes), Train (mountain train), Tahr (wildlife) and Tea (mountain economy).

The Nilgiris is more than a tourist destination. Scientists classify the Nilgiris as a 'Living Fossil'. Ecologists say the biodiversity of the Nilgiris is 'found nowhere else in the world'. Anthropologists describe the Nilgiris as an 'aboriginal enclave'. Geographers have listed the Nilgiris among the 400 natural wonders of the world.

The Nilgiris is a treasure mountain. The waters of the Nilgiris irrigate lakhs of hectares of land in Coimbatore, Erode and wherever the river Cauvery flows. The towns of Coimbatore, Tirupur and Calicut are also fed by the Nilgiri waters. The hydro-electric power generated ingeniously on the hills is critical to Tamil Nadu. The naturally flavoured teas of Nilgiris delight millions of drinkers across the world. The 'English vegetables' of the Nilgiris tickle the palate of thousands of connoisseurs. The balmy weather and matchless greenery of the Nilgiris attract more than two million visitors every year. The famed schools of the Nilgiris have educated generations of good students.

This book chronicles the story of the 'Save Nilgiris Campaign' and how the Blue Mountains of south India were redeemed through the various articles published in leading national dailies, representations made to different stakeholders and papers presented at national and international seminars over the past nearly three decades. Most of these were written by me. Others were written jointly with fellow campaigners. None of us are qualified environmentalists. We are just natives of the Nilgiris. I have not edited any portion. I leave it to the readers to judge. For the sake of continuity I have placed the writings in a chronological order. There are some repetitions which are unavoidable.

Dharmalingam Venugopal
Founder – Coordinator, Save Nilgiris Campaign
Honorary Director, Nilgiri Documentation Centre

Contents

One Great Human Tragedy Compounding Another

Dharmalingam Venugopal SNC Newsletter, *May 1986*

The following appeal was presented to His Excellency, the Vice-President of India, Shri R. Venkataraman towards the end of May, 1986 at New Delhi.

Permit us to bring to your kind attention a serious situation fast unfolding in the Nilgiris.

The mounting threat to the beauty, environment and ecology of the Nilgiris over the years appears to have reached a stage of deep concern. It is no exaggeration to say that the unique hills are steadily being pushed towards disaster.

The causes are many. But two stand out. One is the migration explosion and the other, rampant commercialization.

Migration Explosion

Nilgiris has been increasingly attracting migrants from the turn of the present century. But since the 60s there has been a quantum jump in the number of migrants, thanks primarily to the resettlement of the bulk of the repatriates from Sri Lanka.

Officially there are about one lakh odd repatriates in the district. However, unconfirmed but reliable estimates put their number at double the official figure. In other words, these repatriates have become the single largest group accounting for nearly one-fourth of the total population. It is learnt that over 50% of the repatriates settled in other districts and States have migrated to the Nilgiris where they find the clime and people most hospitable. There appears to be little doubt that most of the future repatriates would also make a beeline to the Nilgiris.

Majority of the repatriates have no assets or skill and are left to eke out a living through menial jobs, if they can find them. In the circumstances, it is only a matter of time before they are forced to follow others in clandestine cutting and felling of trees for fuel and livelihood. Indeed in the Nilgiris one great human tragedy is compounding another.

Ironically, the unparalleled migration has taken place during a period when the native population recorded one of the best performances in the country in family planning. A recent study says, “Government statistics over the past few years have persistently shown that acceptance of family planning was considerably high in the Nilgiris as compared to all other districts in Tamil Nadu.”

Rabid Commercialism

The virulent pace of commercialization is the other formidable force rapidly changing the face of Nilgiris. The most disturbing fallout of this is the high level of speculation in real estate both in the rural and urban areas. Consequently, rental and land prices have shot up to incredible levels.

Overpopulation and commercial greed have not only imposed a heavy social and economic cost on the hapless local people; they have had serious ecological consequences as well.

To give just one example, a recent report of the Geological Survey of India says that about 80% of the original forest land (*Sholas*), which protect the spring water sources to the towns and villages, have been lost to cultivation and construction. With the result, the district (excepting a few pockets) has been in the grip of acute water shortage for the past several years. This year has been one of the worst, especially for the Ootacamund town.

Sir, your link with Nilgiris is old and intimate. You can, therefore, appreciate our concern at the environmental degradation of the Nilgiris. We request you, Sir, to use your good offices to urge upon the Government of India and Government of Tamil Nadu the imperative need for preserving the Nilgiris.

We do not decry industrialization or commercialization of the district which, in the context of the limited availability of agricultural lands, provide the much needed employment. But what we wish to impress on the governments is that they should ensure that such acts of economic development cause the least damage to the natural beauty and ecology of the district.

In this connection we wish to make the following suggestions for the immediate consideration of the Central and State Governments:

1. Meaningful and adequate rehabilitation schemes must be immediately instituted for the repatriates settled in the district. Those who cannot be absorbed within the district should be resettled elsewhere. Inflow of repatriates, originally settled elsewhere, into the district should be discouraged. And in the event of arrival of fresh repatriates, Nilgiris, which has already taken more than its due share, should be spared. Last but not the least, there should be an intensive family planning drive among the repatriates in the district.

On the eve of the recent conference of State Ministers in charge of rehabilitation in New Delhi, it was reported in the Press that the Centre was unhappy over resettlement (of Sri Lanka repatriates) performance of the Southern States and was considering the possibility of taking future repatriates' families to the Northern region. The centre would do well to consider this favourably with regard to not only new repatriates but those unsettled in the Nilgiris also.

2. The Government should consider legislation to severely restrict, if not ban, acquisition of real estate interests in the district by outsiders which can only slow down the commercialization (and speculation) in the district.
3. The Government should declare a moratorium on all construction of a commercial nature till civic amenities including water supply and drainage can be augmented adequately.
4. The land-use pattern of the district must be reviewed and lands for forests, agriculture and other purposes should be clearly and realistically demarcated and any encroachment between them should be severely deterred.

Tea is not an Unmixed Blessing

Dharmalingam Venugopal SNC Newsletter, *August 1986*

"Proceedings of a seminar on 'Implications of a shift in cultivation from Potato to Tea in the Nilgiris organized by Save Nilgiris Campaign and Rural Development Organization, Coonoor"

A shift in cultivation from potato to tea in Nilgiris was favoured on economic and ecological grounds at a recent seminar at Ooty. However, it was warned, soil loss would be tremendous in the initial years of raising tea plants if proper soil conservation measures are not adopted. Destruction of natural forests for planting tea was also cautioned against.

The decline of the potato crop was traced to the outbreak of two deadly diseases, the late blight and the golden nematode, in the sixties and erratic rains which steadily lowered the yield. On the other hand, costly plant protection and sharply fluctuating market prices have made potato growing highly risky.

Dr. P Samraj, a soil scientist, added, "the large-scale cultivation of potato on the steep slopes, especially in the widely prevalent" up and down" method of cultivation, has resulted in enormous loss of top soil leading to loss of nutrients, siltation of dams and landslides". He cited a recent Geological Survey of India study which showed that 36% of landslides in Nilgiris occurred in agricultural lands.

On the comparative advantages of switching over to tea, it was explained the net profit from tea was Rs. 12,000/- per hectare per year from the fifty year of planting as against Rs. 7,000/- for potato. Besides regular income there was also capital appreciation. Tea was labour intensive and was less susceptible to erratic rains.

Dr. Samraj, however, warned "tremendous soil loss will be observed from the newly cleared areas unless proper soil conservation measures are adopted." Experiments had shown that the soil loss in newly cleared areas exceed that of potato cultivation even under the "up and down" method.

Dr. M. Halayya, economist, cautioned against the destruction of 'Sholas' (natural forests) for planting tea in the name of resettling repatriates from Sri Lanka.

Mrs. Piljain, leader of the Todas said that the Todas remained a pastoral people and all agriculture based benefit schemes aimed at helping them were bound to fail. She suggested dairy based schemes instead.

Recommendations :

1. The existing "Shola" forests and natural grassland which are now found as remnants should be protected and preserved for the general maintenance of perennial water flow. In addition, to enhance and to protect the perennial water resources, the forum urged planting of mixed trees.
2. Lands having above 33% slope should be brought under perennial vegetation. In slopes ranging from 0 to 10% with adequate irrigation facilities any annual crops can be raised with soil conservation measures, and in slopes ranging from 10 to 33%, permanent vegetative ground cover should be established by planting any perennial crop *viz.*, tea, coffee, cardamom, etc.
3. In the small tea growing areas primitive type of manual weeding should be banned as it accelerates soil erosion to a considerable extent. Besides, farmers should be educated on the use of herbicides for weed control.
4. Minimum price for tea and potato should be fixed as a solution to the sharply fluctuating prices of both.

A Vital Report for Nilgiris

Dharmalingam Venugopal SNC Newsletter, *October 1986*

During 1978 and 1979 a number of devastating landslides occurred in the Nilgiris causing loss of life and severe damage to property. Realizing the urgent and imperative need for taking appropriate steps to control them and prevent fresh landslides, the government of Tamil Nadu in collaboration with the Geological Survey of India launched a detailed study. The report of the study was published in 1982. The findings and recommendations of the study are a matter of life and death to the Nilgiris and its people. Excerpts from the Report.

History of Landslides

Landslides must have occurred in the Nilgiris ranges since time immemorial. But they have been recorded only from the beginning of the last century. A huge landslide near the spot where the Sispara Ghat road passes over Kundah hills sliced part of Kudikadu hill in 1824 after heavy rains lashed the area for eight days. It was popularly known as Avalanche landslide. The scar was a well known landmark which was later concealed by forest growth. It was visible from as far as Ootacamund. A sprout of spring was reported to have issued from the debris.

The Kotagiri-Mettupalyam road was damaged by a heavy rain storm in 1881. In the same year landslips smothered the Coonoor ghat road at many places. Ten years later, a record rainfall of 74 cm within a few days at Kotagiri brought traffic to a standstill for three weeks due to many landslips on the Kotagiri-Mettupalayam road. A rainfall of 129 cm was recorded in a short period causing disastrous floods during the year 1891. In December 1902, 53 cm of rain in Kotagiri including 22 cm on a single day brought havoc. In October 1905 17 cm of rain brought in its wake 'death and damage' in Coonoor through landslips.

The perpetual weak spot near Katteri Railway station was identified in the 1920s when the locality was affected by debris falling over the railway track and the road straddling its side.

Boulders disrupting the railway movement between Adderly and Runneymede railway stations were quite frequent since then. Suggested steps included tying up of loose boulders overhanging the railway track and keeping vigil during heavy rains.

Stone retaining walls were also suggested where there was soil or decomposed rock or loose blocks along the railway line.

A large landslide was reported in a peat laden area on the left flank of Emerald valley. Rock slides were reported in November 1958 and July 1952 in Penstock anchor pad No. 9 of Kundah Hydroelectric project. The large pre-existing landslide on the right abutment of Portimund Dam was examined in 1961. Remedial measures were suggested to obviate or minimize the effects of landslides.

Floods

Floods are a concomitant phenomenon after heavy rains. The deep ravines in the northern and western parts of the district are capable of draining the storm water. But the regions where natural topographic features such as gentle slope, thick soil development and meandering streams are present promote flood conditions after heavy precipitation.

Causes of slides

In the Nilgiri hills, it has been found that steep as well as gentle slopes have been failed. A study of steepness of slope vis-à-vis the number of landslides seems to indicate that slides in 1973 occurred on comparatively steeper slopes (25 to 30) than those of 1979. The 1978 slides occurred due to heavy precipitation in a short period when there were flash floods and water spreading and consequent soaking on the slopes resulting in mass movement of materials over relatively steeper slopes. On the contrary during of rainy period permitted greater infiltration of water into the soil and consequent triggering of landslides in areas as gentle as 10 slope.

The landslides are spread out in all the lands utilized for different types of cultivation. However, their frequency varies from one land use to another. The concentration of landslides is more in the areas of vegetable and crop cultivation than in others. On an average every square kilometre of vegetable /crop land bears three landslides scars. Tea plantations have two landslide scars per square kilometre. The other land uses in the decreasing order of landslide-density are shrub R. F. (Reserved Forests), eucalyptus plantation outcrop area, mixed cultivation, residential area and wattle plantation. In the case of R. F. areas the sholas and the undisturbed R. F. areas experienced less landslides than the shrub R. F. Soil erosion is more in the tea plantations, vegetable farms and shrub R.F areas.

The study of landslide pattern in the Ootacamund-Coonoor belt reveals that already a major portion, about 70% of the original forest land has been deforested and put into cultivation for growing vegetables and crops, tea and other plantations and about 10% for residential purposes. The majority of the landslides scars are found only in these categories of areas, indicating that deforestation have accentuated the landslides. An analysis of land uses vis-à-vis landslides reveals that the land use for vegetable –crops,

tea plantations and residential purposes has certainly promoted the incidence of landslides. The undisturbed natural forests with trees and undergrowth have really prevented many possible slides even though favourable slope and other conditions for landslides exist.

Such forests protect not only the surface from runoff and percolation of rain water but also soil erosion through the roots of the trees and undergrowth. About 36% of the landslides have occurred in the agricultural lands.

Though the tea plants have deeper roots than the vegetable crops there have been a greater number of landslides occurrences in the tea plantations than in the forest lands. Besides, the shorter roots, as compared to the forest trees the soil thickness contributed to the landslides in these areas. About 29% of the landslides have occurred in tea plantations.

About 5% of the landslides occurred in the residential areas with an average of one landslide for every square kilometre. Barren land slope, paleoscars and soil dump or excavation are the causes for landslides in the residential areas.

However there are many landslides in the forest plantations too. There are about 7% of landslides, approximately one landslide for every square kilometre, in the eucalyptus plantations.

In the Doddabetta region most of the landslides are fresh and Paleoscars are scarce. This may indicate that landslides have occurred only after this region was put into use for eucalyptus plantations after deforestation. The frequent felling or harvesting of plantation trees, every four years or so, expose the land directly to the vagaries of the sun and rain.

Similar is the case of the areas of government cinchona plantation and the wattle plantation. The landslides are less in number in the R.F with jungle or with closely spaced mixed trees with thick undergrowth than in the R.F with shrub alone. About 10% of the landslides are found in such R.F. areas.

Why landslides occurred

Increasing of water supply is brought about by blocking of natural outlets by more infiltration than drainage by rise of water table by capillary flow and by seepage from artificial source.

Water entering the ground fills the interspace or pores voids between the grains in the soil and cumulatively develops pore water pressure. This has caused many landslides in the Nilgiri district.

In an undulating country or on the banks of a stream the toe of a natural slope is removed by erosional processes. This introduces instability of the slopes. Beyond a critical point the slopes fail due to lack of toe support.

Cultural activities of man such as canal, road or rail cutting, terracing for agricultural or constructional work all inevitably involve toe removal and promote slope failures.

Construction of a housing colony or other modes of load accumulation at the head of a slope strain the slope and it is relieved by landslides.

Recommendations

The land use practices in Nilgiris district have considerably changed over the years. The frequency of landslides in the last few years may be partially attributed to the interference of man with the geo-environment factors of the region. Parallel cases of landslides by frequent changes in land use practices has been established elsewhere in the world.

There has been large scale elimination of natural forest in this district. They were replaced by forest plantations and tea gardens. This drastically alters the hydrological conditions of the slopes.

The conversion of grass lands to vegetables plots also alters the subsurface water conditions in addition to promoting landslides, erosion and silting at lower levels. Excessive grazing leads to denudation of the vegetative cover.

The authors feel that in the interest of slope stability, and hence in the interest of the district, further conversion of forests into plantations, governmental, quasi governmental or private should be banned forthwith by the government. Frequent changes in agricultural practices should be avoided.

Towns

In the urban areas of the Nilgiris district there is lack of regular drainage system. In most of the places, residential development goes with septic sewerage system. In a hill town, it is generally considered that the drainage problems are minimum as existing natural slopes and the mantle of soil over them dissipate the drainage water. Apparently the drainage water is disposed off. In reality the problem is aggravated.

The quantum of drainage water getting into the soil by this means is substantial. This introduces changes in the sub-surface water conditions detrimental to the slope stability ultimately. This has also a cumulative effect with time. As a long term measure drainage system for the urban areas to start with must be included as priority items in developmental plans.

In the growth of Ooty town lands are assigned for one reason or the other to the people in hazardous places. One such example is the Ambedkar colony in Kodappamund. The slope is steep. Removal of trees and unscientific terracing in the area have induced the formation of rills and streams bringing down debris.

The area is unstable and will become barren soon. The slope would have been relatively stable if the colony had not been allowed to come up.

Coonoor

The hills which make up the Coonoor town especially the one straggling the Coonoor river on its northern bank are piled to the top with buildings, shops and others. The Coonoor town seems to have grown of its own accord without any control over the years. In addition to the weight of the man-made structures, the influence of the septic sewerage water and toe cutting by number of streams, steep cuts of the roads and embankments, contribute for the instability of the town.

Massive corrective measures after detailed planning and evaluation of the negative factors are necessary if the town is to be saved from devastation by landslide in the coming years.

Government flats

A number of two storied flats by the Tamil Nadu Housing Board is perched on the ridges and slopes of the small hillock east of the race course near Ettines road. The weight of the buildings has definitely increased the stress in the slope. The slope cuts behind the houses are steep and impose threat to the buildings. The drainage system leaves much to be desired.

Better planning in designing the cuts in the slope and reduction of weight of buildings are needed. As a general suggestion for new buildings especially in the urban areas in the district light weight building material may be used in preference to heavy construction material.

Reservoirs

The construction of reservoirs in the past two decades has changed the hydrological conditions in the hill slopes by interfering with the earlier directions of ground water movement. Sudden fluctuations in the reservoir levels are conducive for landslide movement due to release of pore water pressure. This has to be borne in mind while operating the hydroelectric power stations in the district with hundred percent load factor.

The government should restrict construction of buildings of any sort or colonization or any other venture involving financial investment in zones pronounced unsafe. No other considerations should outweigh environmental aspects.

The stage of preventing environmental degradation in Nilgiri district has been crossed over. The harm has been done. The present stage is one of repairing the damage. It is fundamental that the cost of repair or cure is always more than the cost of prevention. We hope the magnitude of the problems in Nilgiri district is realized fully and immediately.

First Eco-Camp for Rural Students in the Nilgiris

Dharmalingam Venugopal SNC Newsletter, *November 1986*

"First ever environmental awareness camp organized in the Nilgiris by Save Nilgiris Campaign and Nilgiri Wildlife and Environment Association"

It was unlike the usual eco-camps. There were no jean clad boys or girls. They carried no sleeping bags; nor were they 'dressed' for the wild. There was no mention of words like Fun, Thrill or Experience. In fact the boys who attended the camp did not understand these words. They were all from village schools. They had no special clothing with them but their enthusiasm was hardly dampened by the weather – intermittent rains accompanied by icy winds and mist broken by sudden flashes of sunshine.

"This weather is typical of the area," said Mr. Mangalraj Johnson, Wildlife Warden, Mudumalai. Thus began the first Environmental Awareness Camp for students of rural schools in the Nilgiris.

The three day camp held on November 7, 8, and 9 in a secluded trekkers' hut besides an abandoned road in the idyllic Upper Bhavani catchment area, 50 km. from Ooty, was sponsored by the Development Promotion Group, Chennai. Four students in the age group of 10-15 years and one teacher each from five schools around the camp site participated.

"The rationale behind organizing camps on an area basis is that the participants will have a sense of belonging in their immediate environs. They understand better and it is easier to take follow up action. It is inexpensive too," explained Mr. Radcliffe, Vice-President of NWLEA.

The camp inaugurated informally by Mr. K. S. Sripathy, District Collector and President of NWLEA, who also spent an evening with the boys, consisted of long walks in the day and film shows slide shows and lectures in the evenings.

Taken to the nearby Nilgiri Thar Sanctuary (Mukurti Sanctuary) bordering the Silent Valley in Kerala, the boys were exposed to the pristine glory of the Nilgiris – lofty mountain ranges towering over gracefully undulating grassland interspersed with spring-fed streams and thick '*Shola*' forests. And as they trekked the boys learned. "At one time the whole of Nilgiris, including your villages, were like this. The forest, the grassland and streams are all interdependent, one feeding and in turn fed by the other.

Over the years the original forests have been destroyed making way for the cultivation and residential needs. The man-made forests raised as replacement were mostly mono-culture like eucalyptus, wattle or pine.

'*Shola*' forests were protecting the forest water sources and with their disappearance the streams too have gone dry. The lands have become unstable leading to frequent landslides. And without natural nutrients the lands have become less fertile" Mr. Mohanraj, NWLEA member taught the boys who, familiar with the problems in their own villages, nodded in realization.

There was lot of game watching along the trek. "This is Nilgiri Thar (ibex) country. Silence is essential. Move on. Hold it. See there among the thickets. There is a pack of *Sambhars*. Pass the binoculars. Adjust the lens. Keep silence. Move on. There is a *barking deer*. . . . . a wild dog . . . . . a fox . . . . . a mountain goat . . . . . See here the excreta of some big cat – a panther probably. See the undigested fur and bones. The elephant dung there is fresh. The elephant must be somewhere here around. See its footprints. So huge . . . . . ." Mr. Valaguruvan, Forest Range Officer kept the boys busy and the trek lively.

Film shows on wildlife, slide shows on environmental problems and lectures made up the evening programme.

Mr. Pandurang Hegde, leader of the Appiko Movement, Karnataka and a close associate of Mr. Sunderlal Bahuguna narrated the origin, spread and message of the *Chipko Movement* through slides. "Vanishing forest cover has left Mother Earth bleeding" he said showing pictures of massive soil erosion. "Remember 'Five Fs' when planting trees – Food (fruit) giving, Fodder giving, Fuel giving, Fibre (clothing) giving and Fertilizer giving" he concluded.

Mr. Mangalraj Johnson told the boys "Tamils were one of the earliest to appreciate the environment. Their country was divided into five regions based on environmental and ecological characteristics. One, the mountain and mountainous regions (*Kurinji*); two, the plains and farmlands (*Marutham*); three, water and hinterland (*Neidhal*); four forests (*Mullai*); and five desert region (*Palai*). If *Kurinji, Marutham*, Mullai and *Neidhal* are degraded, what follows will be *Palai*."

Mr. B. J. Krishnan, Secretary, NWLEA, giving a Gandhian perspective to the concept of environment said, "Environment is the entity on which everything subsists. Ecology is the study of life from the point of view of environment. Eco-system is the structural study of ecology. Biosphere is the study of sphere in which living organisms – plant, animal and man – coexist. The interdependence between them is the unity of life which is ruled by cosmic discipline. Man has been upsetting this balance."

Mr. Radcliffe, the grand old man of Nilgiris and a living authority on Western Ghats, speaking in Kannada had some home truths to tell the boys.

"What was the yield of potato when you were students," he asked the teachers. "One is to twenty." "What is it now," the students were asked. "One is to four or five."

The reason is obvious. The land has lost its fertility because of heavy soil erosion which in turn was because of large scale destruction of forests."

It was the second evening of the camp. Palani, the driver of Mr. Radcliffe, went down to the reservoir and caught two *Rainbow trouts*, a Nilgiri speciality and normally a difficult catch. "There are two types of trout. One, the Brown trout and the other, the Rainbow trout. See the colours of the rainbow stretching along the sides. The trout is an exotic fish. It was brought from Canada. It can survive only in clean and running water. Brown trout does not survive in Nilgiris as it needs much colder water. Apart from Nilgiris, trout is available only in Shimla, in India." Mr. Radcliffe explained to the boys and showed them the special baits used for trout fishing and demonstrated to the boys as to how to go about it.

Mr. N. Ramesh Babu, NWLEA member presented a slide show depicting the various threats to the forests cover in the Nilgiris. He also explained to the boys, the nuances of raising of nurseries.

The feedback from the participants was encouraging. For the boys, the camp was a practical lesson supplementing what they have learned in classrooms.

Speaking on behalf of the teachers, a senior teacher said, "The camp has been as much an education to us as to the students. We plan to form Eco Clubs in our schools and take up tree planting in and around our villages."

Nilgiris Development Authority Mooted

Dharmalingam Venugopal SNC Newsletter, *June 1987*

The 'Eco-focus on Nilgiris organized by SNC on April 18, 1987 at Madras succeeded not only in bringing the environmental problems facing the Nilgiris into sharp focus. The suggestions, proposals and recommendations made in the meet were of far greater importance to the district and its people.

The most important of the proposals was the one urging the government of Tamil Nadu to set up a Nilgiris Development Authority (NDA) on the lines of the Madras Metropolitan Development Authority. The Authority should be a multi-disciplinary body with sufficient statutory powers to co-ordinate and supervise the development efforts of the governmental and non-governmental agencies in Nilgiris. No development work should be undertaken without the clearance of NDA.

It was generally conceded that presently government agencies in the district often work at cross-purposes, their priorities pulling in different directions. The NDA which should have overriding powers would harmonize the various interests through a common set of priorities.

The role of NDA would be two-fold. One, monitoring. The NDA would constantly monitor the man-nature interface and assess the human impact on the environment in the district such as overgrazing, damage to natural forests, abuse of watersheds and so on. This would also mean regular evaluation of the impact of the various eco-development projects/programmes in the Nilgiris with a view to avoid waste and duplication.

The other role of NDA would be more challenging. It would involve the preparation and implementation of a Master Plan for the preservation of the Nilgiris.

The success of the meeting was largely due to the five eminent speakers who brought to bear on the subject their keen interest, wide experience, deep foresight and bold thinking.

Indeed the people of Nilgiris owe a debt of gratitude to Shri. V. Karthikeyan, former Chief Secretary of Tamil Nadu, Dr.B.B. Sunderesan, Vice-Chancellor of Madras University, Shri. B. Vijayaraghavan, Chairman of Tamil Nadu Electricity Board, Shri. S. Kondas, Former Chief Conservator of Forests and Shri. R. Radcliffe, the doyen among conservationists in the Nilgilris.

Prominent among the participants were Shri M.S. Appa Rao, former Chairman of Hindustan Photo Films, Prof. J. Ramachandran, former Vice-chancellor of Madurai-Kamaraj University, Prof. T.N.V. Rao, retired professor of History, Presidency College, Dr. K.N. George, Director of Madras School of Social Work, Prof. D. Kamalakannan, former deputy director of collegiate education, Prof.A. Mahadevan, Director, CAS in Botany, University of Madras, Shri E. R. C. Davidar, renowned wildlife writer and photographer, Shri V.J. Rajan, Hon. Secretary, Madras Naturalists Society, Mrs. Tara Murali, Architect, Shri K. Padmanabhan, Jt. Secy., MCCI and Shri H. Nanjundan, Secretary, Badaga Association of Madras. Shri B.J. Krishnan, SNC President in his welcome address presented the major problems of Nilgiris.

The meet, sponsored by Development Promotion Group, Madras was widely covered in the press.

Recommendations

Apart from the proposal to set up a Nilgiris Development Authority, the meet made comprehensive recommendations on several specific problems of Nilgiris.

Forest Protection

1. There should be a total ban on clear felling of natural forests
2. Degraded forests, particularly in catchment areas, should be immediately brought under aforestation.
3. In the interest of slope stability further conversion of forests into plantations should be banned forthwith.
4. The current policy regarding extension of monoculture in tree plantations should be thoroughly reviewed keeping in view the spreading water famine in the district.
5. Social forestry programmes should give top priority to the fuel needs of the rural households.
6. There should be a reappraisal of policy regarding forest based industries depending on Nilgiris for raw material.
7. The grazing of goats in forest areas, particularly sanctuaries, should be prohibited.
8. There should be greater restriction on the number of cattle allowed to graze in Reserved Forest areas.
9. Wider sale of firewood to be made at numerous centres at regulated rates by government agencies from wood made available from forest plantations specifically allocated for this purpose.
10. Alternate source of fuel to be arranged for areas in and around Ooty, particularly to the lower income groups.

Land Use

1. Frequent changes in agricultural practices should be avoided.
2. Vegetable cultivation in catchment areas should be regulated. Cultivation on slopes should be banned. If necessary, government should acquire such lands.
3. All idle revenue lands and surplus lands with quasi-governmental agencies should be transferred to Forest department for afforestation.
4. Agriculture Universities should study, evolve and advise a new, more suitable pattern of agricultural practices for the Nilgiris with particular reference to pasture development.
5. Consideration should be given to a re-classification of forests and revenue lands in sensitive areas.
6. Hill areas which are not to be planted with any crop, trees or farm to be demarcated and protected.
7. There should be stricter enforcement of the Revenue code where all water sources- streams, catchment areas, reservoirs- are situated.
8. There should be strict enforcement of the Tamil Nadu Hill Area *(Preservation of Trees)* Act.

Tourism Promotion

Water and forest resources of Nilgiris have been overexploited and hence they must be allowed to regenerate themselves. Therefore, there should be moratorium of ten years on tourism promotional activities. Whatever promotional measures are taken must be with a qualitative difference. Commercial interests and creature comforts should have low premium in tourism promotion. Fairs should be confined to vegetables and flowers. Trade fairs should be banned.

Influx of Population

1. Nilgiris is already over populated. Anymore influx of people would endanger its fragile eco-system.
2. A survey must be undertaken to enumerate the Sri Lankan repatriates settled in the Nilgiris to assess their economic conditions including their encroachment of forest and revenue lands. Adequate rehabilitation schemes must be instituted for them. Those who cannot be absorbed in the district should be resettled elsewhere.

Urban Areas

1. The lack of regular drainage system in urban areas of Nilgiris can have serious consequences. As a long term measure, drainage system for urban areas must be included as a priority item in development plans.
2. Coonoor town needs massive corrective measures if the town is to be saved from landslides in future.
3. As Act to be passed so that planning permission is required for the construction of any building on any land whether government or private.

4. Regarding construction on slopes better planning in designing the cuts if the slope and reduction of weight of buildings are needed. As a general suggestion for new buildings, light weight building material may be used in preference to heavy construction materials.
5. The government should restrict construction of buildings of any sort or colonization in zones pronounced unsafe. No other consideration should outweigh environmental aspects.
6. Pending a development plan for urban areas, government should declare a moratorium on all constructions of a commercial nature till civic amenities including water supply and drainage can be augmented.
7. Government should consider legislation of severely restrict, if not ban, acquisition of real estate interests in the district by outsiders which alone can slow down commercialization and speculation in the district.

Ooty Lake

Construction and cultivation activities in the catchment areas of Ooty Lake should be regulated to prevent siltation of the lake.

Education

1. School camps with teacher participation to be organized in forest areas where environmental education will be given by forest staff.
2. Weekly periods of instruction to be given in all government schools on environmental and wildlife matters.
3. The Forest department should make available nature films and slides for showing in all schools and colleges.

General

1. There should be a reappraisal of the existing legislations regarding eco-development so that statutory loopholes can be plugged. There should be a comprehensive legislation for Nilgiris.
2. Re-introduction of the Wenlock Downs Committee or a similar body with wider powers to advise on the development of urban areas and villages in addition to the care of the aesthetic state of the Nilgiris.
3. Treks and walks to be encouraged to involve people in the country side. Routes and tracks to be clearly marked and signposted along the way. Pamphlets to be made available in the Tourist Office describing each route and the duration of the walk.
4. Camping sites to be set up on a permanent basis at Mukurti Dam, Upper Bhavani and Parson's valley for the benefit of trekkers.
5. Rest areas can be made at roadsides in suitable places so that the public can relax and enjoy the countryside.
6. Corridors for movement for wildlife should be marked and preserved.

Not Nilgiris' Cup of Tea

B. J. Krishnan
Dharmalingam Venugopal

SNC Newsletter, *December 1987*

"The Planters Association of Tamil Nadu wants about 30,000 acres (12,000 hectares) of virgin forest land in Gudalur, forming an integral part of the Western Ghats, to be converted into tea plantations. The matter has been under litigation for the past 18 years.

SNC examines the various facets – historical, ecological, legal and moral - of the issue which could be a landmark in the environmental movement in the country and concludes its case for protecting these forests with a simple but incontrovertible fact. There are substitutes for tea. There is none for forests."

Back Drop

We begin at the beginning. Gudalur is a picturesque taluk situated in the western part of Nilgiris. It shares boundaries with Kerala (on the northern sides) and Karnataka (on the northern side). Gudalur covers an area of 1,78,431 acres comprising 12 revenue villages.

For our purpose here we can classify the lands in Gudalur as Janmam lands and Non-Janmam lands. Non-Janmam lands are free hold *patta* lands. These lands do not concern us much here.

Janmam Set Up

The Janmam Lands were originally held by a few zamindari families of Kerala. These zamindars, who were members of a princely family, were called Janmies in Malayalam and their lands, Janmam Estate. These zamindari families were also collectively called the Nilambur Kovilagam.

The Nilambur Kovilagam owned 80,088 acres of land in the Gudalur taluk. The Janmies were mostly absentee landlords and therefore these lands were mostly possessed and cultivated by the lessees and encroachers under the Malabar Tenancy Act.

The Janmam lands were mostly rich rain forests of the classification "Sholas". The Janmam forests, which are an integral part of the Western Ghats, were so rich that a small sleepy town called Devala situated in their midst used to get the highest rainfall in the South, earning for itself the appellation "Chirapunji of South India".

Janmam Abolition

The Janmam set up was abolished in 1969 when the Tamil Nadu Government passed the Gudalur Janmam Estates (Abolition and conversion into Ryotwari) Act. By virtue of this Act, which was actually an Act of agrarian reforms, the Government of Tamil Nadu (1) acquired the rights of the Janmies in the Janmam Estates; and (2) introduced Ryotwari settlements in such estates. Under this Act all Janmam lands vested with the Government and the Government became the absolute owner of the Janmam lands.

This Act provided for assignment of land to Janmies, lessees and encroachers who were in actual possession and cultivation of the Janmam lands.

The Assistant Settlement Officers appointed under the Act went into the various claims of the Janmies, lessees and encroachers and granted nearly 26,000 acres of land in favour of those who proved their personal possession and cultivation during the period stipulated in the Act.

The Act rightly barred the assignment of Forests in favour of anybody. An area of 12,427 acres was classified as Forests and handed over to the Forest Department under the Act.

Encroachers' Problem

The problem of Forest encroachment in Gudalur taluk has few parallels. It all started at the time of Independence when the Government of then composite Madras State invited people to grow more food on the plains and slopes of Gudalur under the Grow More Food Campaign. The campaign was meant only for a year. But the encroachers stuck for good. Most of the encroachers are from neighbouring Kerala because of the geographical proximity. The encroachers destroyed the rich natural forests, reclaimed the lands and raised permanent crops there. Such encroachers were booked under the outdated Tamil Nadu Land Encroachment Act.

Land Assignment

The encroachments were both in Janmam and Non-Janmam lands. The encroachments in Government revenue lands were regularised in three stages under different schemes in 1964-65, 1971-74 and in 1977. An area of about 5,900 acres of revenue land has been regularized in favour of about 5,580 encroachers. All encroachments which existed prior to 30. 6. 1971 were regularized in pursuance of G. O. Ms. No. 2405, Revenue Department, and dated 1. 9. 1971. Under the Janmam set up, encroachers and lessees have been assigned lands over an extent of 26,000 acres. Among the assignees 98% are from neighbouring Kerala.

Janmam Forests

The encroachments in Janmam forests were not regularized in view of the statutory bar under the Gudalur Janmam Estate Abolition Act. However encroachers encroached into an extent of about 3,320 acres of forest land in both Janmam and Non-Janmam lands.

The Tamil Nadu Government determined to protect these forest lands under encroachment. Finding that the Land Encroachment Act was not effective enough to contain and clear the encroachments, the State Government amended the Tamil Nadu Forest Act of 1882 and enacted the Forest Amendment Act 41/1981. The Act provides for summary eviction of encroachers from forest lands.

Armed with this Act, encroachments over an extent of 1,500 acres out of a total extent of 3,320 acres encroached was cleared during 1981. On September 23, 1981, the Supreme Court stayed all further eviction in Gudalur Taluk acting on a writ petition filed by Mr. M. J. Cherian and others in W. P. 7035/1981. This was followed by two more writ petitions in W. P. 5543/1982 and 5612/1982. All the writ petitions are pending final disposal. The hearing is on.

Plantation Leases

The original Janmies had leased out an extent of 41,768 acres of land for the purpose of raising plantations on a long term basis. The bulk of the land covered by the plantation leases is situated in the Ouchterlony valley or O' Valley.

Till the time of the Janmam abolition, the plantation lessees had converted about 11,000 acres of rich rain forests into plantations. The rest of the leased out area of about 30,000 acres of virgin forests is still intact. It is this chunk of virgin *Shola* forest which would become the bone of contention between the plantation lessees and the Government. It is these rain forests that the planters now want for expansion of their plantations: And the proposed expansion is sought under the guise of earning more foreign exchange for the country and generating more employment opportunity for the rural poor.

Legal Battle

From the moment the Gudalur Janmam Estates Abolition Act was enacted in 1969, it has been challenged by vested interests in different courts in different forms. The Act was challenged both by the small encroachers as well as by the big plantation lessees.

M/s. Belmadies Estate, a plantation lessee, challenged the constitutional validity of the act in the Supreme Court. But the Supreme Court, in its enlightened judgment (AIR 1973, Supreme Court, Page 2734) upheld the constitutional validity of the Act. However the Supreme Court struck down the vesting of the forest lands with the Government on the ground that such an act did not amount to an act of agrarian reforms.

In the subsequent year (1974) the Government of India by its 34th Constitutional Amendment included the Gudalur Janmam Estates Abolition Act in the 9th Schedule of the Constitution of India.

The Act was, thus, protected from any legal or constitutional attack by the aggrieved. It went beyond the scrutiny of any of the courts of the land. The Act having been given protection in the 9th Schedule, the Government of Tamil Nadu notified the Act on the 27th November, 1974.

Costly Slip

Then, as a quirk of fate would have it, a slip on the part of the State Government opened up, as it were, the Pandora's Box. Even as the Gudalur Janmam Estates Abolition Act was being given protection in the 9th Schedule, the Government of Tamil Nadu had issued notices to interested persons in the Janmam lands under the Land Reforms Act either innocently or ignorantly. The plantation lessees grabbed the opportunity with both hands and filed writ petitions in the Madras High Court contending that the Government should apply only the Land Reforms Act and not the Gudalur Janmam Estate Abolition Act to the lands under their lease.

The High Court, however, rejected the contention of the plantation lessees and held that the Government of Tamil Nadu was perfectly within its right to invoke the Gudalur Janmam Estates Abolition Act in respect of Janmam lands.

The plantation lessees appealed to the Supreme Court and the appeals have been pending for the last 10 years. Thus a routine slip on the part of the bureaucracy lead to a series of protracted legal battles between the Tamil Nadu Government and the plantation lessees.

Enter PAT

With the Supreme Court likely to take up the final hearing of the appeals of the planters any time now, the Planters Association of Tamil Nadu (PAT) have, curiously, entered the picture.

On the occasion of the 34th annual conference of PAT on September 28, 1987, the Chairman of PAT urged the Government to review its land policy which barred the clear felling of forests land for purpose of expansion of plantations and to release more lands for the expansion of tea plantation.

The PAT submitted that the land for expansion of tea plantations in Tamil Nadu was available from two sources:

(a) About 4000 acres (1700 hectares) of, what according to PAT, "uncultivated" land which the plantations had been allowed by the Land Board to retain with them for future expansion under the Land Reforms Act, but which could not be used for planting so far because of the refusal of the Forest Dept. to grant permission for clear felling under the Hill Areas (Preservation of Trees) Act and the Preservation of Private Forests Act.

(b) Nearly 30,000 acres (12,000 hectares) covered under the Gudalur Janmam Estates Abolition Act which has been under protracted litigation for the last 18 years as mentioned earlier. According to PAT, its members who were involved in this litigation were prepared to come to a mutually satisfactory settlement with the Government, if they could be assured of security of tenure by granting of *pattas* in respect of the planted area and ancillary lands.

SNC Speaks Out

As a movement which has been fighting for the ecological balance of Western Ghats in general and Nilgiris in particular, SNC considers its duty to speak out on the crucial environmental issues arising out of the planters' plea to the Government. We are asked what has the ecological balance of Western Ghats and Nilgiris got to do with the Janmam lands of Gudalur. The answer is simple. The Janmam lands, especially the virgin *Shola* forests situated therein, are an inseparable segment of the Western Ghats. And Western Ghats are the "overhead water tanks" of the country. Hence our protest.

SNC understands that the Government of Tamil Nadu has been trying to expedite the final hearing of the appeals of the planters in the Supreme Court with little success. Various factors have contributed to this delay.

Law is Clear

The Law would appear to be quite clear on the request of the planters to convert the remaining 30,000 acres of Janmam forests into tea plantations. Under the Gudalur Janmam Estates Abolition Act, nobody can touch these forests. As mentioned earlier, the Act enjoys constitutional protection in the 9th Schedule. Moreover these forests cannot be converted into plantations in view of the statutory bar of the Forest Conservation Act of 1980.

Government Options

Further, under the Gudalur Janmam Estates Abolition Act, the Government of Tamil Nadu, in public interest, is within its rights to terminate the leasehold rights of the plantation lessees and take over the planted areas. As the Act stands at present, the plantation lessees cannot be conferred with assignment right in respect of the planted area. Of course, the Government has also the option to renew the lease either on the same terms and conditions or on fresh terms.

SNC's Appeal

Taking a holistic view, there are two real issues in this case. One, the need for increasing tea production. This is the planters' plea. True, we need more tea. It is the poor man's drink, nay, food. We also need the valuable foreign exchange it has been earning the country. But can we afford to have more tea and foreign exchange at the cost of forests which are necessary for our very survival? Especially, in a sensitive place like Nilgiris which is a crucial link in the Western Ghats? Today we are not only aware of the consequences of deforestation, we actually face them. That being so, is it not suicidal to want to destroy 30,000 acres of natural forests? Let us, for argument's sake, grant that the effects of deforestation on rainfall is not conclusively established and we turn the forests into tea plantations. Can we have the forests back if at a later date it is conclusively established that without forests there is no rain nor life? Ignorance has already cost the country millions of acres of valuable forests.

Satellite pictures show that the forest cover in the country is barely 11% as against a minimum requirement of 30%. Can't we take a lesson from the unprecedented drought stalking the country right now? Remember "Forests precede man and Deserts succeed them".

Life Giver

Listen to what the Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Ooty have to say.

"There is need (in the Nilgiris) for protection and preservation of native *shola* forests, which are now found in clear, unpolluted, perennial water supply to the towns and villages, and also can fight atmospheric pollution". Should we turn these precious, life-giving *sholas* into tea plantations?

Soil Loss

The CSWCRTI have also clearly established that "tremendous soil loss will be observed from the newly cleared areas (for raising tea)".

Experiments have shown that soil loss in newly cleared areas exceed that of potato even under the "up and down" method which is the worst soil eroder in the Nilgiris. When soil erosion in Nilgiris has reached critical proportions, would not asking more areas for tea tantamount to asking the anaemic to donate blood?

The Verdict

Here is the final verdict. The Geological survey of India which made a thorough study of Nilgiris' ecology after the disastrous floods of 1978 categorically concluded "The authors feel that in the interest of slope stability and hence in the interest of the district, further conversion of forests into plantations, governmental, quasi-governmental or private, should be barred forthwith by the government'. Surely, the GSI did not say this in jest?

Gene Banks

Moreover the forests of Gudalur have been aptly called 'gene banks". The genetic diversity of these forests, which have evolved over millions of years, is a common heritage of the country. Who knows what treasures these forests hold in the field of medicine and other sciences that research can unlock in future?

Moral Responsibility

The other issue that may be involved here is economic. Will the planters be affected if their plea is turned down? Evidently, not. Unlike in the rest of the district, the plantations in Gudalur are owned by big business and industrial houses. They would hardly be affected if they are not able to bring a few more thousands of acres under their estates.

On the other hand, they have a moral responsibility to protect and preserve Nilgiris which has been earning cores of rupees for them and millions of rupees in foreign exchange for the country.

Prestige?

Often in our country cases are fought indefinitely for the sake of prestige. We hope it is not the case here. If the planters win, people will have more tea. If they give up or lose, people will have more water, soil and pure air. The planters should know which would enhance their prestige more.

No Benefit

Another argument may be that more plantations would mean more employment and more benefit to the Nilgiris. More employment, Yes. More benefits, No. Traditionally plantations in Nilgiris have attracted only migrant workers whose number has reached alarming proportions with worrisome implications to the district. This is one of the major problems concerning the people and the Government now. This being so, more plantations would only mean more migrants and more trouble for this tiny, fragile district.

Last but not the least, the problem of the encroachers. Encroachments into Gudalur forests cannot be justified just because the encroachers happen to be poor. What if every poor does that? The encroachments are from the neighbouring state. No doubt, the forest lands have to be taken back from the encroachers. If the encroachers indeed have no other source of livelihood, it should not be difficult for the centre or the State Governments involved to help them find alternative employment on humanitarian grounds.

We conclude our appeal reminding a simple but incontrovertible fact. For tea (planters' case) and employment (encroachers' case) there are substitutes. But for forests, on which the survival of all depends, there are none.

'Save Nilgiris' Run

Dharmalingam Venugopal
B. J. Krishnan

SNC Newsletter, *July 1988*

They were all there. Men and women, young and aged, rich and poor. Thousands of them. Most of them had come in groups- Anglo Indian Associations, *Magalir Mandrams*, bank staff, village youth clubs, public schools, government schools, industrial schools, college students, sports clubs, chamber of commerce, hoteliers association and even cine stars fan clubs. Each group carried its own banner or placard with the 'Save Nilgiris' message. They had come from all parts of the Nilgiris. A strong contingent of 50 boys and girls had also come from the Tamil Nadu Agricultural University, Coimbatore.

They were all there at the Hindustan Photo Films (HPF) gate on the morning of May 18, 1988 to take part in the Save Nilgiris Run.

SNC organized the Run to rouse public opinion to the deplorable environmental conditions in the Nilgiris. The Run was timed to coincide with the peak summer season when lakhs of tourists and locals throng the streets of Ooty.

The Run was well advertised. Nearly one thousand posters in English and Tamil were displayed all over the district. Slides were shown in cinemas. Banners were put in busy areas. About 10,000 hand bills were distributed. Moreover, leading dailies carried announcements about the Run. To add colour to the Run, SNC provided 500 white T-Shirts to the runners. A sponsor provided another 400 T-shirts. Both had 'Save Nilgiris' written in bold on both sides..

Around 11-30 am, SNC President, Shri B.J. Krishnan welcomed the participants. Rt. Rev. William Moses, Bishop of Coimbatore, who was good enough to provide the 400 T-shirts, blessed the Run. Shri P.R.S. Rao, Chairman and Managing Director, HPF inaugurated the Run. Shri K.S. Sripathy, Collector of Nilgiris, flagged off the Run.

The runners then surged through the main road from HPF to the Breeks grounds (near the Botanical gardens) where the Run culminated. The runners passed through idyllic suburbs and busy thoroughfares of Ootacamund. Whenever, they stopped to regroup, their enthusiastic shouts of 'save, save Nilgiris' rented the air.

Shortly before 1 pm the runners entered the Breeks school grounds where a big crowd including a group of Todas awaited them. Traditional Kota music greeted the runners.

At 1 pm sharp His Excellency Dr. P.C. Alexander arrived to a rousing welcome with the Kota band playing its haunting music, the Todas and Badagas greeting with their traditional shouts of welcome and the crowd roaring 'save, save Nilgiris'. The shouting reached a crescendo when one of the runners accompanied by an elderly Toda walked up to the Governor and presented the appeal, printed in a satin and velvet scroll.

Shri K.S. Sripathy, Collector of Nilgiris, presided over the meeting. Shri B. J. Krishnan, SNC President, read out the following appeal presented to the Governor.

Time running out for Nilgiris

"The magnificent Western Ghats and its inseparable mountain country Nilgiris are considered to be natural wonders by scientists and naturalists. Nilgiris is one of the oldest landmass of our mother planet. The Himalayas are much younger in comparison. The fauna and flora are varied and unique. It has a unique ecosystem. Kundah, Pykara, Bhavani, Moyar and Ponnampuzha have their origin here. Its rivers produce 40% of the hydel power of the state. Therefore, it is described as the Oxygen Bank and the Overhead Water Tank of the state.

In the name of development, both economic and industrial, the Nilgiris have been systematically destroyed in the last 25 years. The government, the industrialists as well as the people have contributed to this destruction. Government of Tamil Nadu has brought the major portion of the grassland under eucalyptus plantation with the sole object of feeding a few wood based commercial industries.

The planters have destroyed priceless shola forests to raise tea. Encroachers and land grabbers took the remaining forests to raise cash crops. The Nilgiris have lost about 90% of its original natural green cover. This has resulted in erratic rain pattern, water runoff, soil erosion, flash floods and silting up of the dams.

The government of India prescribes that hill areas like the Nilgiris should have about 60 to 65% forest cover. The state government's statistics would show that about 60% of the land in the Nilgiris is having green cover. These statistics include the monocultures of tea and eucalyptus. Any monoculture is bad for the soil.

Further the Central Soil and Water Conservation Research and Training Institute at Ootacamund had scientifically established that the eucalyptus plantation drained the water table. The powerful Planters' Association is threatening to destroy the remaining Janmam forests of Gudalur to raise tea.

The alarming increase in population had considerably contributed to the degradation of the Nilgiris. The local people have successfully adopted family planning to keep their family small but yet the population of Nilgiris had doubled in the last 15 years. This is due to the rootless migrants settling down in the hills. And these unfortunate humans have settled down in ecologically sensitive areas. Their encroachment was not stopped by the government.

Ootacamund, once the Queen of Hill Stations, is a shanty town now. Unplanned urban development is directly traceable to the non implementation of the inadequate Municipal laws. People have built regular buildings on the municipal roads and highways. One can build any building anywhere in the town and still get the municipal sanction. In a town, where one should get water in abundance, water scarcity has become a way of life. People live with it. In the much talked about Parson's Valley scheme we have everything but water. Insensitive governments of the past, greedy industrialists and ignorant masses have contributed to the present state of affairs of Nilgiris.

Children of the mountains

Your Excellency, we are children of the mountain. We could not be a silent spectator to the mindless destruction of this gift of God. In 1986, a few concerned citizens among us formed a small group to arouse environmental awareness about the ecological disaster. Sri. R. Venkataraman who was the Vice-President of India that time blessed such a campaign. In the last two years the campaign has made giant strides and it has become a people's movement now. The citizens who have assembled here are a proof to the concerned campaign of the SNC. The Save Nilgiris Campaign is at present the Central Convener of the Save Western Ghats movement.

Your Excellency, we have a few suggestions to save Nilgiris from imminent threat. We submit the following for the government's immediate consideration.

1. The government of Tamil Nadu should constitute a Hill Area Development Authority to coordinate all ongoing development activities in these hills. The approach of the Hill Area Development Programme is ad hoc and piecemeal. The Hill Area Development Authority should be a statutory authority and its Chairman should be in the rank of a Chief Secretary. The noble concept of 'conservation is development' should be the spirit behind the authority.
2. There should be a total ban on felling of natural trees, wherever they are found- forest or revenue, private or public. We consider the Forest Conservation Act of 1980 as the greatest contribution of our late Prime Minister Mrs. Indira Gandhi to the cause of conservation. A similar act can be enacted by the government of Tamil Nadu banning the felling of all natural trees in these hills.
3. There should be an immediate ban on all encroachments and subsequent assignment of government lands in catchment and forest areas. The water catchment areas of Nilgiris should be identified and declared as protected area. Legislation may be necessary in this regard. Government should make drastic changes in the outdated Land Encroachment Act, if the remaining is to be protected.
4. The government should ban any kind of cultivation on hill tops and steep slopes. These areas should be reserved for raising native trees.

5. There should be a master plan for Ootacamund town. Town planning rules should be made more stringent and they should be followed strictly. There should be a ban on multistoried buildings. The Geological Survey of India have identified ecologically sensitive areas in the town. In these locations construction activities should be banned totally.
6. These suggestions are only illustrative. Your Excellency, time in running out for Nilgiris. We request you to save our Nilgiris.

"Nilgiris will be saved" Governor

Replying to the appeal, the governor Dr. P.C. Alexander expressed his happiness at the 'original, innovative and enterprising' manner in which the Run had been organized to draw public attention to the environmental problems of Nilgiris.

Dr. Alexander pointed out that the people world over were seeking to draw public attention to the various causes through events like the Save Nilgiris Run. He mentioned particularly the campaign for famine relief in Ethiopia and the worldwide campaign against nuclear weapons in this context. Congratulating SNC for organizing the Run, the governor said that he readily accepted to participate in the Run because he truly wanted to lend his support to the cause of the Nilgiris.

Recalling his many visits to the Nilgiris during his college days, the governor regretted how much the place had changed over the years. He was pained to see the bare mountains and cultivations and encroachments on steep slopes.

The governor said that unchecked population was the root cause of the various problems afflicting the country. It was this pressure of population which forced people to migrate to places like the Nilgiris and encroach indiscriminately on ecologically sensitive areas with its attendant consequences, he explained.

While conceding that the damage to the Nilgiris' environment and ecology was of a serious nature, the governor felt that the Nilgiris could still be saved. Though he might not be able to do all that SNC had asked in the appeal, he assured that he would attempt to do some of them during his tenure. The governor sought the cooperation of the public and SNC to create awareness not only in Nilgiris but outside also so that the tourist too could appreciate the need to preserve Nilgiris.

Dr. Alexander concluded his ten minute address with an expression of confidence that, "Nilgiris should be saved and will be saved".

Call for Strong People's Movement

Sundarlal Bahuguna SNC Newsletter, *December 1988*

Chipko Leader Shri Sundarlal Bahuguna's address at the Public rally at Ooty on Christmas day 1988 at the end of the Save Nilgiris March.

I express my feelings of gratitude to the organizers and participants of 'Save Nilgiris' for giving me an opportunity to be blessed by them on Christmas – the most auspicious day. The conclusion of *padayatra* on Christmas day has connection with that great event, when the servant of Humankind –he son of God – came in this world to spread the light of truth, and carve the path of love and compassion.

Jesus was the emblem of Humility and when in our times a Great Soul – Mahatma Gandhi – appeared on the earth, he too used to remember Almighty as the "Emperor of Humility". *Padayatra* is the best expression of Humility. When you go with a noble message as a humble man, as Jesus went from village to village, you reach to the hearts of the people.

The modern man equipped with immense knowledge and physical powers to rule over Nature, lacks humility. He has a big head – too much knowledge, feeble hands and no heart. It is why we are confronted with the triple problems of war, pollution and hunger. The very survival of all life due to these threats is at stake.

I feel the solution of these problems lies in the combination of knowledge (*gyan*), devotion (*bhakti*) and action (*karma*). The *padayatris* in their humble way tried to practice these. I wish that this *padayatra* may be the beginning of the great task of healing the wounded mother Earth, bringing her back to good health and ushering an era of peace, happiness and fulfilment to her children.

I have come from the high Himalayas – the Great Mountain, which has been the source of varied inspirations to Humankind. Its lofty peaks convey us the great of rivers and streams, which ultimately are the source of material prosperity. I feel Himalaya is the representative of all hills and mountains. It is why Lord Krishna in Gita said "Among steadfast I am Himalaya".

The importance of Nilgiri Hills is no less than Himalaya in this sense. Nilgiris are the abode Gods. Our ancestors built temples on the highest peaks. This was done to keep in us the feeling of detachment, penance and austerity alive, to see life in all creation and to have a worshipful attitude towards Nature.

But the modern man in a vain attempt to satisfy his never ending desires, has become the butcher of Nature. For him Nature is a commodity, which can be marketed.

This outlook is responsible for the destruction of forests, which clothed hill slopes. In spite of the great sufferings due to droughts, floods, water scarcity and soil-erosion, which are Nature's punishments for the butchery of forests, I am pained to listen that felling of hundred years old trees from *shola* forests in Nilgiris continues.

It is not only the greed of a few unscrupulous timber traders, but the apathy of us all which has allowed these heinous crimes to be committed. Fifteen years ago when, we in Himalaya, became conscious of this, people there, especially the ladies and children, launched a unique movement – the Chipko movement. They challenged the traditional slogan of forest management.

"What does the forest bear? Resin, Timber and foreign exchange," with a new scientific slogan: "What do the forests bear? Soil, water and pure air. Soil, water and pure air are the basis of life".

This is the mantra for the survival of our dying planet. I have come here with this message from all those who are revolting against the human atrocities towards Nature. This is the religion of our times. We should come out of narrow boundaries created by petty communal interests and adopt a code of conduct which helps us in harmonizing our relationship with Nature. This is Vedanta.

Protection of trees is the most sacred religious duty, because tree is God. Compassion personified. It gives us life giving oxygen without which we cannot live more than five minutes. Forests are the mothers of rivers, and factories of soil-manufacture. They provide us food, fodder, fibre, medicine and shade. These all are the living products of the trees. When a tree dies, it gives us timber and firewood. The tragedy of modern materialistic civilization is that it kills a living tree for taking its dead products.

We should fight against untruth. Wherever and whoever is axing a green tree, we should go and hug the tree and save it. Our country has the glorious tradition of saving trees by offering oneself to be axed. I hope you know the story of Amrita Devi of Khejadli, Rajasthan. This brave Vishnoi Lady offered herself to be axed 258 years ago, saying it is cheaper to save a tree even at the cost of head. 362 men and women followed her.

I am happy to inform you that people in Karnataka in Sirsi and Kodagu, launched a similar movement by the name of Appiko and they succeeded to drive away the axe men. Similarly Wayanadu Prakriti Samrakshan Samiti successfully saved the hill forests. These all are the neighbouring districts.

Why should Nilgiris and Tamil Nadu lag behind? Sometimes the law comes in the way of tree protectors. Such laws which in the name of private property help chopping the trees do injustice in the name of justice and have become out of date. The Government should come forward to scrap such laws.

In democracy the basis of all legislation is strong public opinion. So my humble request to you is without losing time you should launch a strong movement to stop all tree felling. This will compel the government to come forward with a legislation.

It is not only Ooty or the villages in Nilgiris, which are facing acute water scarcity; the whole country is heading towards water crisis. On the one hand, the demand of water for agriculture, industry and the household needs is increasing; and on the other hand the availability of water is decreasing. The green revolution had made our agriculture more water intensive. Sugar, cotton, paddy all need too much water. When surface water is not enough, we have started mining underground water. The level of tube wells has gone down by several metres.

Similarly the chemical industries, specially the fertilizer industry's demand of water is too high. Industries and even modern agriculture pollutes water with effluents. With rapid growth of urbanization, the household demand for water is rapidly increasing. An urban family uses ten to fifteen times more water than a rural family.

Water consumed by scarcity-hit Gujarat Fertilizer Factory and other two chemical industries near Baroda would suffice the needs of 17 lakhs 10 thousand families! So far as availability of water is concerned it will be only 14 per cent per capita in 2001 AD as compared to 1901 AD. The only way to overcome this crisis is to adopt austerity in the use of water and conserve our water resources.

We should be clear in our minds that natural forests, and not man-made plantations, especially those of eucalyptus and pines, are the mothers of the rivers. Now there are enough evidences from the experience of people that eucalyptus depletes water table. So in no case eucalyptus plantations should be allowed to exist. The farmers in Western UP have already started uprooting eucalyptus from their fields. Besides ecological disaster, eucalyptus plantations on the borders of farms had disastrous effects on the production of sugarcane and wheat. Similar is the experience of paddy farmers in Thailand.

We cannot solve environmental problems in isolation. These are closely connected with development strategies. When affluence is regarded as the objective of development and economics becomes religion, human behaviour becomes more uneconomic. We are creating problems in the hills by encouraging disastrous land use, like cereals and tea cultivation over the slopes, forest based industries and tourism. The worst enemy of human beings has been the plough-shear.

Flesh and blood of the hills can be seen flowing down during the rains. One can see the deep scars on the body of mother Earth in newly raised tea plantations. Similarly the graveyards of the trees in the form of saw mills are visible. Tourism in no way is a soft industry. It drains the limited resources and in order to provide more facilities to the tourists the hill man offers everything for sale, excluding his simplicity. Compare the multistorey buildings, which are a new development in Ooty, with the simple Toda huts. The hill landscape cannot bear the burden of these massive structures.

A strategy of sustainable development of Nilgiris should consist conservation of the remaining natural forest and conversion of monoculture forests into mixed forests of food, fodder and fibre species. Suitable fruit and nut tree species to replace tea and potatoes over slopes above 15° should be identified. Tree species giving raw material for home village industries should be next choice.

I hope this *padayatra* marks the beginning of several local and inter-state *padayatras*, especially from Nilgiris to Brahmagiri and Thala Cauvery.

Nilgiris vs Eucalyptus

Dharmalingam Venugopal SNC Newsletter, *December 1988*

Even as the world wide controversy over eucalyptus rages on, the matter has acquired urgency in the Nilgiris. Not only because the eucalyptus-related problems there have become critical but also because there seems to be fresh threats ahead.

In the circumstances, a timely seminar on "Nilgiris vs Eucalyptus" was organized on October 18, 1988 at Coonoor by the Rural Development Organization and the Rotary Club of Coonoor, scientists, environmentalists, social workers and concerned citizens took part in the discussions.

The participants, in general, were highly critical about the promotion of eucalyptus in the Nilgiris. They were unanimous that eucalyptus had done enormous damage to the ecology of Nilgiris, particularly to the water sources leading to serious water scarcity.

The Seminar viewed with serious concern the attempts by private industries to extend the cultivation of eucalyptus in the Nilgiris. In specific, it deplored and condemned the proposal of M/s. South India Viscose (P) Ltd. to encourage private people to plant eucalyptus.

However, there was broad agreement that eucalyptus has an unavoidable but useful role to play in the Nilgiris. As a source of fuel, it was noted, there was no immediate substitute for eucalyptus. It was recommended that eucalyptus could be continued to be grown in degraded lands and wastelands and that it should be supplied as fuel wood to the weaker sections of the people at a subsidized rate.

The seminar was categorical that eucalyptus should not be grown as an industrial raw material in Nilgiris anymore. The existing demand should be gradually phased out with the available supply. Mr. B. J. Krishnan, President, Save Nilgiris Campaign, who chaired the Business Session, traced the history of eucalyptus in the country in general and in Nilgiris in particular. He said that there were about 500 varieties of eucalyptus and among them, what was called the *Blue Gum* or *Mysore Gum* was the popular variety. The spread and growth of eucalyptus in the country was essentially government sponsored, he added.

The case for eucalyptus, Mr. Krishnan said, lay in its fast growth, its use as fuel and fibre, its employment potential and its commercial value. On the other hand, the case against it was that it drains water, it lacks social benefits, it is a mono-culture, its leaves are toxic and it does not enrich the soil.

Ironically, Mr. Krishnan pointed out, eucalyptus which was originally introduced to protect the ecology of Nilgiris had become its prime destroyer. In 1856 eucalyptus was introduced in the Nilgiris in a big way to provide alternative fuel to the local people so that what was remaining of the natural forests could be saved. Exactly a century later, in 1956, natural forests and grass lands were begun to be cleared for making way for eucalyptus plantations in order to provide raw material to a few industries in the plains. Mr. Krishnan concluded that the time had come for restoring the original priority.

Excerpts from Discussions

"The results of the studies conducted at the Centre (Central Soil and Water Conservation Research and Training Centre, Ooty) indicate that caution may have to be exercised, while large scale conversion of natural grasslands of the Nilgiris into eucalyptus and wattle plantations.

"The reasonable alternative to this calamitous course in Ecology and Environment would be to encourage the growth of jungle-wood trees, in the places of Eucalyptus as the former has a natural tendency to retain and sustain the moisture in the clouds thereby assuring the natural flow of rainfall when periodically due during the regular monsoons. Yet another effect of Eucalyptus cultivation is the total extinction of valuable medicinal plants.

"Way back in the first decade of this century, the British observed "the blue gum should not be planted near springs as it absorbs immense quantities of subsoil moisture.

"In 1985 a worldwide study of the Eucalyptus species clearly concluded that extensive Eucalyptus plantations in deforested catchments substantially decrease the water yield. It states further that removing of eucalyptus plantations will increase the water yield of the affected catchment.

"In August 1983, thousands of small farmers of Karnataka uprooted about ten million eucalyptus plants from the Forest Department nurseries and sowed local seed in their places. Many of them were arrested and put behind bars. The case of the protesting small farmers was:"The rich farmers, who live in cities and manage their farms through labourers, found it profitable to grow eucalyptus to get rid of the farm labourers.

"Eucalyptus could give them more money, but with the spread of eucalyptus roots our small holdings in their neighbourhood have become barren and we have been devoid of ragi, which we used to grow for our subsistence from these fields.

In spite of the massive propaganda by the Government machinery in favour of eucalyptus plantation, the bitter truth could not be hidden. The protest against eucalyptus continued in other states. In Chamba, Himachal Pradesh, Chipko activists launched a campaign to uproot eucalyptus as well as poplars and pines from the Forest Department nurseries".

"A big paper factory representative proclaimed that he was trying to rent / buy lot hectares of land in our immediate environment right through our drinking water reservoir. That means a prospect of drying up. As eucalyptus grows, the ground water level goes down further year after year. Eucalyptus roots do not keep the water together and also do not store it, like the leaved trees can do with their wide-branched root system. An adult eucalyptus tree needs / dries up to 500 litres of water a day. Many mountain rivers in nearby valleys and other places, which are still painted in old maps as waterlines, today have not a drop of water." (Lament of a group of young activists in Portugal).

Reorienting Hill Area Development Programme

Dharmalingam Venugopal SNC Newsletter, *December 1988*

The suggestions for reorienting the priorities of the Hill Area Development Programme (HADP) were made at the request of Department of Planning, Government of Tamil Nadu.

Voluntarism

It has been recognized by the planners of the country that for any scheme, seeking to bring about fundamental changes at the grass root level, to succeed it is essential to involve the voluntary agencies and the local people.

The Seventh Five Year Plan categorically states "in all area programmes, particularly in watershed management, the active involvement of people, of their own local organization and of voluntary agencies is crucial".

Benefits

Awareness among the people regarding their environment and the need to protect it is a necessary precondition for HADP to make an impact. This cannot be imparted through formal education alone. It would require all forms of non-formal education to drive home the point to the various sections of the people. Here the voluntary agencies can play a leading role as they have done elsewhere in the country.

Secondly, implementing HADP through the governmental agencies alone is bound to be a costly exercise. Voluntary agencies are by far the least costly implementation or administrative agencies available in the county. Therefore to the extent such agencies are involved in the implementation, funds can be released for development work. Moreover, in the context of the inherent red tape in the governmental machinery, routing development works through voluntary agencies can greatly cut down the delay in implementation.

Caution

Voluntary agencies are not a cure all. They too have their limitations and even black sheep. Nevertheless they are now, by and large, an entity capable of contributing significantly to the developmental efforts. Therefore careful selection and involvement of voluntary agencies in the implementation of HADP is eminently worthy of a trial in the coming Eighth Five Year Plan.

Integrated Approach

An Integrated approach does not merely mean an integration of financial outlay. Integration should manifest itself in suitable administrative control and legislative support also. For example, unless the large scale encroachments in the hills are stopped, no amount of soil conservation measures can help. Unless all the complementary measures are simultaneously initiated, the efforts will continue to be ad hoc, piecemeal and ineffective. In this context the government of Tamil Nadu would do well to set up the Hill Area Development Authority (which has been under consideration for the past two years) with suitable statutory powers at the earliest.

Horticulture

The focus has been on this sector from the inception which is understandable considering the suitability and the traditional importance of horticulture crops in the district. However, of late, there has been a growing emphasis on extension of tea at the expense of vegetables. This emphasis would appear to be misplaced for the following reasons:

- Beyond a certain level, it is a scientific fact that, any mono-culture including tea is harmful for hill areas like Nilgiris whatever their economic benefit is. The cultivation of tea in the district, accounting for over 60% of the cropped area, has clearly exceeded its limits. A similar mistake was committed in 50s and 60s when eucalyptus was indiscriminately propagated all over the district. The harmful effects are felt now and the reversal of the situation has become extremely difficult. The same mistake should not be repeated with tea now.
- The Geological Survey of India has strictly warned against changes in the agricultural pattern, especially to that of tea cultivation, in the interest of slope stability and soil conservation. Moreover, it is a known fact that small tea growers, who account for a substantial share of the cultivation, take little efforts at soil conservation.
- Tea cultivation in Nilgiris is almost wholly dependent on migrant labour. More acreage under tea would mean more migration into the district which is already burdened with one of the highest rates of net migration in the country. On the other hand, the life supporting system in the Nilgiris is hardly adequate to take care of the existing population. Therefore, indiscriminate extension of tea in the Nilgiris is bound to have serious sociological as well as ecological consequences.

Nilgiris hold almost a monopoly in the kind of vegetables and fruits it grows in the state. Therefore there is absolutely no question of it ever losing its market for them. If, however, vegetable cultivators are now readily giving up vegetables for tea, it is mainly because of the low prices they are able to get. In other words, poor marketing is at the root of the vegetable growers' ills and if that is set right vegetable growing can be as profitable and reliable as tea.

Besides, the whole State would stand to lose if Nilgiris ceases to be a main vegetable producing area. In the circumstances, HADP should consider moderating its emphasis on extension of tea. At the same time, due importance should be given to the cultivation of vegetables and fruits. The focus should be on soil conservation, well irrigation, storage and marketing. If these are effectively delivered, which is not impossible, vegetable and fruit cultivation in the Nilgiris can be as much as paying proposition as any other.

Roads

The emphasis on roads has, admittedly, been not conducive for the eco-development of Nilgiris. Nevertheless, sizeable outlay needs to be continuously allotted under roads, if only to maintain the extensive network of roads that has been laid. One major side effect of the extensive road laying is the enormous traffic in the towns, particularly Ooty and Coonoor, which has overburdened the roads there. Therefore, there should be a special emphasis on the maintenance of roads in Ooty and Coonoor townships.

Forestry

Though forestry has been third in importance in terms of percentage share, the absolute outlay set aside for it has been hardly in keeping with the importance it deserves in any plan of eco-restoration in the Nilgiris. There can be no two opinions that a much higher emphasis needs to be put on forestry in future. Afforestation assumes added importance because it is imperative not only for re-greening the widely degraded hills but also because afforestation is the only effective check against encroachments which have been going on an unprecedented scale in the last few years. Some suggestions:

(1) Afforestation on the scale needed in the district cannot be undertaken by the Forest department alone. Moreover, unless people have a stake in raising trees, no meaningful afforestation is possible. Therefore, a Scheme similar to that of the Wasteland Development Board can be instituted whereby voluntary agencies can be vested with the responsibility of raising nurseries and planting them in public and private wastelands with native species. The scheme should pay special attention to eco-restoration of degraded sources of water supply - whether in public lands or in *patta* lands.

(2) Water sources should be declared as protected areas, fenced properly and no form of interference should be allowed in them.

Dairying

Dairying should continue to have priority as it can be supplementary sources of income for the vegetable growers. However, dairying has been facing a growing threat in the form of unabated encroachments into the village grazing and common lands. Drastic measures have to be taken to put an immediate end to such encroachments. Another suggestion here is to set up village councils and vest them with powers to keep vigil over such lands.

Tourism

The tourist population in the Nilgiris in recent years is largely a floating population - people who come in the morning and leave in the evening. Their numbers are increasing by leaps and bounds every year. These tourists have also become a major source of pollution. HADP should consider construction of public facilities at the outskirts where such tourists can wash, cook, etc.

In any case, the towns of Ooty and Coonoor cannot withstand such a massive inflow of tourist transport. The traffic needs to be regulated through hefty entrance charges to be collected at the various points of entry.

Alongside, there should be a massive campaign (with the help of students and volunteers) particularly during the summer months, in the towns of Ooty and Coonoor educating the tourists not to pollute the environs. Such awareness campaigns should also be held in the major centres in the plains from where the bulk of tourists arrive in the Nilgiris.

Sports

Nilgiris has always been a very sports-loving district. However, in the last few year, sports activities have almost ground to a halt due to insufficient facilities and encouragement. This has been one of the major reasons for the growing incidence of drinking and gambling (particularly horse racing) in the district. HADP should take the lead in reviving the interest in sports activities by providing the necessary infrastructure, and encouragement.

Environmental Awareness

HADP cannot make headway unless the necessary emotional awakening is created in the people regarding their unique environment and the threats to it. And, all the things considered, the task of awareness creation is best left to the voluntary agencies. We suggest:

(1) HADP should declare a Nilgiris Environmental Awareness Month similar to the National Environmental Awareness Month by the Dept. of Environment, Govt. of India. During that month awareness campaigns should be organized throughout the district. Projects involving people's participation in eco-restoration should be encouraged during that time. The month of May can be considered for such a scheme as it can also cover a large number of tourists.

(2) HADP should arrange regular environmental education to all the schools in the district. For this purpose, a District Environmental Education Centre can be set up. The Centre can be run by a voluntary agency and can train Volunteers, teachers and others in environmental education besides conducting regular classes for school and college students.

(3) In areas where the environmental degradation is serious, an intensive awareness campaign can be mounted over a longer period. A project proposal for such a scheme by the Save Nilgiris Campaign is under consideration by HADP.

Population

No plan should lose sight of the fact that Nilgiris is heading for a population explosion, rather, "migration explosion". The local population, which has shown a remarkable response to family planning, has regulated its growth admirably. It is the immigrant stock which is of concern. HADP should, on the one hand, decline support to all activities that could encourage further migration into the district and, on the other, undertake a massive family planning programme among the migrant population.

Conclusion

The art of planning in a democratic set up lies in balancing the popular demand with the real developmental needs. As it is the HADP scales are sharply tilted against the latter. The Eighth Plan should seek to set the scales in balance.

Degradation Despite Warning

Dharmalingam Venugopal — Express Weekend, *February 1989*

> *"The stage of preventing environmental degradation in Nilgiris has been crossed over. The harm has been done. The present stage is one of repairing the damage," concluded a Geological Survey of India (GSI) study after the disastrous floods of 1978".*

The *Save Nilgiris March* organised by the Save Nilgiris Campaign exactly a decade and a month later found little evidence of the people or the Government having heeded the warnings and recommendations of the GSI. As if in defiance of the major finding that deforestation and conversion of the land for agriculture, tea plantation and residential purposes" were the main cause of degradation, these very same activities were seen to be taking place at an alarming rate all over the district. No land appears to be too remote or too steep for cultivation or construction. Whether these activities are lawful or not makes no difference to the consequences.

Sponsored by the Department of Environment of the Central Government as part of the National Environmental Awareness Campaign, the march covered nearly 200 villages in the four taluks of the district. The foot marchers numbering about 30, young men and women went round the villages and towns for over a fortnight at the fag-end of 1988 spreading the message of environmental protection and assessing the intensity of the problem by talking to people holding public meetings and distributing literature.

"It was heartening," said Mr. B. J. Krishnan, SNC president, at the end of the march, "to find in all the villages that we visited, the people were aware of the Save Nilgiris Campaign and appreciated the need for it."

The focus of the march was on the deepening water scarcity which has been the cumulative result of the environmental degradation in the district. Mr. K. Shanmugam, who led the foot marchers, said that all parts of the district were found to have been affected alike and the situation had generally turned acute in the last 15 years or so.

The rapid disappearance of the original *shola* forests and grassland which are the natural sources of water supply has been chiefly responsible for the growing water shortage. The insatiable demand for land for cultivation has pushed these *sholas* and grassland to the extreme boundaries of the Nilgiris hills. The remaining patches in the central areas are so few as to need fencing to protect them.

Almost at every village the people complained of springs and streams having gone dry in the recent past. Indeed, the water problem in the Nilgiris is literally on the brinks of a crisis. Only an estimated 10 per cent of the original forests remain now. If they were also to disappear, as indeed being feared, the water crisis in the Nilgiris may well become a catastrophe.

Moreover, the increasing cultivation of steep slopes and catchment areas has aggravated the problem of soil erosion which in turn, has greatly contributed to the silting up of most streams, rivers and reservoirs. The Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Ootacamund has recommended that all cultivation should be restricted to lands with less than 30 per cent slope. The cultivators, it was found during the march, were either unaware or indifferent to these recommendations.

With most of the old water sources having dried up or silted, the villages are now being supplied water through pipelines from increasingly far off streams and reservoirs. In summer time the worst affected villages are supplied water in tankers. Last year even Hannikore, meaning a village situated on a swamp, was supplied water in that way.

The worsening water shortage has been compounded by the widespread and indiscriminate planting of eucalyptus. Apart from the global evidence, the adverse effects of eucalyptus on the ecology, particularly its enormous demands on water, have been well established by research at the CSWCRTI. Dr. P. Samraj, officer-in-charge, CSWCRTI, warns: "Caution may have to be exercised while planning large-scale conversion of grassland into plantations of fast growing species, particularly eucalyptus in the catchment of the Nilgiri reservoirs."

Mr. B. J. Krishnan, who addressed the public at various places, explained that eucalyptus was originally introduced in the Nilgiris by the British in 1856 to save the *shola* trees which were being used up as fuel by the local people. However the British had clearly observed then, "the blue gums (eucalyptus) should not be planted near springs as it absorbs immense quantities of subsoil moisture."

Ironically, Mr. Krishnan added, a century later, in 1956, these valuable *sholas* and grassland were destroyed to make way for large-scale plantation of eucalyptus by the government for supplying raw material to a few industries in the plains. Even grazing lands, village commons and catchment areas were not spared. Individual farmers were also lured by the commercial benefit.

In none of the villages the people were in any doubt that eucalyptus has been a major reason for water scarcity in their area. No farmer had gone in for fresh plantation of eucalyptus in recent years even though its commercial value is now much higher. They have also no hesitation to cut down the trees in their fields if required cutting permits are forthcoming. However, there was a widespread feeling of helplessness at the ubiquitous government plantations.

In some of the villages the marchers came across a scheme being promoted by a certain private sector unit whereby the farmers are offered cash incentives and buy back promises for taking up eucalyptus plantation. It was shocking to find such a scheme in existence when the Government of Tamil Nadu itself has stopped further plantation of eucalyptus under any of its programmes.

Summing up the eucalyptus controversy, Mr. Krishnan said eucalyptus could not be altogether banned as there was no immediate substitute for it as the major source of fuel in the Nilgiris. It could be continued to be grown in degraded and wastelands. What was objectionable according to Mr. Krishnan, was the large-scale plantation of eucalyptus for industrial use. The Government's commitment to such industries should be gradually phased out. In any case Mr. Krishnan was emphatic that eucalyptus planted around water sources should be uprooted forthwith regardless of whether they are owned by the government or private individuals.

Alongside declining supply the demand for water has also gone up manifold in recent years thanks to the enormous rise in population, especially the migrant population. Fresh settlements were seen all over the district and the large-scale encroachment on forest and revenue lands for cultivation and settlement. The new settlers appear to have been greatly aided by outdated Land Encroachment laws and the availability of *pucca* roads and bus transport to every nook and corner of the district. Unless effective changes are made in the land encroachment acts and cultivation on slopes is totally banned there appears to be little hope of checking the menace of encroachments.

Another matter of serious concern noted by the marchers was the hurry in switching over from cultivation of vegetables to tea. Though the move has been largely dictated by the falling yield and uncertain market for vegetables, particularly potato, it appears to be ill-advised in the long-term interest of the district.

The CSCRTI has observed, "Though the canopy of the tea bushes when fully developed can prevent erosion to a considerable extent, there is tremendous soil loss totalling about 120 tonnes/hectare till the end of four years after planting of tea without proper soil conservation measures. Most of the plantations, owned by small farmers, do not have the tea canopy closed even after 10 years due to bad management and inadequate inputs." During the march several instances of ill-managed or abandoned tea gardens were witnessed.

Mr. Krishnan said tea cultivation has exceeded 60 per cent of cultivated area within the last few years despite the GSI's warning against "changes in the agricultural pattern, especially to that of tea cultivation, in the interest of slope stability and soil conservation." He also cautioned that a similar mistake was committed 30 years ago when the monoculture of eucalyptus was propagated indiscriminately. At several places the people complained of springs having disappeared after the introduction of tea.

Mr. Krishnan wanted the government to moderate its emphasis on extension of tea and instead encourage vegetable cultivation through provision of irrigation, storage, marketing and soil conservation measures which, he said, could make vegetable and fruit cultivation as much attractive as that of tea.

The urban scene in Nilgiris is in chaos. Ooty, once the Queen of Hill stations is now not much different from any market town in the surrounding plains. The Coonoor town, as the GSI had aptly put it," seems to have grown of its own accord without any control over the years." Gudalur and Kotagiri are fast going the way of Ooty and Coonoor, overburdened by the influx of migrant population and encroachers.

Civic amenities have become woefully inadequate. Drinking water has become perennially scarce. Sewerage system has broken down and roads have become intolerable. During summer season the situation becomes worse as lakhs of tourists arrive.

The most disturbing aspect is the high level of speculation in real estate which has sent rental and land prices to incredible heights. No slope is too steep for construction, notwithstanding the warnings of GSI to avoid the sensitive slopes. Again, against the advice of GSI, most of the structures there are multistoried and heavy. In short, the urban setting can be described as ugly and unsafe.

The urban decay in the Nilgiris is largely the result of over-population, excessive commercialization and the near-absence of town planning. The surge in recent years in investments in Nilgiris by outsiders is another contributing factor.

Addressing a public rally at the end of a procession on the concluding day, Mr. Sundarlal Bahuguna, the Chipko leader, said that the water scarcity in Nilgiris would equally affect the surrounding districts in the plains as the major rivers of those areas originate in the Nilgiris. Mr. Bahuguna regretted that despite the best efforts of the people and the government, thousands of more than hundred-year-old trees were continued to be felled in the Nilgiris. He wanted the state government to enact a new law totally banning the felling of natural forests.*

"A strategy of sustainable development of Nilgiris should," Mr. Bahuguna said, "consist of conservation of the remaining natural forests and conversion of monoculture forests into mixed forests of food, fodder and fibre species."

Ooty: Legacy of a Civil Servant

Dharmalingam Venugopal Express Weekend, *May 1989*

John Sullivan, the Englishman who established the hill station of Ootacamund (Ooty) - the first hill station India - was a classic example of what an enterprising and adventurous civil servant can achieve. However the Queen of Hill stations, as Ooty came to be popularly known later, was only a part of his legacy which, in fact, touches every aspect of life in the Nilgiris even to this day. June 15 marks the close of his 200th birth anniversary.

Born in London on June 15, 1788, John Sullivan joined the Madras Establishment of the East India Company in 1803 at the young age of 15 as a lowly writer. But he worked his way up fast, became the Collector of Chingelput in 1814 and, in the next year, became the permanent Collector of Coimbatore which then included Nilgiris.

Lack of roads, the steep hills, fear of wild animals, malarial fever and brigands had kept Nilgiris out of bounds for outsiders till Sullivan took over its administration. Only a handful of missionaries and survivors had dared to visit the hills before.

A Jesuit priest Rev. Jacome Finnicio was the first European to visit the Nilgiris in 1603 at the direction of his superiors to "bring back to the Catholic faith" certain people inhabiting the hills who were believed to be Christians but "had nothing of Christianity except the bare name." Though nothing came of his visit he left behind valuable accounts about the place and the people of Nilgiris, which are the earliest available documents on the subject.

The next to visit the Nilgiris was Dr. Buchanan in 1800 who paid just a day's visit ('a long and fatiguing walk') to the eastern slopes as part of his "inquiries as to the fiscal and commercial conditions" of the British Territories to which Nilgiris belonged. In 1812 a surveyor named Keys accompanied by Macmahon, an apprentice, went up the bills for mapping the area but they did not go beyond lower plateau. Thus till about 1819 "these mountains were in the daily view of all the authorities from the plains of the Coirnbatore Province, but of the country nothing was then known."

In 1818 two Assistant Collectors, John C. Whish and Natheniel W. Kindersley working under Sullivan visited the hills, explored them and brought back some picturesque accounts of the place, especially its "unusually temperate and healthy" climate that Sullivan was persuaded to visit the hills the very next year – first in January and

again in May. During his second visit he was accompanied by a French naturalist with the imposing name of Jean-Baptiste-Louis-Claude-Theodore Leschenault de la Tour who had been "in a miserable state of weakness and suffering, hardly able to walk, without appetite and with his skin the colour of saffron," before setting out for the hills but after just two days in the hills, was able to walk seven or eight miles," made "excursions in different diversions" and energetically set to collecting samples of over 200 species of plants, many of them unknown." The healthiness of the plateau's climate was to be a constant theme in Sullivan's subsequent recommendations to the Board of Directors of the East India Company. He personally kept meticulous meteorological records and noted observations five times a day.

Sullivan built his first house at Dhimbatti (now Kannerimukku) in Kotagiri during his second visit to the hills in 1819 and used it as his camp during his subsequent visits till he moved to Ooty. In the following years, Dhimbatti became a popular place of residence for the Europeans desirous of visiting the hills. In 1832 when Rt. Hon'ble Stephen Rumbold Lushington, the then Governor of Madras, laid down office he made over to the "officer commanding the Neilgherries" six small bungalows at Dhimbatti for "affording accommodation in them to those subordinate officers – especially the married – who might desire an opportunity of obtaining a change of air." He also desired that a garden near the bungalows which was "one of the earliest and still the best" on the hills should be maintained. Nothing remains of the houses except the ruins of the one occupied by Sullivan and, of the Garden, not a tree can be seen now.

It was about April 1822 that Sullivan first visited Ootacamund, bought lands from the native Todas at "roughly a rupee an acre" and started work on his "Stone house" (so called on account of its being built entirely of stone) which he completed sometime in the following year. With considerable modifications the building now forms part of the Government Arts College.

Sullivan made a strong and persistent representation to the East India Company for the formation of a sanatorium in the Nilgiris. His recommendation was endorsed by the then Governor of Madras, Sir Thomas Munro, during his stay with Sullivan at Stone house in 1827 and Ootacamund was declared a "military bazaar station" or a "cantonment" in 1828. Soon after, appreciating the potentialities of the place, the Government developed the roads leading to it, rented houses for convalescent soldiers and appointed a resident medical officer and a cantonment commandant. Sullivan himself rented out the "Stone house" and the other places he built subsequently. Sullivan, still the collector of Coimbatore, was by then a rich man holding "five times as much land as did all the European inhabitants put together". He had also enclosed three square miles of land for agricultural experiments.

Ootacamund, originally had no stored water supply except some rivulets but Sullivan, as Sir Thomas Munro noted in a letter to his wife later "made a little loch, about

two miles long and a quarter of mile broad, by damming up a rivulet with an immense mound. This was the famous Ooty Lake which, Munro described, looked like a "river winding beautifully among the smooth green hills". But the principal object of the formation of it was much more spectacular. By "combining utility with beauty", Sullivan wanted to store enough water in the lake so as to irrigate the distant plains of Sigur and Erode, 70 miles away, during the drought season. However, the Rt. Hon'ble, the Governor in Council, rejected his proposal, as it involved "a very great expense which in the present state of the company's finances the Rt. Hon'ble, the governor would not think it proper to sanction". The estimate Sullivan submitted for his grand plan was Rs. 2000! Alas! Reduced to one-tenth of its original size, Sullivan's lake today is an outsize cess pool; once fed by numerous rivulets, now led by as many sewers!

Sullivan's lasting fame, however, rests on the revolutionary changes that he personally introduced in the agricultural economy of the district. He was responsible for introducing not only tea and potato which form the backbone of this tiny district but also several other grains, fruits and vegetables, not to mention the many varieties of flowers and trees.

When Sullivan settled on the hills the only other residents there were, according to the 1821 census, 222 Todas, 3317 Kotas and 3778 Badagas. The Badagas who were the agriculturists were cultivating mainly millets – korali, same, tene, baragu, ragi and to some extent wheat. Himself, a keen horticulturist, Sullivan invited a horticulturist expert, Mr. Johnston from England at his own expenses and through him imported British seeds for experimental planting on the hills. The list of species which Sullivan introduced over the next few years is especially remarkable for all these items are still grown in the district. They include new varieties of oats, wheat and barley, market crops of beetroot, turnip, radish, cabbage, potato, strawberry, peach and apple, ornamental flowers including laburnum, sparaxis, rose, heliothrope, violet, migronette and several other important species including oak, hemp, flax, vetch, lucerne and geranium.

Sullivan farmed about 200 acres in Ooty and distributed seeds of various cereals and vegetables free of cost to interested Badaga farmers. He gave them European varieties of wheat and barley. The latter was for long called "Sullivan *gangi*" by the grateful Badagas. In 1839 he sent to the Madras Agri-Horticultural Society excellent samples of hemp and flax that he had grown with the suggestion that they could be tried for commercial cultivation.

During his last years in the district (1835 - 1840) he repeatedly recommended tea cultivation and even sent good samples of cured tea to Madras. However it was only after 1865 that tea became commercially important for the Nilgiris. Today tea has emerged as the major crop leaving vegetables far behind and fruits much farther.

Sullivan's keen interest in the welfare of the native population extended much beyond in their agriculture. When the Badagas complained that the earlier Muslim rulers

had arbitrarily fixed the land tax and that they were paying the company too much in revenue, Sullivan against the interests of his own Government, had a revenue survey of Badaga lands made in 1820. He built the first school for the Badagas in Denadu village where the youths were taught Tamil and Kannada. The Kotas, who were ironsmiths and craftsmen, had to travel all the way to the plains below to buy their requirement of scrap iron. Sullivan showed some Kotas how to extract iron from ores occurring on the Nilgiri plateau but the Kotas did not show much interest.

Among the many good deeds Sullivan did for the Todas, the most far-reaching one was on the matter of land tenure. The land on which Ootacamund and Coonoor were built was originally devoted to Toda grazing and their hamlets and temples. Sullivan had the foresight to realize that without some sort of recompense for taking such lands, the British might later have legal problems with Toda claimants. He strongly endorsed the absolute proprietary rights of the Toda tribe to the entire Nilgiri plateau, on the presumption that they were the earliest settlers there. But the government averred that throughout India proprietary right in land belonged to the government.

From the purchase of Stone house Hill up to 1828 private persons like Sullivan had paid the Todas cash for plots bought from them, and the government tacitly recognized such land titles. In 1828 it ordered that Todas must be paid for the land at the rate of sixteen times the annual revenue assessment for the grazing of Toda buffalo. Yet by 1831 this arrangement had been conveniently forgotten and the government got into the habit of granting "waste land" to British settlers without any compensation going to Todas It was Sullivan who, as a Member of the Council in 1835, opened the question again on behalf of the Todas. Ill-informed though his arguments were, he carried the Court of Directors with him, and it was ordered that a sum of Rs. 150 be paid to the Todas annually by the government as compensation for the land in Ootacamund – as it still was until recently.

Sullivan, it would appear, saw endless possibilities in the Nilgiris. Hydroelectric projects in the Nilgiris, which supply 40 per cent of the State's hydel power today, were conceived and built only after 1930s. But hundred years earlier Sullivan had prophetically anticipated that "the inexhaustible supply of water-power afforded by the streams upon them would lead to the establishment there of mills and factories of every kind".

The building of early roads to Nilgiris which ended its isolation was largely encouraged by Sullivan. The very first improved track – the Kotagiri ghat – originated with his request in March 1819. In 1823 he improved a pass leading from the plateau westwards to the Wainad and in 1834 he began improving the routes across the Wainad to Malabar and Mysore. In 1826, he improved another pass up the southern side of the hills, which later came to be called "Sullivan's Ghat".

Not many are aware that Ooty would have been lost for Tamil Nadu but for Sullivan.

A portion of Nilgiris which included Ooty was transferred to the Malabar district in 1830. Sullivan strongly objected to this but could not succeed as he was shifted to England immediately. In February 1843, some 18 months after Sullivan's retirement from service, the government re-transferred those portions from Malabar to Coimbatore.

Nilgiris was not the only part of his district to get the benefit of Sullivan's liberal administration. As a special Revenue Commissioner in Coimbatore in 1815, he exposed a whole series of abuses committed by the subordinate revenue officers in collusion with tax collectors. As soon as he became the Collector he cancelled all the village leases in the district on the grounds of universal fraud and reintroduced the more equitable *ryotwari* system by which the cultivators of the soil were recognized as the actual proprietors of the land and the tax collectors had no further role to play. Thereafter he granted the peasant cultivators various remissions of land revenue payment on the ground that they were living in a pitiable condition and the land survey had been inequitable.

Sullivan returned to England a dejected and lonely man. His running feud with his government, though in the interest of Nilgiris, only earned him their displeasure. He was accused of lining his own pockets in the guise of developing Ooty and was denied the recognition due to him. He lost his wife, son and daughter in Ooty. They died very young and were buried at St. Stephen's church. Sullivan died on January 16, 1855 in England.

For a man who had done so much for Nilgiris and its people, there are, strangely no memorials except for a font in St. Stephen's church presented in his memory and an obscure road in Coimbatore named after him. But then, as Prof. Paul Hockings, an anthropologist of the University of Illinois who has done extensive work on the Nilgiris wrote in his letter to this author, "While there is no memorial to him in the Nilgiris, his memorial is in a sense everywhere. His impact was widespread and permanent."

Save Nilgiris : A Guru's Call

Guru Nitya Chaitanya Yati SNC Newsletter, *November 1989*

> *'Save Nilgiris' has become a slogan very dear to us. When we hear this slogan it is as if someone is earnestly asking us, "Can you save Nilgiris?" The natural response that comes from us is, "I can, I shall, I must." Such a positive pledge that spontaneously comes from our heart is a responsibility that is to be looked into in all its implications and emphases.*

Many years ago Pearl S. Buck wrote a very heart-touching novel, *The Good Earth*. The story of *The Good Earth* is spun around the life of a Chinese farmer, Wang Lung, who loved the good earth which was to him dearer than his wife, reverential like his mother, and a cherished darling more heartwarming than his daughter. This good novel was later made into a very fascinating movie dubbed in all major languages of the world. All who read the novel or saw the movie were moved to tears. The intimacy that was built between a farmer and the good earth that he loved generated a feeling of endearment which everyone felt. No one could witness the message without tears moistening their eyes. At the very end went the farmer became old and was collapsing in the hands of his sons his last entreaty was to love the good earth and not to sell it. But belying the hopes of the father the sons were cunningly looking into each other's eyes and sarcastically nodding, agreeing between them to sell as soon as the body of their father was buried. The tragic note with which this novel concludes brings the same fear to our own minds when we make our present appeal to posterity, "Save Nilgiris."

Adam Smith gave the lesson to the British people that the only economics to which an Island can turn with hope is the economy of opulence which is to be achieved through mercantilism by promoting the exchange value to the position of commercial viability rather than putting their trust in the natural abundance which comes from the good earth. Consequently, Britannia was heralded to rule the waves and to send her pirates across the ocean looking for hunting grounds of expanded markets from where raw materials could be looted and manufactured goods sent backwards to the very countries from where the raw materials were brought. Sail-boats were changed into gunboats and a network of banking systems was established in all the colonial countries so that the assets of those countries could be channelized through the octopus-like tentacles of the British Banks. Colonial countries were to be occupied where British owned large estates of tea, coffee, rubber, cardamom and other spices could be cultivated with bonded labour or the vast human resources of labourers who were paid only minimum wages.

In the course of time, the British Banks were superseded by American banks and the share markets of Hay street became effectively transferred to the Wall Street of New York. In spite of Mahatma Gandhi and Vinoba Bhave who had sensed the great danger of India becoming fleeced of its resources, the Indian intelligentsia, by becoming advocates of the unilateral exploitation taught by London School of Economics and the newly started heavy industries of India with their dependence on bank loans, first of Imperial powers and then of the World Bank, have virtually crippled our insight into the reason for the country drifting into the quagmire of continuous exposure to the exploitation of the commercial cunningness of Wall Street and the killing of the circulatory efficiency of the money of Third World countries. These trends are continuing like a chronic economic disease and our economic experts, from both the Planning Commission and the university teaching staff have so completely lost their orientation that nobody knows how to steer past the minds of exploitation planted in the vast ocean of Third World markets. A typical area which can be held out as the worst hit people of such a tragedy is the beautiful hill station of Ootacamund, Coonoor and Kotagiri, which we call Nilgiris. We now grow nothing but cash crops: tea, coffee and potatoes. Although potato is a food item, like tea and coffee it is mainly for translating into liquid cash today and into investments in shares tomorrow.

The only philosophy the landowner in the Nilgiris understands is how much he can put into his bank account at the harvest time. This involves a systematic killing of the good earth by over-poisoning it with fertilizers, pesticides and insecticides. Previously when tea or coffee was brewed the colourful liquid that came from tea leaves and coffee powder was beverage. Now we get highly poisoned concoctions. Potatoes have become the carriers of various coronary diseases. The hum of the pesticides and the white smoke of poison that comes during each cultivation season is so endemic to ill-health that there is a close link between many viral diseases and the kind of antibodies that are spewed into the otherwise life giving fresh air of the mountains. The damage done by cultivators to the land makes nature take revenge upon us with soil erosion, the irregularities of monsoons and heavy winds which uproot our trees. The hardest hit are the poor villagers who live in slums. In the months of June-July last year hundreds of them have become homeless when their roofs were blown away and mud walls collapsed. It seems the only business which the Government and the Municipal authorities know is the collection of taxes and nobody knows whose responsibility is it to plan for the welfare of the people which means the protection of both the individuals and their homes.

"Save Nilgiris" is not to be just an idealist dream. It is to be studied as a number of feasible programmes each with its spearhead of work and panel of advisors that can work out the safety methods by assigning natural responsibility to every person living in the Nilgiris area. The task is tremendous, but it is certain that it is 100% feasible. We should hold progressive study of a well worked out plan week after week in every Municipal Ward and Panchayat of the Nilgiris District.

Religion and Environment

B. J. Krishnan
Dharmalingam Venugopal

SNC Newsletter, *November 1989*

A three day meet on Religion and Environment was organized by Save Nilgiris Campaign (SNC) jointly with the Inter-Faith Dialogue Committee, Ootacamund at Anandagiri, Ooty from 22nd to 24th September, 1989. The meet was sponsored by the Dialogue and Ecumenism Commission of India, New Delhi.

The participants and delegates, numbering over 150, belonged to different religions, came from all walks of life and hailed from all parts of the country. There was also a delegate from Bangladesh.

Mr. Richard Radcliffe, Vice-President of the Nilgiris Wildlife and Environmental Association, who inaugurated the Meet said that religion was a recognition of a superhuman power and environment was the creation of such a power. Cautioning that scientists should not probe nature too deep in the name of progress and development, Mr. Radcliffe observed that the more the research in this field, the less would be the understanding. Mr. Radcliffe called for coordination between environmentalists and those in charge of development.

Guru Nitya Chaitanya Yati of the Narayana Gurukula, Ooty speaking on the occasion said that divinity and humanity should go hand in hand. This is possible only if we realize the unity and sanctity of all life which, he said, was the basis of the conservation culture. Guru Yati hailed the farsighted SNC for involving environment with religion.

Seminar

In the seminar on the first day and in the workshop on the second day several eminent persons spoke**.**

Mr. Pandurang Hegde, "Appiko" leader from Karnataka, said that science should not probe into Nature's secrets beyond a certain limit. Genetic Engineering, for instance, will only produce bigots. An ecology which is not in the tune with the protection of the environment should be rejected outright, he averred. Stating that religious leaders are trying to help people in distress without realizing that their distress was traceable to the destruction of nature, Mr. Hegde said that such leaders do not do anything to protect the nature and environment which are the basis of human survival.

Mr. T. S. Ananthu of the Gandhi Peace Foundation, New Delhi, presenting a Gandhian perspective to the environment question said, there was, as the Mahatma declared, enough in nature for everyone's need but not enough was everyone's greed. Practical that he was, Gandhiji, Mr. Ananthu pointed out, conceded that there was bound to be greedy people in the world and nature could well provide for them. But nature will be helpless should everyone in the world turn greedy. Only a cultural change based on respect for nature can save the environment, he added.

Dr. P. Samraj, officer-in-charge, Central Soil and Water Conservation Research and Training Institute, Ooty said that only 25% of the earth is land and it was sad that man cannot conserve even this. At the present rate of degradation, he said, our children may well ask, "Here is the land, where is the soil". He called for urgent measures to conserve the soil through suitable land use changes.

Prof. A. Devaraj of the Barathi Institute of Rural and Tribal Development, Coimbatore said the destruction of nature by man only shows that man has not followed the basic tenets of his religion.

SNC President

Mr. B. J. Krishnan, SNC President, tracing the history of the conflict between man and nature said that historians agreed that there were two earlier civilisations. One, the agricultural civilisations which roughly began about 8000 BC and lasted up to roughly 1700 AD. The second was the industrial revolution which began about 250 years ago. Both, however, believed in treating nature as only a source of wealth.

By about 1930, Mr. Krishnan continued, two political thoughts had emerged – Capitalism and Communism. Though they were opposed to each other, in form and content, they both subscribed to the exploitation of nature. Both believed that the industrial society was the solution for all ills and that the resources for this came from nature. Marx wrote, "man was engaged in a fierce life and death battle with nature for survival." Adam Smith's "Wealth of Nations" which was the Bible for the capitalists of the day too carried the same message, Mr. Krishnan said.

Till very recently, Mr. Krishnan said, the mechanistic world of Descartes and Newton also contributed to the destruction of Nature. Descartes' theory of Man, the observer and Nature, the observed created a dualistic approach to Universe. Newton's world view was based on the rigid and rigorous determination of nature. Darwin's theory of the survival of the fittest was also on the same lines. All these thoughts together, Mr. Krishnan averred, resulted in the mindless exploitation of nature leading to the present state of affairs. Modern physicists, according to Mr. Krishnan, believed in the integrated approach to life and nature.

Stating that man was part of life and not apart from it, Mr. Krishnan said that scientists were now more or less reconciled to the Russian sociologist Kropotkin's theory of mutual coexistence of life in nature.

The world, Mr. Krishnan said, was now on the threshold of the Third Civilisation though we are, perhaps too close to perceive it. The seeds of the new civilisation, which was not a dream of a rainbow as cynics would have it, could be said to have been sown by the publication of Miss. Rachel Carson's 'Silent Spring', though some of her findings could be disputed now, Mr. Krishnan said and added that leading environmentalists of the country had proposed a Nobel Prize for Environmental Protection and that the first prize should be posthumously awarded to Miss. Carson.

Alvin Toffler called it the Third Wave, Fritjof Capra called it the Turning Point, and Schumacher called it the Buddhist Economics. But all agreed that a new civilization, which believed in the unity, sanctity and divinity of all life had begun, Mr. Krishnan said.

All religions believed in these lofty ideals and to ignore those environmental aspects of religion was irreligious, Mr. Krishnan concluded and added that the ultimate realization of the religious truths and the environmental objects might be in realm of spiritualism.

Nilgiris Declaration on Religion and Environment

We, over hundred participants of Hindu, Christian, Muslim, Buddhist, Zoroastrian, and Bahai religious traditions and persons of their own ideal and faith met together in a fellowship of prayer, meditation, shared reflection and study on the theme "Interdependence of Religions in Dependence on Nature". As we looked at our own religious traditions and spiritual heritage we realized that the unity we aim at is possible only if harmony is established with nature and environment and cosmos.

When we look at the present situation we become painfully aware that the ecological balance is disturbed. The basic elements like earth, water, and air are much polluted and depleted to the extent of making human life almost impossible. One of the main causes of this sad situation is our consumerist attitude depleting the limited wealth provided for the need of every man but not for the greed of every man. The experience of these days gives us the confidence that our religious tradition and spiritual heritage will provide us with an answer to the problems affecting religion and environment and inspire us to simplify our life style.

At this juncture we are convinced that all the believers should come together to join hands with other agencies committed to this specific task to work out a plan of action.

As a follow up of this we propose that :

1. People of different religious traditions should study their religio-socio-cultural heritage focusing on environment.
2. That Inter-religious Live-together sessions, study groups be organized.
3. Nature Clubs and study groups should be formed in schools and colleges to create in them a holistic attitude towards life and nature.
4. Inter-religious groups may organize rallies in different centres and hold camps in rural areas to create awareness among the general public of their duty to work for and maintain a healthy Eco System.

Nilgiris as "Protected Area": Appeal to IUCN

Dharmalingam Venugopal SNC Newsletter, *November 1989*

The following appeal by was sent to the Director General of the International Union for Conservation of Nature at Switzerland. A copy of the appeal was sent to Dr. M S Swaminathan who is the president of IUCN.

Nilgiris or Nilgiri Hills (meaning Blue Mountains) are situated in the South of India in the State of Tamilnadu. The hills rise at the junction of the Eastern and Western Ghats which together with the Himalayas form the three major mountain ranges of India. The steep and sudden rise of the hills (which has prompted the description of the Nilgiris as a "Cold tropical Island above the warm tropical sea of South India") has been listed among the 150 natural wonders of the world.

Nilgiris has been variously described as a "Living Fossil", "Gene Bank", "Oxygen Bank" and so on. Ootacamund or Ooty, the popular hill station of Nilgiris, has long been called the Queen of Hill Stations. At one time Switzerland was called the Ooty of the Alps. Geologists have dated Nilgiris as one of the oldest land masses of the world-many million years older than the Himalayas.

Nilgiris are also said to be one of the very few places in the world where plant life has maintained its biological continuity over millions of years through the many geological upheavals and climatic changes.

Described as "The Sweet half-English Nilgiri air" by poet Tennyson, the unique, round the year equable climate of Nilgiris was chiefly responsible for its colonization by the British in 1830 and its subsequent emergence as one of India's most popular hill stations. "You may select the temperature which you like best on these hills-Italy, France, Devonshire or Scotland", wrote the great Litterateur Lord Macaulay in 1834.

All these are fast becoming things of the past. In the name of development Nilgiris have been suffering one of the worst damages in the world to its environment and ecology. Though the damage has been spread over the last 100 years, its intensity has been felt most in the last three decades. Nearly 80% of the original *'Shola'* forest and grassland have been lost to cultivation and other human interferences. The rainfall and climate have become erratic. Soil erosion has been tremendous. Landslides and landslips have become common. Worst of all, Nilgiris which gets on an average about 2000 mm of rain per year has been reeling under acute water scarcity for the last 10 years.

Unchecked growth in population (rather migration), excessive commercialization, unplanned promotion of tourism, faulty land use, large scale encroachments on land and indiscriminate spread of monoculture (mainly eucalyptus and tea) have chiefly contributed to the degradation. Nilgiris today eminently deserves to be declared as a "protected area" by the IUCN and needs all its help if what is remaining is to be saved. What is striking about Nilgiris' case is that it qualifies under more than one category of 'protected areas" declared by IUCN.

Category - I: The landscape of Nilgiris is not only one of the most beautiful in the world. It is varied as well. Eight of the fourteen types of forests found in India are found in Nilgiris. Each valley in the hills has been described as being different from the other. The Nilgiris house, one of the oldest sanctuaries, the Mudumalai (meaning *Ancient Mountain*) Sanctuary which is being increasingly threatened by water scarcity, over grazing, human encroachment and, recently, industrial activities. There is also the Thar Sanctuary, the home of the Nilgiri Thar, a rare mountainous goat.

Category - II: Nilgiris has been an Anthropologist's delight always. The ancient local tribes of Todas, Kottas, Kurumbas and Irulas, especially the first mentioned, who together number not more than a few thousands now have been constantly studied by anthropologists from all over the world. This apart, the Badagas who form the largest single social group in the Nilgiris, have been one of the heavily documented communities in Asia. About these tribes, David G. Mandelbaum, a German Anthropologist observed, "a distinctive combination of peoples, cultures and an exchange system. To the assertion that war in an inalienable feature of all human life, the Nilgiris' case presents on refutation". Nilgiris also plays a crucial role in the economy of Tamil Nadu, the State in which it is situated. It is the major supplier of tea and vegetables. It is the major tourist attraction drawing millions of tourists round the year. More importantly, 40% of the hydel power of the state is supplied from Nilgiris by damming the mountain streams in a manner which is a marvel in engineering skill.

Category - III: The Mudumalai Sanctuary of Nilgiris forms the core of Nilgiri Biosphere Reserve which was the first Biosphere Reserve in the country. But the concept remains mainly on paper with hardly any follow up done. Nilgiris today is a neglected area. Neither the Central Government nor the State Government is truly interested in preserving the area. The local people are either ignorant or indifferent. Only an outside agency like IUCN with the required resources and expertise can help save Nilgiris. We sincerely believe, with concerted action by all concerned, it is still possible to create the necessary awareness among the local people and the governments to protect this natural heritage of mankind.

We earnestly look forward to an early action by IUCN. We, on our part, assure all support from our organization.

Success, Not a Victory

Dharmalingam Venugopal SNC Newsletter, *March 1990*

M/s. Needle Industries, Ketti, proposed to set up an electroplating unit in their site at Masinagudi near Mudumalai sanctuary. Anticipating no objection from the people or the Tamil Nadu Pollution Control Board, work went on apace, since 1988, for the construction of the shed, and, as we understand now, installation of some equipment.

Some Ooty based individuals and environmental groups objected to the setting up of the unit on the ground that the lethal effluents of the unit would poison the Moyar river which is the main source of water for the wild animals of Mudumalai Sanctuary and that a human habitat there would upset the migration of the elephants. When the matter was brought to our notice, we made an objective study of the issue and registered our protest mainly on the following counts.

(a) The unit was being set up within the Nilgiris Biosphere Reserve and hence violated the basic condition of such Reserved Forests that no industries - polluting or not - should be allowed within the reserves.

(b) Some years back the State Wildlife Board has resolved, when the unit in question had made the same proposal, that the Collector of Nilgiris should notify that no industries could be set up within 5 km of the sanctuary. But since the same was never notified, for whatever reasons, the unit went ahead with the construction of the shed etc. taking advantage of this lacuna. This, we felt, was ethically wrong.

(c) The Government had approved the proposal on the ground that Gudalur was an industrially backward district and that setting up a unit there would provide employment for the locals. Some individuals also touted for the unit saying it will employ local tribes. On examination, these arguments were found to be hollow. Nilgiris districts, as we could establish , was far ahead of other hill stations of the country in the matter of industrialization and the process had already started becoming counter - productive. Moreover, we argued, classifying Gudalur district, where the major portion of the land is under forest, (that too, part of a sanctuary) would be as absurd as classifying Madras or Bombay or Delhi as agriculturally backward!

(d) The argument that the unit would employ the local tribals also was untenable. In the first place, making the tribes take up regular employment in industrial or

commercial establishments has been a frustrating experience all over the country. Secondly, it has been our policy that tribes should be rehabilitated in their own traditional vocations.

We first met the Chairman of the Tamil Nadu Electricity Board, which had agreed to supply water to the unit from one of its reservoirs and explained to him the harmful consequences of the proposed units. The then Chairman, Shri B. Vijayaraghavan, assured that the final agreement for supplying the water would not be signed before considering the environmental impact of the unit.

In April, 1988, a SNC delegation met the Governor of Tamil Nadu (the state was then under President's rule) Dr. P.C. Alexander and registered and registered its strong objection to the unit coming up there and pleaded with him to stop further work pending the environmental clearance from the Government. Subsequently, we understood, the work was stopped, though, according to some local accounts, it did not cease altogether.

A year later, in April, 1989, our delegation met the President of India Shri R. Venkataraman during his visit to Ooty and apprised him of the matter. The President, a long time friend of the Nilgiris and a sympathizer of SNC's cause, expressed his deep concern and indicated that such a proposal would not be allowed.

We also met the Governor, who was also camping there, and reiterated our objection to the unit.

Meanwhile, other concerned individuals and organizations like the Nilgiris Wildlife and Environment Association and the Worldwide Fund for Nature, Tamil Nadu Chapter, also kept up the campaign against the unit.

Subsequently, the Chairman of the Tamil Nadu Pollution Control Board, Mr. P.M. Belliappa visited Ooty for a day - long discussion with SNC members. The meeting ended with assurance that the unit will not be cleared if it would be harmful to the sanctuary.

It was at this juncture that we got the pleasant news (The Hindu dt. 27.2.90) that the promoters had, on reconsideration of the project, decided to wind it up in deference to the feelings of the people of Nilgiris.

It is indeed a major success for the people of Nilgiris and SNC. But, success in what sense should be properly understood. It is a success for the various individuals and organizations who could mobilize public opinion, sustain it for two years, and strengthen it enough to make the Government and the promoters to reconsider the project. It is equally a success for the promoters themselves for having respected public opinion and dropped the proposal.

That is why, we say it was a success and not a victory. There are no winners and losers here. From the beginning, during our talk with the representatives of the unit, we have made it clear that our objection was in the long term interest of Nilgiris and their

own too. When it was revealed to us that the setting up of the unit at Masinagudi had been necessitated by the acute shortage of water at Ketti, we pointed out that such a course of action would set a wrong trend. Water scarcity is severe and widespread in the district but migration - whether it is people, cattle or industry - is not the solution. Water scarcity is central to the environmental problems of the district. It is not that rains are any less now than in the past. It is simply a question of not being able to store and distribute the rain water properly. This can be set right only if all of us can get together and put up a combined fight. It is as much in their own self-interest as that of the public that the industrial and commercial interests in the district should join hands with concerned individuals and organizations to solve the water problems.

M/s. Needle Industries have, by their courageous decision, set an example as to the duty and responsibility of the industries - in the private and public sectors - in the Nilgiris in the protection of its environment. We do hope that the unit will be able to make good the cost incurred in the project and we wish them all prosperity in the years to come so that they could continue to play a leading role in the industrial development of the district in harmony with its environment.

The Nilgiris : The Brink

Dharmalingam Venugopal — Express Weekend, *May 1990*

"It is now or never for the Nilgiris, says D. Venugopal detailing the despoliation of the Blue Mountains"

'The Nilgiris is a far cry from what it was. It is not just that the brooks, glens and elks have vanished. The Nilgiris is losing its very identity as one of the unique mountain systems of the world.'

'A glaring case in the point is the merciless mutilation of the entrance to the Botanical Gardens following the construction of a multistorey complex on a small bit of swampy land.'

'The pace of change quickened after Ooty was sought to be promoted as a tourist centre and a convenient area for large scale growing of eucalyptus and wattle.'

'Ooty is dying, choking under the onslaught of traffic and tourists. The summer tourists were unknowingly drinking sewage-contaminated water.'

No wood in Woodside. No brook in Brook lands. No glen in Glendale. No spring in Springfield. No green in Greenfields. No elk in Elk Hill. No view in Valley View and perhaps no love in Lovedale!

Alas, Nilgiris today is a far cry from what it was. It is not just that the brooks, glens and elks have vanished. The change is deeper. The Nilgiris is losing its very identity as one of the unique mountain systems of the world.

While no one can deny the inevitable trade-off between economic development and environmental preservation, what Nilgiris has lost or is losing in the bargain is much more than its environment. Its distinct culture and a rare spirit of togetherness are fast disappearing. "On the Nilgiri Hills, sin and evil deed are unknown . . . . ""Even if they sowed on top of a flat rock it would sprout" goes an ancient native ballad. One can hardly say this of Nilgiris of today. More than the blue haze that surrounds it, the Blue Mountains now appear to derive the name from the mountain blues!

Years ago when we were sitting in the Botanical Gardens, an old villager who had come on a conducted tour asked, "Where is Ooty, Sir." We just laughed at his ignorance wondering what the tour operator had told the gullible villager to get him join the tour. But today every visitor, returning after some years, is asking the same question with disappointment and anguish.

Ooty once the Queen of Hill Stations, has doubtless, suffered the worst change - nearly beyond recognition. Recently a foreigner who had come to visit his school after 30 years was moved to tears after seeing the condition of the town. "I wish I had not come," he said ruefully.

A captain Henry Harkness visiting Ooty in 1832 when it had just been colonized by the British wrote, "Nor is the scene less beautiful on a nearer approach, for you then find the green bespangled with a variety of the most beautiful wild flowers of every diversity of colour; the trees, among which appear the crimson rhododendron (sic) and the white camellia varying in shade and richness of foliage and some covered with moss, assuming all the hoary appearance of winter, while the banks of the rills and streamlets that meander at their base, lined with the dog rose and jasmine (sic); and all around are seen the strawberry and numerous other wild fruits, flourishing in spontaneous luxuriance."

Of the Ooty lake, he wrote, "This beautiful piece of water, which, in some parts, spreads out to a considerable width and in other winds in a serpentine course among hills, gently rising from its banks, and clothed with a soft verdure, has now a public carriage road surrounding it, affording one of the most scenic, healthful and agreeable drives of which India or perhaps any part of the world can boast."

Lord Macaulay who was in Ooty in 1834, at the invitation of the then Governor General of India, Lord William Bentinck, to begin work on the Indian Penal Code, said in a letter to a friend in England, "The country is decidedly colder, though this is mid-summer, than Scotland in April or September. Is it not strange that we should be able to pass in a few hours from the climate of India through all the intermediate stages to that of Russia?"

Even at the turn of the century, Ooty was pretty well preserved though changes were setting in. Summing up his monumental work "Ootacamund – A History" published in1908, Sir Frederick Price observed, "Another ten years brings one to the Ootacamund of today. With good roads all through and about it; a good water supply; a drainage system which hopes to become at some future time all that could be wished; the best hunting, and the finest ground for games – particularly polo, to be found anywhere in the East; a quite unique golf ground; a Gymkhana affording all manner of amusements; a fine public library; an excellent hospital; and capital market; in fact, with one or two exceptions which I need not specify, as they do not affect the permanent resident, everything that any reasonable person could wish."

Sir Frederick, however added, "If the shades of Munro (*Sir Thomas Munro, the then Governor of Madras*) and Sullivan (*John Sullivan, founder of Ooty*) could revisit the spot whence, just a little more than eighty years ago, they, when in flesh, looked upon the quiet valley in which Stone house lay almost alone, how changed they would find the Scene! The distant downs alone remain in a great measure pretty well the same as they must then have been, although plantations of gum and wattle trees, mixed with melanoxylons and avenues of the first named , disfigure them here and there.

The green grassy slopes and pretty *sholas* of the valley have however disappeared. The former are now nearly everywhere covered with the dark and dreary gum tree and the equally depressing melanoxylon."

The pace of change naturally quickened after Ooty was sought to be promoted as a popular tourist centre on the one hand and, on the other, a convenient area for large scale growing of eucalyptus and wattle for a few industries in the adjoining plains. Nevertheless, Ooty held its own through the 50s and 60s as one of the premier hill stations of the country and one of the best health resorts in the world.

"Barring Kashmir," said Sir Maharaj Singh, Governor of Bombay in 1951, "there is no other hill station in India comparable to Ooty from the point of view of scenic beauty. The most beautiful spot here is the Wenlock Downs, the like of which are not found anywhere in India."

For Ooty, things really began to change for the worse since the 70s. There are several reasons for this but three stand out. In the late 60s, a project was launched by the State Government with West German aid to increase the production and yield of potato and later, cabbage, which have been grown on the hills on sound traditional lines by the natives for well over a century.

The project, ironically, proved ultimately to be the death knell for potato (it was fairly successful for cabbage) but, lured by the initial propaganda, potato and cabbage cultivations were indiscriminately extended to all kinds of lands, to forests, grassland and steep hills. This not only marred the face of Ooty; worse still, it led to enormous soil erosion and silting up of several streams and reservoirs.

The second development was more serious as it made the change irreversible in many ways. It was the setting up of the Hindustan Photo Films (HPF) at the Wenlock Downs which, as seen earlier, was acknowledged as one of the picturesque spots in the world. But eucalyptus and wattle in the 50s and 60s and the HPF in the 70s literally drowned the beautiful downs which are now seen only in patches.

The HPF proposal itself was violating the three basic conditions for setting up industries in hill areas, viz., it should not be polluting, it should use local resources and it should employ local manpower. In the event, the giant public sector unit indeed, turned out to be the bane of Ooty.

"May be about 2000 local boys and girls have been lucky to get jobs but the factory has made life miserable for over two lakh people living in and around Ooty," says a long time resident.

Ooty, till the factory came, was a small, sleepy town with a modest lifestyle of its own and without much economic disparities among its people who were mostly farmers, office-goers, professionals and small businessmen.

Into this quiet, simple town suddenly crores and crores of rupees was pumped in directly or indirectly when the HPF was started. This coincided with some sort of a "forest boom" as the large-scale plantation of eucalyptus and wattle planted in the 50s and 60s were ready for supply to the industries.

The third factor was the surge in the tourist traffic triggered off chiefly by the glamorization of Ooty in the cinema. It is a safe bet that at least 50% of the movies made in the last one decade or more were shot wholly or partly in and around Ooty. On an average two shootings are on every day, round the year. Suddenly, Ooty became the Mecca for the cinema-crazy mass, and it did not take long for the tour operators to cash in on this. Not only did the number of tourist buses coming into Ooty every day jump from a mere 10 or 20 to over 300, the traffic became all year-round unlike only in the summer months before.

The tourist boom, in turn, sent off another dubious boom. Almost overnight there was a mushroom growth of hotels, lodges and eating places. The number of hotels and lodges in the Nilgiris in the last 10 years easily exceeds the hotels and lodges ever built in the major hill stations of India. Expectedly, all these developments set off a chain of commercial activities which gathered further momentum in the 80s. The burden of the sudden commercialism was too much for the Ooty's life support system to bear in and it started bursting at the seams. The result can be seen in the accounts of some of the recent visitors to Ooty.

Ooty is a dying city, choking under the onslaught of traffic and tourists. The summer tourists were unknowingly drinking sewage-contaminated water. The contaminated water was being supplied stealthily from the Ooty Lake till the police found out and put a stop to it.

At Coonoor, summer temperatures now touch almost 30 °C and one sweats profusely after a short walk. Refrigerators are being increasingly used in homes and the time is not far off when ceiling fans will be seen too. What is appalling is the change in the face of Ooty itself.

The affluent are setting up more and more hotels wherever they can and the rich, especially the film stars, are buying land at any cost and constructing huge mansions which are locked up except for a couple of months during the year. This is one of the reasons for the land value shooting up enormously making it difficult for the local people. . . . Ooty today is as commercial as it can get complete with all trappings of urban living – music booming from loud speakers, departmental stores lined up with arty objects which could easily be procured in Bombay . . . . With or without the dead body, (floating corpses are not an infrequent sight in the lake) boating in the Ooty lake is an unpleasant experience. One end of the lake is reserved only for garbage. And you have to put up with the obnoxious odour of faeces, decaying vegetables and other filth wafting towards you. Ooty, the Queen of Hill Stations, is a queen shorn of all her beauty, splendour and glory. Rather like one of our decadent royal families, royal in name only.

Far from a health resort, Ooty today is a health hazard. One look at the main stretch of the town from the Boat House to the Botanical Gardens would confirm this. Perennial water shortage, overflowing drainage, uncleared garbage, overcrowded streets, encroachments everywhere, horrible roads, a rash of constructions with scant regard for the minimum norms of town planning – the woes of Ooty go on and on. The town is indeed choking, gasping, dying! The putrefaction has already started. Overpowering stench of drainage and garbage hangs over the main thoroughfares. Even Charring cross, once the centrepiece on the Queen's crown has not been spared.

Not long ago one feared to walk along the Ettines Road after dusk as it used to be virtually deserted. Today one shudders to take that road in day time! Such is the shocking condition of the road, the dust and din!

The despoliation becomes doubly regrettable when even educational institutions, which should know better, become party to it. A glaring case in point is the merciless mutilation of the entrance to the famous Botanical Gardens following the construction of the multi-storied shopping complex on a small bit of swampy land.

The public school which owned the land could have easily afforded to leave it vacant or give it to the garden authorities instead of selling it to a real estate promoter. It took presidential intervention to stop the construction midway. But by then the damage was done.

Similar is the case of the lake road, which was one of the finest walks until the land bordering the road, owned by another reputed public school, was sold for a petty sum, for building houses. Before the government could realize the damage and ban all constructions within 400 feet of the lake, several houses had sprung up making it one of the busiest thoroughfares in the town.

The sad experience of Ooty has been repeating itself in the other townships of Coonoor, Gudalur and Kotagiri, particularly after the "tea boom" of the 80s. It is now or never for Nilgiris, especially for Ooty and other townships.

However, there can be no soft options in restoring at least a semblance of their glorious past. Only tough action on a sustained basis can bring about the desirable change.

While the ultimate hope for the Nilgiris lies in stiff legislation and their stricter application, this would remain a pipe-dream if the local people do not wake up to the wanton destruction of their beloved mountains.

A former Governor of Madras, the Maharaja of Bhavanagar said some forty years ago when the damage was hardly the present size, "The future prosperity of the district lies very largely in the hands of the permanent residents. It is good to bring their grievances and complaints unceasingly to the ears of the Government and to persist in their efforts to obtain their redressal." Even today this is the only way out.

Cinchona vs Tea

Dharmalingam Venugopal SNC Newsletter, *November 1990*

Background

Following the recent decision of the Government of Tamil Nadu to disband the 125 year old Cinchona department, about 5000 hectares (about 3500 hectares in Anamallais and about 1500 hectares in Nilgiris) of Cinchona plantations are to be destroyed for raising tea.

Several individuals and institutions in Nilgiris and Coimbatore including the Jan Vikas Andolan and the Nilgiris Wildlife and Environment Association have taker up the matter with the State Government and the Centre. They argue that the decision of the Government would affect the fauna, flora and rainfall in the Anamallais and Nilgiris. Besides, they ask, will it not be short-sighted to destroy a medicinal plant which could be of value in future?.

On the other hand, the Environment and Forest Secretary Shri A. Ramakrishnan, in a lengthy discussion with our Coordinator Shri D. Venugopal, averred that the pros and cons of the issue have been duly considered before taking the decision.

Before we state our views, we present below the arguments of the two sides. First, the case of the environmentalists:

Threat to Wildlife

These plantations badly need to be preserved because of their location's importance. While the area in the Anomalies borders the Eravikulam National Park, most of the area in the Nilgiris is adjoining the Mudumalai Sanctuary.

The Cinchona plantations in the Anamallais provide a major migratory path for the elephants. In the Nilgiris they provide a much needed refuge for fodder and water for the animals during summer when the Mudumalai Sanctuary turns dry. Besides, they serve as a corridor for wildlife movements above the Sanctuary.

Moreover, these plantations are habitats for a wide range of wildlife including the sambar, classless otter, striped neck mongoose, brown mongoose, leopard cat and mouse deer besides a variety of birds. It is further said that a certain type of black monkey, which is feared to be on the verge of extinction, is seen only in the Nilgiris division of the plantations. Destruction of these plantations would, thus, mean a1 heavy loss of wildlife.

Tea being labour - intensive, plantation of such huge tracts of land would bring a sizable population to the outskirts of Mudumalai sanctuary and the Eravikulam National Park. The resulting demand for fuel and fodder for this population will further affect these forests.

Rivers in Danger

Cinchona plantations record a much higher rainfall compared to surrounding areas and serve as main catchment areas for the major rivers. Pykara and Moyar, two major rivers of Nilgiris, are fed by these plantations whose catchment area spreads over 1000 hectares. Apart from being the source of the Moyar river, these areas feed the Singara-Moyar Hydel Power Station and the Bhavani Sagar reservoir on the plains. Similarly, the plantations in Anamallais are the main catchment area for the Parambikulam Aliyar Project dams.

Conversion of these plantations to tea would certainly result in a drastic fall in rainfall in these areas posing a serious threat to the rivers fed by them. It has been repeatedly warned by many that any threat to the rivers in the Nilgiris would affect not only the hydel power generation in the State but would also aggravate the water problem in the surrounding plains.

Medicinal Loss

While the concern world over is to preserve whatever is left of the medical or herbal plants, it would be mindless act to destroy Cinchona which could find use in several medicinal applications as research in this field advances. Though cheaper synthetic medicine may have replaced quinine (the medicinal extract from Cinchona) for treatment of Malaria, experts hold that quinine is still the sure remedy for cerebral malaria.

While making a strong plea for retaining the Cinchona plantation despite the shrinking market for its use resulting in continuous losses to the Department, The Hindu, in its Editorial dated 28th May, 1959 said, "It is well - known that quinine has an assured and expanding place in the pharmacopoeia, even if malaria should be totally eradicated, here and elsewhere. The many other alkaloids, besides quinine, that the Cinchona bark is known to contain like guanidine, (with its therapeutic value in the treatment of heart diseases) cinchonine etc., is likely to retain for it an assured market. Temporary difficulties in marketing or losses in the working of the department do not justify the neglect of an established line of production of national importance. The Estimates Committee of the Madras Legislature did well to recommend that though the Cinchona department was conceived and run as a commercial undertaking it should be treated really as a welfare department.

Karnataka's Example

The Karnataka forest department has recently decided to abandon the proposed Karnataka tea project at Golibeedu in the Kodugu district since it would adversely affect the ecology of the region, even through more than Rs. 1 crore have been spent already on the project.

Why can't the Tamil Nadu government take the cue from its neighbour and give up the conversion of the cinchona plantations?

Government's Defense

The government's decision to apportion the erstwhile cinchona land between the Forest Department and TANTEA has been taken after a thorough perambulations of the plantations with due thought to environmental considerations. Accordingly

- All lands with natural forest cover have been returned to the Forest Department.
- Lands with steep slopes are also being handed over to the Forest Department for raising native trees.
- Animal movements will not be hampered wither in the Nilgiris or in the Anamallais as those tracts, with forest cover, are being retained as such.
- There will not be any threat to the catchment areas also as they too will be left untouched.
- In the areas to be converted, the Cinchona plants are either dead or out grown with weeds. There is neither animal life nor any rare flora.
- Experiments for finding alternative uses for the Cinchona products have not yielded results so far.
- An area of about 200 ha of cinchona with plants of high quinine content is being preserved to meet the present demand.

Tea was chosen as the substitute as it was the best of the available options, the others being eucalyptus and wattle. Moreover tea is already being grown near the areas to be cleared. The fear of solid erosion, till the tea plants grow, also need not be there as TANTEA has a good record of soil protection while developing new plantations. The fuel needs of the fresh labour force will be met by the lops and tops and fallen wood.

The case of Karnataka is entirely different as there it involved destruction of forest lands while here it is only a matter of clearing unused Cinchona land.

SNC'S Views

The government's explanation still leaves many important questions unanswered. We would, therefore, suggest that satisfactory answers should be found for these questions before a final decision is taken to clear the Cinchona plantations. The first set of questions concern the Cinchona itself.

(a) Should Cinchona be dispensed with after all these years?

(b) Does not Cinchona have potential possibilities, in medicine or other areas that could be exploited in the future? What do the scientists have to say on this?

The point is this. When, the world over, efforts are on to preserve whatever is left of the medicinal or herbal plants, should we go about destroying a plant of known medicinal value just because it does not bring enough immediate economic return?

The second set of questions concern the proposed conversion:

(a) Are the Cinchona areas to be cleared really so dead and devoid of any plant or animal life that they cannot be considered as forests and retained as such?

(b) Can the proposed clearings be done without really affecting animal life in the adjoining sanctuaries or the catchment areas?

(c) Can the huge labour force be really prevented from damaging the nearby forests for fuel and timber.

These and many more questions have truly agitated the environmental groups in the Nilgiris and the Anamallais. Their concern and fears are genuine.

The Forest Department, we hope, will feel obliged to clear the misgivings of these environmental groups across the table. In particular there is a lot of confusion over the exact extent and location of the areas to be cleared.

The meeting can be in Madras, Coimbatore or Ooty. Will the Government take the initiative to call the meeting? Or will one of the groups involved do so?

We do hope the government will not hesitate to modify its proposals, fully or partly, depending on the outcome of the discussions.

Aspects of Ecology in Nilgiri Cultural Tradition

Text of the talk given by Reverend Philip K. Mulley at a lecture jointly organized by Save Nilgiris Campaign and British Deputy High Commission, British Council Division, Madras on 28TH August 1992 at Madras

I wish to begin with a native hymn *(adapted into English)* extolling the environment and entreating the canopy of the Goddess Hethe over the environment.

Mother Endearing
Plighted fast unto us
Precious ever
Promises of thee.

When mountains so lofty
Over us loom, and Lo!
Brilliant is the bloom
Of flowers so numerous
Wreathed in silver
The smile of thee
Vaulted in the sky
The radiance of moon so benign
Golden is thine shade
And sweet so it turns
Summers so many.

Nilagiri is thine abode
Majestic its walls around
Bestow on us, mighty Mother
Smother us, with boons of life
Beseech we of thee
Blessings of prosperity
Treasure ever thine providence is
Measureless are offerings of thy bounty.

The comprehension of ecology and culture has been around long before it came to be recognized and recorded in the discipline of anthropology. A leading anthropological

writer of this century, John Friedl puts it in simple manner when the says.... "the relationship among all the elements of environment including human beings can affect behavior in our society". Millenniums earlier, we find to our astonishment that the Tamil poets had articulated the grammar and idiom of this ethos and even had explained its variables. But as the vicissitudes of history would have it, the relevance of this cultural ecology came to be sidelined by the technological advance in the hyper-exploitation of the environment.

At the turn of the century when the British started exploring the Nilgiri hills they started solely as the harbingers of civilization and culture to the hills. The famous Francis in his Gazetteer of the district (1908) noted in a negative vein that the only inhabitants of the district were "poor glaziers and cultivators" .

So we find that basically a comprehension of culture and ecology was lacking and an advancement of technology was considered the ideal. And then there was another extremity of view represented even as late as in 1988 in monograph produced by the Tribal research centre of the Tamil University.

An unsustainable thesis that "the disturbance in the ecosystem of the Nilgiris started with the immigration of the Badagas". Has been doled out in the said report. So we find no serious or scientific investigation of the aspects of ecology to have seen the light of the day.

Though a lot of information on ecology and culture of the Nilgiri hills have been lost due to the tempest like changes that have occurred in the name of progress, a modest effort is attempted here to look at some dimensions of ecology represented in the cultural traditions of the Nilgiri hills.

Human Geography

An extremely interesting factor of human geography seemed to have been operational in the Nilgiri Hills in the pre-British period. The various groups of people like the Todas, the Kotas, the Badagas, the Kurumbas, the Kasabas and the Irulas where maintaining among themselves an equilibrium determined by geographical considerations. I do not touch here any aspect of the inter-action between the tribals in the Nilgiri – Wynaad region for their social dynamics is quite exotic to Nilgiris proper region.

In the Nilgiris-proper, while the Todas occupied locations usually above 7000 (MSL), the Kotas and Badagas lived in the 6000'-7000' belt. The Kurumbas, Kasabas and the Irulas preferred the much lower elevations. Prof. Paul Hockings, the noted authority on the Nilgiris opines that the pastoral. Horticultural and tillage requirements of these peoples may have resulted in such a demarcation. But it must be pointed out that an interesting parallel is found in Nepal too. At least three ethnic groups seem to be distributed according to altitude in Nepal and one writer has said ..... "I could almost always tell from my altimeter, which group I would next encounter".

The Meeting place between the different groups of these people in the Nilgiris also had specific names. Where for some reason or other, these spots had lost the earlier importance, a quasi –religious kind of ritual regularly takes place at such spots. The traditional internal boundaries of the sub- regions in the district along which the present day administrative boundaries have been drawn, may also have had something to do with the original human geographical factors. The four ' naadus" of the badagas in their common parlance where they refer to it as "four hills", Though some investigators consider this four-fold division to have emanated from the medieval period revenue administration, it is pertinent to speculate that the medieval period revenue administration itself would have based its network on some yet unidentified social spatial demarcation. The Badagas seemed to have either borrowed the concept from or shared the same with Kotas as well as Kurumbas.

Eco-Integration

The eco-oriented indications contained in the place names in the hills need to the scarcely emphasized. The wealth of topographical and botanical information we could glean from the study of the original place names provide enough insights into the keen faculties of observation cultivated by these people. It may also be pointed out that about 20 various of plants that are endemic to Nilgiris alone also have native names. Almost every creek and stream and nook and comer in the hills seem to have been given an identity and name. As Zvelebil, a leading Dravidians has recorded, nothing of these features in "anonymous". The old wild tracks and path have always been properly identified and passed on to the future generation in ballads and stories.

The ritual significance extended for example, to the old drove of Buffaloes in the Hethe festival among the Badagas is to be noted here. The umbrella of Hethe to this day needs to process along the old browsing tracks of the buffalo-herds. The 'Route of the Dead" recounted by the Todas, faithfully even to this day points to the seasonal migration route of their buffaloes. The Mukurti Peak, for example stood as a sentinel to the concept of territory among the Todas. In the olden days, female children were thrown off from this peak into the dizzy declivities running along the Kerala border. The souls of the dead Todas also are supposed to leap from the top of this peak to the next world in the southern crests beyond the home-territory.

A remarkable denominator in the co-consciousness is found to occur in the marking of topographic and botanical landscapes in the linguistic traditions of the people and Emeneau, the doyen of Dravidian linguistics is still working on the significance of this factor. The semantics, for instance of the famous 'strobilanthes' in Nilgiri areal-idiom is employed to indicate reckoning of physical age, periodization of lineage-level, brilliant and eyeful view and blossoming into womanhood and all such aspects in a common parlance. The total web of life contained within this ecosystem was called 'concept par excellence" (*seeme singara).*

Societal Norms

Much have been said in published literature relating to the Nilgiris, about the exchange of various goods between the peoples of the traditional Nilgiri society. All of them like milk and milk products, millets and grains and all kinds of forest produce pertain to the husbandry of natural resources available in the hills. The interaction between these groups mainly involved primitive form of technology in the utilization of the products found in proximity to each group's environment. The trees, branches and sticks and poles associated with each group and even the mud and soil associated with pottery had intimate and almost reverential links with the groups concerned. Special mention can also be made of Toda and Badaga kinship terms based on a pastoral ethos and are to this day used to indicate certain social divisions among themselves. Societal norms originally based on the organization of herding pursuits is of considerable historical value. The responsibility of the society towards almost an ethical rapport with natural objects – plants, trees, woods, forests etc. is for instance eloquently brought out in the Badaga Litany for the Dead. Several Toda songs as translated by Emeneau also contain nuggets of this truth. The rather rich corpus of folk-tales contained in Kota traditions and ably presented by Emeneau, also testify to the good old value-system embracing nature, ethics and society. When everything proceeded smoothly the various. Groups always fraternized each other in their merry-makings and mourning's providing mood and music in a fascinating array of protocol and precedence.

Ritual and Folk Idiom

The ritual idioms of the people of the Nilgiris provided almost a religious frame-work to the conservation of ecological factors. Religion presented as a philosophical and mythological net-work was unknown to the natives of the Nilgiris. Though the petrifaction of earlier eco-ritual cycles have considerably planted a pan-Indian religious behavior in the present day, the earlier strands of approach to nature can still be traced in many native folk-observances. The hegemony of environmental factors over the human pursuits was acknowledged, for instance, in the medial status accorded to the Kurumba tribe by others. Superstitions apart, Kurumba was considered a powerful sorcerer to invoke, cure, heal and manipulate forces of nature. A festival such as fire walking in honour of the *"Lord of the Matted Hair"* – the matted hair being likened to the forest covers of the earth or the mother-earth celebration, also meant passage from one season to another or propitiation offered to the process of the tillage of land. The cardinal celebration of the mother goddess Hethe among the Badagas sought to highlight the purity and tenderness of milk-the product of their buffaloes, very similar to the sacred-dairy ritual of the Todas. Parallel to this conception, the figure of Hethe also came to be acknowledged as the most benign and gentle personification of the bio-diversity of the hills providing silvery, golden and floral shades to the environment. The sacred groves, common to many a primitive landscape also have had their impact in the veneration of such spots by the natives.

The fold-idiom especially of the Badagas and transmitted through a rich corpus of proverbs and old sayings encompass several values concerning the preservation of the environment, forests, water, soil etc. Among the Todas there is current a story how a buffalo and man putting together their heads mourn for the dead or how the head buffalo of the herd itself bids the shift of their pasturage to the man (the Toda) tending them. For them their herd is always something particularistic and unique and their names employed at rituals are adhered to in the most strict manner. More such folk-ideas are related in the stories and legends available among other tribes also. The anthropomorphic dimensions, of these sayings betray the indubitable importance of environmental factors to these cultures.

While the above and briefly mentioned aspects of Nilgiri culture have their own socio-historic importance, the question arises as to the contemporary management of the environment. The old patterns of self-sustaining and symbiotic diversity have come to be challenged by a radical cross-cultural phenomenon. Culturally and ecologically placed in an unique situation, the strategy for substitution of old process of socio-cultural environment could only involve a dramatically different world-view. This view would no doubt be a far cry from the one portrayed by the Todas of the bygone era:

We have sat at a place with good view
All the many hutments are seen;
All the many regions are seen.
All our-clan people are seen;
All the other-clan people are seen.
All the hamlets are seen;
All the sacred places are seen.
May the sacred places be still seen in the Nilgiri-environment.

Hill Area Conservation Authority

Dharmalingam Venugopal SNC Newsletter, *December 1992*

Under the National Environment Awareness Campaign 1990, sponsored by the Ministry of Environment and Forests, Government of India, a one-day Seminar was organized at Madras on the theme "Hill Areas Conservation Authority (HACA) - Priorities for Nilgiris". The seminar was jointly organized with Exnora Club of Madras Central.

Mr. V. Ramakrishnan, Advisor to the Governor, who summed up the seminar said that though a balance had to be struck between development and conservation of environment, pre-eminence should be given to preservation of ecology in the hill areas than development. In the hill areas, special efforts should be taken for eco-development viz., the development which preserved the ecology or tried to restore it where it had been lost.

The encroachers in the hill areas were not local people but outsiders who encroached, poached, smuggled goods, made money and still received maximum protection. Laws alone were not enough to tackle these problems but local authorities should play a role in putting an end to them, he said.

V. Karthikeyan, Adviser to the Governor, who presided, said the HACA had been created by an executive order of the government and it had only an advisory role. It should be clothed with statutory powers to regulate the development of not only the Nilgiris but also Kodaikanal, Kolli Hills and Shevaroy Hills etc.

However, he cautioned the participants about taking extreme positions between environments at all costs and development at any rate. The merits and demerits of environmental degradation and economic development should be studied and reconciled. It there were built-in safeguards for development projects coming up in the hills areas, damage to environment would be minimal, he said.

Mr. P. N. Veda Narayanan, Chairman, HACA said that the government order creating the HACA listed the types of activities allowed in the hill areas, the banned activities etc. The objectives of the HACA would be to fix the parameters for ecological conservation and regulate land use. The HACA was planning, in conjunction with the Tamil Nadu Agricultural University, to conduct an integrated study which would indicate the plan of action for the Nilgiris and other hill areas.

Mrs. Jayanthi, Secretary, Information and Tourism Department, said that Ooty town was awash with tourists, buses churning up the roads and creating traffic snarls. Worse, there was no parking lot for these buses. To battle the pollution of the Ooty lake, the TWAD Board had prepared a plan to be implemented in stages and Rs. 5.7 crores would be spent on this, she added.

Mr. B. J. Krishnan, President, Save Nilgiris Campaign had the following suggestions to make HACA more effective. At present HACA is not fully constituted and is managed by a part time chairman. And it has hardly any say in the planning and matters relating to finance in respect of the hill areas.

HACA is constituted under a G. O. and that G. O. has been issued under Sec 44 of the Town Planning Act. At present it is in the nature of an advisory body.

It is time HACA is fully constituted and brought to its full shape.

Perhaps, a fully fledged statutory body can do much better. May be a separate legislation is necessary to constitute such a body– something like the Ganga Development Authority. Himachal Pradesh and some of the North East areas have such legislation. Perhaps, that is the only way to have a conservation oriented development for the Nilgiris. The Municipal and other local laws should be made subject to such an Authority. It should have all powers in the matters of planning and financing for development activities.

Perhaps, the centrally sponsored HADP can be brought under HACA as a first step. HADP in now part of the Planning and Development Department.

HACA lacks legal teeth to book and punish violations.

HACA G. O. recognizes hill areas as different kind of regions and therefore different kind of treatment for them. But Nilgiris is not just different; it is unique and surprisingly, still unique. Therefore it deserves a unique statutory treatment.

At long lost a major step has been taken. The Hill Areas Conservation Authority (HACA) has been constituted with the objective of making the hill areas of Tamil Nadu, "ecologically acceptable and environmentally desirable".

The focus of HACA naturally will be on the Nilgiris which is the most prestigious and the most degraded hill area of the state. In fact, HACA's creation was originally in response to SNC's call to 'Save Nilgiris' at a seminar in Madras in 1987.

Shri B. Vijayaraghavan, a senior IAS officer and a keen environmentalist conceived the idea of a statutory authority to coordinate and guide the process of development in the Nilgiris on desirable lines. Later, Shri A. Ramakrishnan, Secretary Forest and Environment Department, gave shape to the idea which was extended to cover all the hill areas of the state and it was put in to operation by the Planning Secretary and past collector of Nilgiris, Shri K. Inbasagaran.

Eco Threat to Nilgiris : Government Swings into Action

Dharmalingam Venugopal
B. J. Krishnan
SNC Newsletter, *December 1992*

Not many are aware that since the Tamil Nadu Chief Minister's visit to Ooty last May, unprecedented steps have been set afoot to tackle head on the environmental problems facing this unique hill district. Legislative and executive measures which have been mooted for years but never believed would be implemented have been instituted with an incredible swiftness. To describe these developments as 'revolutionary' will be no exaggeration.

Toll

Though Nilgiris has been the only beneficiary in the whole of South India under the centrally sponsored Hill Area Development Programme, for some technical reason or other the funds could not be effectively used for maintaining the various public amenities, especially in the towns. The worst affected were the roads which have been a nightmare for the town folk and tourists for the last nearly ten years.

For long suggestions were made for collection of a cess or a betterment levy or a toll from the tourists and the locals to supplement the resources of the fund starved local bodies who have been vested with the responsibility of maintaining the public amenities.

At last, the government, in the face of stiff resistance from vested interests has started to collect toll from vehicles entering Nilgiris at all entry points. Attempts to put legal hurdles were also thwarted with the Madras High Court upholding the validity of the Government order under the Indian Toll Act.

As expected, the tolls has proved to be significant earner for the government which has now been able to take up many of the work pending for want of funds, particularly the repair to roads. Once the roads are properly done and maintained every citizen of Nilgiris, not to mention the tourists, would welcome the toll.

Green Belt

Declaration of a protective 'Green Belt' of 7 kms around the world famous Mudumalai sanctuary to arrest the rampant growth of commercial activities deleterious to the sanctuary is another bold but long pending decision taken despite the protests and agitations by the vested interests.

The people would have realized by now that the measure will no way affect the normal life of the local population and that the long term interests of the sanctuary and the people dependent on it can be protected only by such a definitive action.

Hitch: However there remains a hitch. It is now a year since the Green Belt was declared under the Tamil Nadu Preservation of Private Forests Act empowering the government to ban activities harmful to the welfare of the sanctuary. But the follow up notification listing the harmful activities is yet to come. Meanwhile, all sort of activities are merrily going on within the Green Belt- in effect nullifying the whole effort.

We earnestly hope the Ministry of Environment and Forests, Tamil Nadu which has been sitting on the second notification announces it without any further delay. Otherwise it would be classic case of closing the stable after the horses have bolted.

Construction Freeze

It has been a long felt and even desperate need. Yet, till the Chief Minister came out with the sudden and swift decision, soon after her visit to Ooty in May last, to freeze all construction activities pending announcement of suitable new rules and regulations harmonious with the environment of the hills, not one believed that such a drastic but far sighted action was possible. Naturally, there was a big hue and cry from the vested interests that went all out to block the proposed changes.

In the event, it indeed redounds to the credit of the government that despite the ban on construction having lasted now for more than eight months, the general public have hardly raised their voice, thereby giving their approval to the government's action in the larger interest of the district.

Master Plan

The Tamil Nadu District Municipalities Act 1920 has now been suitably amended to regulate construction activities which have been defying all laws of man as well as nature in recent years. Alongside, a Master Plan for the district has been prepared and is about to be announced. Together they can set right to a large extent the chaotic urban scene in the Nilgiris. One may say that they have come a little late in the day. Still they will go far in protecting and, to some extent, rehabilitating the urban environment in the future.

Hitch: A problem often faced in this district is the lack of coordination between the different departments. With the result, sometimes the positive action taken by one department is offset by a conflicting action taken, willy-nilly, by another one.

A problem of this sort appears to have cropped up here also.

As mentioned above, the Tamil Nadu District Municipalities Act has been amended to regulate constructions in the hill areas of the state. And a Master Plan has been drawn up for Nilgiris as in the case of Kodaikanal.

But the state government, perhaps, inadvertently has also extended the Urban Land Tax 1966 (and amended Act 1991) to the hill areas including Nilgiris and Kodaikanal.

The objectives of the two Acts are conflicting. Under the recently amended District Municipalities Act, the primary aim which is to contain urbanization, all lands are presumed as agricultural lands and conversion of such lands for any other purpose including construction requires prior permission.

But the Urban Land Tax Act presupposes that all these lands are already for urban use. Under the Act, all owning more than 11 cents or roughly 2 grounds have to pay a heavy tax. So to avoid the tax, the lands which are mostly gardens and wooded areas are likely to be sub-dived and further divided. This is bound to be detrimental to the preservation of the beauty and ecology of the hill stations.

The Urban Land Tax Act will create further confusion where Master Plans are in existence as in the case of Kodaikanal and Nilgiris.

We, therefore, appeal to the state government to appreciate the conflict between the recently amended District Municipalities Act and withdraw the latter from being operative in the hill areas, particularly Nilgiris and Kodaikanal.

Ban on Land Assignment

That Nilgiris has been an encroachers' paradise in recent years in well known now. Despite the several measures taken in the past, the inflow of rootless migrants into the district still continues.

Assignment of agricultural land had long been stopped to discourage these settlers but since house pattas were continued to be given, the migrants were able to encroach on the adjoining or nearby lands one way or the other. In fact, in the last few years, thanks to the liberal grant of house *pattas*, the problem has been aggravated.

From October 1992, we learn that all assignments of land including house *pattas* have been banned in the district. This is indeed a very brave decision, especially when seen in its political context. There is no doubt that this step will act as a significant check on rootless migration and encroachments in the district.

These major steps taken within the last one year are fundamental in nature and far-reaching in their implications. Together they form the contours of a broad and integrated policy to tackle the environmental problems of not only the Nilgiris but also the entire hill areas of the state. In fact, other hill areas in the country too can learn a valuable lesson or two from the recent developments in the district.

More importantly, the changes have come not a day soon. In recent times, Nilgiris has come to shoulder an unprecedented burden of tourist traffic following the unfortunate happenings in many parts of the country. The burden could increase further in the future.

Therefore, the threat to the district's ecology and environment is all the more formidable. In the circumstances, it is only bold and thoughtful decisions like the four discussed above that can protect and preserve the district.

If any one person should be given the full credit for the above mentioned bold decisions, it is, of course, the Hon'ble Chief Minister of Tamil Nadu, Madam Jayalalithaa. We would like to mention here that after our late, lamented national leader Shri. Kamaraj, it is madam Jayalalithaa who has taken a personal interest in the welfare of the district. We offer our sincere thanks to the Chief Minister for taking these bold decisions unmindful of their popularity.

NGO Code of Environment Ethics and Conduct

Dharmalingam Venugopal SNC Newsletter, *April 1993*

It is no doubt a matter of great satisfaction and pride that Non-Governmental Organizations (NGOs) have grown to be a major partner world over in the development process together with the governments and their agencies. At the same time, it is also a fact that the growth and spread of the NGOs have been rather indiscriminate. Thus, it has been a long felt need that the NGOs should subject themselves to a voluntary code of ethics and conduct.

The Environment Liaison Centre, International (ELCI), as the largest south-based global NGO, has taken the initiative to evolve a comprehensive code of ethics and conduct for its members.

The draft code was drafted at the ***South Asian Regional Meeting organized by Save Nilgiris Campaign at Ooty.***

Preamble

The code endeavours to enhance the total environment – physical, biological, cultural and spiritual. The code enables the NGos to base all their work on the resources available to the people, their expertise, existing indigenous institutions, culture and religion.

The code articulates a broad framework to guide the organizational internal operations and their work with community groups and people's organizations as well as their relations with the South and North NGOs.

The overriding principle this code seeks to ensure is consultation among NGOs before anyone takes a position that might affect another. A contact person will be chosen in each region or country to facilitate communications and consultation.

CODE OF ETHICS

Voluntary

The code of ethics is philosophical in nature and has to be accepted voluntarily. It is not enforceable and accountable.

Respect for Life

This code is based on respect for nature, nations' environment and each others' knowledge and skills; and on sanctity and integrity of all life.

Trusteeship

The code seeks to impose the responsibilities of the concept of Trusteeship which does not destroy self-respect or dignity. It seeks to protect and preserve and not to allow the North to exploit the South or deprive the South of jobs, a clean environment or increase its economic disparities.

Economic and Political Balance

The code seeks a balance between economic and political goals and promotes processes that allow people to make their own choice.

Transparency of Operations

The code seeks transparency and openness in the way NGOs act and behave including maintenance of accounts and seeks public participation in their activities.

North-South Relation

As North NGOs get most of their funding from their national governments, they hardly question the policies and activities of their governments in the South. On the contrary, they have become the accessories to the hidden agenda of their governments and transitional corporations.

In order for northern NGOs to enforce genuine people-to-people solidarity, they

(a) should be rooted in issues at home.

(b) should have some definable constituency/membership.

(c) should foster justice and equality, alleviate poverty and preserve cultural integrity and identity.

(d) should avoid being corrupted materially and spiritually.

Northern and Southern NGOs should collaborate on the basis of equitable and genuine partnership.

Southern NGOs and Northern NGOs have the major responsibilities for the activities within their own countries.

Northern NGOs should observe a simple and appropriate lifestyle when being in the South.

Northern NGOs should adhere to prevalent legislation when exporting technology.

The basis for collaboration between Northern and Southern NGOs should shift from donation to partnership; from self-assertion to integration; from growth to sustainability.

The Northern and Southern NGOs should share information freely. The list and uses of hazardous products should be openly publicised.

Quality of Development

The quality of a product will be decided depending on whether it is manufactured in an environmentally benign way and it can be used and disposed of without causing any environmental damage. In other words the quality should pass Ethical Product Testing.

The code should respect biological needs – low noise, healthy food, ecologically sound farming, etc.

Development perception should shift from world as a machine to a world as a living system.

CODE OF CONDUCT

The code of conduct is practical, enforceable and accountable.

Democratic Functioning

Members should have open democratic working systems, gender parity, consultative problem-solving, non-discriminatory practices.

Members should publish and make available annual reports and financial statements.

Member organizations should be non-profit, non-party political and preserve cultural integrity and identity.

Member organizations should have fair wages structure with credible scale between highest and lowest paid worker, preferably in the ratio 1 : 3.

Accountability

Member organizations should facilitate people's efforts. They should ensure highest levels of accountability, starting with their own constituencies – the people. This includes uncompromising evaluations involving the participation of the local populations.

Cooperation

Members should share information with one another; set up necessary mechanism together and exchange experiences; and get actively involved in environmental education – awareness building and training.

Globalization

Should a member in one country think it necessary to globalise a local issue for international action, the group is obliged to consult and receive the endorsement of 75% of the members in that country before sending it to ELCI in Nairobi.

North-South Cooperation

Northern NGOs when working in South must have transparent advisory systems within the country of operation. They should have transparent criteria for selection of working partners.

Southern NGOs should monitor Northern government/corporate activities in the host country.

Southern NGOs with Northern NGOs should develop an effective policy on international issues.

Campaigns

Members should subscribe to the following global concerns/campaigns.

(a) Products made of raw materials from rain wood forest wood or involving the killing of endangered species will be phased out.

(b) Packaging materials declared harmful will be discontinued.

(c) Ingredients of final products will not be tested on animals.

(d) It is the responsibility of the company/NGO to recycle waste in an environmentally sound manner in the South.

(e) Knowledge on the low cost re-use materials, elimination of toxic energy and water saving measures will be shared with the South.

(f) Re-cycled paper will be used for all publications, documents, publicity materials for dissemination of information in the South.

(g) Soya based inks will be used instead of metallic inks.

Landslide in Nilgiris: SNC's Independent Assessment

Dharmalignam Venugopal
B. J. Krishanan

SNC Newsletter, *June 1994*

After the devastating floods of November 1978, landslides and floods have become annual features in the Nilgiris, the frequency and intensity increasing every year. The magnitude of the recent (November, 1993) landslides was unprecedented. More than 350 major and minor landslides occurred on the Mettupalayam-Coonoor and Mettupalayam-Kotagiri ghat sections.

The largest landslide which occurred on the steep Coonoor-Mettupalayam ghat cut a swath of roughly 1.5 km in breadth and about 7 km in length from the edge of the Coonoor town on the hills to the Kallar river at the foot hills. The catastrophe had to be seen to be believed.

Independent Assessment

A scientific analysis of the problem and the possible solutions will have to await the official report. Pending the official enquiry the Save Nilgiris Campaign, made a quick Independent Assessment of the situation. We were fortunate to get the expert advice of leading subject specialists including Dr. V. K. S. Varadhan, former Director-General of Geological Survey of India, Dr. Seshagiri, former Director of Geological Survey of India who headed the team which studied the Nilgiri landslides after the 1978 disaster and Dr. P. S. Samraj, scientist in-charge of the Ooty based Central Soil and Water Conservation Research and Training Institute.

The team visited the affected areas in the Nilgiris between December 1st and 3rd and held discussions with the local people and Non-governmental organizations.

Causes of Landslides

According to the existing scientific and technical reports including the GSI study report prepared after the 1978 floods, the report of the Technical Audit of the River Valley Projects and Hill Area Development Programme Works in Nilgiris 1986, and the report of the Assessment of Eco-degradation in the Nilgiris of Western Ghats, Tamil Nadu Region, 1986, made by the Anna University, the primary cause of the landslides in the Nilgiris is the conversion of forest and other lands on steep slopes to tea plantation or potato cultivation, that too without proper soil and water conservation measures.

In the present case also, *prima facie*, these very factors appear to be the main cause of landslides. There was clear evidence that most of the road side landslides were the result of the extension of tea cultivation to the road margins.

Giant Landslide

The cause of the giant landslide on the Coonoor-Mettupalayam ghat can also be attributed to the recent clearance of forest cover and cultivation of tea by the Government owned Tamil Nadu Tea Plantation Corporation (TANTEA) on the extremely steep slopes just above and on the sides of the landslide.

Suggestions

The occurrence of such massive landslides in future is not only very likely; the damage to life and property could be even more disastrous. We have the following suggestions for the Government's consideration in this connection.

1. There should be an ongoing assessment of slope stability in the Nilgiris besides constant monitoring of the weak spots especially during the rainy seasons. Overloading of slope heads with heavy structures should be avoided. Unfortunately, all the new multistoried hotels in Ooty and Coonoor have been built right on top of hills unmindful of the risk involved.
2. The Government should forthwith stop all conversion of steep lands into tea plantations or any other cultivation. Encroachers and unauthorized conversions should be strictly dealt with.
3. Drainage pattern of the water courses should be restored and maintained properly. Unlawful diversion of streams for private use should be seriously dealt with.
4. The vibrations from the heavy vehicular traffic on the ghat roads have added to the instability of the slopes. It is also inadvisable and dangerous to open new roads or direct traffic through sparely used village roads which will only make matters worse. What is required is a strict regulations of the vehicular traffic.
5. Quarrying in private lands should be strictly regulated as they tend to be the prime cause that triggers landslides.
6. Landslides cause as much, if not more, damage to life and property as any other pollution related disasters. Under the principal of '*Polluter Pays*', individuals and companies who directly or indirectly contribute to natural disasters including landslides should be made to pay for the economic loss which includes compensation to victims and restoration costs.

Thanks

We are very grateful to Shri V. K. S. Varadhan, who agreed to visit the affected spots in the Nilgiris and Palani Hills immediately and, to offer his expert comments at the press conference at Chennai. Our thanks are also due to Shri Seshagiri and Dr. P. Samaraj for their expert opinion.

How Kallarpallam Project was Dropped

This appeal, preparedby Dharmalingam Venugopal, was submitted to the Hon'ble Chief Minister of Tamil Nadu, Dr. Jayalalithaa on February 21, 1995. The project was dropped on Febraury 27, 1995.

Summary of Appeal

A small hydro project called the Kallarpallam Small Hydro Electric Project has been cleared by Government of Tamil Nadu near the picturesque Catherine Water falls at Kotagiri in the Nilgiris. The project, we understand, will be considered for execution after proper Environmental Impact Assessment and approval by the competent authority.

We do not object to the project as such which has been rightly conceived on the basis of the departmental priorities of TNEB. However taking a broader view, in the environmental interest of the Nilgiris, we have made the following REASSESSMENT of the project which shows:

(a) The project is fraught with very serious ecological consequences particularly in the context of frequent and massive landslides in the Nilgiris in the recent past. The project is situated in the maximum risk landslide zone.

(b) The economic benefits and additions to power are negligible. On the other hand, the project would lay waste 35 Ha of prime tea garden and 5 Ha of natural forests rich in biodiversity.

(c) As one of the few leading states in the development and management of power including non-conventional energy (particularly, Wind Power) Tamil Nadu could comfortably afford to forego this mini dam with a potential for macro damage.

In fact, TNEB is supposed to have stopped exploring Nilgiris for any further hydro schemes after the mid-80s when environmental problems became pronounced in the Nilgiris.

As the Chief Minister of Tamil Nadu and the supreme leader of the Tamils, your Hon'ble self has more than once demonstrated your love and concern for the Nilgiris. We earnestly hope your benevolent self will give due consideration to our appeal and withdraw the project.

KALLARPALLAM MINI HYDRO SCHEME A REASSESSMENT

Background

A small hydro project called the Kallarpallam Small Hydro Electric project has been cleared by Government of Tamil Nadu near the picturesque Catherine Waterfalls at Kotagiri in the Nilgiris. In response to the mandatory public notification by TNEB in newspapers, the Nilgiri Wildlife and Environment Association (NWLEA) had written to Chief Engineer/Civil Design TNEB on 22-9-94 listing a number of objections on environmental grounds.

In his reply to NWLEA dated 28-10-94, Shri S. Narayanaswamy, Member (Generation), TNEB had explained at length the background in which the project was conceived for implementation. The project, he concluded, will be considered for execution after proper Environmental Impact Assessment and approval by the competent authority.

While it is not our intention to question the competence or the priorities of TNEB. We present below, point by point, a REASSESSMENT of the project in the over all social and ecological interest of the Nilgiris in general and that of the project area in particular.

The reassessment would show that the potential environmental damage of the project is too high to be ignored and that the social cost of the project far, far outweighs the benefits.

The presentation is in two parts. One relating to the power situation in the State as such and the other relating to the project.

Part - I: POWER SITUATION IN TAMIL NADU

TNEB's Assessment

Tamil Nadu has no coal. So it is necessary to tap hydro resources to meet the increasing demand for power.

Our Reassessment

(a) TN is comparatively far better: True, Tamil Nadu has no coal resources. But this is true of most other states of India too as 96% of the coal reserves are concentrated in five states namely Bihar (32.8%), Orissa (23.6%), Madhya Pradesh (20.5%), West Bengal (13.4%) and Andhra Pradesh (5.5%). Tamil Nadu, however, has 94% of the total lignite reserves in the country.

(b) Least deficit: Tamil Nadu is also comparatively better in managing supply and demand for power:

POWER DEFICIT (1993 - 94)

Power requirement (M.KWH) = 26495
Power availability (M.KWH) = 25466
Power deficit (M.KWH) = -1029
Percentage = -3.9%

TN has the 4th least deficit in the country. Only Himachal Pradesh (0%), Kerala (-3.1%), Maharashtra (-3.1%) and Punjab (-3.2%) are in a marginally better position.

(c) Rural electrification / pump set energised: TN is among the only 10 States which have achieved total electrification of villages and among the top 3 States in the number of pump sets / tube wells energised.

(d) Future Prospects: As of June end 1994, TN was 6th in current investments in power projects.

State	*No. of Projects*	*Capacity(MW)*
Uttar Pradesh	31	11,428
Karnataka	31	5,756
Himachal Pradesh	23	6,840
Gujarat	21	6,671
Andhra Pradesh	20	7,633
Tamil Nadu	19	8,168

Projects envisaged in the private sector, TN ranks next only to Orissa and Maharashtra in the capacity to be added.

TNEB's Assessment

The cost of thermal power is comparatively higher and to ensure reliability of supply of the state grid, it is necessary to have a reasonable hydro-thermal mix.

Our Reassessment

(a) *TN already has a favourable ratio:* Generally, a generation mix of 40% hydro and 60% thermal capacity is considered fairly adequate for the Indian system from the point of view of cost and other considerations. The ratio for the country as a whole is 26% hydro : 71% thermal : 2.6% nuclear.
The Central Government has initiated action for evolving ways and means to increase the share of hydro power to 40% by the end of Ninth Plan. TN has a comparatively favourable ratio of 45% hydro and 55% thermal.

(b) *Nilgiris' Share:* Of this 45% hydro capacity, nearly 40% come from sources in the Nilgiris. In other words, Nilgiris already is playing the major role in ensuring reliability of supply to the Tamil Nadu State grid.

(c) *No More hydro Potential:* Moreover, TN has exhausted all its potential hydro power. As of Aug 1993, TN's share of hydro power potential in the country was as low as 1.4%.
In fact, TNEB is supposed to have stopped exploring Nilgiris for any further hydro schemes after the mid-80s when environmental problems became pronounced in the Nilgiris.

TNEB's assessment

Environmental hazards in thermal schemes are more than that of the hydro resources in general and small hydro projects in particular.

Our Reassessment

Environmental hazards are common to both.

Environmental hazards of thermal schemes are mainly in the form of atmospheric pollution and therefore are easily visible and immediately felt. But the environmental hazards of hydro projects affect the very ecology of an area leading to permanent and catastrophic consequences.

It does not make much difference whether the project is big or small. It all depends on how ecologically sensitive the project area is.

Up to August 1993, only one-fourth of the total hydro potential in the country has been exploited or was under development. The main reasons for the low percentage of development over the potential according to the "Current Energy Scene" of the Centre for Monitoring Indian Economy (CMIE) are:

1. The bulk of the untapped hydro-electric potential lie in the states which do not have resources for developing them.
2. Inter-State disputes in sharing of river waters.
3. Problems in land acquisition, afforestation and rehabilitation of oustees.
4. Delay in execution due to geological surprises and Financial constraints.

TNEB's Assessment

Government of India is insisting on the development of non-conventional energy sources including small and mini hydro projects.

Our Reassessment

(a) Depends on the merits of each source & case:

According to the "Current Energy Scene" of CMIE, "Non-conventional energy or renewable energy sources remain a marginal contributor to total energy supplies, especially to power generation. While the costs of renewable devices have been on the decline, they remain far too expensive for most applications.

However, with an increasing concern about the environmental impact of conventional energy use, it is expected that renewable devices will play a much greater role in the energy sector. The main issue which arise in this sector are:

– Identification of individual renewables for dissemination, demonstration and R & D.

– Suitable mode and level of incentives which needs to be provided for renewables".

(b) Foreign Aid:

These programmes are largely financed by foreign aid. And it is a fact that utilisation of such aid has been rather tardy. The mid term review (Feb 1992) report of the Comptroller and Auditor General (CAG) has taken serious note of "non-utilisation" of about Rs.824 crores of foreign aid received for 10 projects by the Ministers of Environment and Forests (MEF) and Non Conventional Energy Sources (MNES).

The point, therefore, is promotion of non-conventional energy sources cannot be taken up simply because the funds are available from domestic or outside sources. Such programmes will succeed only where there are significant potentials and if they are proved beyond reasonable doubt that they are environment friendly.

(c) Wind Power – An Example:

A classic example is the growth of wind energy projects in Tamil Nadu which has emerged as the undisputed leader in the country. 53 potential areas have been identified in Tamil Nadu compared to 25 in AP, 25 in Gujarat, 7 in Karnataka and 4 in Kerala. Tamil Nadu, therefore, would do well to concentrate on areas like wind energy where the scope is large than small hydro schemes where the potentials have been exhausted. In fact, MNES is soon to launch a Rs.45 crores scheme to develop small hydro resources in hilly regions in 13 states under World Bank administered Global Environment Facility (GEF). Tamil Nadu is not in the list.

Part - II: **PROJECT REASSESSMENT**

TNEB Assessment

Originally a major hydro project called the Coonoor-Kallar Hydro Electric Project with an installed capacity of 50 MW was contemplated in 1968-69 but was given up on environmental grounds. Later the proposal was modified into the present Kallarpallam Mini Hydro Electric Project.

This was also subsequently revised with a view to: *(a)* minimise the forest land to be acquired; and *(b)* avoid area susceptible to landslides.

Our Reassessment

TNEB's concern and gesture would have been well appreciated and the project welcomed under normal conditions. But the intervening period (between 1968-69 and 1994-95) has not only been abnormal but also unprecedented. Nilgiris in general, and the project region in particular have suffered one of the worst kind of environmental degradation in the whole country. The fact has been too well acknowledged and documented to need repetition here. Nevertheless, we repeat here some of the major concerns.

(a) The original unique natural habitats of the Nilgiris have been reduced to a few and far between pockets with disastrous consequences on the biodiversity and tribal life on these pristine hills.

(b) The land use pattern has been altered so frequently that the whole district has been rendered unstable resulting in tremendous loss of natural vegetation, soil and water.

(c) Above all, the ecological changes have cumulatively ushered in a dangerous era of frequent and frightening landslides.

Therefore reducing the capacity or changing the design of the project can hardly compensate the magnitude of the environment damage the district has suffered in the intervening period. The entire area has been rendered too delicate to think of any kind of modern intervention, leave alone a hydro project however small it may be.

ACQUISITION OF FOREST LAND

TNEB Assessment

Out of the 38 Ha to be acquired for the project only 5.30 Ha are under forest cover and the rest under tea plantations.

Our Reassessment

Biodiversity "Hotspot": The whole of Western Ghats has been declared as one of the 18 `hotspots' in the world under the current biodiversity conservation programme. And Nilgiris form the central and most crucial link in the Western Ghats. Therefore, protection of existing natural habitats in the Western Ghats in general and the Nilgiris in particular assumes overriding importance not only from the national point of view but from an international view point also. In this background, can we afford to destroy 5.3 Ha of natural forest cover. particularly, when the Botanical Survey of India is of the firm opinion that it is "not advisable to disturb these forests by way of the construction of a dam and conveying system". True, the project was pruned to the present design after the BSI report. But it does not alter the basic argument of BSI.

Reproduced below is the summary of the 1986-87 Report on Kallarpallam by Dr. A. N. Henry *(Retd.)*, Joint Director of Botanical Survey of India sent to TNEB.

BSI Report on Kallarpallam

"The area adjacent to the dam site is mostly cleared for coffee plantation. Cultivation of Eucalyptus globulus Labill and Acacia mearnsii Wild is also common in the submergible area. However, the left-out patches of forests are of evergreen type inhabiting a large number of indigenous evergreen elements. Except for the Masikadu Estate area, the river is bounded by very rich riparian vegetation. Large stretches of undisturbed evergreen forests are seen along the valleys near the proposed power house are at Manalihada. These forests are reported to shelter a large number of interesting orchids such as Bulbophyllum acutiflorum A. Rich., Coelogyne anqustifolia Wight, Eria albiflora Rolfe, Liparis duthiei Hook F., Oberonia wightiana Lindl. Var. Nilgirrensis R. Ansari, *et al*, Vanda wightil Reichb F., etc. which are believed to be restricted to Nilgiri hills alone.

As per available records, many other rare and interesting plants like Euonumus serratifolius Bedd., Impatients acaulis Arn., Thumbergia bicolor (Wight) Lindau, etc. also occur in this project area. The very existence of these forests depends greatly on the ecological balance maintained in this region for which the course of Kallarpallam river forms one of the important factors. By diverting the course of this river the whole ecosystem will be disturbed which in turn may lead to the ultimate destruction of this rich natural forest reported to harbour a number of endemic/ endangered plants including orchids mentioned above. Hence, from botanical point of view, it is not advisable to disturb these forests by way of the construction of dam and conveying system".

Legislation to Protect One Species

The dire need for biodiversity conservation in the Nilgiris can be better appreciated when it is recalled that the Government of Tamil Nadu recently had to come out with a separate legislation to protect a single endangered species (rosewood) in the natural forests of Nilgiris.

Irony

There is also a tragic irony here. Non-conventional energy sources are promoted in hilly areas mainly with a view to protect the existing natural forests. In the present case, however, the exact opposite is envisaged by destroying precious natural forests to produce energy.

Cost of Biodiversity

Small hydro projects such as this one, which is likely to cost about Rs.5 crores, are said to be cost effective. But what happens when it entails destruction of 5.3 Ha of precious natural forest? Can one put a price on the loss of biodiversity? Can one assess what treasures it might hold in the form of medicines and other uses for posterity? The Operational Manual Statement 2.36 "Environment Aspects of Bank Work" of the World Bank, which finances these mini hydro projects states in para 9 (b) that the Bank "will not finance projects that cause severe or irreversible environmental degradation, including species extinction without mitigatory measures acceptable to the Bank". In para 9 (g), it states that the Bank "will not finance projects which would significantly modify natural areas designated by international conventions as World Heritage Sites or Biosphere Reserves, by national legislation as national parks, wildlife refuges or other protected areas".

The project surroundings fall under the Manipulation Zone (Forestry) and Core Zone of the Nilgiri Biosphere Reserve, the first of such reserves in India constituted under UNESCO's Man & Biosphere Programmes of 1982.

TNEB Assessment

TNEB's offers to give 5.3 Ha of their land elsewhere for compensatory afforestation is no doubt appreciable. But can TNEB or anyone else raise a natural forest which evolve over millions of years?

The number of people working will be about 25 to 30 at one place. They may not reside in one place. TNEB will provide them with firewood so that they do not cut the nearby natural forests.

Our Reassessment

(a) TNEB's commitment is laudable. But anyone familiar with hydro projects in Nilgiris starting from the Pykara project in the 1930s know only too well that more new settlements amidst sensitive forest areas have come up in the district in the wake of hydro projects than on account of any other reason. Once workers settle down during or after the project it becomes virtually impossible either to relocate them or to stop their dependence on nearby forests not only for firewood but also for a living. The case of Masinagudi, where an entire township has come up in the wake of the Pykara Ultimate stage hydro project, is too recent an instance to be missed.

(b) Displaced Workers Even assuming that the workforce for the dam will be small and will cause little disturbance, what will happen to the 50 to 100 families of plantation labourers who will be thrown out of work once the tea gardens are acquired for the project? Where will they go except to the fringes of nearby forests? And what will they do except take to clandestine tree felling for a living?

These questions are very pertinent in the context of what is really happening in the Nilgiris.

GEOLOGICAL ASSESSMENT

TNEB Assessment

The Geological Survey of India has inspected the project site and have opined that no adverse geological problem is anticipated at the proposed site.

Our Reassessment

No one can dispute the opinion of a highly competent body like GSI. But it should be remembered that it is only an assessment at this point of time and not a prediction of what can happen in and around the project area in future.

***(a)* Geological Surprises**

Since 1978, the whole of Nilgiris has entered a dangerous era of landslides and after 1990 the district has entered an anxious phase of frequent and massive landslides - The Geddai Landslide(1990), the Marapallam Landslide(1993) and the Burliar Landslide(1994). These were no ordinary landslides. They carried down with them huge chunks of the Nilgiris Landmass itself.

In 1982 itself the GSI report on "The Nilgiris Landslides" warned, "The Strategy of preventing environmental degradation in Nilgiri district has been crossed over. The harm has been done. The present stage is one of repairing the damage. We hope the magnitude of the problems in Nilgiris is realised fully and immediately".

Since 1982 the underlying factors conducive to landslides such as frequent changes in land use, overloading of hill tops, diversion or blockage of natural drainage etc., have multiplied several times.

(b) Project Area most Susceptible

Based on the 1982 survey, the GSI classified the district into five zones on the basis of Landslide Susceptibility Index (LSI). The entire area surrounding the project site comes under Zone V with the maximum LSI value of over 35. In other words, the project area is one of the highest risk areas for landslides. In the circumstances, the argument that the area where the physical structures of the project like pipelines, lake etc., are going to come are stable cannot carry much conviction. When the whole region is unstable a few stable pockets here and there obviously cannot escape the cascading effects of the landslides.

(c) Expert View

TNEB would have obtained the views of experts from the Geological Survey of India and others regarding the stability of the reservoir rim. If the scientists have already pronounced their opinion favourably towards the construction of the project and creating a reservoir, without trying to contradict them, we appeal to the Government to consider also the following views collected from a panel of experts on the subject.

After considering our submission, if the government experts cannot *unequivocally pronounce* that the area under consideration would be stable and free from landslides after creating a reservoir, we appeal to the Hon'ble Chief Minister to consider whether it is worthwhile risking the lives of people and devastate the environment for a meagre 6 MW which can be tapped elsewhere safely.

In making this appeal, we fully recognise the need that progress and preservation should go hand in hand. The expert view is presented below:

Old Slides may get Reactivated

The Kota village of Aggal located on the reservoir rim, a bare 2 KM away, has all the potential for a major slide. Along a stream debouching into the proposed reservoir, a slide scar with as many as 2 to 3 failure surface is discernible . The slope is of the order of 20o from the horizontal supporting tea garden.

A major slide at this place is a failure along the weathered rock/soil interface presumably due to toe erosion. Can it be pronounced that future slide in the area will not be in the reservoir rim?

At Bebbenu village, again, located at the reservoir rim tell tale evidences for at least five old slides remain mute witness of past devastation in an area of slope 15o to 20o. Remnants of the old slide are seen both above and below a 3 m wide road. As many as three slides are located at Alakarai village where the slope is of the order of 25o.

It is, therefore, pertinent to point out that in the Nilgiris (as it is in other areas) land slides are reactivated and hence the presence of a slide scar renders an area susceptible to future slides. Further, these areas have a slope of 160 to 250, a category recognised as having the highest potential (Land Slide Index 19) and supporting tea gardens where 34% to 35% of the slides have taken place.

Poor Water Pressure

These potential areas and many such potential surfaces are on the rims of the proposed reservoir. The reservoir is for hydro generation and the water level in the reservoir is dictated by the power demand and hence a rapid draw down cannot be ruled out. Such a rapid lowering of water level in the reservoir would lead to sudden release of pore water pressure causing removal of toe support initiating slide of the mass above the reservoir as well as sloughing of slope forming material within. In the event of such a catastrophe, the overtoppling of the dam a la Voint cannot be ruled out. The presence of existing roads or roads above the water level that may be made are likely to serve as berms to break the slope. The provision of such berms can serve only as a plus factor and cannot be a control measure against future slides.

Landslide is a natural process of degradation. What man can and should ensure is that by his action as a geological agent, there is no acceleration of the natural process of change and decay. Therefore, notwithstanding the merits or demerits of all other arguments, the project has to be necessarily reassessed in the light of the very strong possibilities of "Geological Surprises" in the project area which could have catastrophic consequences.

Seismic Threat

The Nilgiri plateau has been formed by three systems of faults along its peripheries. Two of these faults run across, along or near the project site. Though the Nilgiris has been fortunate not to have had a history of earthquakes, mild tremors have been frequently felt especially in the region of the project area. The latest one was as recent as December 1994. In fact, in 1985, housing pattas granted to 69 families near Kannerimukku village in Kotagiri not very far from the project area, were cancelled because of a Geo-Tech report on the area. This seismic factor does not appear to have been considered so far.

High risk, low return

Our intention is not to go into the economics of the project or make a detailed cost benefit analysis. But even a back-of-the-envelope assessment shows that the expected return has hardly any relation to the risks (environmental and otherwise) connected with the project. The project capacity of 6 MW is enough to meet the needs of just one big industry or a few small industries or a small village. At the Average Tariff Realisation of the Tamil Nadu, the 6 MW (assuming it works to full capacity) of power generated by the project works out to something like Rs.6500/-.

Even if commercial rates are used, the realisation will be around only Rs.12000/- to Rs.15,000/. Even a single acre of the 35 Ha of tea gardens to be acquired can provide a return of that much (Rs.15,000/-) in a year. It, therefore, does not make much economic sense to destroy 35 Ha of prime tea garden land valued at Rs.1.4 crores to get a return of, say, about Rs.15,000/- a year!

There is also a genuine and widespread fear that the impounding of water for the dam will also seriously affect the tea crop in the adjoining areas due to rise in water table and other factors. Out break of diseases from the stagnant waters to the crops as well as humans is another strong possibility.

Lesson from Legend

After the Geddai Landslide (1990) which washed away a TNEB quarters, an old tribal in the near by village was asked if he had heard of such incidents in the area in the past. The old man shot back, "Don't you know the stream on whose course the quarters had been built is called "Pegumba Halla" or "bursting forth" stream"? By its very name, the streams' tendency is to remain dry for long intervals and suddenly burst forth one year. TNEB can hardly be faulted for not knowing this.

However we would like to bring to the notice of TNEB an instructive legend connected with the Catherine Waterfalls across which the new project is proposed.

Symbol of Sacrifice but a Warning too!

The Catherine Waterfalls, known locally as "Kudire (horse) Hulla (stream)" has been a symbol of sacrifice as well as a warning for the greedy in the local tribal legend.

Once there lived two brothers - Halla Bellie and his brother Younger Bellie. Halla Bellie was married to Mallu Mathi at a very young age when younger Belie was only a baby. After the death of their parents, the family responsibility fell on the shoulders of Mallu Mathi, who had to also look after younger Bellie. The brothers took turns to tend the field. Years later when younger Bellie came of age he refused to get married as he felt he might be separated from his brother and sister-in-law both of whom he loved dearly.

One day as usual younger Bellie came home for food after his brother had left for the field. When he sat down he found a grain of cooked rice on the floor. He was excited. He cried, "Sister-in-law, see God has given us a grain of rice". Mallu Mathi simply brushed him aside saying a passing crow or sparrow might have dropped it. But younger Bellie could not contain his excitement and believing that it was a gesture of Bhooma Devi herself, he stuck the grain on his forehead and returned to the field to show his brother.

Before an amused Halla Bellie could ask, younger Bellie said excitedly "Brother, God has sent a grain of rice to us who have never had rice in life before. I have shown it to sister-in-law. I wanted you to see it also". Some what confused, Halla Bellie asked "Brother do you mean to say you have never eaten rice meal so far? What do you eat at home then?"

Younger Bellie replied, “How could I have seen rice before. We have only Ragi gruel every day. When did we have rice even once?”

Realising what has happened, an outraged Halla Bellie ran home and confronted his wife, “Traitor, we were born to the same mother, we toiled in the same field but you have been feeding me rice and gruel to my brother.

How cruel you are! My brother even declined marriage so that he would not have to leave us or divide the land. How treacherous you are. You never fed us together or at the same time. I don’t blame you. Nor can I blame my brother for not noticing so far. I take the full blame. I am the guilty. You are not my wife anymore. It is a sin to even look at you anymore”.

So saying, Halla Bellie ridden with guilt and remorse got on his white horse, rode to the edge of the Catherine falls, tied his eyes and that of the horse and jumped down the precipice. That was how the falls gained the name “Kudire (horse) Stream”.

Having failed to stop his brother, grief stricken younger Bellie also jumped down the falls. On hearing the death of her husband and younger Bellie, Mallu Mathi too died of shock.

This legend is remembered even now as a symbol of sacrifice and brotherly affection. But this in not the end of the story.

Halla Bellie had a faithful Kurumba helper in the field. In rememberance of the brothers every year on the day of the tragedy, he would sacrifice a goat at the rock from where the brothers jumped to their death and pray for their souls to rest in peace. The story goes that after the pooja the Kurumba would put his spear into a crevice in the rock and when he withdrew it the money he had spent to buy the sacrificial goat will be stuck on the tip of the spear.

One year, the Kurumba, drunk and desperate for money, put the spear into the crevice a second time. He started immediately to vomit blood. Hungry and exhausted, he tried to smash a stone thinking that it was a wild tuber. Blood spurted out of the stone and blinded the Kurumba.

Realising what has happened, the Kurumba’s wife and children prayed to God, “Forgive us for telling a lie for a single goat. As a repentance we will sacrifice a goat every year”. The Kurumba, the story goes, got back his sight. Even today the Kurumbas continue the goat sacrifice.

The moral of the story is clear. The Nilgiris is a symbol of sacrifice providing not only pure air, water and soil to the vast plains below but also a host of goods and services including power, tea, vegetables, wood, rest and recreation and so on. But we have become greedy and already suffer her wrath in the form of landslides, floods and various forms of pollution. Should we incur her wrath again and add to our misery?

PRESS RELEASE

PR No. 121 dt. 27.2.95

The Investigation Wing of the Tamil Nadu Electricity Board has been studying the feasibility of establishing new Power Stations to enhance the power production in the State. One such project investigated was the Kallarpallam Hydro-Electric Project with 6 MW capacity at a cost of Rs.16.74 crores across Kallarpallam River originating from Kotagiri and joining with Bhavani River near Mettupalayam. Since it was only in the investigation stage, objections were called for from the general public. The Office bearers of *"Save Nilgiris Campaign"* meanwhile appealed to the Hon'ble Chief Minister to drop the proposal of Mini Hydro-Electric Power Project at Kallarpallam, as it would be detrimental to evergreen forests of the Nilgiris District. The Hon'ble Chief Minister taking into account of the appeal of the *Save Nilgiris Campaign*, to-day went into the various aspects of the power project and ordered to drop the Electric Power Project in the larger interest of the eco-system and environmental conditions of the Nilgiris.

The Hon'ble Chief Minister Dr. J. Jayalalitha has shown keen interest in the preservation of the eco-system and removal of the ecological imbalance and for taking effective measures to curb the environmental degradation in the Nilgiris hills, Servarayan Hills and Palani Hills.

The Hon'ble Chief Minister also directed Forest officials to take effective measures to preserve the natural Shola forests and the natural habitats without any further degradation. As regards the hill areas the Hon'ble Chief Minister also insisted that no projects or schemes should be undertaken at the cost of and detrimental to the existing ecosystem.

On the above lines of preservation of Eco-System and Natural Forests, the Hon'ble Chief Minister Dr. J. Jayalalitha has ordered to drop the proposal of the Tamil Nadu Electricity Board to construct a Mini hydro Project at Kallarpallam near Kotagiri.

Green Hopes '95

Dharmalingam Venugopal SNC Newsletter, *June 1995*

A 15-Day Exhibition of Environment, Conservation, Awareness and Alternatives was organized by Save Nilgiris Campaign at Breeks School buildings, Ooty to mark the completion of a decade of campaigning.

The last twenty years have seen unprecedented activities in India by governmental and non-governmental agencies towards environmental awareness. The concerns and campaigns have covered a wide range – from climate change and alternative life styles at the global level to recycling domestic waste and combating vehicular pollution at the local level. An environmentally safe world may yet be a dream. But the last twenty years have seen extraordinary progress in slowly but surely moving towards this dream. Growing public awareness, technological break-through in environmental protection and conservation and the common need for sustainable development have largely made this possible.

How far have we come in India? What hopes for the future? An exhibition of what has been achieved so far will no doubt help reinforce our resolve to continue the march. With a view to highlight some of these positive developments, the Save Nilgiris Campaign organised a unique exhibition - Green Hopes '95 - from May 15 to 25, 1995 at Ooty. Perhaps, it was for the first time that a Non-Governmental Organisation had taken initiative to organise such an event.

The exhibition highlighted the achievements in a wide range of theme-areas which included bio-technology, drip irrigation, horticulture, floriculture, organic farming, alternative energy sources, pollution control, agri-business, commercial forestry, environmental education and oil conservation. A novel feature of the exhibition was the participation of major nationalized banks which play a critical and catalytic role in the progress towards environmental protection.

As part of the show there was also a "Green Bazaar" which was an exhibition cum sale of products promoted and marketed by non-governmental organisations and women entrepreneurs. The exhibition was organised to mark the completion of ten years of service by the Save Nilgiris Campaign.

The exhibition was inaugurated by Shri K. Subramanian, Executive Director of Indian Overseas Bank. The Commandant of Madras Regimental Centre, Brig M.B. Singh was the Chief Guest. Shri Siddhartha Krishnan, SNC member, read out the report "SNC completes ten years".

Healing the Blue Hills

Dharmalingam Venugopal — The Hindu, *April 1996*

There can be no dispute over the fact that environmental and ecological problems in the Nilgiris are at, or nearing, a crisis point. At the current rate of degradation, these unique hills will serve neither the objective of conservation nor that of development. At the heart of this mounting threat to the ecology of the Nilgiris is its bio-diversity which is still one of the most significant in the country despite the damage caused over the years.

The protection of these areas has assumed a new urgency as mindless exploitation of the hills is now spilling from the townships to the surrounding rural areas which are the last line of defense for the remaining natural habitats. But no meaningthe lue Hillsful and lasting proposal can be conceived in disregard of the developmental needs of the district.

The reason for the lopsided and self-destructive development in the hills is the conflicting priorities of various government departments. Setting right the priorities of the various departments and finding a mechanism to resolve their conflicts is the first step towards conservation in the Nilgiris. But ecological considerations ought to outweigh economic and other considerations.

The priorities of departments with a major say in the district should be set out clearly. Wherever necessary, trade-offs among departmental priorities should be accepted. This broad consensus was the result of a yearlong project for the protection of bio-diversity in the Nilgiris under the World Wide Fund for Nature's Bio-diversity "Hotspots" programme.

Over the years, the perception of the Department of Forests has evolved from 'Conservation Vs. Development' to 'Conservation with Development'. Given the critical situation, the perception ought to change to 'Conservation is Development'. Priority should be given to conservation of natural habitats and the flora, fauna and water resources.

To meet the needs of conservation, commercial plantations and consumer demand, an Integrated Forest Development Programme as laid down in the National Environment Policy can be adopted. The programme has three components – Conservation Forestry (for watershed management), Commercial Forestry (for industrial use) and Community Forestry (for fuel and timber for local consumption).

The existing natural habitats, particularly the grassland and the *Shola* forests form the crux of the ecology and economy of the Nilgiris. A long pending demand is to review the legislation on protection of forests in the Nilgiris. The laws should take into account the special needs of the area and those of conservation and consumption.

All natural habitats in the urban areas and other vulnerable areas subject to human interference should be fenced and guarded. Members of the local tribes and indigenous communities, who have a deep native sense of conservation, should be actively involved in forest protection.

The extent of commercial forestry (eucalyptus, wattles and pines) should be reviewed so that the extent of such plantations can be phased down to the unavoidable minimum. In the first phase such plantations should be withdrawn from around water bodies/water courses and other ecologically sensitive areas. Alternative uses for commercial trees such as eucalyptus and pine for timber can be promoted.

A separate community forestry programme to meet the fuel and timber needs of the local people can be initiated and the area required can be carved out of the present area under commercial forests. Such forests can also be raised on revenue and panchayat lands under suitable arrangements. The Nilgiris is ideally suited for community forestry under the Joint Forestry Management principle.

The tribal/rural population and even the forest encroachers can be involved in raising and managing such forests. As the beneficiaries under this programme are largely the rural/tribal poor and as the success of this programme would effectively end the dependence on natural forests for fuel, it deserves an element of subsidy. In all the "Green Panchayats" organized recently, the main resolutions pertained to provision of fuel wood depots, need for community forestry and protection of water resources.

There is any number of laws, both in the Centre and State, for forest protection but hardly any for protection of water sources. Catchment areas and water sources are ecologically and economically sensitive regions. All existing rivers, streams, swamps and other natural water bodies in the district have to be properly surveyed, identified, declared as *protected areas*, and placed under the care of the Forest Department.

The boundaries of all the water courses should be marked by forest [pillars. A line of trees and vegetation should be planted on either side. All encroachments in such areas should be removed. Major industries in the region which discharge their effluents into the rivers should set up effluent treatment plants, and the quality of water in these water bodies should be closely monitored.

Organized or regulated nature tours in the district with an accent on educating the visitors on the unique bio-diversity of the hills will spread the word on the need to preserve them. The success of eco-tourism would depend mainly on recruitment and training of competent guides, preferably locals who can explain the significance of the tribal, animal,

plant, bird, and insect life in the Nilgiri hills. Nilgiris is an ideal place for setting up a zoo for high altitude species. This could double as a big attraction and serve a vital need in the conservation of such species.

There is an urgent need to regulate film shooting in forest areas as these have caused a lot of damage. Use of chemicals, explosives and the like inside sanctuaries and in grassland should be immediately banned.

Economic activities based on non-wood forest produce including essential oils, handicraft based on cane etc., and even timber/furniture from eucalyptus and pine trees should be promoted. Apart from generating substantial revenue, the employment created from such activities would be an effective deterrent against unlawful tree felling and encroachments. However, the wood for such activities should be confined to the existing areas of commercial plantations.

Though the Nilgiris is a key tourist resort, there is no proper plan for tourism promotion. As a result there has been a haphazard growth of tourism which in due course is likely to do more harm than good to the district and its people.

Most tourist to the Nilgiris chiefly come for amusement, recreation and relaxation, so tourism promotion in the district can be safely limited to the urban townships of Ooty, Coonoor and Gudalur in that order. Natural spots can be imaginatively developed to provide the needed natural touch. While Ooty may be over-exploited, there is ample scope in both Coonoor and Gudalur.

But the outskirts including the sanctuaries/national parks and the viewpoints should be promoted selectively under close regulation so that tourism promotion does not run counter to the environmental priorities.

Visitors should be encouraged to stay longer in the Nilgiris. Recreational and health related programmes can be promoted throughout the year. Sporting activities such as road races, cross-country runs, cycling races, motor cycle races, car rallies can be made biannual or even tri-annual events.

Professionally conceived and organized entertainment programmes can be made regular features. A permanent fair/exhibition can be established in Ooty. Holiday camps for school/college students, business executives and officials can be arranged. Convention facilities can be developed for holding seminars/workshops and conferences at national/ international levels.

The quality of stay can be improved by resorting to a semblance of cleanliness, serenity and a healthy atmosphere. The main thoroughfares in towns, especially in Ooty, should be concretized and cemented and the drainage channels and the underground sewage lines should be re-laid. This will also take care of the problems of the Ooty lake.

Private operators - both local and outside – in towns, particularly in Ooty, should be strictly regulated and restricted. The number of places they can cover in a day should be clearly laid down. Tour operators should not be allowed to park their vehicles near tourist spots, within the towns, for instance the Botanical Gardens, and the Lake. The local bus service may be increased to ply within towns.

Eco-tourism can be promoted to places like *shola* forests, gene pools, fern houses within the town areas. Short treks to such places will also be very entertaining.

Visitors from the plains expect hill stations to be different – to be dotted with parks and lawns. Encouraging gardens in houses is one way of covering the scars of development in the towns. Provision for gardens and trees should be made mandatory for such complexes.

Cultivation in the Nilgiris has become lopsided. Forests and other miscellaneous lands have taken up 60 per cent of the total area in the district. Of the remainder, cultivation accounts for about 30 per cent, leaving just a little over 10 per cent for non-agricultural uses including burgeoning urban needs.

Over 60 per cent, i.e., 45,000 ha of cultivable land are under tea cultivation and the rest under vegetables and other miscellaneous crops. Extension of cultivation and the unbalanced cropping pattern has already cost the district dear in terms of soil erosion, water imbalance and geological instability.

In hilly areas, agricultural practices ought to be subject to ecological considerations. In the Nilgiris after the 1950s, however, economic considerations have mainly influenced the changes in the dropping pattern. The disastrous results have become increasingly evident since the Nineties.

Tea cultivation was extended indiscriminately in the Eighties. Efforts to extend tea cultivation further are neither feasible nor desirable. Proper water and soil conservation in the existing tea gardens must be ensured.

Lack of or blocking/diversion of drainage have been a major cause geological instability in tea gardens leading to frequent landslides. Extension of tea cultivation right up to the road is another serious factor.

Small tea growers should be encouraged to bring back at least one-tenth of their land under horticultural crops which would not only protect them against fluctuations in market conditions, but would also provide for their sustenance. Another area which has been little exploited is floriculture.

The commercial exploitation of floriculture in the Nilgiris would depend on the provision of storage, transport and packaging facilities. The Hill Area Development Programme is ideally suited to promote these in association with the local farmers on one hand and the corporate houses on the other.

The Nilgiris district generates the bulk of hydroelectric energy in the state. The need of the hour is to consolidate the gains. The Kallarpallam small hydel project was abandoned when the harmful environmental consequences of the project were highlighted.

Unfortunately proposals for new hydel projects in the district continue to be made.

Though the unique natural significance, history and problems of the Nilgiris have been acknowledged by the successive state governments, the idea that such a district deserves a special form of administration suited to its special needs does not seem to have been appreciated. As the Master Plan for Nilgiris aptly observes, "The concept of an overall development philosophy for *special areas* is a specialised task."

At best Nilgiris has been treated on the same footing as the other districts. At worst, it was treated as a tourist outpost which had to fend for itself. The conflicts between departmental priorities in the Nilgiris can be mainly traced to this generalized approach to the administration of the district.

Treating the district as a special case and restoring its health could serve as a model for hill areas in general in the country. In this context, two alternatives can be considered for the special administration of the Nilgiris. There are three underlying principles. The administration should be able to coordinate and resolve the conflicting objectives of the various departments. The top officials in charge of the district should have adequate experience and authority to take the right decisions at the district level. Provision should be made for active participation of local NGOs and opinion makers in deciding policies and programmes affecting the district.

Future of Tea in the Nilgiris

Dharmalingam Venugopal *May 2000*

Backdrop

The small tea growers of Nilgiris launched a programme of agitation around April this year demanding, among others, a minimum support price for leaf tea following the crash in tea prices since the end of last year. The agitation nearly choked the general economy of the district and resulted in the cancellation of the annual Flower Show, the premier event of the tourist season. Elections to the state legislature being only months away, the opposition parties naturally exploited the situation making all kinds of charges and spreading all kinds of rumours. The agitation which resumed after a lull turned more aggressive leading to a severe, and in some instances, excessive action by the police.

An inexplicable aspect of the whole tea crisis was the silence on the part of the government in explaining to the growers the actual reasons behind the fall in price of green tea leaves in the Nilgiris and the remedial measures being taken. Ironically, the governments- both central and state- had taken a number of special steps to provide immediate relief to the grower of Nilgiris. An intense awareness programme by the district administration and tea promotion bodies like the Tea Board and UPASI would have greatly diffused the situation and assuaged the worried tea growers. Huge losses to the government and the business community could have been avoided.

It was under these circumstances Save Nilgiris Campaign (SNC) was requested by the Chief Minister's Secretariat to take the initiative to bring all the stake holders involved with the tea industry in the Nilgiris together for an open and constructive discussion on the subject to find a way out the crisis.

Seminar

The one day seminar on, "Future of Tea in the Nilgiris", organised by Save Nilgiris Campaign and Hill Area Development Programme was held on September 4, 2000 at Thamizhagam, Ootacamund.

The district collector, Ms. Supriya Sahu inaugurated the seminar. Shri N. Ramadurai, Secretary General, UPASI, Dr. Lalith Achot, Associate Professor, University of Agricultural Sciences Bangalore, Shri Vikram Kapur, Chief Regional Executive, Tea Board, Shri Sunil Paliwal, MD, Indcoserve, Shri Philip John, MD, Tamil Nadu Tea Brokers Ltd, Shri Master Mathan MP, Shri R. Tilak, Tea manufacturer and Small tea Growers' Representatives participated. Shri B. J. Krishnan, President SNC summed up.

Findings & Recommendations : Causes of the Crisis

The tea crisis gripping the Nilgiris since the beginning of this year was the result of a combination of factors including:

- Over reliance of Nilgiri tea on Russian export market
- Steady decline in exports to that market after the split up of the erstwhile USSR in 1991.
- The sudden devaluation of the Russian rubble in August 1998 which nearly halved the export price for Nilgiri tea.
- The steep cut in the purchases made by major buyers of Nilgiri tea last year and the decline in the quality of the Nilgiri tea in recent years added to the problem.

WTO & Fear of imports

The seminar exploded the myth that the Indo-Sri Lanka Free Trade Agreement of 1998 had opened the flood gates of Sri Lankan tea imports into India. Since the agreement took effect in April this year only about 64,000 kgs of tea had been imported. Last year India had imported 2 million kg of tea from Sri Lanka.

However, the seminar requested the government to investigate the widespread suspicion in the minds of the Nilgiri tea growers and producers that significant amounts of substandard teas are entering India from Sri Lanka or through Sri Lanka for re-exports. The seminar recommended that substandard tea imports should be prevented through appropriate tariffication and other permissible means.

The seminar cautioned that the removal of quantitative restrictions on tea imports from next year under the WTO stipulation would significantly increase the competition for Nilgiri tea in the export as well as the domestic markets. However it was assured that there are enough safeguards under the WTO to protect the domestic tea industry from unfair competition from other tea growing countries.

Government initiatives

The seminar recorded with appreciation the special steps taken by both the central and state governments to provide immediate relief to the small tea growers of Nilgiris.

However, as the scheme of price subsidy in operation is to come to an end in October, the state government was requested to extend, at least temporarily, such concessions to the tea manufactures that would enable them, in turn, to pay a minimum of Rs.10 per kg to the growers till the prices recover. Suggestion in this regard included a reduction in tea cess and electricity charges paid by the manufacturer and supply of locally grown fuel wood at concessional rates.

Domestic Market

In the light of the growing uncertainties in the export market and the anticipated global competition after April 2001 when India has to remove the quantitative restrictions on

To the Blue Mountains

Dharmalingam Venugopal
Philip Mulley
The Hindu, *March 2002*

"In early January this year, members of the `Save Nilgiris Campaign' went back to the `Sullivan trail'.

"Mr. John Sullivan, Collector, is herewith commissioned to investigate the origin of the fabulous tales that are circulated concerning the `Blue Mountains' to verify their authenticity and to send a report to the authorities", was the curt order of the East India Company.

Sullivan set out at 6 a.m. on January 2, 1819, with a detachment of Europeans and sepoys equipped as if "departing for the polar seas". It included a retinue of prisoners from Salem and Coimbatore, several dozen elephants, hundreds of dogs and ponies. Two dozen English huntsmen brought up the rear. The local aborigines had refused to join the expedition declaring the mountains to be the domain of the gods and preferring prison and death to a journey beyond the "mists".

After having reached a level of 1,000 feet, the expedition was compelled to abandon its elephants, throw away its baggage and climb further by means of cords and pulleys. The first day, three Englishmen died and on the second day seven natives amongst the prisoners were killed. Further on the climb, two more sepoys and 15 prisoners were killed.

Climbing step by step, cutting steps into the rocks, or descending by means of cords, hundreds of feet into deep precipices, Sullivan and party reached a plateau on the sixth day. An excited Sullivan wrote, "The British flag was hoisted on a high rock and the gods of the Nilgiris became subjects of His Majesty the King of Great Britain."

In humble contrast, on January 2 of this year, 20-odd members of the "Save Nilgiris Campaign" hit the Sullivan trail with twin intentions – called the "Discovery of Ooty March", it was to pay homage to the indefatigable civil servant who established the hill resort of Nilgiris and to draw attention to the area's problems in this "International Year of Mountains".

Flagged off symbolically in front of the Coimbatore Collectorate, the trail began at Lingapuram near Sirumugai from where the first bridle path up the hills was laid in 1821. Sullivan actually began his journey from *Danaikankottai* (fort of the military

commander and tribute collector) which was the administrative headquarters of the surrounding areas since pre-British times. It was submerged when the Bhavanisagar reservoir was completed in 1953.

John Sullivan was a rare combination of "magistrate, administrator, meteorologist, entrepreneur, town planner, engineer, capitalist, farmer, churchman, and protector of the poor". Joining the East India Company in 1803, at the age of 15 as a writer, the lowest position, he rose to become the collector of Coimbatore, to which the Nilgiris belonged then, for 15 years between 1815 and 1830.

The Nilgiris was brought under the British, after the fall of Tipu Sultan in 1799, mainly for military reasons. The former colonial power always felt terrorized by Tipu Sultan and did not want the Nilgiri hills to become a refuge for its opponents or any other insurgent activities. Nevertheless, sweltering under the oppressive heat of the South, the British had constantly been tempted by the stray tales of a salubrious place in the hills just hours from Coimbatore. In those days the nearest place of convalescence for the British soldiers was Mauritius or Cape Town in South Africa.

But few dared to explore it until 1819. The Nilgiris' status today as a premier tourist destination and a major centre of the plantation economy in the South owes a great deal to Sullivan's deeds and dreams. Sullivan retired to England in 1841 a tragic man having buried his young wife, their infant and a 16-year-old daughter in Ooty and losing his pension for having been more loyal to the natives than to the Company. He died in 1855.

We were accompanied by forest guards and members of the Special Task Force (the first day's trail passed through the brigand Veerappan's territory), set off from Lingapuram around 9 a.m. and after crossing the Bhavani River reached Gandhakandi (Kandavayal), the last habitation on the plains.

Scrub jungles gave way to moist evergreen forests as we made our way up towards our next stop, the Kurumba-Irula village of Uliyur or Uliyore (Waterfall slopes). Sullivan described the mighty falls as "the carrier of death." This area is a dense elephant corridor.

We had to cross again a tributary of Bhavani called Gandhapallam before arriving at the picturesque Uliyore. This patch of pasture had once served as the seasonal grazing grounds of Badaga buffalo herds. Now it is a tiny habitation with bits of farm land protected by electric fencing. Beyond Uliyore and before the actual ascent could be made, we had to cross a couple of wild and fairly broad streams, one of them proving a wonderful retreat for bathing too.

Refreshment soon turned to exhaustion as we inched our way up an abandoned *Koop* (timber corridor) overgrown with tangled thickets. Elephant droppings dotted the area. Bison and wild dogs too frequent the place, we were told. The haste to pass the area before dusk when elephants and bison come to the waterholes added anxiety to exhaustion.

Leaving the *Koop* road at Boodhiguppe, we took the bridle path to Samagodalu and Kokkode valleys inhabited by Irulas who grow a variety of tasty dwarf banana on the idyllic slopes. Near the top of the valley amidst coffee plantations lies Banglapadigai, where tribal children of the villages nearby go to school.

Dusk was falling as we reached Arakod, (rock+boundary) at the foothills of the Rangasami peak.

A panoramic view of the plains below is obtained from Arakod. Unfortunately, the haze robbed us of a grand view of the sprawling waters of the Bhavanisagar reservoir. We halted for the night in an old private bungalow. After a typical Badaga meal of beans curry and potato and a robust bout of dancing to haunting Irula music, we retired for the day in pleasantly warm weather.

Next morning, the climb became steeper as the Nilgiri massif rises abruptly from this point causing a shift in weather and vegetation. From Kullangarai onwards tea takes over from coffee plantations. Here a stiff climb brought us to the cool refuge of the Hadamund *shola*, a very ancient Toda site.

Montane zone forests or *Sholas,* anglicized from the Badaga name 'sole', are the natural source of water storage in the Nilgiri plateau. The fact that less than 10 per cent of these priceless sholas survive now is indeed disquieting.

Sullivan, who was struck by the "majestic and magic beauty" of the plateau extolled, "everything that a combination of mountains, valleys, wood and water can afford is to be seen here. It was impossible to move a quarter of mile in any direction without crossing streams." Though the picture now is vastly different, endless gardens of tea having replaced *sholas* and grasslands, it was nevertheless no less pleasing. However, the manicured tea gardens appeared to have lost some of their sheen due to lack of care and maintenance because of the tea industry crisis gripping the Nilgiris.

In 1988, the "Save Nilgiris Campaign" had organised a district-wide march to create an awareness of the endangered water sources of the Nilgiris. It was heartening to note during the march that the efforts taken then were not in vain.

Denad was the first Badaga village Sullivan encountered on the plateau and he built the first school there just a year later in 1820. Skirting Denad we cut through the broad valley of Kadasolai to reach Kilkotagiri. After a break for lunch, we climbed along the Kokal (the Kota village) and Kadhuguthorai village, the upper reaches of which still has fine specimens of primeval Nilgiri forest cover.

Crossing Iyyada, where the water supply for Kotagiri town is stored, we passed through the Nedugula valley to reach Milidhane, where there is stone commemorating a Badaga elder who had escorted Sullivan.

It was pitch dark when we descended a steep slope from Milidhane to Kappattithorai aided only by a torch to ward off curious bears and bison. Around 10-30 at night the weary marchers reached Kannerimukku buffeted by icy winds and mist cutting visibility to a few feet, comforted only by the thought that Sullivan and his party would have endured so much more.

The third day, covering about 20 km, largely lay through Badaga villages, for which the message of the march was most relevant. It highlighted the fact that the Nilgiris remained a land of milk and honey, but in the last few decades, greed and ignorance had led to the mindless exploitation of its land, soil and water. The tea industry crisis plaguing the district was only a manifestation of this.

Exhorting the people to emulate the determination and enterprise of John Sullivan to overcome the crisis, it had three priorities. Produce quality tea; sell it jointly; and market it under a common Nilgiri brand name. Do not depend solely on tea. Have at least 10 per cent of the land under vegetable gardening.

Passing through Anaihatti, Thanthanadu, Horasholai and Peddala, the march crossed *Porangad* (one of the four native divisions of Nilgiris) at the huge sheet of rock at Billikambai. Nearby lies one of the best preserved sacred groves in the Nilgiris. Further on, a short ascent in Tattarbennu village is still called 'Sullivan *dittu*'.

At the top of this ridge the participants addressed a group of local children. It was late afternoon when we reached Thummanatti. From there a very stiff climb through what is still called "Sullivan road" took us to Kundhesappe and then to Doddabetta foothill. The march concluded after going through the main roads of Ooty. At the end of the three exacting days of trekking, we wondered whether or not Sullivan would have approved of our gesture. But of one thing we were sure. He would appreciate the attention that the hills that he loved so much are getting in the Year of Mountains.

Stairway to Heaven, Up the Blue Mountain

Dharmalingam Venugopal — Business Line, *July 2002*

It's the longest trek spanning the towering Kundahs, which rise fortress-like to form the western wall of the Nilgiri plateau. It starts at Pandiar in the North-West and ends in Sispara at the South-West end. Magnificent views of unspoiled country greet one all the way. Grass hills of all sizes and shapes stretch endlessly broken only by the dark patches of dense *shola* forests in their folds. Crystal clear streams flow quietly up hill and down dale. No habitation or people are seen on the whole trek, which perambulates the Mukurti Tahr National Park.

The meaning of Kundah (outstretched muscular arm) becomes obvious when the lofty range is viewed from a distance. The *National Geographic* lists the steep rise of the Kundahs among the 400 natural wonders of the world. Through a distance of only 15 km, the western slopes ascend by more than 2,400 metres, bearing some of the lofty peaks. The trek originates at Pandiar in the Ouchterlony Valley, a deep recess in the high western wall of the plateau on the North-Western side. The trek actually begins at T.R. Bazaar, goes through tea gardens for about 5 km, crosses the Pandiar Forest Rest House, and continues on a mud road through the tea estate before climbing on to the grasslands. One can also travel up to the rest house by vehicle.

The Wenlock Downsis an extensive tract of hills and grazing land, which once stretched some 20 km from Doddabetta (the tallest mountain in the Nilgiris and South India) near Ooty to the Mukurti mountain in the western border. These grasslands, classified as Montane Zone Savannas, are a bushy grass and vary in height from less than six inches to eight ft. One has to literally plod through these grasslands.

From the Pandiar rest house one can skirt the foothills of the Nilgiri peak (2,474 metres) and the Mukurti peak (2,556 metres), which overlook the Kerala plains below before heading for the Mukurti Fishing Hut for the night's stay. The other option is to take the shorter route through Pichal Betta (2,559 metres) as we did. As we were descending from the opposite hill along Deru betta, an ancient sacred Badaga sentinel peak, the whole of Bisal betta, which is its original name, was suddenly, though briefly, lit up by sunlight filtering through the clouds. The ethereal phenomenon was repeated more than once for our benefit. The shorter route is possible only when the Mukurti reservoir is dry and can be crossed safely at its widest point. The Mukurti Fishing Hut renamed Radcliffe Fishing Hut in memory of the great outdoors man who passed away a few years ago has seen much improvement in recent years.

The cozy hut, under the care of Nilgiri Wildlife and Environment Association, has two rooms with bed, toilet, fireplace and running water besides a spacious front room. Extra mattresses are available. A modern hurricane lamp provides enough light for cooking. The next day's trek from the Hut to Bangitappal was too long to be covered in a day. So taking a detour, we trekked for an hour to Porthimund, took a van to Western Catchment 2, a distance of 8 km, to resume the trek.

The picturesque Western Catchment (WC) is an ingenious network of dams, reservoirs, weirs, tunnels bored through mountains, pipelines and penstocks to store the monsoon rains to generate hydro-electricity round the year. The steep trek from WC-2 passes through prime Tahr country. From the highest point a magnificent sight of the mountains on the sides and the Avalanche valley below can be gained. Opposite looms Koleribetta (2,629 metres), meaning 'sharp slivers of rock mountain', the highest in the region. The trek then descends to WC-1 weir and further down to the earthen dam storing the waters of Upper Bhavani reservoir, the largest of the chain of reservoirs. Each turn of the trek unfolds a sight grander than the one before. Day Two covered 18 km, a steep climb followed by a long, winding descent to Bangitappal.

Bangitappal (Cannabis tableland) used to be a halting place at the head of the Sispara ghat road, an old pass from Kozhikode to Ooty, constructed in 1832. In the 19th century, it was convenient for smuggling of cannabis, tobacco and later salt. It also provided a short line for tapal (post) runners from Ooty to the West Coast.

The 15-km trek from Bangitapal to Sispara pass is along a comfortable footpath. The path tunnels through some of the thickest patches of tropical rain forests/*shola* forests. Midway lies Nadugani, where a spacious trekking shed is coming up. A short climb from there leads to a headland offering a panoramic view of the grass-hills bordering Kerala. Tucked in them, as Kasi pointed out, is Keengarekandi, a Badaga *emmati* (hutments with pens built for buffaloes in meadows sheltered from the monsoon) of bygone days.

Sispara is now a deserted spot at the extreme south-western corner of the plateau. The Sispara pass overlooks the Silent Valley. The descent seems to be devilish. The Kundas, terminate just to the right of the Sispara Rock. The head of the pass commands a view of Malabar to the right. The dense, moist forest on the slopes of the Kundas from the Malabar side is home for rare plants and ferns. When one is constantly on the move in a long trek like this there is much time or chance for sighting animals. A couple of Sambars sauntering in the evening sun near Derubetta and two Tahrs vanishing into the descending mist on WC-2 were all we could see. However, elephant droppings were seen littering the trek route on all three days. The elephants migrate from the Silent Valley below the Sispara pass. Wild flowers of myriad hues carpet the trek route. *Billi* is a unique native flowering plant lining the streams and, randomly, dotting the grass hills. The flowers, which bloom in winter, are of ritual significance to the native people. The crimson blossoms of the *Billi* also signify a Himalayan connection.

A feature of the Nilgiris plateau, shared by similar areas along the crests of mountains of the south Western Ghats, is their Himalayan connection, popularized by ornithologist Salim Ali. There are several examples of the Himalayan connection in the animal and plant world, apart from the rhododendron. The Nilgiri Tahr symbolises such connection. The closest relative of the Nilgiri Tahr, the Himalayan Tahr, lives 2,500 km away in mid-eastern Himalayas. The Nilgiri woodcock, a winter migrant from the Himalayas, is believed to make a non-stop air dash from its Himalayan home. Tiny wild strawberries and *thauvtte*, hill gooseberry (Rhodomyrtus tomentosa), shrubs were plentiful along the trek. When *thauvtte* fruits in October-January, there will be no need to pack any food; for they are as delicious as they are filling. When the exhausting three-day trek comes to an end, there is an overwhelming feeling that one has been literally to another world or, as the Badagas called it, the 'Land of Destiny'.

Behind the action

Dharmalingam Venugopal International Water Power & Dam Construction, *April 2003*

Personal reminiscences of how and why the group fought a proposal for a 6MW hydro plant.

The Nilgiris (meaning Blue Mountains) rise at the top of the Deccan plateau in South India. An ancient massif of 2478 km2 towering 2670m at the pinnacle, its unique characteristics of physical geography and its natural and cultural diversity have been eulogized by scientists and poets. Over a thousand streams and streamlets on the plateau feed four major river basins.

When the hills were colonized around 1820, it did not take long for the 'inexhaustible' supply of water power these streams afforded to be recognized. In fact, this year marks the centenary of the first hydro power project set up on the hills, in 1903, to supply power to a munitions factory.

The first major step to tap hydro power was taken when a 70MW project was completed in 1932. After Independence in 1947, big hydro projects were initiated in quick succession and between 1952 and 1966, six dams with an installed capacity of 600MW were added. After a lull in the 1970s and 1980s, the focus shifted to small hydro projects in the 1990s.

Kallarpallam project

It was against this background that the state government proposed a hydro project on the untapped eastern slopes of the Nilgiris. Originally, a major hydro project with an installed capacity of 50MW was contemplated, but it was given up on environmental grounds. Later the proposal was modified to a smaller hydro project. Even this project was subsequently revised with a view to 'minimize the forest land to be acquired and avoid an area susceptible to landslides'. Finally a small hydro project with an installed capacity of 6MW was cleared by the government at Kallarpallam with a watershed extending to 6000ha. The mandatory public notification on the project was published in the newspapers in 1994 after all arrangements were made to start work on the project.

With only days left for the work on the project to start, there was no time for any kind of protest. The author of this article, as coordinator of the Save Nilgiris Campaign (SNC), decided to appeal directly to the chief minister of the state, Ms Jayalalithaa.

In preparing the appeal against the project, we did not question the competence or the priorities of the Tamil Nadu Electricity Board (TNEB), which has the responsibility for planning and managing power in the state, which includes the administrative district of Nilgiris. Instead, we reassessed the project in the overall environmental and social interest of the Nilgiris in general and that of the project area in particular. For every point made by TNEB to justify the project we raised a counter point justifying its withdrawal.

According to TNEB, Tamil Nadu had no reserves of coal and so it had to tap hydro resources to meet the increasing demand for power. This is true, but it is also true for most other states, as only five have significant coal reserves. Tamil Nadu is in fact in a much better position as it has 94% of India's total lignite reserves. What is more, Tamil Nadu has one of the lowest power deficits among the states and is one of the leading states in power planning.

TNEB said that as the cost of thermal power was comparatively high, it was the government's policy to have a reasonable hydro-thermal mix. This is also true, but Tamil Nadu already has a comfortable ratio of 45% hydro power, compared to the national average of 26%. Moreover, Tamil Nadu had almost exhausted its hydro potential. In August 1993, the state's share of remaining hydro power potential in the country was just 1.4%.

TNEB said that environmental hazards in thermal schemes were more than that of the hydro resources in general and small hydro projects in particular. The Save Nilgiris campaign believes that both options are detrimental to the environment. While the environmental hazards of thermal schemes in the form of atmospheric pollution were easily visible and immediately felt, the environmental hazards of hydro projects affected the ecology of an area.

TNEB noted that the Government of India was insisting on the development of non-conventional energy sources including small and mini hydro projects. The campaign argued that renewables should play a much greater role in the energy sector, but TNEB should get its priorities right. Tamil Nadu had made a huge success of tapping wind energy. The Save Nilgris Campaign believes the state would, therefore, do well to concentrate on areas like wind energy where the scope was larger than on small hydro schemes.

TNEB said the project had already been scaled down from its original capacity on environmental grounds. Campaigners said this was true, but in the intervening period the Nilgiris in general and the project region in particular had suffered serious environmental degradation. The natural habitats of the Nilgiris had been reduced to a few patches with disastrous consequences on biodiversity and tribal life in the hills. The land use pattern had been altered so frequently that the whole district had been rendered unstable, resulting in tremendous loss of natural vegetation, soil and water. Above all, ecological changes had contributed to frightening and frequent landslides.

TNEB said that of the 38ha to be acquired for the project only 5.30ha was under forest cover. However, campaigners cited a report from the Botanical Survey of India, commissioned to study the project area in 1986-87, which was very clear in its view that the area should be left alone.

The study said, 'The area adjacent to the dam site is mostly cleared for coffee plantation, cultivation of *Eucalyptus globulus* and *Acacia mearnsii*. However, the remaining patches of forests are of evergreen type inhabiting a large number of indigenous evergreen elements... the river is bounded by very rich riparian vegetation...The very existence of these forests depends greatly on the ecological balance maintained in this region for which the course of Kallarpallam river forms one of the important factors. By diverting the course of this river the whole ecosystem will be disturbed which in turn may lead to the ultimate destruction of this rich natural forest reported to harbour a number of endemic / endangered plants including orchids.'

Campaigners argued that the remains of the region's moist evergreen forests must be protected at all cost. No compensatory reforestation, as offered by the TNEB, could replace the natural forest that had evolved over thousands of years.

Though campaigners were confident their reassessment would substantially weaken TNEB's case, they had added evidence from a geologist who had directed the geological investigations of the Kallarpallam.

The Geological Survey of India (GSI), which resurveyed the project site in 1995, said that no adverse geological effect was anticipated at the proposed site. But campaigners said that since 1978, the whole of Nilgiris had suffered landslides and after 1990 the slides had become frequent. The underlying factors conducive to landslides - frequent changes in land use, overloading hill tops, diversion or blockage of natural drainage etc - had increased many times.

The GSI had classified the district into five zones on the basis of a Landslide Susceptibility Index (LSI). The project area was one of the highest risk areas for landslides. In the circumstances, the argument that the area where the physical structures of the project were going to be installed was stable could not carry conviction. If the whole region was unstable a few stable pockets here and there could not escape the cascading effects of landslides. There was also a geological fault near the project site.

TNEB had obtained the views of experts from the Geological Survey of India and others regarding the stability of the reservoir rim. It was claimed to be stable, but campaigners believed there were serious doubts. In the Nilgiris, as in other areas, landslides could be reactivated and hence the presence of a slide scar rendered an area susceptible to future slides. Two villages located 2km from the reservoir rim had all the potential for a major slide. Another village, again located at the reservoir rim, had evidence of at least five old slides.

Further, since the reservoir was for hydro generation and the water level in the reservoir was dictated by the power demand, rapid lowering of the water level in the reservoir could lead to a sudden release pressure, removing toe support and initiating a slide of the mass above the reservoir. Campaigners said the project should be reconsidered 'in light of the strong possibilities of geological surprises in the project area which could have catastrophic consequences'.

The appeal to drop the Kallarpallam small hydro project was flashed in leading newspapers on 21 February 1995. A copy of the report was sent to the chief minister on 26 February and the project was dropped the next day.

Dams, big or small, must make economic as well as environmental sense, but at the same time environmental priorities should have a wider perspective. But the campaigners learned that a civil society or NGO need not always take the path of agitation to protest unwanted dam projects. They can have dialogue with the authorities and mobilize public opinion to modify or withdraw dam projects. What is important is that such objections should be well informed, sincere and truly in the public interest; and, preferably, raised before the project work is begun.

Re-crowning the Queen of Hills

Dharmalingam Venugopal — The Hindu, *April 2003*

"Haphazard growth and flawed policies have robbed the Nilgiris of both its splendor and thriving economy. Dharmalingam Venugopal looks at the deep rooted problems and offers possible solutions"

THE queen of hills is dead! Long live the queen of hills!! That sums up the current status of one of India's premier hill stations. It's not just Ooty (Udhagamandalam or Ootacamund) but the Nilgiris as a whole that is in a shambles today. Tea and tourism, the backbone of the district's economy, have been in doldrums for the past few years. The environmental woes of the district have hardly abated. Worse still, it has been ushered into an era of regular landslides. Yet the Nilgiris has the resilience to regain both its regal splendour and thriving economy if only the present crisis can be converted into an opportunity to realise its enormous potentials.

Tea Crisis

Tea crop was introduced in the Nilgiris by the British towards the latter half of the 19th Century and gained popular acceptance by the middle of the last century. Alongside the large estates, a class of native farmers took up tea planting. The small growers, as they came to be called, received a fillip in the 1960s when the State government set up an industrial tea cooperative to process the teas grown by them.

A development in the 1980s which changed the face of the Nilgiris as never before was the surge in tea prices and the consequent expansion of land under tea following the opening up of the export market to the erstwhile USSR under the bilateral rupee trade agreement.

The tea boom peaked in 1990 and began slowing down (exports surged for a couple of years around 1997 due to international crop shortage) after the erstwhile USSR split up and suffered a crushing blow when the Russian currency was devalued in 1998. The boom finally went bust in 2000 leading to a steep fall in the price of green leaves. The opening of tea imports following India's accession to the World Trade Organization (WTO) further added to the crisis, which has deepened in the last two years.

Growers, particularly the small holders, are in a dilemma whether to continue with tea or revert to vegetables or other crops. The prospects of another major agricultural shift in the district may not be immediately evident in the absence of any viable

alternatives. However any such move is bound to have serious ecological consequences in the form of tremendous soil loss and geological instability. Therefore, making tea cultivation sustainable is not only a question of livelihood for the 60,000 small farmers, but is also vital for the environmental viability of the Nilgiri hills.

The tea industry in the Nilgiris is bound to face some consolidation in the wake of emerging competition. By the same token, it is for the industry to take advantage of the free trade in tea to increase exports and domestic sales through improvements in productivity, quality, value addition and marketing. The current crisis has hardly touched the retail price of tea which, in fact, has gone up for branded items. The Nilgiris has the agro-climatic conditions to grow the finest teas in the country.

The present crisis is basically a marketing crisis. Indcoserve, the umbrella organization which has under its fold 16 industrial tea cooperatives accounting for 16 per cent of the total production, can play the role of a market leader. A beginning has already been made by the launching of brands like "Ooty tea" and "Ooty Gold". The next obvious step should be to have its own network of retail cum marketing outlets by setting up a chain of "Nilgiri Tea Rooms" (on the model of tea rooms in the United Kingdom and Europe) in the major cities and towns, in the South to start with, to promote Nilgiri teas.

Eucalyptus controversy

A similar dilemma, though not on the same scale as tea, is the one over the eucalyptus plantations. Originally, the species was introduced from Australia by the British around the 1850s to save the native forests from being used as fuel wood. Ironically, a century later, around the 1950s, native forests were destroyed to plant eucalyptus for supplying raw material to a lone factory in the nearby plains producing synthetic rayon. Even grazing lands, village commons and catchment areas were not spared. Eucalyptus planting became a controversial issue during the 1980s when experiments proved that eucalyptus absorbed immense quantities of subsoil moisture which was suspected to be a contributory factor to the water scarcity in the hills. In response to a sustained campaign against the indiscriminate use of the species, the government finally agreed to stop planting eucalyptus under its forestry programmes. Meanwhile, the only industrial unit which was using the tree as a raw material turned sick, thereby drastically reducing the demand for the tree.

The sudden collapse in demand for the tree and environmental stigma attached to it seem to have swung the sentiment to the other extreme, calling into question the very need for the tree in the Nilgiris. But a total felling cannot be justified as there are still several good uses the tree and its products can be put to. Besides, a substantial section of the people is dependent on the oil extracted from the tree. Both timber and oil from the tree have widespread utility and commercial viability. Eucalyptus can be selectively grown for fuel, timber and medicinal purposes.

Tourism potential

As a tourist destination, writers have favourably compared the Nilgiris with famous tropical resorts including Nuwara Eliya in Sri Lanka, Baguio in the Philippines, Mount Kilimanjaro in Tanzania, the Blue Mountain Resorts of New South Wales, Australia, and the Lake Resorts of Guatemala, South America. Various factors over the past three decades have made the Nilgiris one of the most patronized tourist centres in the country. However, without the benefit of a proper plan there has been a haphazard growth of tourism which has helped neither the district's economy nor its environment.

There is vast potential for promoting tourism, especially of the special kind. Bold thinking and large investments to tap the natural advantages can make the Nilgiris an international tourist destination. As a first step, Ooty town, which bears the brunt of the tourist traffic, needs to be reconstructed. Though Ooty is one of the premier hill stations in the country, neither the district administration nor the municipality is endowed with any special powers or resources to maintain and run the place as a tourist town. The result is that the available civic amenities are woefully inadequate to serve the needs of the swelling tourist crowd.

Over 500 hotels and lodging houses, hundreds of restaurants and countless retailers depend on the tourist trade in the district. Having made huge investments in the Nilgiris, the tourism industry must seek to optimize its return by taking up tourism promotion in a big way. Tourism today is a major organized business, an industry, in which the stake holders are the numerous business enterprises — from hotels and airlines to retail traders and hawkers.

The Nilgiris can emerge as a leading convention centre in the country hosting international and national seminars and conferences round the year. It is worthwhile to remember that Ooty was the summer capital of the Madras presidency and had hosted, among numerous national and international meets, the U.N. Economic Commissioner for Asia and Far East meet and the All India Congress Committee's planning meet in the 1950s.

There is also abundant scope for nature tourism in the hills. There is also ample scope for promoting cultural and village tourism given the unique nature of the indigenous communities inhabiting the hills.

Tourism need not necessarily be a threat to the environment and ecology of the Nilgiris. On the contrary, a well conceived and organised tourism campaign will be the best insurance against further degradation of the hills. Conservation, after all, is nothing but sensible development.

Geological stability

The Nilgiris has entered an anxious era of landslides since the calamitous landslides of 1978. The frequency of landslides has increased in recent years with major slides occurring in 1993, 1995 and 2002. The worst ever landslide (on an average 1,000 metres in length and 150 metres in width and displacing three million tonnes of earth and rock

debris) occurred in 1993. Geologists have recommended that extreme caution should be exercised in planning developmental activities in this geomorphologically fragile Nilgiri plateau!

What has been worrying geologists is the nature of landslides in recent times. Geologists have been intrigued that such massive failures could take place in a rocky terrain with a thin mantle of soil in otherwise stable landforms.

Landslides are induced by natural and human factors. Nothing can be done to minimize the hazards brought about by natural factors in a geomorphologically sensitive terrain such as the Nilgiri plateau. However, the human factors which induce or aggravate landslides can be eliminated to minimize the hazards through studies which can evaluate the cumulative effects of all developmental activities "such as the construction of large cultural features, horticultural and agricultural improvements, massive consistent slope cuttings for roads, buildings, factories, interference with soil management and frequent changes in land use".

Indiscriminate extension of roads has been a main contributory factor for the growing geological instability of the district. Due to speedy completion of road projects, important geological considerations like selection of road alignment through reconnaissance and survey often do not get the attention they deserve. Again, due to considerations of economy and concern for speed, authorities have a tendency to restrict stabilization, drainage and protective measures.

Though the increasing risks involved in extending roads any further in the Nilgiris have been realized, there is still need for reviewing the existing roads, particularly the highways, which have come under severe strain in recent years. It is imperative to survey such roads and monitor their stability regularly besides taking corrective steps wherever feasible.

Burliyar-Coonoor tunnel

As a long term measure to ensure geological stability, the possibility of constructing a tunnel from Burliyar to Coonoor, which has been mooted by geologists, needs to be seriously considered for two reasons. The slides that have taken place in the district are essentially soil/debris slides. Therefore, a road tunnel is a safe proposition. Besides, being eco-friendly, this can lead to savings in time and fuel costs as the volume of traffic per day is high, particularly during the summer season. A modern tunnel for a length of about 10 km is bound to be a major attraction for tourists.

Mountain Development: Rappelling up, the Chinese Way

Dharmalingam Venugopal — Business Line, *December 2003*

Mountains occupy two thirds of China and support nearly one half of the population. Mountain ranges contribute significantly to the Chinese economy accounting for 31% of GDP and producing 35% of grains and 54% of primary industrial production.

The broad consensus following the year long, worldwide deliberations in the International Year of the Mountains (2002) and the International Year of Freshwater (2003) is to work towards a sustainable development of the mountain regions that directly impact the lives of more than half the world's population.

More specifically, nations have been urged to address three basic problems that have contributed to the degradation of mountain regions: Poverty among the communities there, excessive use of resources and insatiable demands of the low lands for mountain resources.

Though strategies to address these problems may have to be different for different countries, depending on their local conditions, nations can draw useful lessons from the policies and best practices of each other.

It is in this context that India, which has already constituted a national committee to address the issues raised in the International Year of Mountains, can engage constructively with China to chalk out a plan for sustainable mountain development. Both have a lot to share in sustainable mountain development.

China report

Among the developing countries China is, perhaps, the first to chalk out a plan for sustainable mountain development. *The China Report of Mountain Development* presented at the International Conference on Mountain Environment and Development at Chengdu in Sichuan province in October 2002 (the author was the only participant from India) outlined the plan for a sustainable mountain development by combining environmental conservation with economic development of potential mountain settlements.

Three major challenges have been identified in drawing up the plan for sustainable mountain development. One, conflict between population growth, scarcity of resources and environmental protection. Two, challenges to industrial development of mountain areas from market economy; and three, negative impact on traditional industries.

Mountains occupy two-thirds of China and support nearly one-half of the population. Mountain regions contribute significantly to the Chinese economy, accounting for 31 per cent of GDP and producing 35 per cent of grains and 54 per cent of primary industrial production.

China's mountains, rich in biodiversity, harbour over 90 per cent of the country's plants and animals. Seventy per cent of the over 1,000 natural reserves established so far are in the mountains. Of the 28 sites enlisted as world natural and cultural heritage, 22 are in the mountains.

Forest loss

However, indiscriminate exploitation of mountain resources since the national liberation has led to a rapid decline in forests, degradation of grasslands, species extinction, soil erosion, and a series of mountain hazards.

China's forest cover now is only about 16 per cent compared to the world average of 31 per cent. Most of the existing forest are secondary, original forests being preserved only in some remote regions.

The area affected by desertification due to overgrazing and other causes is estimated to have risen from 66 million ha in the beginning of national liberation to 126 million ha at present.

Similarly, the area affected by soil erosion rose from 12 per cent of the total area to 38 per cent during the same period. Over five billion tonnes of soils are washed away every year.

More disquietingly, large-scale human interventions in mountain areas in the form of vegetation loss, irrigation schemes, reservoirs and mining have made landslides and debris flow recurring disasters in China.

More than 3,00,000 landslides have been recorded in China. Landslides cost more than 1 billion yuan each year in damage to men and material. More than 360 medium- and small-scale power stations and 50 reservoirs have been destroyed in recent years by debris flow, and more than 1,000 reservoirs have been severely silted.

Sustainable plan

China's strategy for sustainable mountain development is two pronged. One to mitigate mountain disasters through environmental conservation and, two, reduce mountain poverty through "renovation and reconstruction" of potential mountain settlements.

Statistics show both annual and net income in mountain areas are much lower than in hilly and plain areas. Ironically, poverty in China's mountains is concentrated in erstwhile revolutionary bases (18 per cent), ethnic minority areas (45 per cent) and frontier areas (7 per cent).

China has been encouraging people in sensitive mountain areas to migrate to new settlements in the plains under what is called “ecological migration”.

Areas of extremely fragile environment and vulnerable to landslides, areas where there is little arable land and the facilities for conserving water are poor, areas afflicted with indigenous diseases, areas of nature reserves, settlements in nature reserves and scenic sites, and settlements in proposed reservoirs are covered under this scheme.

Establishment of fixed settlements is another way being tried to protect grasslands from overgrazing in high and remote mountains, where the settlements are small sized and scattered. Due attention has also been paid to check severe soil erosion on steep cultivated lands.

The recent campaign of “closing cultivation for rehabilitation” seeks not only to put an end to cultivation on steep lands and but also rehabilitate the forests and grasses on such steep lands. Mountain areas with better infrastructure are being taken up on priority. Production bases of green and organic foods will be promoted to develop agriculture for export and urban suburbs.

Secondary industry is expected to take advantage of the restructuring in the plains and develop labour and capital intensive industries. The tertiary industry, particularly tourism, will be developed around the natural advantages in the mountain areas. The plan for industrialization of mountain areas will not be based on comprehensive industrial system but on selective “influential” enterprises producing “branded” products under market conditions.

Agricultural production will be based on market demand and not on local needs. Farming and livestock production will be reoriented in favour of cultivation of branded products and production of green food based on technological innovations. Quality, rather than quantity of farm products will be the aim. Economic efficiency and income generation will be given priority over mere output of grains.

Eco-tourism

The emphasis of mountain tourism will be on eco-tourism. Of the 119 eco-tourism areas in China, 62 are in the mountains. Besides the present sightseeing and recreation tourism, special types such as cultural, science, exploration, and health tourism are also to be developed.

Due importance is attached to promotion of infrastructure such as boarding and lodging, services, roads and transportation in such eco-tourism areas. It is also planned to limit the number of tourists based on what the sight-spot environment can stand.

Tourism development of nature reserves will also be controlled. The protection of tourism resources is not only to protect the “sight-spots” but also to improve the quality of environment in mountain areas.

China has even set a timetable for its plan for sustainable mountain development. By 2010 people in the eastern mountains are expected to have a per capita income of $800 with overall improvement in environment.

By 2020, the per capita income is forecast to jump to $3,000 while the per capita income in middle and western mountains will rise to $800. The environmental quality and infrastructure will have greatly improved by then.

By 2050, except for a few areas in the western China, people in the rest of the mountain areas are forecast to have a per capita income of $3,000. Degraded environment is also expected to be restored and social infrastructure improved by then.

India can emulate the Chinese strategy to plan for mountain specific sustainable development. But, first, it would do well to come out with a detailed, mountain specific 'India Report of Mountain Development' on the lines of what China has done already.

Mountains of Sustenance

Dharmalingam Venugopal — The Hindu, *January 2004*

"The U.N.General Assembly designated December 11 as International Mountain Day from 2003"

It is ironical that mountains are glorified and venerated the world over, but mountain resources and mountain communities are little cared for. If the mountains are allowed to degrade then vast stretches of low lands below them are sure to degenerate; for, the wealth of the plains depends on the health of the hills. It is to carry this message home that United Nations General Assembly designated December 11 as International Mountain Day (IMD) from 2003.

The decision follows the successful completion of the U.N. International Year of Mountains observed in 2002, which sought to create global awareness on the urgent need to protect the world's mountains. Appropriately, the theme for the first IMD in 2003 was 'Mountains — Source of Freshwater' coinciding with current U.N. International Year of Freshwater.

Water Towers

Mountain regions make up a little more than a fourth of the earth's surface but act as natural water towers to more than half of the world's people. As much as 60 to 80 per cent of the world's fresh water supply comes from the mountains, where the world's major rivers originate. More significantly, major natural water towers of the world are found in arid or semi-arid zones; the drier the lowlands, the greater the importance of these mountains.

Apart from global climatic changes, the threat of these sources of freshwater comes in two ways. One, poverty and population pressures within the mountain regions results in intensification of land-use, leading to heavy soil loss. Two, developmental needs of the lowlands lead to increasing pressures on mountain water resources in the form of dams, channels, large-scale irrigation works.

Poverty

Besides fresh water, mountains provide a host of basic goods and services — timber, tourism, hydropower, minerals and biotic diversity. "But although mountain environments are so resource rich, in many regions there is a `vertical gradient' to poverty

— 80 per cent or approximately 400 million people residing in mountain regions are impoverished" says a report of the Panos Institute, a U.K. based think tank.

The problem of poverty in the mountains is often compounded by armed political conflicts and natural disasters like earthquakes, landslides, volcanic eruptions.

Environmental threats

Excessive and indiscriminate use of mountain resources has given rise to deforestation, loss of biodiversity and monoculture, urbanization, landslides and earthquakes. Indiscriminate felling of trees and large-scale extraction of commercial species leads to degradation.

Sustainable development

The U.N. Conference on Environment and Development (Earth Summit) held in 1992, focused global attention for the first time on the problems of mountain regions and advocated a global policy of Sustainable Mountain development Agenda 21. It called for the creation of a global mountain database before launching programmes that contributed to the sustainable development of ecosystems.

Ten years later the U.N. sponsored International Year of the Mountain (2002) led to the formation of national committees to coordinate the various activities towards sustainable mountain development. These committees brought together representatives of government, NGOs, research institutes and the private sector in the cause of mountains. While some countries initiated mountain- specific policies and institutes, others incorporated mountain issues into the existing policies and institutions.

Bishkek Summit

The Global Mountain Summit in Bishkek, Kyrgystan (held in December 2003) felt that national legislation and policies often do not adequately address the special conditions of mountain regions and their inhabitants. Government needs to come up with strategies and legislation specifically targeted at mountain communities and environmentalists if they are to succeed.

India has formed a National Committee for the preparation of an action plan for sustainable mountain development in the country.

The Indian report to the recent World Summit on Sustainable development warns of an emerging water crisis. Per capita availability of water is likely to decline from the present 1,829 cubic metres to 1, 557 cubic metres in the next 13 years.

A Trail Along the Nilgiris' Past

Dharmalingam Venugopal
Philip Mulley
The Hindu, *February 2004*

> *"It was a trek that was both exacting and enchanting.* Philip Mulley *and* Dharmalingam Venugopal *retrace the 400 year old Finicio trail- from Kerala to the Nilgiris."*

A day after the International Mountain Day (December 11), 20 enthusiasts, led by the Save Nilgiris Campaign, an Environmental Non Governmental Organisation (ENGO), set out on the 400-year-old Finicio trail from Mannarkad in Kerala to Melur village in the Nilgiris carrying the message, *"Mountains – the source of Freshwater"*. The 2½ day trek, which passed through diverse landscapes as well as culturescapes, was exacting, enchanting, educating and, at the end of it all, exalting.

In early 1603, Giacomo Finicio, a Jesuit priest in the service of the Roman Catholic church in Malabar, was assigned to undertake a journey to Todamala (as the Nilgiris was known then) with a mission to bring the long-lapsed Christians (mistakenly believed to be Todas) back to the Christian fold.

Actually, a local priest and a deacon deputed to undertake an exploratory visit went up the Nilgiris in 1602 and met with the Todas but the mission authorities, not being satisfied with their oral evidence, ordered a second mission by a Jesuit priest. The choice fell on the Calicut based Finicio, "a man fully conversant with Malayalam, and ready for hard labour". Fenicio was born in Italy around 1558. He was admitted to the Society of Jesus in 1580 and four years later came to serve in Kerala, where he remained until his death in 1632. Finicio was one of the earliest Indologists having authored The Book of the East Indians' Sect (1609), described as "the West's first authoritative description of Puranic Hinduism".

With a dozen men, including six Nair soldiers and four Christian servants, Finicio set out for the Nilgiris in January or February 1603. A cousin of the Zamorin, the Hindu ruler of Calicut, who had been a member of the exploratory delegation in the previous year also joined Finicio's entourage.

Originally, Finicio appears to have decided to go up the hills via Nilambur and the Karkoor pass through present day Gudalur. But because of political unrest in the area, Finicio was obliged to stick to the route taken by the exploratory team in the previous

year. His decision to seek an alternative route was understandable as he had been warned by the members of the first mission that "the journey was very difficult, that the way was very long, going over steep and rugged mountains, that it was haunted by elephants and tigers and at the top of the mountains it was so cold that at least some of us ran the risk of not returning alive".

Starting from Calicut, Finicio travelled south to Tanur and then due east to Menaracatem (Mannarkad), which lies half way between the coast and the Nilgiri mountains.

We began our trek at Chavadyur, at the foot of the Attapadi hills, a short distance past Mannarkad and Mukkali, the gateway to the Silent Valley, keeping as best as we could to the route taken by Finicio. In the distance the Malleswara peak towered over the horizon. On the first day, Finicio's party "did not find any village till night" but we were fortunate to pass by tiny settlements like Elachivazi and Chundapatti where we could refresh ourselves with hot cups of tea. We trailed along the Bhavani river with two of its streams, Koranguhalla (monkey stream) and Majjigehalla (buttermilk stream), crossing our path to feed the Siruvani river further down.

The Attapadi slopes were once the summer grazing grounds for the Todas and the Badagas of Nilgiris. Remnants of the Badaga villages still exist there. In the Nilgiris parlance, the area was known as *Nelgot* or *Nelagaadu* (level-land forest) However, this rain shadow region has been severely affected by deforestation and other forms of environmental degradation in the recent past. A project to reforest the hills is underway.

That night we stayed at Mulli, a border settlement straddling Kerala and Madras (sic) state boundaries. Time has indeed stood still in this sleepy township. Once upon a time the mighty waters of the Kundhas (swollen river) used to descend to Mulli to unite with the Bhavani but not any more after they came to be tamed for hydel power upstream. Father Lefevre, a French missionary who has been running a hospital for the Irulas, mostly for snake bite, for over three decades, put us up for the night.

On the second day, Finicio and his party had to hurry along till the evening, lest night should overtake them in the forest where they "feared to meet the elephants". At the end of the day they reached the foot of a very high mountain over which their road lay. After midnight they climbed the rest of the mountain by moonlight "with great difficulty and much fatigue".

Our second day was no less challenging. After walking five kilometres on the Mulli-Geddai road we took off nearly vertically into the moist evergreen forests. The gradient increased with every step. Giant lemon grass, wild pepper, gooseberry and jack fruit trees lined the ancient foot path. A wash in a stream mid way and a cup of hot black coffee we were offered in a nearby forest village of Irulas called *Muthalmannkombe* restored our energies for the next and toughest part of the trail.

The climb up Mooperkadu was through dense tropical evergreen forests which we had to crawl on fours to climb. Finicio probably meant this stretch when he mentioned "some of them (mountains) were so steep that we were obliged to slide down on our seats". The whole stretch of these steep slopes were once upon a time known as the "ravine of the monkeys" because only monkeys could climb these ravines with ease. The climb continued unrelentingly well into dusk all the way to the Sultana estate, where our second night's stay had been arranged.

In the Nilgiris, moist evergreen forests occurring up to 1,800 meters were the first to be lost to large scale plantations of coffee and tea during the British period. The Sultana estate which lies on the Sundapatti ghat (latter renamed Sullivan *ghat*, after the founder of modern Nilgiris) was one such.

It was heart rending to see the sad state of neglect these plantations are in now following the collapse of the market for both coffee and tea in recent years. "It does not make sense to invest in plantations any more," says M. Lakshman, Executive Director of the Devashola Tea Estate Co. Ltd which owns Sulatana Estate. An agricultural graduate, Lakshman is seeking diversification into other fields including eco-tourism. The trekkers' cottage he has refurbished recently stands on a rock overlooking the Sundapatti *ghat* commanding a panoramic view.

After walking all night, Finicio's party was too tired and hungry by midday on the third day but they still had to climb a mountain before they reached their destination. After some rest they started climbing and finally reached the Badaga village of "Meleuntao", or Melur. The original village of Melur was most likely on the site of the present Melur Tea Estate and an earlier name for the place was Melunatta which sounds closest to Finicio's "Meleuntao". Finicio, however, returned by "a shorter and less difficult road", probably via the Kottakallu corridor, guided by the Badagas.

Though steep, our third day's climb was mostly through tea gardens. After passing through seemingly endless tea gardens skirting Tudurmattam and savouring the grandeur of the scenery on all sides, we reached the Badaga village of Manjakombe by late afternoon to a rousing reception by the village elders. After a sumptuous repast and a meeting at the community hall we concluded the trail at the lawns of the Melur Mahalinga temple amid pre-historic chromlechs which stand in mute testimony to a by-gone age. The trekking party, which included four women and two 60-plus men, covered over 50 km in 2½ days.

Rev. Metz writing in 1857 said, "Meloor has so mild and genial a climate and is surrounded with such scenery, that the late Mr. Sullivan who was the first collector of the Neilgherries (as Nilgiris was spelt then) in one his letters to me, wrote: that if he could do as he wished, he should like to spend his old age there. However the grandest part of the scenery is to be obtained from a hill near Manchakombe beyond Meloor ..." Finicio stayed on the hills for two months and having failed to convert even a single Toda

left the hills promising to come back, which he never did. Nevertheless, the report on his visit dated April 1, 1603, (the original is with the British Museum) written in Portuguese is considered enormously important for both historians and ethnologists of the Nilgiris. Finicio had observed the Todas meticulously and provided in his report a detailed description of them and their unique way of life including their origin, gods, dairy houses, priests, dress, food habits, dwellings, women and jewelry. The report also provided a clear description of the crucial relationship that existed between the Todas and Badagas more than four centuries ago.

"Barren mountains and valleys without a fruit tree or wild tree except in certain damp places where there were a few wild trees. The whole country is a desert and the land and the climate are very cold". This was how Finicio described the landscape of the Nilgiri plateau. Obviously, he was referring to the grass lands and *shola* forests which originally covered the whole of the plateau. It was the same mistaken notion that made the early British settlers to have these lands declared as a "wasteland" and have the lands assigned to themselves, often unscrupulously, for raising huge plantations of tea and coffee. After independence too, the government repeated the same mistake and used these grasslands to raise indiscriminately, eucalyptus and wattle plantations. Only in recent decades has the invaluable role of these grassland and *sholas* as the natural rainwater harvesters and "water towers" come to light. What remains of them deserves to be protected at all cost.

As we concluded the trail, a thought that haunted all of us was: what would someone taking the trail 400 years hence see? Water towers or barren mountains?

Chug Along the Mountain Track

Dharmalingam Venugopal — The Hindu, *May 2004*

"Highlighting the heritage value of the Nilgiri Mountain Railway will help save this marvel of engineering"

For over a century now mountain railways or "toy trains" as they are popularly known, have been the delight of many passengers. The Darjeeling-Himalayan railway system from New Jalpaiguri or Siliguri to Darjeeling, built in 1880, is the oldest mountain railway in the country. The longest is the Kalka-Shimla railway system, built in 1903, covering 96 km. The shortest is the Matheran hill railway system built in 1907 connecting the little hill station to Mumbai, covering just 21 km.

The steepest, in Asia, is the Nilgiri Mountain Railway (NMR). Built in 1899, it begins at Mettupalayam at 1,700 ft mean sea level (MSL) and ascends, within 46 km, to 7,300 feet MSL to reach Udhagamandalam.

Ever since the British opened the Nilgiris to the outside world in 1820s, people have been flocking to the hills. But the *tongas,* bullock cart, and *doolys* were woefully inadequate for the burgeoning traffic up the hill. So when the railways began to expand in the south in mid-1850s, there was a clamour for a rail link to the hills.

What is unique about this metre gauge railway is its rack and pinion system. A toothed rack rail is laid in the middle of the track on the slopes and the pinions attached to the engine engage with the teeth of the rack bars and enable the engine to pull itself and its load up. This arrangement also protects the train from sliding back on the way up or rolling down on the way down.

While going downhill, each coach has a special "Chatelier" brake, operated by a "brakesman" based on the whistle codes from the driver. The rack rails do not exist at stations, which are on level gradient. Special rack entries enable the engine to enter and leave the rack portion smoothly.

The 'X' Class (common to passenger and good trains) locomotives, originally built in Switzerland, which haul the NMR date back to 1925 and 1952. These vintage locos have been doing duty ever since. Innovations are being tried out on the locos without affecting their heritage value. One X class engine has been converted to an oil-fired one leaving its appearance intact. The new engine is faster and capable of hauling more coaches besides bringing down emission levels.

Both financially and technically, the NMR was a formidable challenge. Laying a track through steep forests, across deep gorges, ravines and wild rivers and cutting through miles of rocks was no mean task. A great deal of determination, hard work, and sacrifice went into it. The 61st and 64th Pioneers carried out the greater part of the earthwork on contract. A local Badaga contractor from Hubbathalai village, Belli Gowder, later honoured as 'Rao Bahadur' for his contribution, handled the stupendous task of mobilising the work force.

As copious steam clouds and sharp hoots pierce the morning calm, an air of excitement and expectation is palpable among those who have got into the coaches. For, the journey from Mettupalayam to Udhagamandalam is studded with breathtaking scenery and engineering marvels besides the landmark Nilgiri mountain ranges. From Mettupalayam to Kallar (7.46 km) the train proceeds at a faster pace through neat rows of areca nut and coconut trees. After Kallar, the track ascends into the mountains hugging the verdant slopes. High above looms the Hulical Droog (a massive rock face), its steep precipice awe-inspiring. The deepest gorges and the highest viaducts are encountered in the first 10 kilometres above Kallar. The slopes were once an elephant corridor. Only lost elephants stray on to the tracks these days.

Of the 16 tunnels, 14 lie between Kallar and Coonoor. The line passes over 250 girder bridges, some with 100-feet spans constructed over deep ravines. The deepest measures about 81.5 feet below the rail. There are 208 curves in this section, 180 being sharper than 10°.

The air becomes perceptibly cooler after Hill grove station (17.26 km). The Hulicul ravine comes into full view. Craning one's neck, one can see the spurs of the distant mountain slopes carpeted with endless tea gardens. The Coonoor crosses the NMR between Runnymede and Katery Road stations. Both these stations along with Adderly are not functional any more.

At Coonoor (27.03 km) is the loco shed, where the engines are maintained and overhauled. After Coonoor, the line sheds the rack rail and picks up speed hauled by a diesel engine. The scenery on the plateau changes to panoramic views of enormous valleys and lofty mountains. The first station after Coonoor is Wellington (28.54 km), the cantonment attached to the Madras Regimental Centre. Next is Aravankadu (31.34 km) where the Cordite Factory, now celebrating its centenary, is located.

As soon as the train chugs out of Ketti station (37.19 km) the superb vistas of Ketti valley unfolds — presenting a microcosm of the mountain economy with its vegetable gardens, tea and eucalyptus plantations, new ventures in floriculture and agro industries, educational institutions and so on. The enviably located Badaga villages still retain an unparalleled romance of their environment. In the distance the Kundah ranges lie, ridge upon ridge, etched upon the southwestern horizon.

On the right towers Doddabetta, the second highest mountain in south India. The view broadens till the line ascends and nestles into Lovedale (41.76 km). The highest point on the line is reached near Fernhill, another station that has been closed. From there, Udhagamandalam is only minutes away.

For all its engineering marvel and heritage value, the NMR has always been a losing proposition in view of its limitations in hauling passengers and goods. Nevertheless, it will be a shame if the country loses this unique rail link. The railways have made representations to obtain a heritage status to the NMR from UNESCO like the Darjeeling railway. This needs the cooperation and participation of the local people. The railways should mount an impressive and imaginative campaign in India and outside to highlight the heritage value of the NMR.

Development – Conservation Dilemma in the Nilgiri Mountains of South India

Dharmalingam Venugopal Journal of Mountain Science, *June 2004*

(Paper presented at the International Conference on Mountain Environment and Development in Chengdu, China)

Introduction

The Nilgiris (meaning the Blue Mountains) is an ancient land mass thrust upwards at the junction of the two major mountain ranges near the southern end of India some 70 million years ago. 57% of the surface of the Nilgiri hills rises over 1000 meters above the mean sea level and 47% of that towers over 1800 meters with the pinnacle formed by the Big Mountain at 2670 meters. The Nilgiris, which is an administrative district of the state of Tamil Nadu, covers an area of 2478.63 sq. km.

Described as 'a cold tropical island rising above the warm tropical sea of southern India', the Nilgiris is an elevated physiographic zone- a massif. The Nilgiri massif is cloaked on its sides by dense growing on steep slopes, surmounted by the hilly plateau of grassland, woodland and savanna. The climatological and geo-ecological differentiations that abound within the ecosystem of the Nilgiris are considered remarkable by the scientific community. Although a relatively small region, the Nilgiri Massif shows a remarkable variability in land-forms, soils, flora, fauna, micro-climates, primates and human settlement patterns. "Few districts in the world approximate the ideal natural laboratory for behavioral scientists more closely than does this one", says Prof. Hockings, a leading Nilgirilogist. (Hockings 1989 p360)

As a tourist destination, the Nilgiris has been favorably compared with famous tropical resorts including Nuwara Eliya in Sri Lanka, Baguio in Philippines, Mount Kilimanjaro in Tanzania, the Blue Mountain resorts of New South Wales and the lake resorts of Guatemala.

Biodiversity

About 3000 varieties of plant species are found in this 'ecological paradise'. About eighty plant species, including 36 species of orchids, are endemic to the Nilgiris. Broadly, two distinct groups of flora represent the Nilgiris.

Up to about 1800m above m.s.l, the dominant plants are 'megatherm'. Above 1,800m above m.s.l, there is a distinct group showing 'European or north temperature affinities (valerians, violets, anemones, pimpernels, barberry etc)'.The outstanding floristic peculiarity of the Nilgiris is due to the exceptional amount of endemic plants side by side several introduced, 'exotic' trees, shrubs, herbs etc (Hockings 1989 p46). The Nilgiris forms part of the Nilgiri Biosphere Reserve, the first of its kind established in the country.

There are as many as ten different vegetation types in the Nilgiris, which are classified into the following four major zones. (William Noble 1968).

Dry Deciduous Forests of the hills occur below 1100 meters and serve as sanctuaries for the extraordinarily rich wildlife. The Mudumalai wildlife sanctuary, one of the oldest in the country, is spread over a 1000m high plateau.

Moist Evergreen Forests occur up to 1800 meters. They are now mostly lost to large scale plantations of coffee and tea.

Montane Zone Forests form a cool (average temperature: 10 to 15 degree centigrade) dark temperate zone spread out among the numerous clusters of native habitations. These forests, called the 'Sholas' locally, occur between 1800-2000 meters.

Montane Zone Savannas are the grasslands above 2200 meters. Grasses present here vary in height from less than six inches to eight feet.

Indigenous people

There are five indigenous groups in the Nigiris, which also boasts a pre-history dating back to about BC 10,000. The ecological and anthropological significance of the area has rendered it one of the most intensely researched areas of its size in the whole of Asia. The latest bibliography of the hills contains 6786 entries (Hockings 1996). 'The peoples and the terrain of the Nilgiri Plateau have long attracted interest because of their unusual characteristics. Throughout the three principal periods-aboriginal, colonial, national independence- the Nilgiri region has constituted a singular and singularly instructive enclave; a distinct locale as perceived by observers as well as by its inhabitants. It is clearly an enclave in the sense of having special natural and human characteristics, markedly distinct from those of the surrounding lower lands', says Mandelbaum *(Hockings 1989: 1-19).*

Development -Colonial & Post Independence

Till about the time the British arrived on the Nilgiri hills at the beginning of the 19th century, the economy of the Nilgiris was based on a 'complicated system of intertribal economic and ritual exchange that was based firmly on trust'. Buffalo-herding, small scale swidden cultivation, tool-manufacture for a semi-pastoral lifestyle and collection of minor forests produce were the mainstay of the harmoniously integrated indigenous people.

Their collective needs were limited, their lifestyle in tune with nature and their value system steeped in conservation. For instance, at the funeral of the Badagas, the numerically largest of the indigenous people, the elders assembled there seek absolution for a long list of sins on behalf the dead person. About half of these 'sins' pertain to crimes against nature. (Hockings, 1988)

After the advent of the British, the hills were gradually turned into a 'resort heaven' for the British population in India. The colonizers also introduced changes in the traditional cropping pattern of the natives, cleared the forests for plantations and generally set the pace for development on the hills. The British introduced a wide range of vegetables, fruits, plantation crops and exotic trees which transformed the traditional subsistence economy of the district into a commercial one linked to markets in India and abroad. The size and mix of the population also began to change with the steady inflow of population from the plains for working in the plantations, laying roads and railway tracks, construction of buildings and for manning commercial establishments. In 1821, 100 percent of the population consisted of the indigenous tribe-like communities but by 1961, in contrast, only 25% of the populations were 'not immigrants and descendants of immigrants'.

After independence in 1947, governmental policies and programs accelerated the developmental process on the same lines as during the colonial period giving room for the rapid growth of tourism and plantation industries. Plantations (chiefly coffee, tea, eucalyptus, wattle and cinchona) expanded to cover 90% of the cultivated area displacing, in the process, substantial areas of original forests and attracting huge immigrant labour. Mountain rivers were dammed at several points flooding natural habitats to produce over 1000 MW of power equivalent to 40% of the hydroelectricity generated in the state. Large and medium industries came up in the district in the 1970s to produce photo films, protein products etc.

Tourism

Tourist arrivals increased exponentially to cross a million a year since 2000. In the 1980s and 1990s, particularly, tourism grew to be a major industry spawning a host of tourism-related activities like hotels, lodges and travel and entertainment related services. The hotel boom which began in the late 1980s witnessed an unparalleled growth from a handful of lodging houses to over 500 establishments of various categories! While about 50,000 to 100,000 visit the hills every month during the 'non-season' months (June-February), the visitors number doubles to 100,000 to 200,000 during the 'season' (March-May), peaking in the month of May when over 300,000 visit the district.

The Nilgiris today is the most industrialized and commercialized hill area in the country. The rabid commercialization with no corresponding improvements in infrastructure and amenities has long begun to strain the carrying capacity of the hills. The dire consequences have manifested themselves as follows.

(a) Population growth: As the following table depicts, Nilgiris has experienced a much sharper growth in population (read immigration) both prior to and after independence. According to the latest head count the population of the hills is 764,826. With the livelihood opportunities being limited in hill areas, the growth in population / immigration only aggravated the poverty situation and marginalized the indigenous people (*SNC Newsletter, 1986*).

Note the continuous surge in population for five decades from 1921 to 1971.

Table : **Decadal variation in population growth rate** *(in percentage)*
Nilgiris (district) compared with Tamil Nadu (state)

Decade	*Nilgiris*	*Tamil Nadu*
1901-11	5.08	8.57
1911-21	6.66	3.47
1921-31	33.84	8.52
1931-41	23.85	11.91
1941-51	48.65	14.66
1951-61	31.3	11.85
1961-71	20.7	22.30
1971-81	27.56	17.5
1981-91	12.7	15.39
1991-01	7.69	11.19

Source: Census of India 2001

(b) Loss of biodiversity: The unrestrained spread of monoculture (tea, coffee, eucalyptus etc) destroyed priceless tropical rain forests, montane forests and grass lands which have evolved over millions of years. The Central Soil and Water Conservation Training and Research Institute (CSWCRTI) situated in the Nilgiris explains: 'Biodiversity and degradation are related because of the differential abilities of species in untilizing site resources and developing full cover for protection of land and water.

The variety of species acts as an agent of soil conservation through proper cover development (ecosystem preservation). Increasing human interference has been instrumental in reducing biodiversity in the Nilgiris leading to the disappearance of natural ecosystem.'

'In broad ecological terms, the Nilgiris district has undergone a drastic and quite irreversible transformation since the advent of the British nearly two centuries ago. Modernization of the Nilgiri economy has repeatedly caused chains of ecological reaction that have drastically, and most often irreversibly, changed the life of man, other primates, the flora and other fauna which occupied the relevant ecological niches'. (*Hockings,1989*)

The formation of lakes to tap hydel power has substantially altered the hydrological pattern of the western Nilgiris. This interference with nature has without doubt been a great stimulous to the economic development of the district and its inhabitants but the long term geoecological implications might bring about secondary adverse effects that are not yet fully apprehended. (*Lengerke and Blasco, 1989*)

(c) **Urban problems:** Increasing pressure on urban amenities led to widespread and persisting water scarcity, congestion, and environmental pollution. "In the urban areas of the Nilgiris district there is lack of regular drainage system. The quantum of drainage water getting into the soil is substantial. This introduces changes in the sub-surface water conditions detrimental to the slope stability". (*GSI Report, 1982*)

(d) **Geological instability:** More disquietingly, geological instability led to an anxious era of landslides. The report of the Geological Survey of India (GSI) which investigated the unprecedented floods and landslides in 1978 said, " The stage of preventing environmental degradation in Nilgiri district has been crossed over. The harm has been done. The present stage is one of repairing the damage." The frequency of landslides has increased since then with major slides occurring in 1993, 1995 and 2002. The worst ever landslide (7 km in length and 2 km in breadth) occurred in 1993. In 1995 a mini hydel project under planning for over a decade was withdrawn at the last moment fearing geological consequences.

Development - Conservation Dilemma

The Nilgiris is at the cross roads in the 21st century. Its development appears to have reached a critical stage with its plantation economy collapsing and its tourism industry stagnating. On the other hand, the efforts at conservation undertaken in the last one decade or so are also not yielding the desired results. The Nilgiris is desperately looking for ways and means to balance the needs of development and conservation.

Achieving the twin goals of conservation of the mountain eco-system and development in the Nilgiris has to be necessarily subject to the following overriding priorities.

- Conservation of existing natural habitats and the fauna and flora therein
- Protection of water resources and watersheds
- Ensuring geological stability and
- Regulation of land use - cropping pattern and urban land use

Specifically, the major development-conservation dilemmas that need to be resolved are:

Spread of Monoculture: The Tea Crisis

Tea, the predominant monoculture in the district, was introduced by the British towards the latter half of the 19th century. The collapse of coffee exports following the Great Depressions of 1930-33 quickened the pace of tea cultivation in the Nilgiris.

From about 3000 hectares in 1920, the area under tea jumped to nearly 9000 hectares by 1950. Along side the big estates, a class of native farmers took up tea planting. The small tea growers, as they came to be called, received a fillip in the 1960s when, the state government set up an industrial tea cooperative to process the teas grown by them. Another governmental tea venture was set up to rehabilitate the Sri Lankan repatriates settled in the Nilgiris under a India-Sri Lanka pact signed in 1965.

A development in the 1980s which changed the face of Nilgiris as never before was the surge in tea prices and the consequent expansion of land under tea following the inclusion of tea in the list of products eligible for export to the then USSR under a bilateral trade agreement. The boom eventually converted literally every traditional vegetable farmer into a small tea grower much against the advice of environmentalists and soil scientists.

The Central Soil and Water Conservation Research and Training Institute (CSWCRTI) had cautioned that tea or other plantation crops should not be encouraged in lands having a slope of 33% and more. However, every caution was thrown to the winds. Between 1985 and 1995 the land under tea in the Nilgiris rose by 36% compared to 19% for all India.

The settlement on the hills of a huge population of Sri Lankan repatriates, who were well trained in tea cultivation speeded up the transformation. There are presently some 60,000 small tea growers in the district. As the largest tea growing region in South India, Nilgiris accounts for nearly one-tenth of the national production valued at Rs. 1500 million annually.

The tea export boom peaked in 1990 and began slowing down after the erstwhile USSR split up into Russia and other CIS (Commonwealth of Independent States) countries. Tea exports suffered a major blow when the Russian currency was devalued by 30% in August 1998. The devaluation of the rouble seriously affected tea prices in the domestic market, especially for south Indian teas.

The tea boom finally burst in 2000 when tea prices crashed. The opening of tea imports into India following the country's accession to WTO further added to the crisis, which has deepened in the last two years. With both export and domestic market becoming more and more uncertain, the Nilgiri tea growers are in dilemma whether to continue with tea or revert to vegetables or other crops (*SNC Seminar, 2000*).

The prospects of a major agricultural shift in the Nilgiris may not be immediately evident in the absence of any viable alternatives. However any such shift from the present plantation based economy (which covers over 90% of the cultivable area) is bound to have serious ecological consequences in the form of tremendous soil loss and geological instability. Here it is pertinent to recall the recommendation of the Geological Survey of India: "The land use practices in the Nilgiri district has considerably changed over the years.

The frequency of landslides in the last few years may be partially attributed to the interference of man with the geo-environment factors of the region. This drastically alters the hydrological conditions of the slopes. The conversion of grass lands to vegetables plots also alters the sub-surface water conditions in addition to promoting landslides, erosion and silting at lower levels". In the twenty years since these observations were made, the situation in the district has further deteriorated.

Thus, caught between an economic and an ecological crises, the Nilgiris is looking for international best practices for a way out.

Eucalyptus Controversy

A similar dilemma, though not on the same scale as tea, is the one over the eucalyptus plantations (*Eucalyptus globulus or Blue Gum)*. Originally, the species was introduced from Australia by the British around 1850s to save the native forests from being used up as fuel. Ironically, a century later around 1950s native forests were destroyed to plant eucalyptus for supplying raw material to a lone factory in the nearby plains producing synthetic rayon.

Even grazing lands, village commons and catchment areas were not spared. Eucalyptus erupted into a major controversy during the 1980s when experiments conducted by the Central Soil and Water Conservation Research and Training Institute (based in Nilgiris) proved that eucalyptus absorbed immense quantities of subsoil moisture which was suspected to be a contributory factor to the water scarcity on the hills. In response to a sustained campaign (SNC Newsletter, 1995) against the indiscriminate use of the species, the government finally agreed to stop planting eucalyptus under its forestry programs.

Meanwhile, the only industrial unit which was using the tree as a raw material turned sick, thereby drastically reducing the demand for the tree. The sudden collapse in demand for the tree has swung the people's sentiment to the other extreme, calling into question the very need for the tree in the Nilgiris.

Here again a resolution of the problem is not easy. Eucalyptus cannot be altogether banned as there are still several good uses the tree and its products can be put to. Besides, a substantial section of the people is depending on the tree and its products for their livelihood. Therefore, the dilemma over whether to phase out the tree wholesale or continue to grow them selectively for fuel, timber and medicinal purposes should be guided by best international practices.

Tourism

Various factors over the past three decades have made the Nilgiris one of the leading tourists centers in the country. The disturbances in Kashmir (which is the major rival to the Nilgiris) since the early 1980s further increased the exodus to the Nilgiris.

What was till a few years ago mainly a seasonal flow, tourist traffic into the district has become round the year. However, the district is yet to have the benefit of a proper plan for tourism promotion. As a result, there has been a haphazard growth of tourism which has done more harm than good to the district and its environment. The round the year influx of visitors keeps up a constant pressure on urban amenities like water supply and drainage besides adding substantially to urban pollution.

There is ample scope for promoting tourism in the Nilgiris, especially of the special kind such as eco-tourism, village tourism etc, in which areas hardly any serious attempt has been made so far. Tourism can also become a source of supplementary employment and income to the farmers who are hard hit by the tea crisis.

However any effort at tourism promotion should be within the overall priorities of the district. The accent should be more on enhancing value addition than on attracting mere numbers. Recreational activities can be safely limited to the urban townships. The outskirts including the sanctuaries/national parks can be promoted selectively and under close regulation.

The dilemma facing the government and the people is how to promote a healthy tourism industry in the Nilgiris without violating the environmental priorities of the district. International best practices might provide an answer.

Suggestions

One possible suggestion to the dilemma facing the Nilgiris is a gradual crop diversification. The local government has initiated measures to encourage floriculture and revival of fruits cultivation such as strawberries as a substitute for the monoculture tea. The successes of these measures depend on whether viable markets can be created for these products, especially those produced by small farmers.

Therefore, the future environmental stability of the Nilgiris will largely hinge on making tea an economically sustainable crop. Tea can be supplemented by non-farm activities like tourism and other services. The Nilgiris is already an established centre for English-medium school education. The chief lesson that the Nilgiris has learnt in the past two centuries of development is that its future developmental plans and programmes should necessarily provide for safeguards against further environmental degradation of the these fragile mountains.

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How Green is My Moyar Valley

Dharmalingam Venugopal — Business Line, *August 2004*

"The unexpected rains during summer brought an extra dash of green to the 'Blue Mountains'. Just perfect for the three days of vigorous trekking."

The Nilgiris was never greener than this in recent memory. The unexpected rains this May rejuvenated every blade of grass and leaf on the hills. It was sheer nostalgia to see overhanging rocks dripping wet and every other stream gushing forth. This made the eco-awareness trek organised by the Save Nilgiris Campaign all the more memorable.

The trek stretched over three days, going from a sacred peak to a pre-historic valley on the north-eastern boundary of this hill district. The surface of the Nilgiris, like the Deccan plateau on which it sits, is tilted towards the east. Thus, from the central high mountain ranges of Doddabetta, the country falls away rapidly towards the east.

Pretty clusters of Badaga villages dot the verdant landscape, which is also a leading tea-growing area in the district. However, as one approaches the eastern edges, the country becomes wild and hard but with a beauty of its own. The steep slopes are truly unspoiled jungle country and, in pockets, shola forests flourish in virgin beauty. Except for an occasional Kurumba or Irula settlement, the area is sparsely populated. Elephants, gaurs and bears are prolific and herds of cheetal and black buck are a common sight.

Starting from Kotagiri, a smaller hill-station 20 km east of Ooty, the group drove 10 km by van to Solurmotta, where the trek began. After passing 5 km through lush tea gardens, the trek veered into a patch of *shola* forest at Karkodmotta. A small but steep climb later we had our first glimpse of the Rangasamy peak, which the *Nilgiri Gazetteer* of 1908 described as 'the holiest hill on the plateau'.

The Rangasamy peak (1,788 m), lying 14.5 km north-east of Kotagiri, is venerated by the Irula and Badaga tribes. Despite the flight of steps, laid by devotees recently, the climb to the top is quite arduous.

The Rangasamy peak overlooks the spot at which the Eastern Ghats converge with the Nilgiri mountains, situated in the western ghats. To the east, in between the two ghats, lies the historic Moyar valley through which the Moyar river flows ribbon-like. In the background the Talemale ranges (brigand Veerappan's country) loom large and long. From the west flow the glittering waters of River Bhavani. The two empty themselves into the massive Bhavani Sagar, which is said to be the world's largest earthen dam.

Waters from the dam not only supply drinking water to several districts and irrigate several thousand acres of land, they also feed the Cauvery. As if to share our delight at the panoramic view, a lone Kestral hung in mid-air for a long spell before diving smartly for a prey.

After lunch and with much reluctance the trekkers started the descent by late afternoon, so as to reach Arcod before nightfall. The trek now passed through old coffee plantations and moist evergreen forest. Jackfruit was in season and hung in bunches from every tree. The bears, evidently, were having a gala time judging by the number of half-eaten fruits strewn all over the path.

The Irula village of Arcod (which means 'rock boundary') is of historical importance to the Nilgiris. The first European explorer on the hills, Francis Buchanan, came up to this point in 1800. Subsequently, John Sullivan, who discovered Ooty in 1819, passed through Arcod.

A night's stay at Arcod is incomplete without a campfire and a bout of dancing to the haunting music of the Irulas.

From Arcod the land falls away steeply to the Moyar valley, some 2,000 ft below. The track to Thengumarahada, the destination for day two, is very steep and goes through scrub forest and rocks. We made our descent at Kotakal, a sheet of rocks at the head of the slope, and headed for Kallampalayam at the foothills.

Earlier, we had a fine climb from Arcod through Garkiyur on an isolated metalled road. We passed legions of colourful butterflies on their migratory route. The descent through tall elephant grass was difficult, but the possibility of elephants lurking behind us added to the excitement.

A sudden drizzle had made the track slippery and we were desperate for a cup of tea by the time we reached Kallampalayam at dusk. Strangely, though, the settlement of about 3,000 people did not have a single tea shop!

We travelled 15 km from Kallampalayam to Thengumarahada in a tempo lorry - the only transport available. The rocky and rough landscape is quite different from the plateau. Thengumarhada (flatland of coconut trees) was originally an Irula hamlet but, after Independence, some Badagas also settled there.

They formed a very successful co-operative, raising paddy and coconut. It now has a population of about 5,000. A path-breaking Tamil movie, *Annakili* was wholly shot in the area in the 1970s. The forest department's rest house is a haven for trekkers.

The Moyar valley, extending eastwards from Masinagudi, is full of history. Gajalatti (elephant village) pass at the north-eastern corner, which separates the Coimbatore and Nilgiris districts, was used by Tipu Sultan as a short-cut to the Carnatic plains during the Mysore Wars at the end of the 18th century.

Earlier evidence shows that in the third and fourth centuries, the valley was under the sway of a dynasty called Rattas. The hundreds of stone-studded cemeteries in the valley are probably the remains of this population. A devastating epidemic is said to have wiped out these habitations.

The ground in the Moyar river valley is flat and the paths alongside the river go through fine riverine forests. But away from the rivers, the vegetation consists of dense, short shrub. Our plan for the third day was to trek up to Mangalapatti at the northern end of the valley along the Moyar river. But, for want of time, we cut short the trek at the foothills of Allirani Kottal, a ruined fort mentioned in Kota, Kurumba and Tipu legends. Nonetheless, we had to cross the swollen Moyar at three places.

The drive from Thengumarahada to Bhavani Sagar in a tempo lorry was equally thrilling. The sturdy truck jolted, jostled and jumped its way through 28 km of incredible jungle path, unmindful of the soggy roads, running streams, dry river beds, loose boulders and what not. The sight of cheetal and black buck, peacock and wild boar on either side of the path made the trip memorable. An enchanting end to three days of backbreaking trek.

Ode to a Mountain Train

Dharmalingam Venugopal
Prabhu Purnan
The Hindu, *December 2004*

> *"For the pastoral Todas of the Nilgiris, nothing is more precious than their buffaloes. So what better way to show their love for the Nilgiri Mountain Railway than to compare it with this animal, in a poem? It reflects their confidence and receptiveness towards an alien intrusion".*

The century-old Nilgiri Mountain Railway (NMR) is all set to be declared as a world heritage by the UNESCO. As part of the final process, two representatives of the UNESCO from Australia, Prof. Robert Lee, who teaches Asian studies at the Western Sydney University, and Mr. Ian Walker, a film maker, visited the Nilgiris recently to have a round of discussions with the various stake-holders. An interactive session with the tribal communities organised by the "Save Nilgiris Campaign" at the Tribal Research Centre brought out fascinating nuggets of the Nilgiri tribal lore connected with the mountain railway.

The Train in Toda Song

The majestic Todas, it was revealed, had in fact glorified the railway with a beautiful song which has become part of their rich folklore. The song attributed to a person named Pethaol of the Kars clan belonging to the Kandalmund near Ooty must have been composed at the beginning of the 1900s when the railroad had been extended up to Ootacamund.

For the pastoral Todas of the Nilgiris, nothing is more precious than their buffaloes. Their whole life revolves round the buffalo. The Todas believe their buffaloes are a gift from their chief deity Tokisy. Each buffalo is given a suitable name following an elaborate ceremony. There is, for instance, a special name for an animal with a fair face, for one with a fair skin colour, for one with beautiful eyes and so on.

So, what better way to show their love for the train than to compare it with a buffalo, that too a darling one called Korerseh. An abridged version of the song goes:

O buffalo Korerseh! O beautiful Korerseh!
You were born, one such as was not born before
They have made you, a new and extraordinary thing which did not exist before,
A brass-worker, as it were, has worked with his hand.
They have made you like a house with many sitting-platforms,
They have lit seven-tongued lamps,

They have made the floor smooth as butter,
They have made shiny, reflecting walls.

You have gone, holding inside (like a child under the clock) the
people of all the seven divisions,
You have gone, carrying crying children innumerable.
You have, as it were, taken three hundred in each pocket.

You have whistled the whistle of the wild red-dog,
You have released and then seized the hands that are linked in dancing,
You had, as it were, the smoke of charcoal raising up,
You had, as it were, the fire of charcoal burning with flame.

Without eyes you have walked, as it where, looking with eyes,
Without legs you have gone, as it were, walking with legs.

You have been like the karpic *bird flying to the nest,*
You have been like the white moth flying to the lamp,
You have been like clouds rising through the sky,
You have been like ants walking over the ground.

You have come like a snake,
You have run like a river,
You have made day out of night,
You have made night out of day.
You have, as it were, held a pearl umbrella over all the ten divisions of the people,
You have reared, like a mother, the people of all the many divisions,
You have reared, like a father, the people of the divisions.

O buffalo Korerseh ! O beautiful Korerseh
O you, who are dark and beautiful like a karpic *flower,*
O you, who have ear-rings with loops.

Vasamalli Pothilikuttan, a well informed Toda activist, rendered the train song along with a group of women from her tribe. The poem, she said, reflected the confidence and receptiveness of the Todas towards an alien intrusion. The simplicity and sincerity of the Toda song did indeed touch the right chord in the visitors.

Prof. Lee responded, "This visit to the Centre has been a highlight of my time in the Nilgiris. We have received a very warm welcome and have found the experience very moving. I especially enjoyed the song and dance of the hill tribe people. The Toda song about the train was truly amazing and beautiful poetry. You have shown your courtesy towards us and the team will show its courtesy with a favorable work on the heritage status for the NMR."

Long may the "Iron Buffalo" grace the Blue Mountains!

The Nilgiris: Rich Hydel History

Dharmalingam Venugopal — The Hindu, *July 2005*

"Glory in the Blue Mountains: A heritage that involves reservoirs, tunnels and power plants. Its chain of hydroelectric dams was built with amazing engineering skills. The first of its type has just completed its centenary."

The Nilgiris is well known for its flora, fauna and faultless landscapes. But not many know of its chain of hydro-electric dams which have been built with amazing engineering skills amidst bewitching surroundings. Fewer still know that the first dam in the hills, probably the first in the country as well, has just completed its centenary of existence.

Dam Trek

The hydel history of the Nilgiris began in 1904 when a tiny captive hydro power project was built using the waters of the Kateri falls (eight kilometres from Ooty) to generate power for the Cordite Factory at Aravankadu, the first, and still the major industry in the hills. Thirty years later, the district's first major power project, the Pykara Power Scheme, came up in 1932-33 on the northern slopes using the waters in the catchment of the Moyar river. Another three decades later, the Kundah Scheme, on the southern slopes, using the waters in the catchment of the Bhavani river was set up in 1961-62. These schemes made use of the flow of water through a series of reservoirs, tunnels, penstocks and power plants.

To mark the centenary of dam building in the Nilgiris, members of "Save Nilgiris Campaign" undertook a trek to pay homage to the pioneering planners, engineers, administrators and the builders and labourers who created these marvels of engineering feats high in the Nilgiri mountains. The 14-hour long trek started at 8-30 in the morning at Avalanche and ended at 10-30 in the night at Mukurti, covering four major hydel reservoirs in the western Nilgiris. The day before the trek, the team, which included three women, visited the century-old Kateri reservoir.

Nature in Bloom

The trek could not have been better timed. The azure December sky was digital clear affording views of far away mountain ranges with layers of milky white clouds stacked above. The landscape was still predominantly green, although fading fast under the assault of the severe frost. Year round rains had filled the reservoirs to the brim, a sight not seen in recent memory. It was also that part of the year when the rhododendron (*billy* in local parlance), which is ubiquitous in the upper reaches of Nilgiris, was in flower.

With ample water and feed to go around it appeared a time of plenty for wildlife.

The first leg of the trek was through typical Nilgiri plateau country, with *sholas* and man-made forests as far as Kolaribetta and the natural unspoiled country beyond that. There are two routes to Kolaribetta (2,625 m), the third tallest peak in the Nilgiris after Dodabetta and Mukurti. One, along the Avalanche reservoir, and the other along the Avalanche-Upper Bhavani road. We took the latter, but to save time we hauled ourselves vertically across the steeply winding road. Wattle plants that had over grown most of the abandoned road to the peak were both a hindrance and a blessing, providing an avenue of shade in the sharp winter sun.

Spectacular view

The boundless view atop Kolaribetta from the abandoned signal station was profoundly spectacular. To the east the Avalanche reservoir stretches amoeba-like, beyond which valley after valley unfolds till one can see as far as the upper reaches of the Ooty valley itself. To the southwest, the massive Upper Bhavani reservoir spreads octopus-like in a sea of greenery. To the northwest, the New Amarambalam ranges, overlooking the flanks of Kerala, tower over endless grasslands. Further north, the imposing profile of the Mukurti peak looms, strikingly resembling "Napoleon or Lenin in a sleeping posture".

From Kolaribetta to Western Catchment 2, it was a monotonous trek across the Nilgiri Tahr sanctuary, steep at times, through tranquil country of grasslands and clear water streams. We were three hours behind schedule when we reached Western Catchment 2. Dusk was fast approaching. Since continuing directly to Mukurti was too risky considering the dense wattle forests we had to wade through, we chose to take the road to Portimund dam, a distance of 13 km, and then walk down to the Mukurti Fishing Hut for rest.

As there was still light, we took a shortcut, to save a few kilometres by road, across a steep grass hill. The climb was well worth it. From the top of the hill we were treated to the awesome sight of "bastion Nilgiris", the vast expanse of rocky western escarpment of Nilgiris rising almost vertically. Close to the edge of the cliff ahead of us were a group of about 15 Nilgiri Tahr. Before descending to the road again we crossed the Kallundi river just before it rolls down the rocky escarpment, which had taken a toll of a few English picnickers in the hazy past.

Back on the road it was a brisk walk (to beat the freezing cold) all the way to Portimund. From Portimund it would have taken a couple of hours if we had followed the motorable track to the fishing hut. Instead, we took the steep short cut down in the pitch darkness. It was well past 10 when we entered the warm portals of the Mukurti fishing hut.

Giving Tribes and Tigers Their Due

Dharmalingam Venugopal — The Hindu, *July 2005*

City pressure groups including some ENGOs (Environmental NGOs) have been voicing their opposition to the proposed Scheduled Tribes (Recognition of Forest Rights) Bill 2005. The bill seeks to give legitimacy and livelihood to the forest dwelling scheduled tribes. They are to be given the right to continue to live in the land of their ancestors with each nuclear family being allotted 2.5 ha of land for sustaining their livelihood.

The antagonists of the bill have expressed deep reservations citing possible extinction of wildlife including the popular tiger. All this wailing in the print and visual media reveals how far removed the urbanites are from the realities of tribal India.

From time immemorial forest tribes have lived in harmony with nature and wildlife. They never carried any arms to protect themselves from animals. In all their oral literature and legend there is no reference to any conflict between man and animal. In the Nilgiri forests, for instance, traditionally three distinct paths are recognized in the forests — one for bison, one for elephant and one for man.

Anthropological interest

The British in their anxiety to appropriate all forest wealth for commercial exploitation declared all forests as government property. However, English administrators often took an abiding anthropological interest in the forest tribes and many of them made a lasting contribution towards the welfare of these tribes. After independence the government followed the same forest policy as the British but its attitude towards the tribes became one of neglect or indifference. In a caste-ridden society, the tribes came to be considered lower than the lowest caste.

The tribals who cannot comprehend anyone other than God owning the forests have since suffered in silence, often harassed and exploited by petty officials and encroachers. It remains a puzzle to them why on the one hand the government extends welfare measures such as education and health and on the other deprives them of their traditional rights over forests and forest produce. It is this anomalous situation that the current bill seeks to set right.

Critics of the bill say that the tribals may sell the lands assigned to them to outsiders for commercial use. They cite the case of the Todas of Nilgiris who are supposed to have leased out the lands allotted to them to cultivators from the plains.

True, but that was an isolated case that took place long ago when environmental awareness hardly informed forest policies.

There is no point in blaming anyone for these past mistakes. It was the given policy and priority of the government at that point of time. Today the awareness level is high, the outlook and priorities are different, the departments looking after forests and tribal welfare are more capable and there are several watchdogs including courts, NGOs and the media to see that the good intentions of the government do not go astray. Nobody is going to cut any trees to make land for any tribal.

Civil society's primary duty is to help the government to do its job and not pour scorn over its proposals without understanding them properly. At the same time, it will be a formidable task for the government to implement this law. There will be several local-specific problems which would require local-specific solutions. The ideal way to go about this is to accommodate a certain optimum number of claimants within the forests and resettle the others elsewhere but it is easier said than done.

The real challenge of the bill lies in (a) harnessing the tribal wisdom and way of life to preserve the remaining forests and wildlife and (b) the willingness of forests officials to give up their attitude of confrontation and work with these tribes as colleagues in conservation.

Toy Train Chugs On

Dharmalingam Venugopal Business Line, *September 2005*

"Having chugged along tenuous times, Ooty's 'toy train' looks to reclaim its romance and heritage"

After being granted a World Heritage status by the UNESCO, the Nilgiri Mountain Railway (NMR) may have at last found its sanctuary. With this, the financial ghosts haunting this 'marvel of engineering skill' from the very beginning, will hopefully be laid to rest. It is heartening to learn that a new company may be formed to promote this hill train, irrespective of its losses.

But the fairytale run of Udhagamandalam's popular 'toy train' nearly came to an end in the late-1960s. Faced with mounting losses, the Railway Board suddenly announced in 1968 that all 'uneconomic' rail lines would be closed.

The NMR, along with three other obscure branch lines, was poised for closure in the then Madras State. The spontaneous uproar across the State against the closure of NMR was only to be expected.

In an article, *The Hindu* warned, "The proposal to dismantle the 70-year-old mountain railway, which occupies a vital position in the slender economy of the Nilgiris district, will upset the economy and may well result in the migration of a large number of people to others parts of the country in quest of livelihood."

The Mail commented: "Taking into consideration the loss sustained by the railway because of ticketless travel, the loss sustained in the maintenance of the Nilgiris railway is nothing

Rani, a Tamil weekly, said, "Ooty without the railway will be like a flower which has lost its fragrance." *Dinamani*, a Tamil daily, observed that the rail line was a work of art that needs to be preserved for posterity, at any cost.

The South India Chamber of Commerce said in the context of the Government's endeavour to promote tourism, it would be "extremely short-sighted to abolish amenities and tourist attractions such as the NMR."

Readers were also forthcoming in their opposition. "For those who experience nausea and vomiting while travelling by road on this ghat section, and for pregnant women, sick people and children, the railway journey is a boon," wrote a reader.

"Already, owing to natural calamity, the fair name of Dhanushkodi, a place of religious importance on the southern railway, has disappeared. Why should the Railways dismantle the useful and attractive Ooty line," asked a correspondent.

A 'puzzled' traveler wondered whether the Government would also scrap the Shimla line, which was a bigger loss-making line, and asked, "Is it again a case of discrimination to prove that the North is North and the South is South? "If it comes to that, the Madras Government may take over the line and run it on its own account," said another.

M. Karunanidhi, who was then the Minister for Public Works, assured the State Assembly that the State Government would urge the Centre not to scrap the line as "it was an essential amenity for tourists and should not be viewed from economic grounds alone."

The then Prime Minister Indira Gandhi assured a local MP that she had informed the Railway Minister to carefully consider "all relevant aspects before taking the decision to scrap the line."

The NMR escaped the axe when the Railway Minister announced in the Lok Sabha in March 1969: "There would be no dismantling of uneconomic lines in any part of the country."

Subsequently too, rumours persisted about the possible closure of the line due to recurring losses. The NMR, in fact, has been plagued by financial problems from the beginning. In 1876, Riggenbach, the Swiss inventor of the Rigi system of mountain railway, offered to construct the line between Mettupalayam in the plains to Coonoor on the hills at a cost of about Rs 64 lakh subject to "free land, guarantee of 4 per cent return on cost and tax exemption for ten years."

After the Government turned down the "outrageous" proposal, Riggenbach came back with a revised proposal in 1882 at a reduced cost of about Rs 21 lakh. The Government agreed to give the land free of cost but declined to guarantee a return of 4 per cent on cost.

Eventually, in 1885, a new company was formed which raised Rs 25 lakh in London and started work in 1891 based on the comparatively less expensive alternate biting tooth (ABT) system.

Apparently, the company had underestimated the construction cost on the steep gradients for heavy engineering work, rock cutting and blasting.

To quote a south Indian railway spokesman in 1935, "Those engineers must have been nature lovers when they decided on the alignment. Aside from the question of utility, the wee train, as it winds its upward way, passes through a panorama of diversified scenery unrivalled anywhere."

Unable to carry on, the company went into liquidation in 1894.

Another company was formed in 1896 to complete the Mettupalayam - Coonoor line by 1898 at a cost of about Rs 38 lakh, but it folded up soon after and was sold to the Government in 1903 for a similar amount.

Finally, the Coonoor-Ooty line was completed around 1908 at a cost of about Rs 32 lakh, even though the rack rail was dispensed with for this stretch.

Ever since, efforts have been made to improve the efficiency of the line and reduce the cost of operation. Electrification was mooted from the early days without success. Later, dieselization of the locomotive was tried but that failed too owing to technical reasons. The only major innovation so far has been the substitution of coal with furnace oil to run the steam engines.

During the centenary of the mountain train in 1999, the Swiss Locomotive Machine Company, which originally supplied the engines, came up with a package offer to modernize the line. The proposal included increasing the number of locos, making them more eco-friendly, adding coaches, nationwide and international marketing efforts and raising the second-class fare 400 per cent and first-class fare 100 per cent. But nothing seems to have come out of this effort.

The UNESCO heritage status is only the beginning. There is a need to promote the railway line inside and outside the country. It also calls for increased passenger comforts and a hike in tariffs, apart from professional marketing efforts. These will bring down the NMR's annual loss of around Rs 4 crore.

Other suggestions include transparent or even open coaches (an open coach, at least during summer, can be a hit with tourists), lesser but more comfortable seats, convenient reservation, improved waiting room facilities at Mettupalayam and Ooty, improved catering and toilet arrangements en route and tourist-friendly staff. Awareness on the mountain rail and Nilgiris can be increased through attractive brochures and souvenirs such as postcards, calendars and CDs (with popular songs featuring the train).

Nilgiris: An Action Plan to Save the Hills

Dharmalingam Venugopal — The Hindu, *October 2005*

"Development plans in mountainous areas should take into consideration local needs and ecology."

Why and how should hill stations/areas like the Nilgiris be developed and for whom? These seemingly rhetorical, but vital and relevant, questions came up for lively deliberations at a recent seminar on "Planning for Development with Conservation in Hill Stations/Areas: A Case Study of Nilgiris" sponsored by the Union Planning Commission and organized by Save Nilgiris Campaign (SNC) at Udhagamandalam. The seminar conveyed a simple message – Mountain areas are different from the plains and, therefore, deserve to be treated differently; otherwise disaster, which will affect the plains also, is bound to follow.

Tara Murali, architect and activist, set the ball rolling. "Planning for whom and for what?" she asked. Unfortunately, she lamented, the economically weak, the illiterate and the socially marginalised groups are rarely heard amid the louder and more powerful lobbies. Add insensitive planning and ignorant planners and their case is lost even before the plans are drawn.

Inclusive Planning

Agreeing partly with this, Dr. Jakka Parthasarathy, Director, Tribal Research Centre, Udhagamandalam, said that while tribals in the Nilgiris had access to modern housing, education and loans from banks, they still faced problems like land alienation, indebtedness, deprivation of rights over forest produce, and lack of basic amenities like drinking water, electricity and health facilities.

Suggesting "sustainable livelihood" for inclusive planning, M.K. Prasad, Co-ordinator of Environment Centre, Kerala Sastra Sahitya Parishad (KSSP), said this concept is an advance from "sustainable development". Dr. D. Jayalakshmi, Professor of Sociology, Madras University, called for a community-based tribal development plans with due regard for their cultural and social needs. "Any plan for development should also encompass gender concerns," she added.

Pratim Roy, of the NGO Keystone Foundation, narrated how they started with gathering honey and moved on to a wide range of activities – micro enterprise, village resource centres, resource monitoring and a product line with village-level value addition.

"Having these systems in place at the village level not only adds to income and facilities and builds self reliance in the community over time but also creates a team of tribal youth whose capacity and skills get built over time to prioritize, design and deliver projects related to conservation, enterprise and livelihoods'.

In the last few decades, both governments and people have seen hill stations as resources to be exploited. Unless their value as reservoirs of irreplaceable bio-diversity is understood and steps are taken to protect this natural heritage, development is only likely to cause degradation in the long run, averred Tara Murali.

Link with Plains

Besides being a watershed, a hill area impacts a much larger area in the plains below. "Hill areas, catchment areas, water storage and retention areas and the watershed areas of plains associated with hill stations all need to be viewed as one contiguous feature for holistic planning," she argued. It is, therefore, necessary to identify the extent of the area impacted by the hills, and plans for hill stations must be drawn up keeping in mind this interconnectedness.

Sociologist Siddhartha Krishnan, however, called for a speedy solution to the long-pending *Janmam* land/forests disputes in the Gudalur area keeping in mind the aspirations of the encroachers/farmers involved and the concerns of conservation. S. Kondas, former Principal Chief Conservator of Forests, stated that a special technique has been developed since early 1980s to resuscitate degraded *sholas* and called for massive efforts by governmental and non-governmental agencies to regenerate these unique forests.

"The real problem in the Nilgiris lies in 40 per cent of the area, of which 90 per cent is occupied by the tea industry, now in deep crisis," said Krishnan. Nilgiris is home to some 65,000 small tea growers. Moreover, almost all belong to the Badaga community, which is the single largest indigenous group in the district. While M. Bojarajan, President, Nilgiri District Small Tea Growers Association, pleaded for promotion of their tea in the domestic market as a way out of the crisis, R.D. Nazeem, Executive Director of Tea Board underscored the need to first upgrade the quality of tea processed in the Nilgiris. Organic tea and herbal tea hold vast scope for value addition in the district, said D. Hegde, a corporate planter.

Looming Crisis

Dr. Madhu of Central Soil and Water Conservation Research and Training Institute (CSWCRTI) warned that another crisis was looming in the tea industry. According to him, while tea is a far better soil binder on the hills compared to vegetables like potato, tea gardens in the district are prone to frequent landslides because of the lack of proper drainage. On the overall issue of increasing incidence of landslides in the district, C. Thanavelu of the Geological Survey of India suggested that Natural Hazard Evaluation should be made a continuous process.

Urban uses take up only about 10 per cent of the area in the Nilgiris but their chaotic growth in recent decades has given the whole district an impression of a moribund hill station.

"The existing pattern of development shows there is a lack of spatial planning and good governance in the district," said Dr. Abdul Razak, Professor, Department of Planning, School of Architecture and Planning, Anna University.

Inadequate infrastructure, proliferation of slums, inappropriate tourist infrastructure, lack of liquid and solid waste management systems, lack of coordination and conflicting interest of government agencies plague the district even after 140 years of administration. A zero-tolerance approach to untreated waste and non-biodegradable materials will ensure the protection of fragile ecosystems like the Nilgiris, added Tara Murali. Most speakers cited the recent successful ban on harmful plastic bags in the district.

Tourism

Stating that a district so dependent on tourism does not have any idea about how to promote it, Dr. Razak called for a Tourism Development Plan so that the tourism potential of the district can be tapped profitably in consonance with the needs of the environment.

Said Tara Murali, "The day tourist is often a person seeking amusement and who contributes little to the local economy... . he is also a major polluter because of the number of buses and other motorised vehicles that come up the hills. Tourism facilities available in hill areas must be restricted to those conforming to eco-tourism and for the discerning eco-tourist."

Dr. Sathyanarayanan of the Anthropological Survey of India, however, cautioned that eco-tourism could not succeed without local participation. Citing the exploitation of the Todas in the name of cultural tourism, he said, "Great interference and cultural injury have been caused to their privacy." Giving examples from the Periyar Tiger Reserve (Kerala) and the Chinnar Wildlife Sanctuary (Kerala/Tamil Nadu), he suggested that prevailing practices of eco-tourism can be restructured with local inputs so that participation of the respective communities with due benefits can be ensured.

Planning for Development with Conservation in the Nilgiris

Dharmalingam Venugopal *September, 2005*

Recommendation of the seminar sponsored by Union Planning Commission and Organised by Save Nilgiris Campaign.

Preamble

From being a victim of unplanned development over the last fifty years, the Nilgiris can be transformed into a model for hill areas through a new concept of transparent and participative planning which can balance the needs of development and conservation.

Mountain Policy

Mountains are an important source of water, biodiversity and energy besides forests products and recreation. The Himalayas and the Western Ghats are the two major mountain eco-systems of the Indian sub-continent. Both are being rapidly degraded leading to accelerated soil erosion, landslides and loss of habitat and genetic diversity. On the human side there is widespread poverty among the mountain inhabitants and loss of indigenous knowledge. Hence the proper management of mountain areas and the people inhabiting them deserve immediate attention.

At the global level, the Convention of Biological Diversity (1992) and Agenda 21 (1992) are the two instruments that have some reference to sustainable mountain development. However, at the national level we do not have a comprehensive mountain development policy.

There is also no landscape specific mountain conservation legislation. The Draft National Environmental Policy Statement 2004 makes a passing reference to mountain ecosystems. Any planning for development with conservation in hill areas needs policy directives effectively backed by adequate and appropriate legislation. But this is not so in India. This lacunae needs to be addressed.

New Concept of Development for Hill Areas

The tragedy of hill stations / areas in the last few decades has been the approach by both governments and people to view them as resources to be exploited. This needs to be replaced with a new concept of development based on the real value of the hill areas as reservoirs of irreplaceable bio-diversity and priceless natural heritage.

Any planning exercise towards such a concept ought to first address the question, 'Planning for whom and what'. It should seek not only to protect hill stations / areas for the future but also undo the misdeeds of the past such as the indiscriminate spread of monoculture and other harmful land uses.

Link with the Plains

Mountains impact the plains below continuously. Hill areas, catchment areas, water storage and retention areas and the watershed areas of plains associated with hill areas all need to be viewed as one contiguous feature for holistic planning. Plans for hill stations/ areas must be drawn up keeping in mind this interconnectedness.

Sustainable Development

Production and consumption patterns that minimise waste must alone be recognised as sustainable development and suitable for ecologically sensitive areas such as the hills. This implies that untreated waste and non-biodegradable materials are polluters and in the long term must be phased out. This zero tolerance approach to untreated waste and non-biodegradable materials alone will ensure the protection of fragile ecosystems.

Inclusive Planning & Sustainable Livelihood

Even 'sustainable development' may be inadequate when it comes to the question of livelihood of the various peoples indigenous to the hill areas. Very often, the economically weak, the illiterate or socially marginalized groups fail to get their voices heard amidst the loud clanging of more power. Only the concept of 'Sustainable Livelihood' can hope to effectively address their problems. The concept of sustainable livelihood is an advance over sustainable development and is defined as the, 'means of gaining a living, including tangible assets (resources and stores), intangible assets (claims and access) and livelihood capabilities that included coping abilities, opportunities and sundry freedoms'. The broader focus on livelihood rather than incomes has gained prominence since Agenda 21 of the Earth Summit.

Thus, in the context of hill stations, the claims of tribal people who are the original occupants of the land and forests, villagers whose livelihood depends on the products of the hills and permanent residents of the area must be given due importance. Often the lifestyle and land ownership patterns of the tribal communities are different from those recognized by modern states and their claims and rights are ignored. Recognising the stakeholders and providing for their lifestyle are marks of sensitive planning.

Nilgiri-Specific Recommendations

In the light of what has been stated above, the importance of the Nilgiris, the crowning glory of the Western Ghats, as an ecologically sensitive as also socio-economically critical area needs to be first understood and integrated into the process of planning and development.

Land Use Changes and Consequences

The Nilgiris is the upstream source of four river basins (Moyar, Bhavani, Kabini and Chaliyar) serving the states of Tamil Nadu, Karnataka and Kerala. The district accounts for more than a third of total hydropower generated in the state. The district produces 840 MW of power realizing Rs.500 Crores annually. Over the years these natural systems and watersheds have been subject to a lot of changes.

Building of a series of hydro-electric projects, tunnelling the water to different areas for irrigation, building reservoirs, planting the upper areas with commercial pulpwood species and replacing natural grasslands with tea and marshes with vegetables have all changed the district's water regime. A change in the land use of each of these zones has led to a steady decline in the health of the watershed.

Land use pattern indicate drastic change from 1970-71 to 2000-01. The net sown area in the district increased from 21% to 31% and the land under miscellaneous tree cover rose to 69%. These changes may have been at the cost of barren and cultivable waste lands and pastures. This needs to be given due attention to sustain the ever growing population and food security for the district.

Siltation

There are fifteen hydro power reservoirs in Nilgiris District. In the steeply sloping regions of the Nilgiris, the cultivation of clean tilled crops like potato and now increased impetus to tea cultivation without adopting proper soil and water conservation measures, have resulted in siltation of reservoirs in the area. It also clearly suggests that wherever the catchment area is largely under cultivation of annual crops, faulty land management activities coupled with human interference/activities, reservoir sedimentation rate is higher.

Soil Erosion

Conversion of forest lands into agricultural lands, encroachment on more and more forest and grasslands to meet the food, fuel and fodder demands due to the unchecked human and animal population growth rates with utter disregard to the soil, up and down cultivation, shifting cultivation have been the main causes of severe soil erosion and degradation. This is especially true in the case of conversion of forest lands having deeper root system into agricultural lands which have relatively shallow root system.

Landslide/Landslips

Lack of tree cover on steep slopes, cultivation of annual crops and tea on slopes even steeper than 33% without proper soil conservation measures, lack of proper drainage system (for surface and sub-surface water), extension of cultivation right into the natural drainage way and construction of houses in valley near drainage way and long wet spells are the main cause of landslide / landslips in the district.

The Central Soil and Water Conservation Research and Training Institute **(CSWCRTI)** based near Ooty has been conducting studies on land use, soil and water conservation, landslide etc since 1967. It has evolved a comprehensive set of recommendations covering Mechanical soil conservation measures, Vegetative Measures, Water harvesting, Utilization of Steep Slopes (33%), Agri-horticulture, Agroforestry, and Hydroecological aspects. The results of their studies and their recommendations have to be carried to all sections of the land users through intensive extension work. In order to avoid a possible catastrophe in the long run, these recommendations may even be made mandatory in the district.

The Geological Survey of India, which has been studying the Nilgiris since 1927 concurs that frequent incidences of landslides are recorded in the district. In view this ominous trend, the GSI has recommended that Natural Hazard Evaluation should be made a continuous process.

Forest Cover

Nilgiris has a forest cover of 60% which includes the natural forests and grasslands and the man made plantations of eucalyptus, wattle and pine. These areas should be conserved at all cost with least interference from the development process. Any act of development in these areas should be forest / nature based.

Nevertheless, in the matter of the long pending Janmam land / forest disputes in Gudalur taluk in the lower plateau of the district, efforts should be made to resolve the issue at the earliest keeping in mind the aspirations of the people involved and the concerns of conservation. The basic issues involved here are 1. Notifying remaining Sec 17 forest Lands directly as forests and 2. Addressing the *patta* claims of farmers in two land categories viz. reserve lands (reserve forest occupations cannot be regularized) and Section-17 lands. Any further delay will only complicate the situation, socially and ecologically.

Shola Forest

The *sholas (*forests*)* are unique to the Nilgiris and the Palni hills. Of the 175 families listed in Gamble's flora not less than 38 families comprising 80 genera and 200 species have been identified here. The ecology of *shola* is one of infinite curiosity and many scientific conjectures. Many foresters say it is a climatic climax, some say relict vegetation surviving the Ice Age cataclysm.

A new technique has been evolved since 1980s to rejuvenate these fast vanishing shola forests. More such rejuvenating projects should be taken up. A hi-tech study (cell and molecular biology, finger-printing) is recommended to discover how vast and varied the genetic diversity is in store. It could serve as a gene bank capable of useful gene-transfer to cultivars. It may lead to patenting. In the U.S. microorganisms (bacteria, fungi) are highly valued for producing genetically modified plant crops like BT cotton.

Mycological studies need to be mounted for screening suitable species inhabiting *shola* for commercial genetic exploitation.

Town and Country Planning

The Nilgiris has been experiencing rapid growth in terms of number of urban centres and of population since 1961. Urban population in the district constitutes 59.65% as per 2001 census. Interestingly, female population of the district was found to be more than the male population. The female population of Ooty and Kotagiri blocks was found ranging between 1002 to 1039 females per 1000 male population respectively.

Ooty and Coonoor showed an increasing trend in terms of population, number of urban settlements, and industrial development. In Ooty there are 16 notified slums and 20 un-notified slums. The slum population constitutes 24.43% of population.

The existing pattern of development shows there is a lack of spatial planning and good governance in the district. The problems include urbanisation, inadequate infrastructure, proliferation of slums, inappropriate tourist infrastructure, liquid and solid waste management, lack of coordination and conflicting interests of multiple agencies comprising central, state and local bodies.

Since the Town and Country Planning in the Nilgiirs is done in an ad hoc basis by different departments without an integrative dimension towards development of various sectors, the master plans of the two municipalities – Ooty and Coonoor – are very subjective and lack in specifying ways of solutions to problems.

Controlled urban and rural development is essential towards southern part of the district, particularly the urban corridor of Ooty and Coonoor blocks. There is a need for a District Development Plan. In view of the high sex ratio in the district, any plan for development should encompass gender concerns.

There is also a need for a Tourism Development Plan incorporating carrying capacity and environmentally sustainable development. Town and country planning should not be treated as mere land survey or architectural control but as an integrated skilled sector charting the growth of the district.

Tourism

Approximately around 2.5 million tourists visit the district despite tourism being seasonal and locational. But there is no clear tourism plan as to how to manage or benefit this huge inflow. Hill stations are viewed by people as resources of pleasure and enjoyment and growing sections of society are demanding their right to be able to enjoy them. While their right cannot be questioned, however closer examination will reveal that this right is being exercised only due to the lack of alternative avenues for recreation and leisure. The day tourist is often a person seeking amusement and who contributes little to the local economy and almost nothing to the welfare of the hill stations.

The day-tripper is also a major polluter because of the number of buses and other motorised vehicles that come up the hills. As the interest of this group is only entertainment related and with no specific interest in what the hills have to offer, they may easily be persuaded away from the hills if recreational alternatives are available in less eco-sensitive areas. Tourism facilities available in hill areas must be restricted to those conforming to eco-tourism and for the discerning eco-tourist. All other types of tourism must be located away from the hills.

Heritage Conservation

In view of the great natural and cultural inheritance of this district, heritage conservation should include not only those that attract tourist attentions but also those natural heritage like the rare fauna, flora and landscapes as well as intangible heritage of the communities like their music and way of life.

Eco-Tourism

The Nilgiris has been a major tourist attraction for more than one hundred years but the level of participation of local people in tourism enterprises remains marginal. On the contrary, a great amount of interference and cultural injury is caused by the tourism industry to the privacy and day to day living of the indigenous communities like the Todas. In view of the scope for eco-tourism as a source of sustainable livelihood for the tribal and indigenous communities of the district, site-specific and community-specific micro tourism enterprises should be evolved in consultation with the respective communities and by making them stake holders in such enterprises. In this context it is worthwhile to take a lesson from the model or experiment in ecotourism that has been working reasonably well in the Periyar Tiger Reserve and Chinnar Wildlife Sanctuary of Kerala.

Economy

The economy of the Nilgiris is dependent on tea and tourism. Tea accounts for 90% of the cultivable area. During the 1980s the government embarked on an ambitious plan to increase tea production in the country to 1000 million kgs by 2000. Subsequently, the collapse of the Soviet Union led to a big demand for Indian teas under the Rupee trade agreement. Both these developments led to a big jump in tea production in the Nilgiris, with almost all the land under vegetables being converted into tea gardens. Out of the 1.25 lakh small tea growers in the country 65,000 are in the Nilgiris. By 2000, however, the demand for tea did not reach anywhere the levels forecast and the Soviet demand also declined leading to a crash in tea prices. In view of the persisting tea crisis, it was resolved that tea can be sustainable on the hills only through quality up gradation, promotion of Nilgiris teas in the domestic market and diversification into value added products like organic tea and herbal tea. It was also recommended that farmers for their own food security should convert part of their lands back to horticultural and floriculture crops.

Culture and Livelihood

As per 2001 census the Scheduled Tribe population of Nilgiris is 28,373 or 4.32%. The six ST communities are Todas, Kotas, Kurumbas, Irulas, Paniyans and Kattunayakans. They are also listed as Primitive Tribal Groups by the government of India. According to the latest survey, while these groups have had access to formal schooling, modern housing and institutional finance they still face problems of land alienation, indebtedness, loss of rights over forest, lack of health facilities, lack of basic amenities like safe drinking water, roads and electricity.

The seminar recommended framing of exclusive 'ethnic projects' which can combine livelihood opportunities with continuity of culture. Development projects should be drawn according to the felt needs and cultural ecology of each tribal community of Nilgiris with their own participation. Development programme for primitive tribes should be drawn separately and should not be mixed with the development programmes of other tribal communities. Development of these communities require a mix of Indigenous Knowledge, Science and Local Innovation. This approach not only adds to income and facilities in the village and builds self reliance in the community over a period of time but also creates a team of tribal youth whose capacity and skill gets built over time to prioritize, design and deliver projects related to conservation, enterprise and livelihoods.

A new research strategy is needed to fill the gaps in the knowledge relating to many other areas of livelihood from an historical point of view. Local or indigenous perceptions of development from a historical and applied point of view should form part of the curriculum in all the schools in the district as an additional subject.

A Cultural Crisis

Dharmalingam Venugopal — The Hindu, *April 2006*

"Community at the crossroads: The Badagas"

An economic crisis is brewing a cultural crisis in the Nilgiris. The youth, including women, are leaving the *hutties*, Badaga villages, in droves seeking employment in the neighbouring plains.

This has never happened in their history. Says Prof. Paul Hockings, a leading Nilgiriologist. In many of the other mountainous terrains, some of the local inhabitants have found it necessary to emigrate from their homeland... No such pattern is evidenced among the Nilgiri communities... .What made the difference was primarily the existence of plantations which required substantial amounts of labour.

Prolonged Crisis

Ironically, it is the plantations which are responsible for the current exodus of the Badaga population. The tea crisis in the hills is entering the sixth year with no solution in sight. With no source of income or employment in the hills and laden with debt, the youth are forced to migrate to nearby towns. Even subsistence has become a problem for many families, who had in the heady days of the boom, converted even their back yard, where they have traditionally grown a variety of food crops for family consumption, to tea.

The crisis, if it persists too long, will seriously undermine not only the fragile economy and environment of the Nilgiri Hills but also destroy the unique culture of the Badagas whose population is already declining thanks to their voluntary adaptation of the small family norm. That more than 60 per cent of the families are still joint households is some consolation. Badagas have survived many a crisis in the hills in their long existence. But what they face today is a different kind of challenge – market reforms, liberalization, globalization – which has no respect for culture or tradition.

The Nilgiri Hills have repeatedly been a victim of insensitive planning in the postcolonial period with disastrous results. In the 1950s the ecologically irreplaceable grasslands were commandeered to raise eucalyptus and wattle for the sake of a couple of industries in the plains. The industries have long closed, leaving the plantations mute witness to the damage they have wrought on the environment around them.

In the 60s an Indo-German Development project was launched with a lot of fanfare to kill a potato pest. It killed instead the potato which has been the staple here for more than a century. In the 70s the much-touted public sector undertaking Hindustan Photo Films turned out to be requiem for the Queen of Hill Stations that Ooty was till then. In the 80s tea was propagated as a perennial source of prosperity, only to end up a calamity for the whole district once the boom burst.

Long-term Measures

Several ad hoc measures, including payment of subsidies, have been taken in the last five years by the Central and State Governments to provide relief to the small tea growers. What is required now is a concerted package of measures to contain the crisis. The past few years have seen several positive trends also. There has been an improvement in the quality of green leaves. Market forces have initiated a welcome process of consolidation among the private factories. What is needed now is a major confidence building measure that will convince the beleaguered growers, particularly the small growers that the crisis can be tided over.

In the long run, however, the small growers have to explore a slew of options such as promotion of domestic demand for Nilgiri teas, price insurance and crop diversification in order to make their economy more stable.

Realty Threat to the Hills

Dharmalingam Venugopal — The Hindu, *June 2007*

"The current boom in the real estate prices in Kotagiri can have a disastrous effect on the area's natural heritage sites."

Gudalur was lost to encroachments. Ooty was lost to constructions. Coonoor was lost to commerce. And now Kotagiri is being lost to real estate. So goes the lament of the residents.

"If good sense does not prevail soon, the last of the hill stations on the fabled Nilgiri hills will be lost forever," says a long-time resident of Kotagiri in despair.

Triggered by various rumours and half-truths — the IT boom is coming to the hills; an influential politician is eying a piece of land; an actor has bought land; a top official has offered to buy yet another piece — the real estate boom in this tiny resort is feeding and, in turn, is being fed by gossip. What would not have fetched more than a few thousand rupees a few days ago is now being quoted in lakhs.

Incredible Offers

The offers, being made by middlemen and speculators, are too tempting to resist for long time residents already rendered vulnerable by the prolonged crisis in the tea industry.

"At this rate no resident can hope to acquire land, even for housing, in the future," muses a middle-class teacher. Remarkably, not many of the Kotagiri youngsters, either in Indian or abroad, seem to be interested in this mad race.

Kotagiri is the oldest and the third largest of the hill stations in the Nilgiris. It represents the best of all hill stations in terms of its balmy weather, rural flavour, rustic charm and general tranquility. Its significance in the native culture and Nilgiri history is enormous.

In the past, it has played host to governor-generals and governors, missionaries and theosophists, civil servants and planters and so on.

Above all, Kotagiri is the abode of Goddess Heththe, the guardian deity of the native Badagas, besides several other sacred peaks.

The realty boom, which was slowly building up over the last two years, seems to have entered a virulent phase in recent months.

Intriguingly, the boom has left the town relatively untouched while spreading to the outskirts particularly near places of tourist interests such as the Longwood Shola, Bikkapathi Reserve, Elk Falls, Kodanaad viewpoint and Catherine Falls. These are ecologically and culturally sensitive protected zones where tourism-related activities are closely monitored and regulated. The current boom in land near and abutting these areas is bound to spell disaster to these natural heritage sites.

Catherine Falls, nine km from Kotagiri, is a double-cascaded falls; the second highest in the district. A popular tourist spot, it is named after the wife of M.D. Cockburn, who pioneered coffee in Kotagiri and Yercaud. The Cockburns, all buried in a local cemetery, contributed greatly to Kotagiri's development. The falls command a lovely view of the forests and woodlands, intercepted by tea gardens.

The glittering Dolphin's Nose of Coonoor is also seen across the mighty gap in the hills, which also happens to be one the three great fault systems in the geological formation of the Blue Mountains.

Environmental Conditions

A decade ago, the Tamil Nadu Government dropped the proposal for a mini hydel power project in the area 'in the larger interest of the eco-system and environmental conditions of the Nilgiris'. The Geological Survey of India (GSI) has classified the entire area as one of the highest risk areas for landslides and 'Geological Surprises', which could have catastrophic consequences. The site has also been declared earthquake prone. Realty activities have not spared even this sensitive area despite the potential danger to the surroundings and prospective buyers.

No one decries development, including property development. It has been going on for years in this old-world hill station. Plantations, tea gardens and bungalows have regularly changed hands over the years. But these, by and large, were within permissible rules and regulations and with due deference to local culture and traditions.

Permissible Rules

What needs to be ensured now is whether the rash of realty activities taking place in and around Kotagiri are within the permissible rules under the Master Plan in force, Hill Area Conservation Authority (HACA) regulations and land use policies recommended by the Geological Survey of India with least disturbance to surrounding natural and cultural traditions.

The recent developments in hill stations like Munnar where a chain of unauthorised structures were pulled down should be kept in mind.

Only an alert public and a concerned district officialdom can save Kotagiri from becoming yet another 'down hill' station.

When it was Neilgherry Hills

Dharmalingam Venugopal — The Hindu, *August 2007*

"The evolution of the Nilgiris in the 200-odd years since it was 'discovered' by the British makes a fascinating read."

The Neilgherris, as it was originally spelt, was a British colony for nearly 150 years from 1800. The idea of a European settlement started with the exploratory journey of John Sullivan, the Collector of Coimbatore, to the Dimhutty valley in 1819, hi s "discovery" of Ooty two years later and his instant love affair with the hills.

The Early Days

But the settlement started taking shape only after 1827 when the practice of the upper strata of British Indian society moving to the hills for summer vacationing began. By 1829, the Nilgiris had a small European population of 500 against a native population of about 6,000 according to the 1825 census.

Soon after, in the 1830s and 40s, the Protestant missionaries came marching in to set up missions, churches and schools. Among the pioneers was Rev. G.U. Pope, who was to later make a lasting contribution to Dravidian literature. Two institutions established then, St. Stephens Church, Ooty, and the Lawrence School, Lovedale, are now 175 and 150 years old respectively.

The new settlements which sprang up on the hills were nostalgic imitations of "back home", the settlers having brought with them "English" cottages, flowers, plants and even fish. Lord Macaulay, who was carried all the way from Madras to Ooty in a palanquin in 1834 to draft the Indian Penal Code, noted in his letters, "It (Nilgiris) has now very much the look of a rising English watering place... Altogether the coolness, the greenness of the grass, the character of the houses both without and within is quite English".

Ideal Climate

In the same year Dr. Baikie, who was sent to assess the agreeableness of the Nilgiri climate on the English constitution, believed that, "the great value of the hills lay in the life-saving properties of the climate, their fertile soil in which European fruit and vegetables could grow and possibly as a European and Eurasian colony from which future recruits to the Company's army could be drawn".

The administration too chipped in to make the settlers feel at home. Richard Burton, the great explorer, visiting the hills during the monsoon of 1847, noted, "A bazaar has been added by the Collector…Rice, barley and gram and poultry are sold in limited quantities… Bakers are about to be settled on the spot. Mutton is killed daily and frequently of good quality…"

Class Divide

All was not, however, bonhomie within the European society, divided as it was by "class" differences. "There was an almost caste-like discreteness, a separate lifestyle and a minimum of intercommunication between the administrative officials, the army officers, the planters, the tradesmen, the teachers, the Protestant missionaries, the Catholic priests, the retired and the tourists, altogether a dozen hermetically sealed units only briefly to be united when and if they sat in a church together", observed a writer

The Nilgiris in the first half of the 19th century was basically a sanatorium for the sick and convalescing, mainly for pensioned off Europeans. "Respectability and a life of relative ease beckoned on the hills" says researcher Morrison (2000). Life was, therefore, routine and leisurely and revolved around long walks, pony rides, reading and visits to the club.

Leisurely Life

The routine of life was only broken by outdoor activities like a game of polo, tennis or cricket or excursions and picnics to scenic sites or indoor activities like dinners, theatricals and balls. For the elite, there was the Ooty hunt to which horse racing was added later. For the game lovers there was plenty to be had, in and out of season, as the natives were never inclined towards hunting either for meat or skin.

The pace and purpose of European life on the Nilgiris changed markedly as the administration of the hills changed hands from the East India Company to Her Majesty's government after 1857. Europeans of various hues opened up vast plantations of coffee, tea, eucalyptus and wattle in the 1860s.

From 1870s, the government of the Madras Presidency moved up to Ooty for six months of the year to escape the summer heat. In the 1890s, the mountain railway was commenced between Mettupalayam and Coonoor and extended to Ooty in the next decade.

Development Era

The turn of the 20th century saw the first hydel power plant in the country and an ammunition factory coming up on the hills. The hills were also becoming intellectually vibrant with the early theosophists, retired teachers, civil servants and judges taking permanent residence on the hills.

For all their power, influence and growth, the European population on the hills remained small and compact. The European population, including Eurasians or Anglo Indians (who numbered 800) numbered 2,000 out of a district total of 49,501 in 1871. Shortly before the end of the European era, their population rose to 5,000 out of a district population of 2,09,709 in 1941. Eurasians were 1,800 by then.

A Varied Contribution

Was the European era a boon or a bane to the Nilgiris? As Prof. Paul Hockings, the leading Nilgiriologist says, "The impact of the European settlers was an extremely varied one. As missionaries they made an ecclesiastical, if not a spiritual change, in a small minority of native population; as soldiers and planters they introduced new generic material to the local people; as planters and administrators they developed and greatly expanded the cash economy; as military and retired people they brought in new standards of etiquette and new types of public entertainment and as officers and administrators they built towns and roads".

Hill Potato : Remembering the Nilgiris Tuber

Dharmalingam Venugopal — Business Line, *January 2008*

"The UN has designated 2008 as the International year of the Potato. Remembering the Nilgiris tuber in the year of the potato"

It was perhaps the shortage created by the Irish famine that gave the initial boost to potato cultivation in the Nilgiris. Not that the tuber was unknown to India till then. India got the first taste of potato in the 17th century when the Portuguese brought it with them and planted it along the west coast from Surat to Goa. Shortly afterwards it spread to the hilly parts of the erstwhile State of Punjab. It was introduced in Uttar Pradesh in the early part of 19th century.

John Sullivan, the indefatigable builder of modern Nilgiris, introduced potato in the Nilgiris in the 1820s when he had the seed imported, along with those of other 'English' vegetables, from the UK.

Sullivan first experimented with potato around Stone house hill with the help of an English farmer named Johnstone and an African assistant named Jones. Encouraged by the rich harvest, he extended the cultivation to Wellington, where the yield was reported to be 'phenomenal' owing to the virgin soil.

The establishment of the experimental Botanical Gardens in Ootacamund in 1848 gave further impetus to potato cultivation, which began to attract the local Badaga farmers. Francis, an enthusiastic Collector of Nilgiris, prevailed over the government to import two tonnes of good seed potatoes from Europe and Australia for distribution among the "native growers". The European settlers also started cultivating potato in the wastelands around their bungalows.

Great Scot

From mid-1850s potato increasingly started replacing the traditional millets in the Badaga villages. Initially, Badagas did not relish the crop but merely marketed it to meet the demand created by the Irish famine. Subsequently, potato became their staple diet which it remains today.

By the beginning of the 20th century, potato cultivation became the mainstay of the district's agricultural economy. The introduction of chemical fertilizer in the early 1920s and export demand during the two World Wars made it a thriving crop.

To meet the growing demand for seed potato, an Agricultural Research Station was established as early as in 1917 at Nanjanad, about 18 km from Ooty. Varieties of seed potatoes suitable to the local soil and climatic conditions were evolved here. The most notable of them was a variety called "Great Scot" owing to its "early maturity, cosmopolitan habit, round-medium tubers, smooth white skin, fleet eyes and hard flesh". A brand of fertilizer called "Nanjanad Mixture" evolved at the centre also remained popular with the farmers for decades. Later a subsidiary of the Central Potato Research Institute, Simla was set up at Muthorai, about 6 km from Ooty, in the mid-1950s to provide the necessary research and extension support.

Ups and Downs

The decline of potato cultivation in the Nilgiris started in the early 1960s when diseases such as Late Blight and Golden Nematode hit the crop. Competition from new potato-growing areas added to the problem. In the 1970s the infamous 'up and down' method of potato cultivation came under severe criticism from environmentalists as it led to maximum soil loss. An Indo-German project with much fanfare and hope was initiated to rescue potato cultivation and to diversify the district's cropping pattern but its impact was limited owing to several factors. In any case, by the 1980s the tea boom, which was fast unfolding, lured most of the potato-growers away to the promise of the 'green gold'.

Today potato is cultivated in India under highly diversified agro-climatic conditions ranging from sea-level to snowline, making the country the third-largest potato grower in the world. But the acreage and yield are still much below China and Russia, the top two countries in the world.

Unstable prices, poor marketing support, low productivity, concentration of seed potato in a few areas, not to mention certain mistaken beliefs associated with it, stand in the way of further progress of this wonder crop. Better awareness and more attention in this year should accord it due importance in the interest of the country's food security. As for Nilgiris, it is right time the sportive spud regains at least some of the ground lost to tea.

Redeeming the Mountains

Pankaja Srinivasan — The Hindu, *December 2009*

"Dharmalingam Venugopal, who is on a mission to put the beleaguered Nilgiris on the world map."

Dharmalingam Venugopal is an angry man, and an anguished one too. A Badaga, he has grown up with stories woven around his beloved hills. Pointing to where a herd of gaur grazes on a Kotagiri hillside, he talks of the wisdom of his forefathers, who spoke of the *emme thada, aane thada and aan thada* (the gaur path, the elephant path and the one for human beings).

One would not trespass into the other's territory; there was none of the man-animal conflict. "If only we had the intelligence of our forbearers, and the sense to leave well alone," he laments.

Venugopal's anger is at the willful devastation of the hills. He knew the land sharks in the Nilgiris would get their comeuppance. "I only wish it had not happened in so violent a manner. So many innocent people suffered," he says.

He quotes a 1982 study by the Tamil Nadu Government and the Geological Survey of India. The report predicts dire consequences for the Nilgiris unless immediate measures are taken.

Astonishingly, the warnings seem to have gone completely unheeded. Twenty-seven years after the report, in the recent deluge in the Nilgiris there have been more than 1,000 landslides, which have left many dead and homeless. Loss to property has been immense. Venugopal says, simply: "I rest my case."

The Save the Nilgiris Campaign that he launched in 1985 (it started as a one-man pamphleteering campaign, he laughs) has been instrumental in improving the social conditions and the environment of the Nilgiris. Stalwarts such as Sundarlal Bahuguna and former President R. Venkatraman, have actively supported the campaign.

Then, in 2006, Venugopal initiated the Nilgiris Documentation Centre (NDC) and Nilgiris History Museum, of which he is the founder and honorary director. "I have always believed no activism is meaningful without the backing of proper research." Venugopal's ambition is to bring under one roof all Nilgiris-related material available in India and abroad so that researchers can work on them in the future. He hopes those who have lived here will contribute information and memorabilia related to the Nilgiris.

He is also looking for help from the British Library India Office Collection, Mission 21 Protestant Mission Basel, and from anthropologists abroad. He has himself donated all records and other material pertaining to the Nilgiris that his family has collected over the decades.

Today, the NDC makes its home in the restored bungalow of John Sullivan (Coimbatore collector from 1815 to 1830), the man who made the English sit up and take note of the Nilgiris. Called Pethakal Bungalow, Sullivan built it in Kotagiri in May 1819 and lived there till May 1823, when the better known Stone House in Ooty came along.

Pethakal Bungalow or Sullivan Memorial as it is known, is framed between a cabbage patch and a few grazing cows in a small village called Kannerimukku. Venugopal says the idea was not to isolate the hill folk from this museum; rather, it was to make it an organic entity that hopefully would grow and enrich itself as the years went by. "It has always been the outsiders claiming to protect and preserve the tribes of the Nilgiris. We say it is time local people took the initiative," he adds.

The museum boasts some splendid photographs of A.T.W. Penn, one of the earliest photographers to settle down in the Nilgiris. Works of Samuel Bourne, Wille Burke and M.S. Appa Rao and Philo Hruthayanath provide brilliant pictorial documentation. One finds rare books and documents (dating back to the 1820s) pertaining to the Nilgiris.

There are pictures of famous visitors including Kenneth Anderson, Salim Ali and George B. Schaller. NDC is also in the process of recording local balladeers. They have already recorded 500 songs.

Venugopal acknowledges the support of individuals and organisations that have worked tirelessly for the NDC. He makes special mention of Bhakther Solomon (CEO, Development Promotion Group that looks after the Memorial), the British Council, Chennai (for documentation) and local artist Gokul, who has rendered some fantastic paintings of personalities and places from faded photographs, and, of course, the many Nilgiri lovers.

He says, "These innumerable friends contribute to my dream of making the NDC a full-fledged history museum and documentation centre that will put the Nilgiris on the world map where it belongs".

International Climate Champions Camp in the Nilgiris

International Climate Champions — The Hindu, *January 2010*

Nilgiri Documentation Centre and British Council, South India organized an International Climate Champions Meet, 'Action Trail at the Blue Mountains- Tracking Impact of Climate Change in the Nilgiri Mountains' on 23-30, January 2010. Some forty champions from ten countries participated.

Mountains form one fourth of land's surface. They play a decisive role in determining world's climate, fresh water supply and carbon absorption, all of which are crucial for future food security on earth.

Man's quest for development has been taking a heavy toll on the mountains everywhere in the form of deforestation, mining, loss of biodiversity and excessive tourism. Scientists believe degradation of mountains could fuel climate change which in turn might aggravate further the health of these mountains.

To investigate how this vicious cycle works, British Council sent a group of International Climate Champions to the Nilgiri mountains in the south of India. At the convergence of the two major mountain ranges of south India, The Nilgiris or the Blue Mountains rises majestically like an emerald pendant amidst a sea of tropical plains. The splendid isolation of these ancient mountains was broken by the British administrators in early nineteenth century.

Just days before the champions arrived, the Nilgiris had been devastated by unprecedented landslides triggered by unseasonal and abnormal rainfall. Experts were not too sure to what extent the tragedy had been induced by climate change. But they were agreed the impact of such damages in future could be much more if suitable mitigative and adaptation measures are not taken.

Global warming not only accentuates rainfall but stokes forest fire too. Forest fires release tonnes of carbon dioxide into the atmosphere aggravating global warming, which in turn triggers more forest fires. According to estimates, fire accounts about twenty percent of total emissions from human activities.

There is general consensus now that protection of forest resources and wildlife is reason enough to raise the status of forest fire management on the list of national and international priorities.

Mudumalai Sanctuary and National Park on North Western boundary is the oldest protected area in the Nilgiris. It has recently been declared a National Tiger Reserve. Concerned at the increasing frequency of forest fires in the reserve with its dry deciduous vegetation in recent years, the forest department has instituted a number of fire management measures which have already started yielding positive results.

In the open highlands of the sanctuaries the invasive species are creeping up eating into the last remaining patches of unique grasslands. Physical removal appears the only possible way. Similarly, there is growing evidence of changes in the breeding cycle of birds.

Vanishing forests have altered the lifestyle of indigenous people of Nilgiris. The traditional plants and trees connected with their culture and ritual have disappeared are retreated far beyond their habitats. Global warming can have a catastrophic impact on the plant life in Nilgiris and elsewhere.

The exact cause and effect of climate change on mountains may still be debatable but one cannot take chance. Champions have drawn out a list of dos and don'ts to protect the mountains of the world including Nilgiris.

INTERNATIONAL CLIMATE CHAMPIONS: NILGIRI DECLARATION

Background

We, the International Climate Champions from Bangladesh, Canada, China, Germany, India, Libya, Nepal, Norway, Sri Lanka and the United Kingdom have met in the "Climate Change Action Trail at the Blue Mountains" on the 23rd day of January 2010 at the Nilgiri Biosphere Reserve to study the impacts of Climate Change on the mountain ecosystem globally.

We are also placing high emphasis on the impacts of Climate Change in the Nilgiri Mountains and its requirement for necessary action in terms of protection, conservation, livelihood of local community and their lifestyles.

The Nilgiris in Southern India is situated between 11° 00'-11° 30' North and 76° 00-77° 30' East. It is known as the Blue Mountains and has been declared as India's first Biosphere Reserve. The Nilgiri Biosphere Reserve is undergoing many human induced impacts such as deforestation and degradation of forests leading to the loss of flora and fauna and causing landslides. Climate change has resulted in erratic rainfall and aggravated incidents of landslides taking innocent lives in recent years.

Context

In the Nilgiri Biosphere Reserve, the ecological changes in the recent past have not been quantifiable and also not been clearly co-related to climate change. The research institutes that the International Climate Champions have visited, have already initiated studies related to the impact of climate change in the Nilgiri Biosphere, and the outcome of which are awaited.

However, the natural resources including the biodiversity, micro-climate, weather patterns, and land based livelihood are all seen to be an interrelated fabric. Changes in any one of the above mentioned components will have an impact on the whole ecosystem.

Therefore, we address all Indian citizens, the government, policymakers, scientific community, media, NGOs, donor agencies, and other national and international organisations concerned through this declaration.

We expect the following measures to be taken by the end of 2015:

Research on climate change focusing on its impacts, adaptation, mitigation and necessary measures to raise awareness and foster necessary changes.

Strict enforcement of laws and policies with appropriate amendments considering environmental degradation and climate change on existing as well as new constructions to encourage eco-friendly development.

All commercial buildings to fulfill the minimum standards such as those provided in LEED (Leadership in Energy and Environment Design)/GRIHA (Green Rating for Integrated Habitat Assessment) certification for a green building to minimize the impact on the environment.

Foster an ethos of integrated land management to conserve the mountain ecosystem.

Discourage and restrict construction of buildings in landslide prone areas.

The Nilgiri Biosphere Reserve to have a separate governing body with regard to conservation and sustainable development to be formed with adequate powers consisting of representatives from the three states that border the Nilgiris and the local community.

Eco-tourism to be properly implemented to ensure that the tourists abide by the rules and regulations set by the authorities concerned.

Progressive tax to be paid by tourism service providers which would go into conservation and sustainable development of the Nilgiri mountains with participation of the local communities.

Introduction of proper waste management, a planned drainage system and eco-sanitation.

Environmental education and natural resource management to be incorporated from the primary level of education with emphasis on hands on training.

Alternative and eco-friendly sources of energy to be introduced in a phased manner in the Nilgiri Biosphere Reserve.

Encourage organic farming methods in the lands already used for agriculture and control the use of chemical intensive agriculture.

The inhabitants of Nilgiris to emphasize on nature interpretation and the production of food in the areas already used for agriculture for the next twenty years and definitely not encroach further into the natural mountainous forest ecosystem.

Foster cooperation and exchange information and knowledge among the local people, governmental and non-governmental institutions and voluntary organizations.

Accelerate the phased removal of exotic and invasive species and restoration of the natural ecosystem.

Request integration of indigenous knowledge and the involvement of indigenous people in decision making at policy level by the government.

Climate Anomaly and Adaptation in the Nilgiris

Siddhartha Krishnan — The Hindu, *January 2010*

This winter, climate negotiations in Copenhagen started, got stranded, and ended meaninglessly over a fortnight. In the Nilgiris, winter itself did not last for even a fortnight. It seemed to set in during the second week of December. But frequent, and annoying, depressions in the western coast regularly cast rain clouds over the Nilgiris and two main winter facets namely evening chill and morning frost, hardly prevailed. For those of us who looked forward to a classic Ooty winter, with deportments that were routine or sentimental, this December was an anomalous month. I for one am convinced that this anomaly is a climate change phenomenon.

And this notwithstanding the fact that a farmer friend did recently mention that Ooty experienced one such winterless December in 1991. For a person like me, and perhaps others, who seek security in the routine, such 'change' challenging histories like my friend provided do offer some respite from insecurities that climate change poses. But let us not, given overwhelming scientific evidence, doubt that climate change is a reality. Let us also reconcile that insecurity is a sentiment that will gradually afflict us because of risks that climate change threatens with.

What risks then are we who reside, cultivate, and consume at 2500 metres above average sea level, vulnerable to? How do we cope with, or adapt to them? And I am stressing the altitude because fragile mountain systems like Nilgiris are particularly vulnerable to adverse effects of climate change according to the United Nations Framework Convention for Climate Change (UNFCC).

Climate Change Scenarios

We cannot exhaust listing potential risk scenarios. It is a little too early to do so. Some of such scenarios could be as follows- Late and weak monsoons or more rainy days through the year or summers warmer by a few degrees or delays by a couple of months in the onset of summers, winters and monsoons. The scenarios are many. But let us briefly choose the scenarios that we have experienced recently and discuss ways to adapt to the risks that we were subject to. This is assuming that such scenarios are in some way characteristic of change scenarios in future.

So consider 2009. We did have a late onset of a rather short southeast monsoon. And then the northeast or retreating monsoons gradually set in. There was one long and intermittently intense spell of rain that lasted for nearly three days in November.

Streams were in spate. Landslides occurred. Homes with people were washed away. Some villages in valleys also bore the brunt as sliding and accumulated debris finally came to rest here.

Fifty people are officially estimated to have lost their lives. Standing crops were lost and low lying farms were inundated. The eastern and south eastern portions of Nilgirisi including the hill stations of Coonoor and Kotagiri where the northeast monsoons are most active, experienced maximum loss, damage and disruption.

Vulnerable Sectors

There are two sectors that have emerged most vulnerable as a result of these stream spates and landslides and thus require adaptation. These are agricultural and infrastructural vulnerability. Agricultural vulnerability emerges here, besides the usual crop damage due to rains factor, from the fact that wetlands and stream flow channels have been reclaimed for farming. The recent rains in question flooded such farms and washed away crops and soil layers.

As for infrastructural vulnerability, it entails both roads and houses. In the eastern portions of Nilgiris especially the crucial Ooty-Coonoor-Mettupalayam road (an highway); and the Ooty-Kotagiri-Mettupalayam road, lands either slid through these roads or began at their slope-facing sides. Roads were covered or fissured. Transportation of people, perishables and petrol lay curtailed for days. Along these eastern portions, houses that were built on slopes slid with masses of mud and debris. Some found themselves hanging precariously with their foundation pillars exposed.

Now we have recorded climate and disaster scenarios here. Intense monsoonal activity rendering vulnerable domestic and public infrastructure and agriculture. So how do we adapt? Simple and essential. And to explain better let me introduce another concept here used by climate change scholars. It is called 'maladaptive practice' and means practices that are not adaptive to climate change, but actually counter-adaptive, thus rendering a place and its people vulnerable.

Now areas that have suffered from landslides and stream spates often serve as spatial examples or models of mal-adaptation. One such area that serves as a maladaptive model is the Ooty-Coonoor road, including the fields that run parallel to the road before the lovedale junction; the slopes along the Ooty-Lovedale road, and the Ooty-Valley View-Coonoor road. Here farms that have been created on stream beds that have gone dry. During intense rains, the streams rejuvenated and farms were flooded. The local administration should not have allowed such farming. Houses along these slopes were destroyed or are now uninhabitable as they literally hang in thin air. The local administration should not have allowed people, rich and poor, from constructing on such slopes whose stability is in question. As for roads, tourist traffic and heavy tonnage vehicles should have been drastically regulated.

Perhaps the constant vibration and loosening that these ghat roads experience due to year round traffic, did contribute to landslides here.

The local administration, informed and concerned public and the media need to identify such areas that serve as maladaptive models and rectify maladaptive practices whether building on slopes, heavy traffic or stream-bed farming. Because farmers, residents, and road users here are vulnerable to loss of income, limb, or life. It is time that residents of Nilgiris overcame ignorance, arrogance and indifference and to make the Nilgiris a model hill district for climate change adaptation.

Tourism and Tourist Resorts Conflict in the Nilgiris

Dharmalingam Venugopal *September 2010*

Paper presented at International Conference on 'Global Change and the World's Mountains' held at Perth, Scotland on Sept 26-27, 2010

Introduction

India has three major mountain range, the Himalayas in the north and the Western and Eastern Ghats in peninsular south. At the junction of the two Ghats, the Nilgiris rises like 'a cold tropical island above the warm tropical sea of south India', 40% of which rises above 5940 feet culminating in the 'big mountain' at 8699 feet. (*Lengerke 1989*).

Tourist Gaze

The Nilgiris came under 'tourist gaze' (Urry 1990) when it was discovered in 1819 by John Sullivan who described the mountains as 'the finest country I ever saw". Later a sanatorium for invalid soldiers was constructed, as was eventually as the first British 'Hill Station' providing a perfect contrast to the hot, dreary life in the plains for the British military and civil population. In the next one hundred years, the British would establish some 60 more of such hill stations (Kennedy 1996). The natural contrast provided by the hills together with the successful 'staged authenticity' of back-home feeling constructed by the colonists resulted in the growth and popularity of the Nilgiris. By late 19th century these hill stations became the Summer Headquarters of British administration in India. Hill stations declined between the world wars and by independence have lost their original splendour. By 1950s Indian princes and wealthy class had taken over the original British establishments (*Baker 2009*).

Domestic Tourism

Domestic tourism surged after the 1970s as transport and communication developed and the visibility of the Nilgiri hills as part of 'a romantic tourist gaze' increased through cinema and media. The surge became a boom after the liberalization of the Indian economy in the 1990s and the birth of the new, wealthier middle class. The annual flux of visitors to the Nilgiris rose from 1.2 million at the end of 1980s to 2.5 million at the end of 2009.

Impact of Tourism

The adverse impact of tourism growth was inevitable on the Nilgiri Mountains. The demand for food, fuel, water and building material that accompanied the growth of hill

stations placed huge pressure on the surrounding countryside, pressure that led inexorably to the degradation of the environment. (Kennedy 1996). These pressures multiplied post independence, especially after 1970s.

Tourist Resorts

Tourist resorts have added a new dimension to the tourism quandary. These resorts defy definition, description, guidelines and regulation in their location or operation. They tout exotic experiences and luxuries and often flaunt dubious 'eco friendly' labels to cater to an assorted group of *nouveau riche*. In recent years, resort tourism has come into direct conflict with wildlife protection, slope stability and town planning.

Wildlife resorts which were few and far between prior to the 1970s mushroomed after 1990s leading to multiple impacts caused by untreated sewage, solid waste, and excessive water use (EQUATIONS year unknown). Leisure resorts in wildlife corridors have caused problems of increasing human-elephant conflict to such an extent that 187 .public interest litigation has been filed in the High Court to identify and demarcate the elephant corridors.

The Nilgiris became prone to frequent landslides since 1978 with the worst occurring in 2009. Recommendations for mitigation have recommended confining human settlements on the hills to 0-18 degree slopes. However, tourist resorts have a tendency to locate themselves on hill tops or steep slopes.

The transformation of tourism from a seasonal to a year-round activity and the consequent spurt in hotel, lodging and timeshare resorts has over stretched the carrying capacity of the towns leading to the collapse of the life support system and causing serious damage to the environment which necessitated a moratorium on construction followed by the introduction of a Master Plan and Development Rules.

Resolution

Tourist resorts have become integral to tourism. However as a rapidly growing global activity, they must be subject to the principles of sustainability and inclusiveness. This would require bringing them under relevant or appropriate rules and regulations concerning their location, operation and supervision. In the Nilgiris, wildlife corridors and unsafe slopes must be 'restored to their original status' (Government of Tamil Nadu 2009) by, if necessary, relocating existing resorts. Future resorts may be located in 'select areas without upsetting the overall ecology' (Government of Tamil Nadu 2008).

Bank Branches into a Tribal Hamlet

Dharmalingam Venugopal Business Line, *August 2011*

Chinnamuthu, a 30-something school dropout belonging to the Kota tribe in Tiruchigadi hamlet, near Kotagiri in the Nilgiris, now holds the impressive title of Banking Correspondent. On behalf of Indian Overseas Bank, armed with a handheld device linked to the bank's Ooty branch, he can receive deposits, authorise withdrawals and permit overdrafts to his fellow tribals as well as others in the neighbourhood. Financial inclusion is finally beginning to happen.

Reserve Bank of India's Deputy Governor, Dr. K.C. Chakrabarty, who is spearheading the movement across the country, explains, "We have been talking about it ever since nationalization, but what makes us optimistic now is that we have the necessary technology. Inclusion is not only possible but also profitable".

Kotas are one of six primitive tribes in the Nilgiris, numbering about 1,500 and occupying seven Kokals (hamlets) across the district. Traditional smiths and musicians of the hills, the new-generation Kotas, however, have taken up modern pursuits.

IOB Chairman and Managing Director M. Narendra says the bank will in due course cover the region's other primitive tribes - namely Todas, Kurumbas, Irulas, Paniya and Kattunaikens - who together number about 22,000.

Recalling the bank's earlier outreach efforts with the Kani tribes of Kanyakumari, IOB Executive Director Nupur Mitra asserts that the poor, such as tribals, are eminently bankable. Chakrabarty adds, "Opening the account is only the first step. At the minimum, four banking products need to be provided. A savings bank account, a remittance product, a pure savings product like a recurring deposit and a business credit."

Alongside the mammoth Census 2011 exercise and the ongoing work on Unique Identification Number, financial inclusion is expected to provide each and every Indian a bank account followed by an overdraft facility.

The enterprising among them will be eligible for suitable loans. On top of everything, all of this will happen right at their doorstep.

In Tune with Tribal Life

The primitive tribes of Nilgiris, together with the more numerous Badagas, are exclusive to the Nilgiris. For hundreds of years they co-existed in peace and interdependence.

Their economy consisted of ritualised barter. One group supplied foodgrains, another provided dairy products, some manufactured household and farm implements, while the rest collected forest produce such as honey and medicines. Besides goods, the groups also provided services such as music and medicare.

The barter system ended after the British introduced agrarian changes, following which most tribes ended up as labour in plantations.

After Independence, while the district rapidly developed into a tourist and tea centre, the tribes were left behind. Environmental laws further restricted their traditional use of forest resources.

Alcoholism and poverty have pushed them towards debt traps and exploitation by moneylenders. Any efforts to reach out should necessarily be sensitive to their unique way of life.

Says S. Sathyanarayanan, Director Tribal Research Centre, Nilgiris, "The best way to do this is to empower them financially and encourage them to choose their own way of development in tune with their cultural and traditional advantages and abilities".

The overdraft facility is only the first step. The IOB proposes to open an exclusive skill development and financial literacy centre to take the inclusion plan forward. For instance, although buffalo rearing is central to Toda culture and economy, over the years it has declined. "Today, Todas feel that grazing is still profitable. There appears to be a cooperative spirit among them…Credit can help them initiate buffalo-based cooperatives that market milk and milk products," says Siddharth Krishnan, a researcher.

Thorthai and three of his young Toda kinsmen have received Rs 1 lakh loan for buffalo breeding.

Holistic Rural Development

A critical complement to the financial inclusion plan is rural asset building. IOB has clubbed its inclusion plan with its Sampoorna programme for promoting holistic village development activities such as water and soil conservation, renewable energy, healthcare, women's development and even rural tourism. Two Kota villages have been adopted under this scheme.

Where Time Stands Still

Dharmalingam Venugopal — The Hindu, *September 2011*

"The Todas and the Kotas of the Nilgiris have managed to preserve their strikingly unique culture in the face of relentless development."

The World Heritage Committee of the United Nations has deferred India's request to declare the Western Ghats as a UNESCO World Heritage in the category of natural sites. While making a fresh bid, the authorities would do well to highlight the significance of the Western Ghats as a cultural heritage site too. Nilgiris, at least, qualifies for this heritage tag.

Over the last two centuries, scholars, both Western and Indian, have highlighted the unique socio-economic and cultural life of the indigenous people in the Nilgiris with special focus on the self-sufficient and interdependent economy of these mountain peoples and their peaceful coexistence.

Under Assault

However, these indigenous groups have ended up as 'development refugees' thanks to the relentless process of development the hills were subjected to both during and after the colonial rule.

Development has, predominantly, been an urban concept. No doubt mankind has benefited from scientific breakthroughs and spread of markets. But the relentless pursuit of development has also been responsible for economic and environmental problems like poverty, pollution, water shortage, loss of biodiversity... International conventions and national declarations cannot help find lasting solutions to these problems. Ultimately we have to look for solutions in our own value systems.

And that is one reason to protect these indigenous people and preserve their culture. Apart from a moral duty to care for the welfare of these ancient communities, where else can we look for sustainable values but to the tribes like the Todas and Kotas who have led a life of sustainable values from time immemorial? It is indeed remarkable that despite the vast changes around them, they continue with their traditional way of life.

But, for any indigenous culture to survive, the people should be economically self-sufficient and free to pursue their traditional social and cultural life. It is a tragic irony that, despite over half a century of support and patronage from the government and NGOs, the indigenous people of the district are, by and large, worse off today than at the time of independence.

Among the indigenous tribes of the Nilgiris, the Todas (1600) and Kotas (1800) are unique as they still form small compact groups and continue to be confined to their traditional habitations. The Todas now occupy some 60 Munds while the Kotas continue to be confined to seven Kokals.

Considering their small number and the feasibility of preservation in situ, the Toda Munds and Kota Kokals should be declared as Tribal Reservations or Conservatories. Apart from welfare schemes, these groups should have support to revive and carry on their artistic traditions that may include innovations like eco or cultural tourism. The general care of these tribes is better left to the ministries and departments, both in centre and in the state, dealing with culture and heritage rather than those in charge of tribes in general. What we are dealing with here is not poverty alleviation but cultural preservation.

The Toda Munds and Kota Kokals may also be recommended to be declared as World Heritage Sites (Cultural landscapes) by UNESCO.

Cultural Landscapes

According to UNESCO's criteria, "Cultural landscapes are cultural properties and represent the 'combined works of nature and of man' designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal...The protection of traditional cultural landscapes is therefore helpful in maintaining biological diversity."

Defining what is called organically evolved landscape, the criteria states, "This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two sub-categories...a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time."

It seems very probable from the above criteria and definitions that the Toda Munds and Kota Kokals can qualify for the World Heritage status. This would be the best way forward to protect and preserve the Nilgiri cultures for the benefit of posterity. It would also bolster the case for declaring the Western Ghats as a World Heritage site.

Blue Hills gets back its Green

Dharmalingam Venugopal — Business Line, *November 2011*

"How the Nilgiris rose up to rescue itself".

No elk in Elk hill', 'No glen in Glendale', 'No fern in Fern hill' and 'No love in Lovedale'... was the lament in the Nilgiris, among locals and visitors alike.

This was in the 1980s, when the region's placid hills were under siege. The influx of migrants following the resettlement of Sri Lankan refugees; the unrest in Kashmir that turned the tide of mass tourism to the Nilgiris; shifting land use to tea cultivation overriding forests and farmlands; the opening of a public-sector industrial unit on the outskirts... it was getting increasingly difficult for Ooty to reign as the 'Queen of Hill Stations'.

Deforestation coupled with exotic monoculture, particularly eucalyptus, choked up water sources. Residents were supplied water through tankers.

The hill stations of Ooty, Coonoor and Gudalur turned nightmarish, with discerning visitors vowing never to return.

More disquietingly, the hills had become fragile.

"What a detestable place this Ootacamund is during the rains..." wrote the international explorer Richard Burton in 1851. October-November is when the second inter-monsoon sets in and cyclonic storms batter the eastern parts of the Nilgiris and the Coonoor ghat. Since the late 1970s, a dreadful new dimension has been added. Floods followed by landslides wreak brutal damage.

The Geological Survey of India, which investigated the unprecedented landslides of 1978 and 1979, concluded grimly: "the stage of preventing environmental degradation in Nilgiri district has been crossed over. The harm has been done. The present stage is one of repairing the damage".

Even as the administration looked on helplessly, the people rose up with a spontaneous call to 'save Nilgiris' in 1986. The Save Nilgiris Campaign (SNC) first appealed to the then Vice-President R. Venkataraman not to allow one great human tragedy (repatriation of Tamils from Sri Lanka) compound another (environmental degradation of the Nilgiri hills).

In Chennai, Eco-Focus on Nilgiris called for a separate development authority for the conservation of the hills. Thousands participated in a 'save Nilgiris' run in Ooty, including the then Tamil Nadu Governor, Dr P.C. Alexander, who expressed pain at the sight of the "bare mountains and encroachments on steep slopes" and declared that "Nilgiris should, and will be saved".

Environmental activists trekked through the hamlets and villages, explaining the dangers of excessive dependence on tea and other monocultures like eucalyptus. Chipko leader Sunderlal Bahuguna, who led the marchers on the last day, called for "conservation of the remaining natural forests and the conversion of monoculture forests into mixed forests of food, fodder and fibre."

The campaign succeeded in halting work on an electroplating unit near a major water source. Following the devastating landslides of 1993, SNC independently assessed the man-made causes.

It suggested changes to the Hill Area Development Programme and persuaded the administration to modify the design of an upcoming sports stadium to minimise its impact on the surroundings, including the hill-station's famed Botanical Garden.

The first positive response was in 1990, when the Hill Area Conservation Authority (HACA) was constituted. However, a decisive action to save the Nilgiris was taken after J. Jayalalithaa became the Chief Minister of Tamil Nadu in 1991. After a visit to the region, she declared a freeze on all construction in the hill-station pending the introduction of a Master Plan. An entry toll for vehicles was introduced to help maintain roads. Land assignment was banned to halt encroachments, a 'green belt' declared to preserve the Mudumalai sanctuary, and the felling of endangered rosewood trees was completely banned.

In a rare instance of prompt government action, work on the Kallarpallam Small Hydro Electric Project near the picturesque Catherine waterfalls at Kotagiri, Nilgiris, was halted in 1995 after the SNC brought to the Chief Minister's notice the undesirability of the project. Today those very forests are a vital corridor for elephant movement.

In 2000, when a tea industry crisis affected the 60,000-odd small growers in the district, the government introduced electronic auctions and launched a Nilgiri brand tea as a long-term solution.

The Blue Mountains are healing today. Forest cover, which had declined to 43 per cent in the 1980s, has increased to 56 per cent. Eucalyptus planting has been halted and existing plantations are being reclaimed as grasslands. HACA and the Master Plan are keeping construction activities under reasonable check. Water tankers are a rare sight these days. In Kotagiri, a Longwood Shola, which supplied drinking water to several villages, has been beautifully restored with public support.

Mudumalai has been declared a Tiger reserve and a separate corridor earmarked for elephant movement.

Some 2.5 million visit the Nilgiris at present, with the numbers growing. Hotels and homestays are doing roaring business. Ecotourism is catching on well.

Economic dependence on tea is declining. With people emigrating for jobs, the population has declined to 7.3 lakh (2011 census), compared to 7.6 lakh in 2001. The Nilgiris await a new future.

Rio+20, the UN Conference on Sustainable Development, will be held on June 20-22, 2012, twenty years after the Earth Summit brought environment to the centre stage of global development discussion. Rio+20 will attempt to bring out a policy framework to usher in a common future and a green economy. The Nilgiris may be a fit case to be presented at the conference.