

PREFACE

No civilization has survived the extinction of trees. The glaring examples of it are the Indus Valley civilization. In the words of well-known environmentalist Mr. Sunderlal Bahuguna “now the question is not of forests and development but that of survival or extinction”. We cannot afford to lose trees. We should stop seeing the tree merely as a trunk of wood with leaves. Wood part constitutes only .03 per cent of the total benefits provided by a tree. Scientists have concluded that a tree on an average during its life span provides various benefits worth Rs. 32 lacs in 1988 price index. At present, this figure for a single tree runs into about a crore of rupees.

Nature reacts to the imbalances created in it. We already have done immense damage to it. Now it is time to take corrective measures. Now it holds true than ever before that either PLANT (tree) OR PERISH

Dr. G.S. Bhalla



Bhagat Puran Singh's WARNING

In India, ten lac and fifty thousand hectares of green forest land is denuded every year. If such a vast deforestation is not checked and afforestation is not increased, the land of India will become desert till 2010 A.D.

Land can be saved from becoming desert only if in plains area 21 per cent and in mountains area 66 per cent of land is covered by forests. In 1930, thirty three per cent of land of India was covered by forests. In 1951, it reduced to 23 per cent, but in 1989, only 10 per cent of land was covered by forests. If the deforestation is not stopped immediately and the land is not covered by trees is the proportion said above, there will be soil erosion, floods, famines and the land will become a desert.

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Foreword

No civilization has survived the extinction of trees. The glaring examples of it are the Indus Valley civilization. In the words of well-known environmentalist Mr. Sunderlal Bahuguna “now the question is not of forests and development but that of survival or extinction”. We cannot afford to lose trees. We should stop seeing the tree merely as a trunk of wood with leaves. Wood part constitutes only .03 per cent of the total benefits provided by a tree. Scientists have concluded that a tree on an average during its life span provides various benefits worth Rs. 32 lacs in 1988 price index. At present, this figure for a single tree runs into about a crore of rupees.

Nature reacts to the imbalances created in it. We already have done immense damage to it. Now it is time to take corrective measures. Now it holds true than ever before that either **PLANT (tree) OR PERISH**

The data relates to the period between 1963 to 2006, studies suggest that situation has worsened in the following period.

Dr. G.S. Bhalla

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Bhagat Puran Singh's WARNING

In India, ten lac and fifty thousand hectares of green forest land is denuded every year. If such a vast deforestation is not checked and afforestation is not increased, the land of India will become desert till 2010 A.D.

Land can be saved from becoming desert only if in plains area 21 per cent and in mountains area 66 per cent of land is covered by forests. In 1930, thirty three per cent of land of India was covered by forests. In 1951, it reduced to 23 per cent, but in 1989, only 10 per cent of land was covered by forests. If the deforestation is not stopped immediately and the land is not covered by trees is the proportion said above, there will be soil erosion, floods, famines and the land will become a desert.

G

H

Seven Great Dangers

The greatest dangers which India faces are, I think, seven.

1. The combination, on the one hand, of soil erosion, destruction of human and leaching out of minerals from the soil and on the other hand, increasing over population. This combination, if not checked, can result only in vaster starvation and impoverishment than has ever yet been experienced.

2. Violence, including both war and civil strife, physical violence and violence by economic, political, social or religions oppression.

3. Grossly unequal distribution of power as between class, castes, groups and individuals, between city and country.

4. Overevaluation of great size in organization especially in the realms of politics, finance, industry and commerce.

5. Failure, among leaders especially, to realize that in every realm of activity the means chosen to reach a given end must, if success is desired, be consistent with the end desired.

6. The idea, among leaders especially, that governments or corporations or other large organizations need not obey moral laws recognized as applicable to an individual.

7. The loss, among leaders and book-educated people, of faith in the existence and supreme power of spiritual unity.

Preface

The article given in this leaflet was written by its writer in the year 1957 i.e. thirty one years earlier. I have also published his two other articles which appeared in the Tribune on the same subject, on August 12, 1996 under the caption “Consequences of Punjab’s Trifurcation” and the other on August 8, 1967 under the caption “The Himalayan Threat.” All these articles will show how necessary it is for every one of us to read such articles for the survival of our country. On reading this article thirty one years earlier I had decided to educate my countrymen of the importance of trees through posters and I tried to do what I could in this respect. The last two articles have opened my eyes as to the necessity of doing this in every possible way and with all the urgency at one’s command.

The note by me given above in connection with the article given below appeared in the pamphlet containing this article which was published on 6 July, 1976 under the title “Vanishing Forests.” The devastating floods which swamped the state and some parts of two adjoining states in the month of September of the last year played havoc with the lives and properties of the people. These floods have left a trail of great misery behind. They highlight my role as a pioneer keeping an eye on the writings of competent environmentalists appearing in the newspapers and journals and transmitting their message full of warnings of the perils which could manifest themselves in the shape of floods, desertification and droughts. My publicity campaign which commenced in the beginning of the decade of fifties began to publish maximum number of articles on the role of forests in protecting the environment on the introduction of the Van Mahotsava festival in 1957 by K.M. Muni, Union Minister of Agriculture. I have continued publishing such articles from eminent environmentalists and ecologists in the shape of leaflets and pamphlets in Punjabi, Hindi and English in lakhs also arranging their distribution on mass scale to people wherever they gather in large numbers in fairs, railway stations, colleges,

schools, offices, courts, at the doors of world famous Gurdwaras including Darbar Sahib, Amritsar. The foresters of India decided in 1952 to raise the forest area of the country from 21 per cent to 33 per cent but the area has been diminishing unabated and unchecked as a result of the indiscriminate depletion of forests and denudation of forests till it has been reduced to 11 per cent only in 1988. My publicity campaign has proved to be an early warning system of the long-term problem of afforestation of the soil of the country. If seen in the context of the shocking apathy and indifference of the publicity department of the Government. In the vital social function of communication with the masses and the inaction of the Government—my voice has been a solitary voice in the country as illustrated above. This shocking state of affairs in the matter of the health of the soil of the country proves that the function of developing as awareness and sensitivity with reference to the eco-system, understanding, decision making attitudes and values oriented towards right action falls to the lot of the devotees of God, Bhagats, the elite endowed with a creative spark who work constructively under the shadow of world famous holy place like Shri Darbar Sahib, Amritsar. There has been a serious problem of ecological imbalance, putting the very survival of man at stake. The sooner, man becomes aware of the problems and solve the same, the better it is Education is a potent instrument to enable man to solve the problem with the right decision taken at the right time. People must be made aware of the existence, the seriousness and the dimensions of the great dangers, Appearing in the Tribune on July 1, 1957, thirty one years earlier, this article on was the first article to appear after the introduction of the Van Mahotsava. I have been publishing this article not only in pamphlets but in leaflets also, which are distributed free of cost. If I had been provided with requisite funds to distribute these publications at mass scale, during the last thirty years the floods of 1988 would not have occurred.

—Bhagat Puran Singh

Trees—Benefactors of Mankind

We Celebrate VANA MAHOTSAVA by planting trees to the accompaniment of dance and music. It is truly a festive occasion, but there are really very few people who know 'why'. To the vast majority of people it is no more than a hallowed tradition, to a good many it is a religious act, while with some others superstition continues. Yet the fact remains that the present generation is fast discarding these attachments and looks to scientific explanation for guidance.

To this last class of people, who need conviction for their guidance, this contribution is primarily addressed. They are not to be blamed for this attitude in these days of hard competition and shortage of land. They expect quick and sufficient returns for their efforts and money spent. The most obvious utility of trees is for fuel and timber which we need for constructing homes and keeping them warm but this is not their only utility. In addition to providing us with a home and keeping it warm, the trees also meet other basic requirements of many by supplying food, fodder and fiber and other minor products such as bark and flowers and resin and gum. It is hardly necessary to enumerate the various articles made out of the produce of tree such as furniture, tools and instruments, rayon and pulp, lac and dyes and so many other things that neither the villager, nor the town dweller, neither industrialist, nor any Government can do without. The object in writing this article however is not to mention these obvious uses, without which life would be unbearable, but to focus attention on some other aspects which are far deeper in their implications and are fundamental.

LINK WITH TREES

One might start by reminding man of his

evolutionary link with the trees which has helped us make what we are. It is obvious that we cannot afford to break that link so soon without great risk. Despite our great advance and freedom from nature, ever since we parted company with trees, we still need them for shelter against sun and glare, extremes of heat and cold, storms and floods, avalanches and landslides and so on. May we need the trees for their aesthetic effect, for pleasure and delight, for rest and recreation. These are all vital needs, it will be admitted but man is daily getting independent of nature, even in these very respects.

This brings us to a consideration of man's civilization which has and is making him more and more independent of nature. He has built houses, cultivated lands, erected factories, constructed machines, developed communications, dug canals, put up dams, harnessed waterpower and utilized other sources of energy. Undoubtedly this is a great achievement and one may well be very proud of such civilization, but that is no reason or justification to become blind to other great principles of nature to which even civilizations are subject. In this particular case, the great principle of truth is that no civilization has survived the destruction of trees. It is not the first time that a civilization has developed on the face of this earth. Who has not heard of the great and ancient civilization of the valleys of Nile and Euphrates or those of Syria and Greece, nay of our own Indus basin as revealed by the ruins at Mohenjodaro and Harappa? These civilizations were destroyed not so much by foreign hordes as by the senseless destruction of trees mostly by the people themselves. Deprived of the protection once afforded by trees, home and lands and aqua ducts become choked and buried by stands, brought down by floods and blown by winds. The bitter lesson must be learnt that

no works of man whether it be a town or factory, field or orchard, road or canal, mine or a dam, can survive without the benevolent protection of trees. Tree is, therefore, the greatest benefactor of mankind. Trees alone can protect material civilization and its advance is therefore, determined and measured by the degree to which the trees in a country have been preserved. Let us, not therefore, forget this basic fact and factor for development.

TREES BRING PEACE

The sooner we stop thinking of the tree as a mere mass of leaves and branches supported by a woody stem the better it will be for our understanding of the true role it plays in Nature. In reality it is a symbol, nay a temple of peace, in the midst of wild elemental forces of Nature. Winds, rains floods, dust and sandstorm, heat, cold and bright light are all pacified and harmonized by the trees leading to peace in their vicinity and fertility in the locality. Remove the trees and storms begin to take away or demolish all that was constructed and developed by man (such as houses and fields) or conserved and created by Nature (such as water and soil, flora and fauna) during the period of peace. This is exactly what has been happening and is now happening, in many parts of the world including India and our own Punjab state. Trees are being mercilessly cut under one pretext or another either to meet demands in timber and fuel or as being impediments to other forms of land use such as agriculture etc. with the result that lands are progressively becoming more barren producing lesser yield per acre. A vicious circle has been created in which land hunger goes on increasing because more the cultivation extends the less it produces and hunger becomes even greater. The worst is that the dried up soils are beginning to be blown away with winds not only reducing the efficiency of other works of man but also

leaving the cultivated land more and more sandier than before. Digging of the Bhakra Canals was a revelation in this respect. The profiles of soils so exposed showed that even in the southern districts like Hissar and Ferozpur the lower horizons are sandy loam even a clayey loam, whereas the top 6 inch to a foot has become more-sandier and thereby lost much of its fertility. These sands have not been blown from Rajasthan or any other desert, but come down along with the more fertile finer silt from the Himalayas. Through constant ploughing and exposure to winds the finer particle has mostly been removed leaving a larger portion of sand behind. We must guard against our Punjab becoming a desert, the beginning of which can be seen even in such central districts as Jalandhar, Ludhiana and even Hoshiarpur and Ambala. Live sand dunes can be seen between Jalandhar City and Jalandhar Cantt. Most of the deserts we see in the world today have been created not by Nature but by man. We cannot and must allow this to happen in our Punjab and India.

Outstanding work in this respect has been done by our great engineers who has impounded and made available large quantities of water for our parched and sandy soil, but there is a limit to what they can do. Besides in the long run, their works are no more than temporary, for they deteriorate in efficiency and become dead or burned, unless sufficiently protected by trees. Our greatest single achievement of today, the Bhakra Dam, can claim not very much longer a life span than that of a similarly well-looked after man. What will happen after that is difficult to contemplate, but tree encouragement in the catchment of the Sutlej can certainly give it a much longer life. Our other lifelines such as canals and communications are similarly placed and unless protected, their efficiency and life become continuously restricted. Who has not seen

mounds of sand rising rapidly on either side of roads in every part of the country. These are warning issued by nature that desert conditions are setting in rapidly and unless something is done immediately, it may be too late after to recover from staggering blows of wind damage just as the increasing flood damage is trying to overwhelm us from the other side. Our country is making valiant efforts to produce more by bringing additional water supplies, fertilizers etc. in use but the fact remains that these too are partly lost through wind and water erosion and the basic fertility of soil, as given to us by bountiful nature, is daily going down by the spread of sand with water from the North with winds from the South. The strain on the nation is, therefore, increasing rapidly, not only on account of falling soil fertility but also increasing population. But what worries us is how long we shall be able to bear this increasing strain. It was the indomitable spirit of our great national leaders which saved India from succumbing to a serious food crises soon after partition but usually this is the way nations have often lost their political independence. Our Indian history is replete with events when foreign yoke was thrown away but let this be clearly understood that once a nation is smitten by erosion it has never risen again, as has already been said of several ancient civilizations. When nature has been antagonized, that is its balance has been disturbed, it acts relentlessly; the elemental forces of wind and water destroy everything in the country.

It is the realization of the fundamental principle that the Western countries, whether highly developed agriculturally like U.S.A and U.S.S.R. or industrial like Britain and Germany or specialized in cattle breeding like Denmark and Holland, are all vying with one another to give protection to their country and their civilization by

planting large number of trees in a planned manner. In America, Russia and China, more trees are planted every year than the entire forest area of the State and the planting rate is rapidly increasing every year. Other smaller countries are concentrating on shelter belts round cultivated fields which is the only way of producing maximum agriculture and forest produce in those densely populated lands. India cannot afford to wait for even one more single day to make a start which is already decades late and the shelter belts take a decade or so to start functioning effectively. Gone are the days when Agriculture and Forestry were kept separate to be developed on different area. The Forest Policy of India lays down a target of 20% of land under the forests in the plans; the agricultural policy lays down maximum production of food etc. from land, but we are getting neither. Put them together and both the targets achieved. The fact must be recognized that in the plans the best interests of humanity are not served either by agriculture or by Silvi-culture, practiced separately, but lands have to be treated under one all-prevading science which had best be called Silvi-agriculture which in other words, means the raising of food and other cash crops under the production or shelter of a belt of forest crop. It is a very common fallacy to presume that production of field crops would go down as a result of shelter belts on account of the land the latter occupy and dense shade they throw in their immediate vicinity. Experience the world over has established the fact that if you protect say a square or rectangle (25 acres) of land by a shelter belt '30 to 50' wide, which would occupy some 2 acres of land or about 8% of the total area of the square, the yield produced by the remaining 28 acres or 7/8 of the land is 50% or so more than the total yield originally produced. This improvement in yield is greater in warmer countries like India than in

western countries where this is being practised. There can be no two views about it and no differences of opinion. Here then is the way which will meet our daily increasing requirements of food and other field produce, but on top of that it will stop the present deterioration and instead preserve the fertility of land at a higher level than now obtaining in the country.

The Punjab Government is very much alive to this situation and has already started with its plans to create shelter belts along all roads, rail and canals. Those and contemplated belts along rivers will no doubt, form the backbone of their shelter belts required to be put in, but the main work lies on agricultural fields which have recently been consolidated and are still being consolidated. The work is enormous and the planting will have to be done in term of lacs of acres annually but it has to be done, can be done and must be done quickly. The rate at which the work is being done now hardly counts. It would not do to double our pace or to make it four times faster but it has to be a hundred times faster if the rot has to be stopped. It is not the work of one single department or a Government alone, it has to be done with fullest co-operation and actual help of the entire agricultural population of the State. Let us then gird our loins and transform our Punjab from a growing desert to a blossoming garden. It is not only our duty, but also in our own personal interest. Let us, therefore, vow and raise the slogan "*MAKE PUNJAB GREEN,*" There is no alternative. It is '*plant*' or '*perish*'

—S. Partap Singh, Chief Conservator of Forests

Tree Of Life

(This piece was originally published in *Manas*, March 14, 1979. I read it in *The Next Whole Earth Catalog*, published in the following year. This article was originally posted several years ago on this site and since that time I have received further information on desert reclamation which is included below. Many thanks to the people who have contracted me re this.)

Twenty years ago (1959) an Englishwoman, Wendy Campbell-Purdie, having heard Richard St. Barbe Baker say that the spread of deserts could be stopped by a green wall of trees, bought a one-way ticket to North Africa and set to work planting trees. On forty-five acres of desert in Morocco (Tiznit), she planted 2,000 trees and four years later they were twelve feet high. She proved that this manmade strip of oasis would change the climate (increase the surface humidity) by growing wheat and barley in the shelter the trees provided. Then she went to Algeria, where a reluctant government, gave her a 260-acre dump. The seedlings she set out there did so well that the astonished Algerian officials promised her help. She went home to England to raise some money and eventually she formed the Bou Saada Trust to wage biological warfare against the Sahara. A few years later the 130,000 trees she had planted at Bou Saada (in Algeria) were flourishing and the fertile area they created was growing vegetables, citrus and grain. Plans were then made to invade the great desert with the green things growing.

How urgent is this campaign against? In 1977 a UN conference on Desertification reported that the world's desert areas are rapidly spreading. One third of the land surface of the Earth's surface is now desert and every year the Sahara gains 250,000 acres of once-productive land.

The lives of some 630 million people are threatened in the regions of the world now turning into desert wasteland.

Wendy Campbell Purdie has recently formed a registered trust called Tree of Life to continue this project and undertake similar ones. The idea is to save "the vulnerable communities on the fringe of the Sahara and other world deserts by working with them to stop the deadly process of desertification, restore the life of the land and protect the livelihood of the people." An explanatory booklet *Tree of Life* (London address is given, by now certainly invalid), describes the program.

The Tree of Life evolved directly from the work of the Bou Saada Trust in Algeria. This successful pilot reforestation scheme has now been incorporated in one of the world's most ambitious tree-planting programs-the thousand-mile protective "green wall" right across Algeria. The first task of the Tree of Life is to set up similar pilot project, in cooperation with the Governments concerned, to continue the green wall along the entire northern edge of the Sahara Desert. Conquest by Richard St. Barbe Baker, founder of the movement known as Men of the Trees.

Miss Campbell Purdie has established a plantation 130 miles south of Algiers at the Bou Saada oasis and is trying to prove the theory that round the Sahara in the narrow strip between the cultivable land and the true desert there is land which can be afforested.

The scale on which her experiments are being carried out is modest. But what Miss Campbell-Purdie has undoubtedly achieved is wide publicity for her vision of a Green Front around the Sahara-an idea which is also the theme of St. Barbe Baker's book.

The Sahara being one and a half times the size of Australia, no single initiative can hope to do more than

dramatize the idea in order to call the attention of the governments round its borders to the dangers inherent in bad land use practices which will allow the desert to encroach further and to interest the general aid-giving public in the idea of trees holding it back.

Since the beginning of 1966 the United Nations/FAO World Food Program has also been assisting the Government of Algeria in large-scale reforestation and land reclamation operations through the Chantiers populaires de reboisement. Begun in 1962 under the Christian Committee for Service in Algeria this work is directed at the eventual economic development not only of northeast Algeria but of other regions. Forestry operations in this desperately poor area provide work for thousands of workers and their families, who are paid in the form of food provided by the World Food Program.

Up to the end of the 1965/66 planting season a total of some 30 million trees were planted on about 28,000 hectares. Species used included *Eucalyptus globulus*, *E. Camaldulensis*, *Pinus Pinea*, *P. radiata*, *P. pinaster* and *P. halepensis*, *Cupressus sempervirens* and *C. atlantica*. Samples of seed from other Mediterranean countries are being procured for future trails.

A brief overview of the life and work of Richard St. Barbe Baker can be found here He is the author of a number of books, none of which are in print at this time but many can still be found used at Amazon and Abebooks.com

Experience Your Special Place On Mother Earth

Mary Lemons

All living things have a common life force within them. It is through that life force that we can find our oneness with all creation. And once we become one with all, self-healing begins.

There is a pulsation in all creation. We know our own pulsation as the beat of our heart. That pulsation within us can be aligned with the pulsation of all other living things. When we spiritually connect with Mother Earth and her different manifestations, we receive many gifts unknown to us in our “normal” third dimensional world.

Behold the wonders of our environment. The earth provides us with a gravitational force that enables us to live upon her surface. In spiritual terms we call this “grounding”. It enables our spirits to reside here within our physical bodies. Most people never give groundedness a second thought. But some people are “out there” and truly need the consciousness of being grounded with the earth in order to feel a balance within their being. The rocks, especially the big boulders, give us much strength and a sense of stability. If you are scattered and feeling out of sorts, sitting upon a boulder can bring you to the centre and calm you.

Rivers, streams, lakes—all bodies of water can cleanse us spiritually as well as physically. Not only do they refresh us when we physically touch or swim in them, they can also help cleanse our souls when we release our concerns to them. Imagining yourself in a peaceful stream can do wonders for your disposition.

The trees have so much to offer us. Tall pines

stoically point heavenward, reminding us of the Spirit above. They also have a deep tap root that point to the core of all life. The more flexible trees like the weeping willow signify the flexibility that we need so much in our lives. The acorns that drop from trees tell us that our growth can begin with just a little seed. We don't have to know it all or do it all at once.

The dirt that we are so careful to wash off our hands holds many mysteries. What does it have within that feeds and nourishes the roots that wiggle their way down through dirt's many layers? Is our foundation fertile enough to allow us to expand and grow at will?

The grass is our welcome mat that reassures us that it is safe to journey here. Our feet will not tire from walking on grass. The rocks and crystals signify the gems that are waiting for us deep within our souls. All we have to do is look long and deep enough and many wonders will unfold.

There is nothing quite like being outside on a beautiful, sunny day, breathing in the freshness and listening to all the sounds of creation. When it is cold and dismal outside, we can still enjoy nature by quieting our minds, enjoying the essence of creation. Seeing yourself standing against a tree or floating on water or lying in the grass can still your thoughts and give you focus, clarity and vision.

Next time you are frazzled, confused or just plain tired, close your eyes and take in all the beauty and wonder of your special place here on mother earth.

The Times of India, August 22, 2005

Environment And Heart Happiness Brings Health

Dr. H.S. Wasir

The role of environment on health in general and on the heart in particular has often been mentioned since the time immemorial. For example the common proverb "Change in climate will do you good" in other words stressed the positive relationship between environment and human well-being. The words "Aab-o-Hawa" (water and air) also have often been used to express their effect on health. Five hundred years ago Guru Nanak (1469-1539), realizing the positive role of a close interplay between air, water and earth in maintaining the continuity of the human race, wrote:

*Pawan guru paani pita,
Mata Dharat Muhatt
Divis raat doei dai dia
Khele sagal jagat*

Several centuries before Nanak, Hippocrates (6th century B.C.) the father of modern medicine, had this to say concerning the role of environment with regard to human well-being.

"Whoever wishes to study medicine properly should proceed thus: In the first place to consider the *seasons* of the year...the *waters*—the *ground* and the *mode* in which the inhabitants live and what are their pursuits, whether they are fond of eating and drinking to excess and given *sedentary living* or are fond of *exercise* and labour".

Environment plays a dual role in health: (a) psychological effects and (b) physiological effects, which act through neurohumoral mechanisms on the functioning of various organ systems, especially on the central nervous system, the cardiovascular system and the endocrine system. The environment itself has two components:

(a) the external environment—like the weather changes, atmospheric pollution, nutrition and the type of diet one consumes (satwik, rajsik or tamsik) and (b) the internal environment—which is the result of neurohormonal changes brought about by the powerful role of mind through the autonomic nervous systems.

The external as well as internal environmental factors have a bearing in the cause and cure of many diseases such as peptic ulcers, diabetes and heart diseases. The role of diet is well known in both the causation and also cure of stomach ulcers, overweight, diabetes, allergic conditions, high blood pressure and heart attacks. In the present text I will mainly deal with the heart problems which could be having a relationship with environmental factors. These are the diseases of high blood pressure, heart attacks and certain problems relating to the disturbance in the heart-beats, such as fast and irregular pulse rates, missing of beats, etc. The harmful role of over-eating, smoking, excessive alcohol consumption and lack of regular physical exercise on the human heart is well known to everyone and needs no further discussion. The powerful role that mind has on the heart has, however, not been highlighted enough. Is the heart the masters of the human body or a slave to the various masters, the most powerful being the mind? I will leave it to the readers to decide for themselves after reading the following:

*Heart said to mind
“I am the master—
The power-house of life
steering the blood-stream
to sustain your existence,
directing its flow
to nerve, tissue and flesh
which structure the mansion
of the human consciousness”*

*over which you preside
by my grace, power and effort”
Cool crafty mind
so strong and assured
smiled has naughty smile
both mocking and indulgent
and replied to the heart:
“Your claim of mastery
over the human body
is correct and admissible
for you truly sustain life
But you are a mere pump
whose flow of the life-stream
is controlled by my cells
of great magic and complexity
in moods of elation and
serenity
which can destroy or celebrate
life.
You are surely a great
performer
and your role is crucial to
the tempo, duration and
quality of life.
You conform to the life-force
and exploit its energy
to spend or to hoard
while I plan and direct.
If I am calm and serene,
wise and compassionate,
your power-house function
is smoothly performed.
In my anger and turmoil,
confusion and fear,
your nuts, bolts and valves*

*shake, crack and even break.
 I must be serene, calm and
 tranquil
 for you to do well,
 relax and perform”.*
*Heart and Mind then spoke
 in unison,
 singing the song of life;
 “For the breath and feel of life,
 its expressions and potentials
 of joy and creation,
 we belong to each other.
 If the mind guides the heart
 in peace, hope and faith
 and the heart keeps bouncing
 in wholesome physical feats,
 the body’s tempo will be great
 to work and create”.*
*Together let us make
 Dr. Wasir’s two potent “drugs”
 “MIND” and “HEART”
 For the care of the heart
 And the glory of the mind.*

(This poem was written by Dr. Prem Kirpal as a commentary on the author’s article, ‘Mind, physique & heart’).

The mind influence the working of the heart, the levels of blood pressure, the state of blood vessels and the various metabolic processes through the interaction of two components of autonomic nervous system, the sympathetic and parasympathetic systems. The major effects of the mind on the human cardiovascular system are:

1. Changes in the pulse rate, the rhythm and force of the heart-beats. It may also result in irregularity in the

heart-beats.

2. Blood pressure changes such as a sudden rise of the blood pressure under a tense state of mind, anxiety, stress or tension.

3. Respiration also becomes fast and erratic in a disturbed state of mind.

4. Blood sugar may rise when the person is under tension or faces a hostile environment.

5. Blood vessels that carry oxygen and nutrition to the various vital organs of the body may show narrowing (spasm) when a person is under tension. When this happens to the coronary arteries i.e. the arteries carrying pure oxygenated blood to the heart muscle, then the person may get an attack of angina or a frank heart attack. Cases of sudden deaths due to heart attacks under stressful situations are often as a result of such a process (coronary artery spasm) which may cause death due to a massive heart attack or an erratic beating of the heart (arrhythmias). Such is the powerful role of the mind on the heart.

Emotions which are also the reflection of the mind may have a positive useful effect on the human heart if they are positive emotions or a negative deleterious effect on the human cardiovascular system if they happen to be negative emotions. The positive emotions are: unselfish motives, selfless service, “may I help you” attitude, all these resulting in peace, tranquility and equilibrium of the mind thus protecting the cardiovascular system from harmful effects of a rise in the blood pressure, irregularities and a high pulse rate and metabolic disturbances like an increase in blood sugar and cholesterol levels. The examples of negative emotions are: desires (kama), anger (karodh), greed (lobh), attachment (moh), pride (ahankar), jealousy and egoism. Their repetitive occurrence results in stress, tension, misery and disease.

It is difficult to precisely or stress but from the

health and environment point of view, stress may be defined as: “A state of mind resulting from an imbalance between the environmental or situational demands and an individual’s capability to meet these demands”.

These days when we are seeing many young men in their thirties and forties coming to the hospitals with problems of heart attacks and high blood pressure, one wonders these maladies are the gift of genes or due to the environmental factors? There are reasons to believe that in many such instances these are the result of changes in living habits and environmental influences and not the will of God. Several examples from the medical literature and public health statistics illustrate this point. Rheumatic fever and the rheumatic heart disease is a very common heart ailment in India, affecting the heart valves, the treatment for which involves major heart surgery. It is very expensive both to the individual and to the state.

This disease, once very much prevalent in Western countries, has been almost eradicated there not so much by the use of medicines but by the effective control of environmental factors, like avoiding over-crowding and observing proper hygienic measures. Some of the isolated tribes in Australia had practically no cases of high blood pressure, but once they moved to the main lands and changed their living habits, their blood pressures started showing rise and in some cases have resulted in frank hypertension—a disease with much higher prevalence in the city-dwellers than in the rural population.

A similar finding has been observed in the blacks who migrated to the USA. The Japanese migrating to California and other parts of the USA started showing a higher rate of heart attacks. The Punjabi and the Gujaratis settled in the UK show a significantly higher incidence diabetes and heart attacks than not only among their counterparts back home but also among the local whites.

Is this therefore, due to the genes or the environment? Clearly there is a case for the environment. A lack of physical exercise, excessive consumption of food and alcohol, smoking, overweight and a tense mind under repeated stressful or provocative situations are all considered strong risk factors for heart attacks and these are directly or indirectly related to the environment-external internal. If that is the case then why not study this subject in depth and try to modify the environmental situations in a way that may be beneficial to the heart.

It is also true that changing the environment and the people living there to suit us in an extremely difficult task. Realizing these difficulties and knowing that certain environmental factors particularly the stresses and tensions and the behaviour of other people, relations, friends or foes, are difficult to change, one should try to modify one’s own behaviour and reactions to these stressful situations both at work and at home. Some of the beneficial environmental factors, which I will call as coronary or heart protective factors, include:

(1) A balanced diet, avoiding excess eating, specially sweets, so as to keep the body weight, blood sugar and blood cholesterol in the normal range. Artificially preserved foods mostly have a high sodium (salt) content. Some preservatives may be harmful to the heart and raise the blood pressure. Fresh fruits and vegetables, on the other hand, are rich in the fibre content and potassium which are both beneficial to the heart and for controlling the blood pressure.

(2) A Regular Physical exercise helps in keeping the body in a good working condition, in avoiding putting on excess weight and the treatment of mildly elevated high blood pressures, diabetes and high cholesterol levels. It also gives physical and mental relaxation thereby creating a feeling of general wellbeing and hence adds life to years

in addition to adding years to life. Physical exercise trains the body to do more work at a given oxygen availability. The beneficial effects of the exercise are obtainable with a regular moderate exercise. A strenuous exercise may be harmful by producing fatigue and muscle tears.

(3) A Relaxed state of mind free of tension and stress as attained by the use of music, meditation, yoga and the practise of positive emotions help in successfully meeting many a challenges in life and preserving vigour and good health.

(4) Interdependence among people around and possession of a few good friends (alas a rare and almost extinct species these days!), instead of living like an isolated, lofty tall non-shady tree, are helpful in the creation of a protective buffer zone around us which may provide protection to our health in general and the heart in particular against the various environmental jolts which could otherwise prove extremely harmful, even fatal at times.

(5) Breathing of fresh air helps in better oxygenation of the blood and improves the lung capacity to take care of the various toxins in the atmosphere. The morning walk is especially beneficial as the atmospheric air at that time is not polluted by the automobile and industrial fumes. The presence of a lot of green trees in the environment where we live takes care of many of the toxins like carbon dioxide and others. Plants are really our good friends which provide us not only shade, flowers, fruits and vegetables but also a clean toxin-free environment to enable us to breathe fresh air.

The environment thus has a close relationship with health and disease and it is up to us to take advantage of its beneficial aspects.

The author is Professor of Cardiology, All India Institute of Medical Science, New Delhi.

The Tribune, June 24, 1990

We Borrow the Earth From Our Children

D. Balasubramanian

The great leader of the Native American Suquamish Tribe, Chief Seattle (after whom the city is named) was a scholar with great love for his land and people. He said to his white conquerors: “Teach your children what we have taught ours that the earth is our mother. Whatever befalls the earth befalls the sons of the earth. The earth does not belong to man; man belongs to the earth. Man did not weave the web of life; he is merely a strand in it. We do not inherit the earth from our ancestors; we borrow it from our children.”

These words were said over a century and a half ago.

Recently, the United Nations Educational, Scientific and Cultural Organization (UNESCO) spearheaded a global contract called the Universal Declaration of Bioethics and Human Rights which has since been adopted by its member countries.

Not a day too soon

The declaration goes beyond the Hippocratic Oath that doctors take before their practices and covers not only healthcare professionals but policy planners and governments as well. In effect it is a 28 article-long reiteration of what Chief Seattle said and does not come one day too soon.

For those interested, a search on the Google search engine, using the term Universal Declaration of Bioethics, provides the entire text.

Since Seattle’s days, biomedical sciences have made spectacular progress and many of the advances made here have a direct bearing on how we treat patients,

families, communities and the earth itself. It has thus become important that biomedical professionals be taught a course on bioethics in their curriculum so that they can learn to abide by its tenets in their professional lives.

To this end, UNESCO has put together a group of experts from around the world to design a curriculum in bioethics for medical students and related professionals and I happen to be a participant in this group.

The learning objectives

Based largely on the Universal Declaration, this course has 17 units, to be taught in about 40 lectures or so.

The learning objectives are to learn how to recognize an ethical issue, how to reason about ethical issues, how to identify ethical dilemmas and how to make ethical decisions.

The course contents include the meaning of human dignity and rights; what benefits and what harms a patient; autonomy and individual responsibility; how informed a patient is before giving consent to be treated; the respect we should have for human vulnerability, personal integrity, privacy and confidentiality; justice and equity; non-discrimination and non-stigmatization while providing service; respect for cultural diversity and pluralism; solidarity and cooperation; social responsibility and health; sharing of benefit; protecting future generations and the protection of the environment, the biosphere and biodiversity.

Notice the last two points, which make special mention of the environment around us and of our coming generations. These points are relevant not just to healthcare professionals alone, but to all of humankind.

These require society at large, legislatures and governments to be involved and to pay special heed. Sadly,

while the governments of about 190 nations have signed to honour the Declaration, many of them do not seem to.

Look around us. The U.S. government wants to deface Alaska by digging for oil there and also refuses to believe in global warming. Japan, Russia and some Scandinavian countries want the ban on whale-hunting lifted, knowing full well that the ban has been imposed to save the majestic marine mammal from extinction. Then we learn about the steady depletion of the tropical rain forests of the Amazon. As the song laments: “When will they ever learn?”

Government dithering

Look closer to home. The government is pushing ahead with the Sethusamudram Project, even as environmentalists and several scientists warn us of the loss of precious coral reefs and associated marine life forms. Soon after the asbestos-laden ship *Clemenceau* is turned away from the Alang Shipwrecking yards, thanks to environmentalists’ pressure, another of its kind is permitted in.

The river Ganga, held sacred by millions, is polluted day in and day out by domestic and industrial wastes. Yet the government dithers about the modes of implementing its own Ganges Action Plan (started almost fifteen years ago).

The government’s intentions are honourable, the money has been set apart and yet the follow-through is taking years. The sanctity of the river, in the meanwhile, continues to be debased. One Chief Minister wanted to deface the ambience around the glorious Taj Mahal with bricks and cement, to build a shopping mall, before the courts stopped it.

Are these acts ethical? Are these what we want to leave behind for our children?

Sadly, while just about every political leader and government around the world professes commitment to guard the environment and concern for the future generations, most of them have not lived up to their promise.

In this regard, what the Israeli Parliament (the Knesset) has attempted to do is admirable and worthy of a similar action by India (and indeed many other nations). Called the Israeli Commission for future Generations, it was created by law as an inner parliamentary entity.

Its role is to overview each legislative process, with special regard to long-term issues and to attempt to prevent potentially damaging legislation from passing in the Knesset.

This commission is given the authority to initiate bills that advance the interests of the future generations.

It is also entitled to provide the parliament with recommendations and the opinions and recommendations of this commission have to carry a scientific character, be detailed and include comparative research.

Does an admirable job

We in India have a powerful agency called the National Human Rights Commission, with the distinguished Mr. Justice Anand as its Chairman. This commission does an admirable job in safeguarding human rights. Is this not time for us to strengthen it as Israel has done?

By doing such a strengthening and providing it with even stronger teeth, we would have gone a long way in upholding all the Articles of the Universal Declaration of Bioethics and Human Rights, of which India is a signatory. Recall what Chief Seattle said: we do not inherit the earth from our ancestors; we borrow it from our children.

The Hindu, September 7, 2006

India: A Land Of Forests

Lav Kumar Khachar

Any person today travelling across India, or looking down on its sun-scorched surface from a high-flying aeroplane, would smile in amusement when told that India was once thickly forested land. What is dangerous for the restoration of these forests is when forest officers too similarly dismiss vast tracts of land as being arid or too rocky to grow trees on other than of some poor variety.

We have but to refer to *Puranic* names of certain tracts to know that they were forests. *Dandakaranya*, *Nimesharanya*, *Champakaranya*—these were the names for a tract of land—the western tip of the Saurashtra peninsula, which in dotay’s lexicon is arid and drought-prone! In the *History of Kathiawad*, Capt. H. Wilfer-force-Bell wrote of Saurashtra in 1916 “Kathiawad is decidedly a well-watered province.” Fortunately, I have lived long enough to be able to testify this fact, to the Englishman’s description of the area being well “watered”, I could add well-vegetated too. Individuals older than myself would also affirm that the land indeed had fine trees. Fortunately, there are still some fine trees all over the area to prove me right.

The last of these are, however, still finding their way into timber yards and being converted in bank balances of unscrupulous individuals. Once the last of these fine trees are felled and older men leave the stage, there will be only information in books to affirm that India, indeed, had fine trees.

We are at a very critical phase of India’s biological history, because if great forests, full of rich and varied life forms of plants and animals, become just one more subject in the *Puranic* tales, we shall in fact be causing a massive

extinction of all our Indian plant and dependent animal species!

If a change in the earth's climate or the intrusion of a massive meteorite caused the sudden and total death of once—dominant dinosaurs, we all will by our callousness be responsible for the mass extinction of myriad forms of life. Not a very edifying attainment. Yet, we can indeed put things right by developing a collective will to bring back the rich forests and make India a land of milk and honey both commodities presuppose plenty of vegetation which also means a ready and copious availability of water. It is yet not too late to resurrect these fine forests but time is running out.

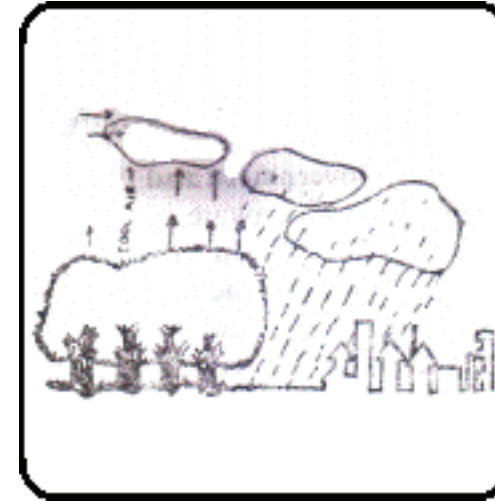
The forest department must as a professional cadre is committed to the cause of re-establishing India's biological wealth and the rest of us must collectively demand that the forest service be given the fullest support in getting us back our heritage. We must not demand anything less.

(Blitz, September 3, 1988)

The Forester's Role In Publicising Forests

(A Talk to Forest Officers)

***Know the Value of the treasure you guard.**



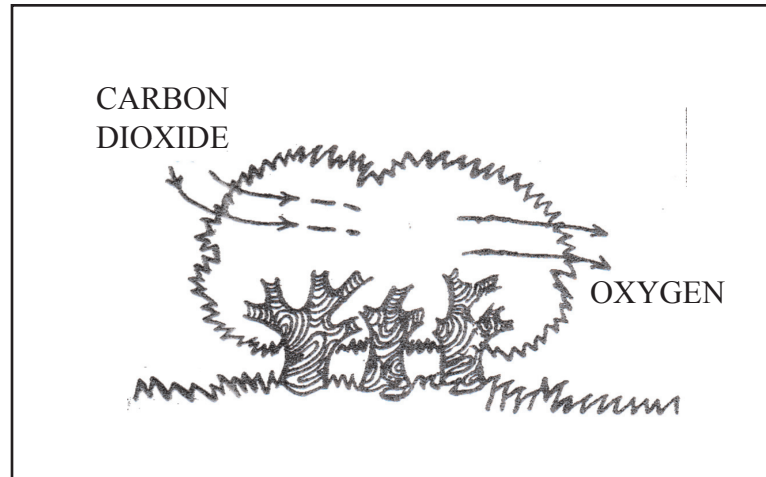
Forest improves the climate, attract rain.

Protect the forests—they keep the desert at bay.

The job of a forest officer ought to be challenging and satisfying. There are few professions which afford such a combination of business with pleasure as yours does. You are guardians of our country's wealth and you should know the value of the treasure you protect. Perhaps the best way to evaluate this is to list the important contributions of the forest.

1. Forests, vegetation and plankton, by photosynthesis, provide the earth's supply of oxygen and control the quantity of carbon dioxide in the atmosphere.
2. Forests prevent soil erosion, protect headwaters of rivers, prevent or minimize floods.
3. Forests have a beneficial effect on climate and attract rain.

4. Forests provide timber and other produce of commercial importance.
5. Forests provide habitat for wildlife.
6. Forests provide areas for recreation.



Forests produce oxygen, reduce carbon dioxide.

Protect the forests-they provide paper.

Need for conservation and pollution control.

People have not yet realized how precious air and water are. They are beginning to grumble that what they always took for granted will now cost money in terms of pollution control. A few realize with horror that life itself will cease, at least for human beings or will become miserable unless it is better regulated.

How many among even the literate and educated in our country know that forests contribute valuably to human existence by producing oxygen, conserving water, preventing erosion and so on? If you think of agriculture as an industrial activity then forests are the buildings which protect the equipment and provide valuable off site facilities.

A certain area of the land (it has been accepted to be

at least a third of a country's area) should be under forest to provide the protection that cultivated land requires. By reducing forest cover as has happened in India, where according to Mr. Sagreya in his book published in the early 60s it was 17%, we are creating, by stages, deserts which are irretrievably lost or take decades to redeem.

Our people, whether literate or not, are intelligent. So, why are the forests neglected in our country? Obviously, because of an inadequate effort to arouse public interest in this subject. Publicity is essential to make people aware that almost as important as population control is the control of natural resources and of all our available resources, land is the most important because it is irreplaceable. Therefore, it is essential to make the best use of land.

The best use of land suited for agriculture should be planned by experts in agriculture and we have many able men today in this profession. All land which is not suitable for agriculture, whatever forest, grazing land or marginal land should be managed by forests who are best qualified to assess such land and to decide in the context of watersheds, soil and topographical features, what species of plant should be grown on it.

All work relating to agriculture and forestry should be closely coordinated and related to an up to-date map of the country showing soil, contour and climate.

This seems to me the logical way of planning and controlling our land resources and I feel strongly and I hope you will too, that the first step is to have a clearly defined national policy on the proper and integrated use of land. This is the country's fixed asset. It must not be allowed to deteriorate and every effort must be made to improve it. There are, however, two main deterrents to sensible implementation of such a programme viz.

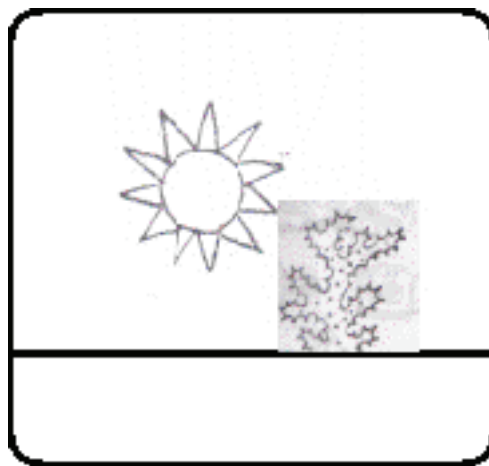
(1) Pressure of human population, (2) Pressure of the

cattle population. Both these lead to encroachment of forest areas and politicians at present always back such encroachment because their main concern is to win votes. But if politicians in all political parties realized that this extremely shortsighted, that encroachment of forests will seriously affect the quality of cultivated land, that the people will lose far more than they gain, then perhaps they might form a joint front as during a war, against the enemy viz. the desert or barren land which is an enemy of all citizens of the country.

You should be the main spokesmen for the country's forests and if you are true foresters you must fight for our forests. You can do this by explaining your work to all with whom you come in contact. Your own staff, first. The villagers who live near forests. Tell them about the value of forests. Show them by means of simple exhibits and experiments how forests and vegetation prevent the loss of soil and conserve water.

* We need a national policy for effective land use-to be supported by all political parties.

* You must help create understanding.



Life in the desert

Protect the forests-they minimize floods.

* Study of ecology.

* Record your observations.

* Television will help spread the message.

* Arouse public interest.

Ecology, which is the study of the relationship between living beings and the environment is a subject which has recently been receiving much publicity the world over. India too must have ecologists to help the country make wise use of her natural resources. This is a subject that should receive your attention because it is closely related to your work and the impetus to its study must naturally come from the coordinated effort put into it by foresters and agriculturists assisted by biologists, botanists, zoologists and chemists who are engaged in the study of soil, plants and animals. I am circulating the summary of Richard Bell's article 'A Grazing Eco-system in the Serengeti' which may start you thinking of the scope for game cropping or utilization in India.

You should keep a diary to note your observations of trees, birds, animals and contribute a newsletter to this Society so that we may help publicise this information and create an interest in forests among the city dwellers and make them aware of the great value of forests to a good life.

Very soon we shall witness a great and thrilling educational project in India, when a satellite will bring television to 5,000 Indian villages. By working hard from now, we may be able to put together a worthwhile programme, to convey as effectively as possible a message to the people of this land, about one of their great heritages which must have their urgent interest and understanding, if it is to survive as it must, in order that they themselves may survive.

You should consider the Bombay Natural History Society as your Society and I hope it will be possible to meet as we are meeting today at least once a year. For such a meeting to be a fruitful, it is necessary to remain in constant touch with the Society, through correspondence. Each of you should write about at least one particular project you are working on that is worth publicizing, so that we can tell the people about forestry practice, watershed control, wildlife sanctuaries, reclamation of waste sanctuaries, reclamation of waste land, controlled grazing and so many other interesting things which form part of your work but about which few, other than you and your staff, know anything about.

* Keep abreast of latest development and practice.

* Publicity is essential.

I do not know what facilities you have to read about forestry and related subjects. It is essential that you are aware of current thinking and practice elsewhere in the world, so that you can think of applying such knowledge in your own work. The minimum reading you should do in a year is at least half a dozen good periodicals (monthly or quarterly) and an equal number of books; the books should be on a subject of your special interest. The periodicals will give you much general information on peripheral subjects.

If you do not have these facilities let us plan to start them. The Government will certainly not object to providing a modest budget for such important reading matter. Perhaps this can be done through the Bombay Natural History Society. We might consider a system similar to the one used by the Asiatic Society who sends books up to country members.

You must be aware of the enormous potential of

publicity. It will help you personally in your career and you will also be playing an important role, which is a rightful part of your duty as good executives and good citizens. The publicity must be properly planned and directed where it will do the most good in the shortest time. The targets are: (1) Your own organization, (2) The people you can influence such as those who live in towns and villages close to you, (3) The people of India through newspapers, periodicals, radio, TV etc., (4) Young people in school and colleges.

(Reproduced from the booklet "Will India become another Sahara?" (Desert Land)

—Shankar Ranganathan

** Air, earth and water including the deep sea are already being polluted to a degree at which we are being poisoned.*

—Arrold Toynbee.

A Family Kills Six Trees A Years

Maneka Gandhi

How much paper do you waste?

Newspapers, advertising mail that goes unread, old magazines, scrap paper, large not sheets that have only a small scribble on a corner, leaflets, paper boxes from restaurants, cereal packets and fruit juice cartons, biscuits wrappers, old wrapping paper, letter envelopes, torn carrier bags, paper napkins, tissues, egg boxes, bread wrappings, cigarette packets, political party posters, confectionary covers, Diwali and New Year Cards that will be bought and thrown away in lakhs in January.

Every year, more than 10 million trees are cut down to cater to our demand for virgin paper. That means that we are continually planting poplars, eucalyptus and coniferous trees in tight plantations, destroying the natural habitat and leaving all forms of wildlife unprotected and in the process—changing the weather. “Friends of the Earth” estimate that an average family uses six trees worth of paper a year. How many of you realize what you are doing to the environment when you use paper unnecessarily? When you throw away a child’s half used copy, when you use a long sheet to jot down a phone number, when you have memos needlessly triplicated, when you send two-line information notes printed no foolscap length sheets, when you throw out an old calendar or diary.

Every time I see a new newspaper or magazine I feel irritated especially if it has nothing to contribute but has been started as a business. Almost like opening another slaughter house. I feel the same emotion about greeting cards in fact I never buy them.

My mother-in-law preserved all gift wrappings, each carefully opened and put away in a trunk. We dipped

into it at present-giving time. That habit has stayed with me.

RUBBISH DUMPS

It costs the Government several crores of rupees to dispose of rubbish, 50 per cent of which is packaging. We are using landfills to dump the litter. Countries like the USA are already finding it difficult to find dumps and we will find ourselves in the same position, as we fill more and more land with our rubbish, increasing pollution as we go.

The smell from the main rubbish dump of Delhi, a place I pass on my way to office, is unbearable, even half a mile away. It is also a health hazard. Garbage dumps foul the environment, causing cancer, birth defects, nervous disorders, skin diseases and grave danger to water supplies. Waste incinerators have dense smoke, smudging the countryside around.

Plastics never disappear. Your cel-lo-phane wrapper, your cling film is not biodegradable. It will live longer than you, tainting the soil and spreading the taint with each rain. With refined detection methods we can now find traces of waste in water, soil and air. There is no provision in the Budget for the clean-up of waste dumps. In fact we have not national programme to eliminate toxic waste. Eighty per cent of your thrown away paper and cans and bottles could have been reused or recycled, saving both money and the environment.

GREEN BINS

Germany has introduced the Green Bin where house holders put their recyclable waste. Holland has bottle banks and all the Scandinavian countries have machines where you put in your tins and get a coupon worth 10 paise.

Today I went to my hospital after several weeks

and found a dump constructed outside. Next to it several vendors had set up eating stalls. My drains were completely blocked with waste paper and plastic.

You can scream at the Government but ultimately the only choice is to give the problem more attention individually. First, stop using paper and plastic unnecessarily and see that each bit is used before being thrown away. If you know calendar, diary, card or any other luxury paper item manufacturers, ask them to use recycled paper. Don't take unnecessary paper or plastic carrier bags. Individual garbage cans are almost unknown in this country. Get one instead of littering the city in the open dumps. In England, the local authorities in each town have opened recycling centres and citizens go down to give their paper and metal. Ask your town authorities to start a few centres like that.

If the government, which uses vast amount of paper every day, decided to use only recycled paper it would set an example for conservation. It costs for more to use virgin paper than to use the recycled variety.

Few people realize that they are killing trees, destroying animals and birds and wreaking havoc on an already overloaded eco-system when they use paper extravagantly. Being a good citizen means that you conserve national energy of which trees form the base. Make austerity in paper a resolution. And also, to make up for the paper you do use, let your family plant six trees a year. Not quick growing ones but trees that will have an impact on the environment like neem, imli, peepal mahua, sheesham and all the fruit trees you can think of.

(The Tribune, 24 June, 1998)

Killing Trees

Madhav Gadgil

For the tribals of New Guinea Highlands, land is the most precious resource. And in the uniquely human tradition that goes back thirty thousand years they periodically engage in mass warfare over control of their territory. Often these wars are stand offs; but once in a while one of the tribes is defeated and flees from its territory. On overrunning the vanquished neighbours' lands the first thing the victors do is to cut down all the fruit trees. Then they retreat waiting to see if the defeated tribe would reoccupy lost territory. If they do not do so for some months, the victors claim the newly conquered territory as their own. But whatever happens, the fruit trees are an inevitable casualty.

The bison which once roamed the Prairies in million is another famous victim of wars. The herds sustained the native Amerindians who fiercely resisted European expansion. To weaken them the colonizers plotted to destroy their major food supply. So bison were recklessly massacred; their carcasses left to rot while just their tongues were consumed as a delicacy. Within a few years this magnificent beast all but vanished and in the wake of its destruction the Amerindian resistance too collapsed.

This is how the logic of wars operates. Vying for control over each others' resources warring parties destroy just what they are after. This is of course what is happening in the Gulf today as has happened in all wars since time immemorial. Ultimately the victim in the Earth that supports us all.

What happens in wars also happens in struggles within countries. One such ongoing struggle in India is that

for control over forest resources. The forest dwellers want the forest to serve as their habitat, a habitat that shelters and feeds to serve as a warehouse of commodities; timber and softwood, cane and bidi leaves. The most prized commodity from tracts of moderate rainfall in teakwood and over large tracts, foresters have converted natural forests into teak plantations. But while natural, species rich forests such as those dominated by Sal support the tribals in many ways, teak monocultures offer them nothing. That is why the Jharkhand, activists have raised the slogan: “Sal is Jharkhand, teak is Bihar”. What is tragic of course is that the protest has taken the form of destroying teak plantations.

It seems inevitable then that so long as there is inequity and struggle amongst people to prosper at each other's expense nature would have to pay a heavy price. This has been going on since time immemorial and will perhaps continue for a long time to come. Unfortunately, the price that nature is forced to pay has now become astronomical. Both Iraq and United States are talking of using nuclear bombs and a full scale nuclear war could in one sweep wipe out much of life on earth. And even if that does not happen all future wars would result in ever more severe destruction of environment. Fortunately the technological advances that render a modern war so frightening have also produced tools that can counter this threat. These are the tools of modern communication which are loosening the hold of a narrow elite over the apparatus of the state and enabling people at large to make their voices heard.

For every where the majority of people want freedom from strife want to spare nature from destruction. Everywhere it is the narrow vested interests of power hungry politicians of unscrupulous businessmen and

corrupt bureaucrats that want to thrust war, that want to thrust destruction of nature upon an unwilling citizenry. Modern means of communication are now fast approaching the stage that direct democracy could become a reality even for whole nation states with millions of people. In Sweden, or California all people already vote directly on vital issues such as use of nuclear. In a few decades at most this would be possible for all the citizens of the earth. When genuine empowerment of people at grass roots become a reality, one has every hope that they would vote for a halt to all violence amongst men and against nature.

(The Economic Times, February 23, 1991).

Lost Jungles Long History of Commercial Exploitation

Kisor Chaudhari

Since the dawn of civilization, the association of several wild animal species with the fearsome powers of nature has remained part of Indian folklores. Even in early historical times when their abundance was not in question, such association with gods was deemed necessary to regulate human lust for blood. Mass migration of the pastoral Bodos (c 5000 BP) from Inner Mongolia into the Brahmaputra valley saw introduction of the art and science of paddy cultivation that would, in the following years, transform the dispersal pattern of civilization and bring about profound changes in the human geography of ancient India.

‘Jhoom’ agriculture

Success of farming practices in the valley encouraged transfer of technology to the neighbouring hill-dwelling communities who, until then, were nomadic hunter-gatherers. Shortage of arable land in the heavily forested hills of north-east India necessitated development of ecologically sensitive “jhoom” agriculture and removal of forests for this slash and burn method of agriculture had its predictable effect on the wild animals of the region, till then teeming in numbers. Subsequent rise in human population and widening of jhooming area spelt disaster on the life cycle of several wild floral and faunal species, the trend remaining undiminished even in modern times.

With the early signs of an explosive growth of population, to support heightened demands for human sustenance wanton killing of wild animals began. We can only guess that decline in the quality of the environment prevailing in India 250 years prior to the birth of Christ

prompted Emperor Ashoka to install the rock edicts with specific instructions for protection of biodiversity. In those early days of civilization, religion played a crucial role in disciplining evolving societies while, for the first time in world history such religion fervour helped the spread of awareness for species conservation. Animals with wider economic and social importance, which were till then treated as mere source of protein, were made integral part of the cycle of life. Newly introduced social stigma skillfully conserved several animals like the domesticated bovines. Popular folklore related almost all the ecologically important species with Hindu pantheons and thus species conservation became an integral part of the emerging social order.

Forest officers

Animal’s meat, particularly the species that could not be domesticated and harvested, was shunned by much of India until the arrival of the Pathans followed by Mogul intruders. Subsequently, breakdown of the caste system allowed everyone to pick up arms against wild species, a privilege so long enjoyed by the people of “Byadh” or butcher caste bringing an end to the regime of regulated cropping of wild animals for human sustenance. By the time Aurangzeb ascended the throne of India, elephant and rhinos had vanished from central and north-western India. Ironically, his great-grand-father Akbar had recorded their presence in dense forests of the Indo-Gengetic plains only a century earlier.

The British, who followed the Moguls, initiated measures for conversion of jungles that were habitats for forest dwelling people and wild animals to production of foreste for the sole purpose of keeping the wheels of industry moving in Europe. In 1864, Sir Dietrich Brandis, the Inspector General of Forests, created forest departments

in different parts of British India. The first responsibility of the early forest officers was to inspect and demarcate areas in the valleys and hilly regions of the country for notifying “reserved” or “protected” forests under the recently laid Indian Forest Act, 1865. Such notification and usurpation of right on the forests effectively changed the land use pattern from peoples’ forests to a commercially exploitable storehouse of valuable timber. By then they had exhausted and denuded their lost colony of North America and were frantically searching for other sites.

To secure the most from the enormous forest wealth of this country, the colonists took help from Dr. Voelcker, a German forestry (read “exploitation”) expert. In 1893, he produced his elaborate report that suggested perusal of agriculture in the forested tracts that would, in one hand, ensure a steady profit from exports to other countries of the Empire and on the other, timber for Europe. As per Voelcker’s suggestion, the first forest policy of the world took shape on 19 October, 1894. Under the garb of “scientific management” of forests, this policy ensured “...regulation of rights and restriction of privileges of the user of the forest by the neighbouring population”.

Working plans

Other than curtailing the rights of local community on the resources of the forests, it envisaged that this storehouse of valuable timber should be managed on commercial lines as a source of revenue to the State. As an expression of benevolence of their subjects, the forests that yield “...only inferior timber, fuel wood or fodder, or are used for grazing” were allowed to be “managed mainly in the interest of the local population”. Following the lines of action spelt out through this policy, the next 100 year saw operation of “forest working plans” for clear felling of pristine forests and subsequent conversion

to teak monoculture (eventually to fail throughout the country except in patches of erstwhile Central Province) or transformation of dense tropical as well as montane forests to open scrublands unsuited for use by man or animal. However, small privately owned forest patches adjacent to newly settled villages were spared.

FOREST LIFE HIT BY POLITICAL AND ADMINISTRATIVE APATHY

Unfortunately, foresters of independent India remained faithful to the legacy of their departed masters and pursued the policy of exploitation with commercial bias, denying user rights to forest dwelling people and wildlife. In 1950, the Inspector General of Forests of free India constituted the Central Board of Forestry. Until then, a century-old dictum of allowing the upkeep of a sufficient forest area between clusters of villages under private ownership, for legitimate use by respective villagers, was in vogue.

The Central Board of Forestry took the initiative for withdrawal of proprietary rights, without assessing their capability of rendering protection to forests newly vested in the government. The people were allowed to consider such transfer as “confiscation” of right from the erstwhile proprietor and hence, had the liberty to act the way they wished. Withdrawal of controlling rights and failure to render protection acted as the final blow that sent India’s forest cover into oblivion along with its wildlife and forest dependent people.

Jeep mounted elite

Forest officers treated themselves as a privileged and all-knowing community keeping themselves away from the local population and were part of a “jeep-mounted” forest administration in post-Independence years. Under their noses, every wildlife species dwindled

to an extent that its viability was in doubt. The less said about forests, the better.

After all the years of mismanagement of forests and wild animals, India saw the enactment of the path-breaking Wild Life (Protection) Act in 1972. The Act promised to “provide for the protection of wild animals, birds and plants and for matters connected therewith...to ensuring the ecological and environmental security of the country”. Section 29 sounded like music when it declared that: “No person shall destroy, exploit or remove any wildlife including forest produce from a sanctuary...”. This Act was the first tool made available by the State in defence of beleaguered wild animals. However, 30 years after its enactment, the decline in the number of animals and in the quality of their habitat, is discouraging. Degradation remains unchecked proving all is not well.

However, the 1972 Act was the platform from where two of the most significant conservation initiatives ever seen in the world were launched. The first of the two, Project Tiger was launched in 1973 with generous financial and technical assistance from WWF. Twenty years later, the rather low-key launching of Project Elephant followed. Project Tiger was launched to arrest the downward slide of the keystone species and most revered icon of Indian wilderness, the Royal Bengal Tiger.

Change in Mindset

The Project Document promised to take measures to assure the right to survival of the tiger and it gave due credence to the need for protection of its prey base along with other wild species sharing the same habitat. The early years were a period of euphoria that brought about an incredible change in the general mindset of people at large resulting in positive changes in the overall wildlife management outlook of the nation. Widening

of the protected area network, reassessment of resource utilization prerogatives, transfer of regulatory authority from the Ministry of Agriculture to the new Ministry of Environment and Forest, establishment of the FAO-supported Wildlife Institute of India and creation of wildlife divisions within the forest departments in different States were a few of the praiseworthy steps that slowed down the process of decay in the jungles of India.

Among the many vulnerable areas rescued from imminent death, a few deserve mention. The Silent Valley in Kerala, wildlife “hot spots” at Balphakram and Nokrek in Meghalaya and the highly sensitive and ecologically significant Neora Valley in West Bengal were saved through joint initiatives of individuals, a few NGOs (not in great supply in those days) and the official machinery driven by the then Prime Minister, Indira Gandhi.

Way back in 1982, this author had the privilege of exploring the yet unknown Neora Valley for the first time in history and initiated the process for its protection from imminent doom. Ever-extended hands of Anne Wright, the protagonist of wildlife conservation in India and Salim Ali ensured Indira Gandhi’s intervention that swept away all resistance from a reluctant state administration. A National Park was born. This was the first example of declaration of a protected area through the enterprise of a few private individuals though support from the Zoological Survey of India can never be undermined. Even for Balphakram and Nokrek, the contribution of Anne Wright, who ensured their protection, will never be forgotten.

Unlike tigers, who are in any case on their way out, elephants are long ranging animals and voracious eaters. They need wider space to take care of their needs for food, water and shelter, but a look at any of the forests still carrying the species will convince the observer about

the futility of present conservation efforts that are unable to address any of these issues, vitally important for the survival of the last of the monarchs of Indian jungles.

Saving the Elephant

Undoubtedly, provisions of the Forest Conservation Act 1980 have the sting that can reverse the present trend of devastation in the elephant holding forests in eastern India and at long last, subsequent to the Supreme Court's orders, the Central Empowered Committee (constituted by the Supreme Court of India), through a letter dated 2 July, 2004, instructed all state governments to ensure that not even a blade of grass is removed from any protected area.

After several amendments and enactment of a multitude of rules that miserably failed to stem the rot, this matter of fact instruction will hopefully go a long way in India's efforts at saving wildlife. It is hoped that further strictures will follow to ensure protection and reinstatement of lost corridors for the elephants, through the benevolence of industries operating within vulnerable elephant habitats of Orissa and Jharkhand. The present Director of Project Elephant, a highly upbeat manager, will certainly realize the very important role his department has to play in reversing the elephant's march to doom.

The Statesman, March 28, 2005

Destruction Of Tropical Forests: Spare Those Trees— If You Want to Survive

Robert Allen

The world's tropical rain forests are on their way to being dispatched to the rich countries in the cause of immediate export earnings for the poor. This shortsighted policy is threatening the very survival of our coming generations.

Man's technological ingenuity is often exaggerated, but when it is deployed against himself by the three donkey-men of the ecological apocalypse—greed, ignorance and myopia—there is indeed no more formidable weapon.

Today, this weapon is being wielded with devastating effect in the rain forests of the tropics. Government departments, civil engineers and lumbermen now have at their command vast machines that in no time at all can reduce forest giants to shavings.

A hectare of tropical forest—900 tonnes of living plants can now be cleared in only two hours. In a fragment of time, we can reduce the richest, oldest plant community in the world to a sterile mockery of its former self. Anyone who survives the next ten years will witness the snuffing out of 50 million years of continuous evolution. To be a child of our times is to be able to say: "I will outlive the jungle."

Intensity of destruction

At first glance, this seems impossible. There are said to be between seven and nine million square kilometers of tropical rain forest covering large tracts of Central America, the Amazon basin and the Guianas, West Africa and Zaire, Southeast Asia, New Guinea and the Islands of Melanesia. Yet the intensity of destruction is high enough

to cope even with this extent.

In Central America, two-thirds of the forest has disappeared already. In Colombia, it is being cleared at a rate of a million hectares a year. In Brazil, the rate is many times faster. By the end of this century, most authorities agree, all but a few carefully preserved samples of the world's tropical rain forests will have been eliminated.

Tropical rain forests are the greatest, most enduring celebrations of life ever to have evolved on this planet. No other environment has so many species of plants and animal. A hectare of temperate woodland, for example, normally contains no more than 10 different species of tree 20 centimeters and upwards in diameter. By contrast, a hectare of tropical rain forest generally contains more than 100 species of large tree.

The profusion of plants and animals is remarkable. In the forests of Southeast Asia, there are estimated to be more than 25,000 species of flowering plants and 49 per cent of the genera represented are found nowhere else. Of the 660 different species of bird known or presumed to breed in the Malay Peninsula, 444 are restricted to the rain forest. Insects, amphibians and many other animals abound in equally impressive numbers.

Major Historical Event

As Professor Paul Richards has pointed out, "The destruction in modern times of a forest that is millions of years old is a major event in the earth's history. It is larger in scale than the clearing of the forests of temperate Eurasia and America and it will be accomplished in a much shorter time."

The tropical rain forests are succumbing chiefly to the combined pressures of forestry, food production, cash crops and settlements. These activities in themselves are necessary and benign, but when pursued carelessly or in

ignorance, they can be disastrous.

With the exception of recent alluvial and rich volcanic soils, tropical rain forest soils are generally very poor. That the forest flourishes in such highly uncompromising circumstances is due to its unparalleled thrift and the speed and thoroughness with which the nutrients are recycled.

According to FAO, between five and ten million hectares of forest are being felled each year for agriculture alone. Often the felling is government organized. At times, this is for the very best of motives, even though the results are unfortunate and could be avoided. In West Malaysia, the lowland forests are being felled to provide land for the landless under large-scale cooperative settlement schemes designed to produce cash crops like rubber.

At other times, the motives are more obscure. A distorted version of nationalism apparently demands that remote uninhabited areas be dragged into the country's economy before they are needed, or before it is known how best to use them.

Badly run timber operations are degrading the forests as effectively as are expansionist agricultural and settlement schemes. In a forest section, only a few species may be considered of commercial value and to get at them, 75 per cent of the surrounding canopy is destroyed.

Although some lumber companies behave responsibly, many exploit the forest for their own profits. Such companies, damaging seedlings and saplings, disrupt the mix of trees species and expose soil to erosion over large areas.

In Indonesia, 27 million hectares are officially classified as denuded by uncontrolled cutting and the country still has too few trained foresters to supervise the enormous expansion of timber production, relying almost

entirely on the good faith of the companies.

Japanese have been offering investments of US\$ 80 million to \$ 500 million to log the Amazon rain forests. It is very difficult for hard-pressed, ambitious governments to resist such beguiling inducements, even though the result will be the destruction of a resources which, carefully used could have lasted indefinitely.

Ignorance of the richness of tropical rain forests, of their fragility and of what precisely to do about either quality was once some excuse for this short-sightedness, but from 1975 onwards it can no longer be.

International efforts of increase our knowledge of tropical rain forests and to make available what is already known to all who work in them have been stepped up. UNESCO is compiling a world tropical rain forest inventory and issuing guidelines for conservation.

Transforming forests efficiently

Before undertaking the transformation of tropical forests, every consideration should be given to exploiting more efficiently areas already altered.

The large areas that have already been cleared of forest, either for lumber or for agriculture and then abandoned, could and should be used for plantation forestry. This would relieve much of the pressure on the remaining areas of undisturbed forest, which often could be used most profitably as storehouses of genetic diversity, as laboratories and as centres of recreation.

The world already derives considerable benefits from tropical forest plants: food from Brazil nuts, cashew nuts, passion fruit, papaya and avocados; beverages like cocoa and coffee; drugs such as curore, vital to safe and painless surgery and invaluable materials such as rubber, chicle (from which chewing gum is made) and of course, many fine woods.

Scratched the surface

Yet we have barely scratched the surface. We still know very little of the nutritional, medicinal, chemical and mechanical properties of the bewildering variety of tropical forest plants.

Biologically, tropical rain forests are the centres of the world. Much of the earth's contemporary flora and fauna originated in the humid tropics. For millions of years, tropical rain forests have been genetic factories from which plants and animals, capable of adapting to more difficult environments, have gone forth to populate the subtropical and temperate regions.

Conserving substantial areas of tropical rain forest, as they are potentially as rewarding a form of development as agriculture, forestry or mining. Areas protected for their genetic diversity or scientific importance should be surrounded by buffer zones, which may be used for a variety of economic purposes—tourism and selective logging, for example as long as they do not disturb the core area.

The short-term economic needs of countries containing tropical forests should not and do not have to be satisfied at the expense of their future prosperity. In many cases, the industrial countries ought to compensate any country conserving large areas of tropical rain forest, since such conservation represents an investment of benefit, not only to the country concerned, but to the entire world.

These great forests—the parents of the planet's vegetation are the children of plants that no longer exist. The magnificent progress from bare rock high to forest cannot be repeated. We are perilously close to the point where what goes now is gone forever. Yet we know enough about the wise use of tropical rain forests for such a fate to be as unnecessary as it would be tragic.

Courtesy: Development Forum

Massacre!

Clearance has been given for the mass-felling of millions of trees to make way for various projects. Claude Alvares examines the politics involved in the passing of deforestation regulations and the urgent need for banning development projects in forest areas.

In July this year, the ministry for environment and forests gave its clearance for the mass felling of millions of trees standing on over 111,000 hectares of forest land in order to make room for developments projects.

These clearances to state governments, timber merchants and contractors to renew their uncaring plunder of this country's natural endowment, endorsed by an agency appointed to guard and protect the life of forests, aptly, if not miserably symbolized the erstwhile V.P. Singh government's deadly approach to environment issues. After a decade of consciousness-raising concerning forest protection in which the government itself took the lead, we were compelled to silently suffer the fate of being ruled by a mob of environmental philistines just when we could least afford it.

It is important to take note of this. The political scenario may have suffered a server shock in the preceding weeks. In comparison with that, the environment has suffered an earthquake.

Paradoxically, such a situation has arisen after nearly a decade of official forest protection measures that nearly worked.

In the last 40 years, the most significant development in relation to the conservation of forests has been the promulgation of the Forest Conservation Act of 1980. The Act transferred effective control over all state-owned forests into the hands of the central government's ministry of environment and forests.

Prior to that legislation, the central government has issued a series of guidelines to all state governments which required that all divisions of forest lands over 10 hectares should be referred to the central ministry of agriculture

for approval. But these guidelines had no impact. State governments were loath to give up control over the forests since the sale of forest produce and timber was a welcome addition to the meager state revenues. Timber sales permitted painless revenue rising as they did not directly hurt anyone.

This lackadaisical policy had serious repercussions from which the Indian environment may probably never fully recover. It led to a spectacular and alarming decline in forest cover. More than 150,000 hectares of the forests were officially felled every year of diverted to development projects.

The Forest Conservation Act put paid to all that, at least for a decade. They seemed to have arrived at a definite thinking within the government that certain ecologically sensitive area should not be touched and that other areas like watershed regions and upper catchment zones of rivers should be restored to ecological health with appropriate tree cover as soon as possible. Government officials were finally ready to acknowledge what was already fairly commonsense in many parts of the land: that the indiscriminate destruction of forests was leading to the erosion of valuable soil, causing erratic rainfall and floods and leading to a phenol-mental loss of soil productivity.

Where there was the rule of law and order, the Forest Conservation Act led to a dramatic decline in the incidence of clear-felling of forest areas. More important, it enabled forests to gain a respite from continuous onslaughts by bulldozers and the axe.

The protection, however, was not absolute. The government seemed to be mainly concerned with giving absolute protection to biosphere reserves, gene parks, wildlife sanctuaries and national parks. Forest areas not designated as such continued to remain potential victims of development of the central government's whims.

The figures, given alongside in the box, indicate that the instances of officially sanctioned deforestation came down to zero in the first years of the Act, after which

they increased marginally. Thereafter with the Rajiv era, the pace in diversions increased and reached a peak in 1987 with the clearance granted to the Sardar Sarovar and the Indira Sagar dam, which together required the submergence of more than 50,000 hectares of forest (70 million trees for Indira Sagar dam alone).

This was indeed the Rajiv Gandhi era which placed a greater value on computers than on conservation.

Maneka Gandhi, as expected, proved totally stingy in granting permission to fell forests for development purpose. She fought and ultimately permitted a mere 89 hectares to be felled.

Alas, that was for a brief period of just four months. On April 23, 1990, came a new minister. For all practical purposes, he tore up the Forest Conservation Act and took the government's forest policy back to the middle ages. In the month of July alone, he cleared the diversion of 111,166 hectares of forests, which is nearly the equivalent of forests cut in the entire past decade. For the three months, May to July, the total area allowed for felling was 118,000 hectares.

Worse, a message went out from the administration that development projects now and in future, could once again be planned in the mass graveyards of trees.

The Forest Conservation Act was designated to bring to a halt the disastrous large scale felling of trees by state government for development purposes. Now, that the central government's record is proving to be once again as bad as that of the state governments' prior to the Act, it is urgent to examine how the remaining vestiges of nature are kept outside the powers of even the central government and held in trust by a group of custodians in league with village or tribal communities on behalf of the nation and its people, present and to come.

The ministry of environment and forests has turned, decided, against forest conservation. Some vaccine must be found to immunize the surviving forests against further assaults from the ministry. As of today,

the ministry has forfeited all moral authority to be vested with the custodianship of the country's forests. In addition, the system by which a single elected individual can cold-bloodily sanction the murder of millions of trees needs to be drastically changed.

Activists, voluntary groups and citizens ought to lobby for a forest policy that will provide for a blanket refusal of permission for any project or development in a forest area which has an existing tree cover, whether this is for a dam, an industrial project, a mining lease or anything else. Once this is achieved, it would make it easier for the central government to categorically and routinely refuse permissions and ward off political pressures.

As was done with the policy of allowing no constructions within 500 metres of the High Tide Line of beaches (alas, also now overthrown by the environment ministry), this green policy of a ban on all felling should be communicated to all state governments, government departments, chambers of commerce etc. so that proposals for any further diversion of forest are not made, let alone be entertained.

The government will, of course, argue that it always sets a stipulation that when a forest area is cleared for a project, the party is compelled to carry out compensatory afforestation on double the area of non-forest land.

However, it is now recognized in official circles that compensatory afforestation is a total farce. Past efforts have produced either "paper forests" or substandard forest substitutes comprising plantations of eucalyptus. A natural forest is irreplaceable. It cannot be recreated by human beings.

In fact, it is the notion of compensatory afforestation that has been responsible for a great deal of the havoc perpetrated on our remaining living forests. Without it, the government would have been forced to disallow the felling of trees of any further areas for the destructive madness now associated with development. For this reason, whoever invented the concept needs to be hanged from the nearest possible tree.

DECLINE AND FALL

Diversion of forest land for non-forest use since the enforcement of the Forest (Conservation) Act. 1980	
Year	Forest land diverted in hectares
1980	Nil
1981	2,672.04
1982	3,246.54
1983	5,702.01
1984	7,837.59
1985	10,608.07
1986	11,963.11
1987	72,780.05
1988	18,765.35
1989	20,365.05
Total	153,939.81
(January-July) 1990	118,777.34*
*Break-up:	
Months in 1990	Hectares
January	8.89
February	71.50
March	7.47
April	2.19
The Environment Minister was sworn in on 23.4.90	
May	5,888.95
June	1,632.05
July	111,166.29
Total:	118,777.34

Source: Ministry for environment and forests.

FORESTS: Gulf Between Ideals And Practice Sunderlal Bahuguna

The 9th World Forestry Congress held in July 1985, at Mexico coincided with the International Year of Forests. Both—the Congress and the Year—concluded with a hope of Peace, Prosperity and Happiness to humankind by making the Earth green again. The World Forestry Congress appealed “to all human beings of all nations to recognize the importance of forest resources for the biosphere and the survival of humanity and to devote themselves to safeguarding and promoting this resource which will provide humanity with food, raw materials, energy, rural wellbeing ecological protection and improvement in the quality of life.

The tragedy with the forests in India and other countries of the world, which have been aping the developmental policies of the so-called developed countries, has been that their policies and practices have been contradictory. Nobody in India still knows the contents of the National Forest Policy, as the document has not yet been finalized. Still, from the report presented by India in the World Forestry Congress, it can be guessed that it will be an ideal document. The basic objectives according to the report likely to be enunciated in the policy are:

1. Maintenance of environmental stability.
2. Conservation of biological diversity and genetic resources of the country.
3. Checking soil erosion.
4. Increasing forest/tree cover.
5. Meeting the requirements of fuel wood, fodder and minor forest produce.
6. Increasing the productivity forest.

7. Encouraging more efficient utilization of forest produce. and
8. Creating a massive people's movement to achieve the above objectives.

The high-sounding ideals and the actual practice in the field with which a common man is confronted remind the following lines from Shelly's poem "Ode to the West Wind"; Wandering in the high skies of ideals, he suddenly falls down and cries;

'Oh I fall upon the thorns of life, I bleed'

I have actually seen people bleeding, who said, "We do not want our dense forests to be destroyed". It was in the small town of Paikmal in Sambalpur district of Orissa, where a public sector undertaking 'Bharat Aluminum Company (BALCO) secured the lease of 107 hectares of forest land for bauxite mining. The mining area was on a 2,000 ft. high plateau, which was reached by a road through the dense Gandhmardan Hill Forest, full of variety of plant species. For BALCO and policy-makers deciding the fates of people from Delhi and Bhubaneshwar, it was simply a question of 'few hectares of forests', which while swearing by environment them promise to replace by compensatory afforestation.

But for the Adivasis, their very survival was at stake. They got wild fruits, roots and all their food from this forest; the water and employment through the collection of medicinal herbs and bamboos for basket making. They also knew that the fertile top soil in their fields was the product of this forest. When the powerful company armed with the authority of the Government started destroying the forest by bulldozing it to widen the road and make space for 5 km long and 30 meters wide ropeway, the tribal folk, mostly women, fell flat on the ground in a last bid to save the forest. It was 12 February 1986. The police

came, arrested and lodged them in the jail, because they were obstructing 'development'.

This is not an isolated incident. Forests all over the country are being sacrificed for 'development'. A few days before Paikmal incident I visited Bodhghat in Bastar district, where work on a World Bank financed 4,750 million rupees power project were going on in full swing. The engineers were expecting the clearance from the Government of India under Forest Conservation Act, 1980 to deforest 5,704 hectares of forest land over which dense natural Sal and bamboo forest with more than five million trees was standing. The Project Authorities, including the local administration, did not bother about Centre's permission and felled dense forest from an area of about 75 hectares for the construction of moral-road leading to the proposed VIP guest house. It is ironical that the experts of Department of Environment Okayed the project as early as April 1984, saying that the Project Authorities should do compensatory afforestation. I have seen a few plots selected for this purpose which is degraded land; what to speak of forests, even bushes cannot thrive over such land.

There is another side of the coin. Though the Forest Department still holds that the forest area in the country is 22.7 per cent, the State Ministry for Forest and Environment had admitted that the actual forest area is only 13 per cent. There is still a veil on the information about the density of forests.

Forest below 60 per cent density is of little so far as conservation of soil and water is concerned. Whatever may be the actual situation, the nation has realized the urgency of planting trees and several plantation schemes have been undertaken. The most publicized of these are those financed by international funding agencies. The new

concept of forestry has also come from the financiers.

In Europe and other industrialized countries, where nature is regarded as a resource, plantation of trees growing raw material for the industries and especially for industries serving the well to do, are raised. In India, eucalyptus plantations have been raised on a mass scale under these projects. Till recently 80 per cent new plantations were of eucalyptus. In the hills, where after wasting millions of rupees on eucalyptus plantations to cover the demanded hills, catchments of Bhakhra Dam, poplar plantations are being raised. In the Kashmir Valley the slogan of 300 million rupees World Bank Social Forestry Project is: 'Plant Trees. Grow Money!'

The much publicized objective of Social Forestry projects is planting trees for fuel and fodder, but everybody knows that eucalyptus and poplars only feed the pulp factories. At the same time the village women in Kashmir collect dried leaves of poplars to be used as fuel in the 'kangris'. The existing forests are disappearing in the city hearths and heaters. Srinagar and Shimla, which are the State Capital of two Himalayan States and tourist centres, have not only destroyed the forests in the vicinity of these cities, but get their supplies of charcoal from distant places. Only during this winter 2,000 truck-loads of charcoal from Jammu Shivaliks were sent to the Valley. Burning charcoal has become most profitable industry of Kathua district in Jammu. Similarly, in Himachal Pradesh heaps charcoal on roadside in Bhali tells the sad tale of the slaughter of mixed forests in Nurpur division.

Thus in the coming years we shall be losing more and more forests to meet the urban demands. The new plantations in the long-run will impoverish the rural areas of its precious fertile soil and create water famine. This situation cannot be averted till our policy-makers accept

the real definition of the forest.

A forest is a society of living things, of which tree is the greatest. There are big and small trees of different species, bushes, grasses, herbs and wild-animals. What we are made to take as forests are tree fields—trees of a single species and even age, which ultimately serve as a 'timber mine'. This is a heinous crime, as this is mining of soil showing dividends by exhausting the capital i.e. soil and water, which are the product of natural forests.

Forests are the factories of soil manufacture and the mother of rivers, while the tree fields or monocultural crops-need in the long run artificial manures and moisture too in many cases. Who owns and manages the forests is also a crucial factor in this success of a forestry programme.

I again quote the recommendation of 9th World Forestry Congress which if implemented will certainly solve the problem.

"Forestry policy should provide special attention to the role performed by forest resources in the development of agriculture and animal husbandry in meeting daily needs of rural communities and in the promotion of social welfare and betterment of the environment".

"Forestry policy should become an instrument of participation, training and development of forestry knowledge to facilitate the support provided by national community to its postulates and strategies".

Regarding forest-based industries, the following recommendations give clear-cut guidelines.

"It was stressed that technology to be used in production should be adopted to local conditions and take into account economic and social aspects which would affect the choice of technology".

"The participation in industrial projects for the

people living in and around the forests was very strongly emphasized so that they would benefit to the maximum extent from the industrial activities. At the same time, a warning was given against the possibility that forest corporations might become instrument of exploitation of the rural population if they do not sufficiently take into account its interests”.

“In considering forest-based industries attention should be given not only to wood products but also to non-wood products”.

On why rural participation is needed, the Congress declared: “It is realized that the forests are being degraded at a greater rate than they are being planted and isolated government efforts have been useless in curbing and reverting this trend. In order to face this situation, the most full and genuine popular participation is required”.

Reproduced from daily Delhi Patriot, 20 March 1986.

*Don't be indifferent to your environment.
Our Planet—our health think globally, act locally.*

Indian Forests—A Story Of Neglect **F. Chakaravarty**

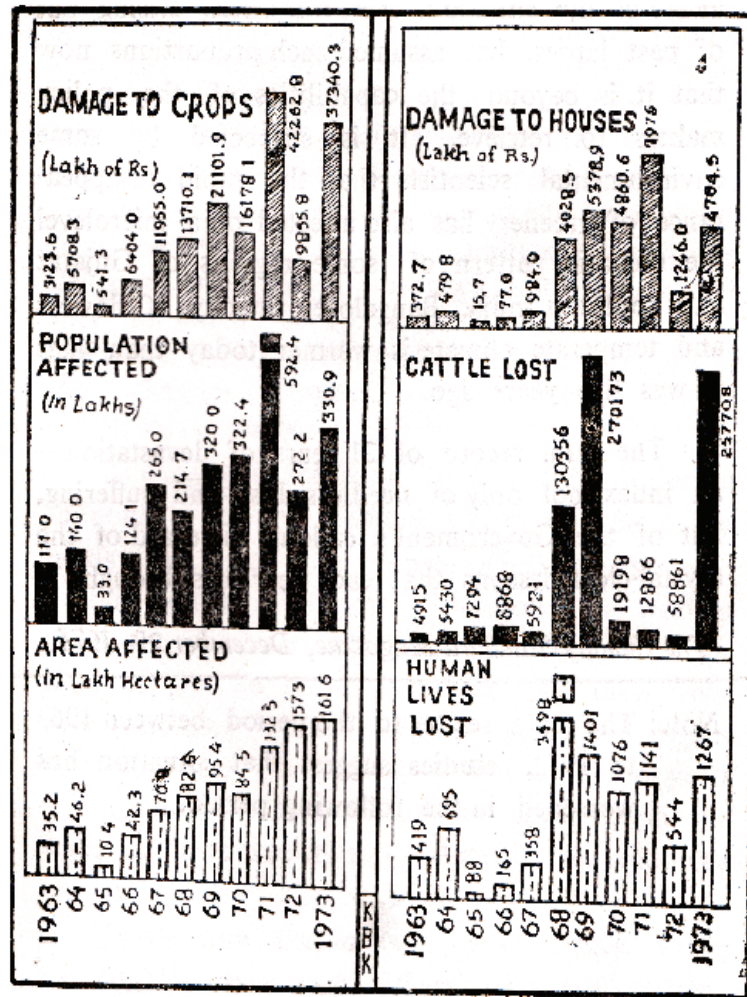
A considerable portion of India’s land mass is either faced with the menace of soil erosion or is badly in need of soil and water conservation efforts. This corroding phenomenon has far reaching effects. It has already begun to make inroads into vital economic activities like power production. Wanton denudation of vegetation and forests, going on for over two decades, is at the back of it all.

Deprived of the vegetative cover, that acts as binders of the soil and retainer of moisture, about 10,000 kilometres of hill roads which serve as arteries of communication in the sensitive border areas, are either crumbling or will begin to slide soon. A large chunk of the rugged and barren Garhwal Himalayas faces a similar fate. The devastation that the Alaknanda River brought about in that region in 1970 was suspected to have been caused by enormous landslips into the river course from denuded Garhwal slopes.

Because of this countrywide deterioration of the land mass, a number of India’s river valley projects are silting up at an alarming rate which is narrowing down their functional capacity—power production and flood prevention. The enormity of the problem created by the slowly dying forests can be gauged from the fact that about eight million hectares cut of the net cultivated area of 137.9 million hectares and 20 million hectares out of 16.17 million hectares of land are facing the threat of erosion.

It is not that those who matter are not aware of the situation. But this crisis, arising out of past lapses, has assumed such proportions now that it is beyond the capabilities of the policy makers to retrieve. It is

Damage Caused by Floods In India Since 1963



suspected by some environmental scientists that the rapid disappearance of greenery has also affected on a micro level the climatic pattern of some regions of Gujarat and southern India. Bangalore, the city of flowers and temperate climate is warmer today than what it was five years ago.

The grim record of 21 years of devastation—an index not only of needless loss and suffering, but of the Government's callous disregard of the crystal-clear lessons that each year has brought.

The Sunday standard Magazine, December 29, 1974.

Develop an awareness and sensitivity to the understand the problems related to the balancing of ecosystem .

Punjab's Shrinking Forest Cover

Ruchika Mohindra

Ludhiana, Aug 4—Punjab, the granary of the subcontinent, has surprisingly one of the least forest reserves in India with only 2.7 per cent of the total area of the state under forests. Although the state government records mention that 2889 sq. km (5.7 per cent) of the total area of 50,362 sq. km is covered by forests, the data collected through the remote sensing images point out that the total forest reserves of Punjab are spread in an area of 1343 sq. km only (2.7 per cent).

According to informed sources, the per capita forest area in Punjab is seven times less than in Rajasthan, 50 times less than in Haryana and around 600 times less than in Arunachal Pradesh. The per capita forest area in Punjab is 0.01 hectares, in Rajasthan 0.07 hectares and in Arunachal Pradesh six hectares.

“Punjab was never a forest state, but an agriculture state. But rapid development and clearing of trees for agriculture has definitely led to the depletion of whatever little forest reserves Punjab got after its division”, points out Dr. D.S. Sidhu, Head, Department of Forestry and Punjab Agricultural University.

He says that after the division of Punjab, the only forest reserve was in the lower kandi area comprising of Ropar, Pathankot, Hoshiarpur, parts of Patiala and Gurdaspur districts. “But the growing population has led to degraded forests as more and more people are shifting towards agriculture for subsistence,” he says.

Other factors responsible for degraded forests in the kandi area are large-scale cutting of trees for the purpose of coal making, trees being used as animal fodder during lean season and little emphasis on afforestation.

Forestry experts point out that the consolidation of land holdings in the early 1960s leading to the shifting of ownership of land also played a pivotal role in the deforestation in the state, especially in the semi-arid zone (Bathinda, parts of Mansa and Ferozpur) and the central plains (Amritsar, Kapurthala, Jalandhar, Ludhiana, Sangrur, Nawanshahr, parts of Gurdaspur and Faridkot).

Rapid picking up of paddy cultivation in the state has also contributed to deforestation. In the past 20 years, Punjab has become a major paddy growing state as constant waterlogging needed for the growth of paddy crop weakens the roots of the trees, leading to their uprooting. According to the state Forest Department, 2 to 4 per cent of loss of forests is because of this factor.

Experts feel that the present rate of deforestation is slow but continuous. Growing consciousness about ill-effects of deforestation has put the state department of the alert and during the past decade, the department has undertaken afforestation by celebrating Vanamahotsavas and by setting up targets for bring certain areas in each district of the state under the forest cover.

(The Tribune August 5, 1999)

Human Habitation Eats Into Shimla-Kullu Forest Cover

Ashwani Sharma

The healing power of the, 'human touch' is unequivocal. But dwindling forests of Himachal Pradesh are witness to the devastation that can be caused by the human touch corrupted by greed. Heavy forest depletions, approximately 49 per cent, have been detected in Shimla and Kullu districts during the past 20 years as result of increased human interference, encroachments and illicit felling of trees in the forests.

This revelation has been made by a recent study of the Forest Department for mapping of the existing forest cover in some of the protected state forests. The depletion of forests was most rapid from 1975 to 1986. According to the study, 29 per cent of the depletion of forests took place in these years. The depletions were first detected by aerial mapping and later confirmed through field verifications. The trend, if not reversed, may lead to total annihilation of the forest cover in the next 30 years, states the study.

The havoc the human hand has wrought with the forests is telling indeed. Large tracks of the forest patches were cleared to raise apple orchards, even some the inaccessible forests were not spared to make a fast buck. Ironically, the Forest Department itself had been responsible for allowing human interference by giving permission to remove fallen trees or fell 'marked' trees under Timber Distribution Rights. Even the forests of Jubbal, Rohru, Chopal and Theog areas, which were closed for felling, could not be protected. The new plantation work failed to cover even 12 per cent of the depleted patches.

A total area of 661 square km was assessed under the study by using satellite imagery in 1986. Later the

study was updated. Both times it was revealed that the trend continued although at a slower pace. The depletions in Kullu, where apple orchards had come up rapidly, along with illicit felling of trees and timber smuggling which was not checked, the depletion of the forest cover was about 37 per cent.

Inquiries from the forest officials, which confirm degradation of the forests were more shocking because no serious effort had yet been made to take remedial measures. The working plans prepared for meeting the people's demands from those forests, where trees could be scientifically removed, always met with faulty implementation. Instead of marking full grown trees, growing trees (before maturity stage) were being felled.

The Forest Department has now come out with a projected requirement of about Rs. 13.728 crore in the next 20 years for conservation, management, protection and other research activities to save the forest wealth. It is being claimed that existing budgetary support and funds available under other projects are insufficient to protect the forests.

(The Indian Express, August 15, 1996)

Why Himachal Is Prone To Cloudburst

INCREASING URBANISATION RESPONSIBLE

Rakesh Lohumi

Indiscriminate and large-scale deforestation and haphazard and urbanisation of the hills are the main factors responsible for the present situation.

While cloudbursts and flash floods have in recent years become a regular feature in the hill state, the heavy loss of life caused by such calamities can be mainly attributed to the increasing human activity in the interior areas, particularly along the rivers and nullahs.

Paradoxically, the frequency of flash floods has been increasing even though the overall precipitation in the state has been decreasing. The snow is becoming increasingly scarce. Even places like Dharamsala hardly receives around 70 inches of rainfall these days as against about 130 inches five decades back.

The reasons are not far to find. The indiscriminate and large-scale deforestation and haphazard urbanization of the hills are the main factors responsible for the present situation. Vast tracts of the once lush green hills have been transformed into barren land due to the reckless felling of trees making them extremely prone to erosion.

Further, not only the towns but also villages are turning into concrete jungles because of rapid urbanization. For instance about 500 hotels have come in about five square kilometer area in the tourist town of Manali. In such a situation even a drizzle is enough to cause the water level to rise in the river Beas.

With the hills shorn of the green cover, the runoff is much more despite low precipitation. The construction of big hydel projects and roads and large-scale mining,

which generate millions of tonnes of debris, are the man-made factor that increase the magnitude of the calamity.

The debris, which is carelessly dumped on the hill slopes, eventually finds its way into nullahs and rivers, raising their bed level. Their carrying capacity is reduced and during heavy rain they often change their course, causing widespread destruction. It is not surprising that most of the damage is caused in the Sutlej and Beas basin where most of the projects are coming up.

Although an environment impact assessment is carried out for every project and environment management plans are duly prepared but they are implemented only on paper. Crores are being spent on catchment area treatment plans, but not much is visible on the ground. Similarly, sites are duly designated for dumping the debris. But contractors, in a bid to save money on its carriage, conveniently throw it on the slopes in connivance with the supervisory staff.

Recently the government has decided to charge the projects for the loss of environmental value due to the diversion of forest land at the rate of Rs. 8 lakh per hectare for areas with tree density in excess of 10 per cent. This would certainly make available in future more funds for the rehabilitation of catchment areas. What about the project already under construction?

The environment impact assessment statement is prepared by the Science and Technology Department. The Forest Department, which is mainly concerned with the rehabilitation of the catchment areas, is not associated with it at all.

The tendency of the people to settle down along the banks makes things worse as during flash floods the water loaded with debris moves down at a terrific speed, destroying everything which comes in the way. The victims

are mostly migrant labourers who live in make-shift hutments along the rivers and nallahs on which projects are set up. Laxity on the part of the Labour Department to enforce the law and ensure that the contractors properly maintain the record of the manpower deployed adds to the problem. Every time an incident of this kind takes place there is a dispute over the death toll and the accurate figure is never known.

Over the past 15 years some 1,000 people have been killed in flash floods. The maximum loss of life and property has been recorded in hydel projects. The 1.500 MW Nathpa Jhakri Project suffered widespread damage on as many as three occasions. In 1993 when the work has just started a huge landslide blocked the Sutlej River, creating a big lake at the dam site.

In 1997 a cloudburst stop the Rohal mountain range wreaked havoc in Chirgaon on the Rohru side and Wangtu and Neugal Seri.

The Tribune, July 19, 2003

Drought: No Relief At Least For Three Years

The country may recover from drought after three more years. If the cyclical pattern of drought observed in the last three centuries is any indication, reports IPA.

From 1686 to 1690 the country reeled under a severe drought. A full century later drought recurred from 1786 to 1790 and the phenomenon recurred from 1886 to 1890. And now since 1986 a severe water crisis has set in which grows worse with every passing day.

Speaking of this cyclical recurrence of drought, Mr. Ashok Rai, a member of the AICO cell on Science and Technology, claims that no recovery is foreseeable at least in the next three years. However, he hastens to add that this is a result of gross mismanagement of available water as well as thoughtless destruction of ecology, rather than the influence of evil stars.

The country is now losing 1.3 million hectares of forest cover every year. And of 329 million hectares of land 175 million hectares have been totally degraded. In 1951 India could afford 0.48 hectare of cultivable land for each person, on an average but by 1981 the per capita cultivable land had gone down to a mere 0.26 hectares. Add to this the possibility of one million hectares of land going out of productive use every year, thanks to soil erosion, mining, bad road building practices, water logging, ill planned urbanization-and the plight of the 700 million citizens of India can well be imagined. A frightening scenario, as painted by Ms. Kamla Chowdhry, former chief of the Wasteland Board.

Drought is a logical culmination of this flagrant disrespect for natural laws. The massive deforestation that has been done for an unbalanced industrial development

with a distinctly urban bias has now resulted in a critical shortage of fuel, fodder, grain and water, the brunt of which is being borne by the rural people. Precious Himalayan forests went into railway works and to keep several other industries running. They have never been replaced.

It is a vicious circle, says Mr. Ashok Rai. As the forests area dwindled, the monsoons became erratic, the environmental harmony was disrupted and to meet the mounting need for food grains more and more trust was placed in industry produced chemical fertilizers, further compounding the problem.

“Chemical fertilizers altered the structure of the soil and the capillary water in the ground decreased”, he points out. Capillary water is the moisture retained by soil particles. This water is almost finished now aiding erosion of soil by wind. And even when it rains the water instead of seeping down takes the soil away into rivers because the two most important components of holding sub-soil water and vegetation and soil capacity are lost in climatic changes as well as the depletion of ground water levels, that used to be diligently maintained by local rural folk.

Every year Himalayan snow provides us with 11,00,000 million cubic meters of water out of which 247,000 million cubic meters of water is used for agriculture. This water used to flow through hundreds of small natural and man-made canals. While it flowed, through seepage it recharged ground water levels in which forests played a crucial role by not only holding the soil in place but also by circulating the water thus obtained by releasing it in the atmosphere through their leaves. They also yield fruits and other products in this process of photosynthesis, besides attracting animals, insects and birds, whose droppings along with the rotting leaves return nutrients to the soil.

(Patriot, May 17, 1988)

Development Minus Green Shoots

T. R. Shankar Raman and M.D. Madhusudan

In early February, the Ministry of Environment and Forest partially revoked a crucial order it had issued in August 2009, which made the consent of *gram sabhas* mandatory for projects seeking diversion of forest lands for non-forests purposes. Now, the ministry has exempted “projects like construction of roads, canals, laying of pipelines/optical fibers and transmission lines etc. (*sic*) where linear diversion of forest land in several villages are involved” from obtaining the consent of the *gram sabhas* concerned. The requirement for *gram sabha* consent, in the 2009 order, was provided to uphold the rights of forest-dwelling communities, in keeping with the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (or Forest Right Act) and duly incorporated in guidelines issued by the Ministry of Tribal Affairs in July 2012.

Rejecting bauxite mining

The 2009 order had empowered forest-dwelling communities to reject projects harming the local environment, livelihoods and culture. The best example comes from the affected *gram sabhas* of the Dongaria Kondh and Kutia Kondh tribes in Odisha refusing their consent to Vedanta’s bauxite mining project in the Niyamgiri hills. Until the recent order, the Forest Rights Act and its requirement of *gram sabha* consent had been publicly supported by both the ministers for Environment and Forests and Tribal Affairs even in the face of sustained pressure from more powerful quarters in government and the Prime Minister’s Office (PMO).

In December 2012, the Tribal Affairs Minister wrote to Ms. Jayanthi Natarajan, his colleague in Paryavaran

Bhawan. The emphatic letter stated: “...*the consent of the gram sabha, with at least a 50% quorum (as stated in the Rules and in the 2009 order)* is the bare minimum that is required to comply with the Act before any forest area can be diverted, or destroyed.” A handwritten postscript said: “any dilution of the above mentioned circular of 2009 will have an adverse impact on the ‘Vedanta case, which is sub-judice.’” One can imagine the pressures when the same Tribal Affairs Minister, weeks later, in a letter to the Power Minister, was forced to set aside this requirement of *gram sabha* consent for power lines. Following this, the environment ministry revoked the requirement for an even broader range of linear projects.

Dangerous consequences

When two central ministries, one tasked to project the environment and forests and the other to empower tribal and forest peoples, are strong-armed into relinquishing even the “bare minimum” required to implement the government’s flagship forest rights law, it utterly discredits the United Progressive Alliance’s commitment to “inclusion” in its proclaimed agenda of inclusive economic growth. Further the consequences of this single action go well beyond the intents of those who embark on it.

Linear infrastructure projects, such as roads and power lines, while often integral to growth and development, can also have negative effects. A 2010 background paper, prepared at the initiative of the National Board for Wildlife (NBWL), lists a range of ecological impact caused by linear infrastructure intrusions in natural areas: habitat loss and fragmentation, the spread of invasive alien species, fires, animal mortality (e.g. road kills, electrocution), disruption of animal corridors, increased developmental and hunting pressures and an increase in pollution and

other disturbances. Social impacts may include insensitive developments in tribal areas, encroachments and land-grabbing along roads (witnessed recently in the Aravallis around New Delhi) changes in local communities due to the entry of a large workforce from other regions and an increase in tourism and garbage. It is therefore important that *gram sabhas* and rural communities retain their right to provide consent after due consideration of how such projects may benefit or affect them.

The recent order also appears unjustified and arbitrary because the criteria for arriving at exemption for linear projects and what is meant by “several villages” are unclear. No evidence is provided as to whether *gram sabha* consent was in fact hindering vital development projects. Arguably, for large projects that involve a large number of *gram sabhas*, a situation where dissent from one or a few *gram sabhas* holds up a project that most other *gram sabhas* want, may be undesirable.

Yet, revoking the requirement for local consent is an undemocratic step that also removes opportunities for critical exploration of alternatives, such as realignments, or other ways of mitigating a project’s ecological and social impacts. Instead of viewing local consent as impeding development, it needs to be seen as a legitimate avenue for collective bargaining and peaceful action, vastly preferable to situations where forest communities are forced to turn to violent protest. In ways that an exclusively bureaucratic clearance process can never achieve *gram sabha* consent can ensure that citizens are truly made partners in development and its benefits actually flow to the poorest.

The recent order of the environment ministry also conflates projects such as roads, power lines and canals (not to mention the ominous ‘etc.’) Bundling them together just because they are all linear is a serious error

as the effects of roads or canals on the environment or forest cover and on local communities are substantially different from the effects of power lines. For example, roads through forests can lead to soil erosion and wildlife deaths through collision with vehicles. Roads and canals can change hydrological and agricultural patterns, unlike power lines. While some social or environmental effects may be common to different kinds of linear projects, the distinctions are serious.

For more balance

Another danger in the order is that it weakens and vitiates the process of settling rights under the Forest Rights Act, which, as many rights groups have pointed out, has not been progressing smoothly, especially in areas where economic interests vie with the claims of forest dwellers. The ministry's exemption affects right settlement processes and may lead to an unfair rejection of claims. An overarching concern is the issue of precedent. If the Forest Rights Act can be diluted of its most crucial provision for some categories of projects, what is to prevent a cascade of claims for other exceptions, as are already emerging in the case of mining projects? This leads to a slippery slope that can ultimately defeat the entire spirit and intent of this rights-enabling legislation. In the words of the previous Environment Minister, Mr. Jairam Ramesh, "The question before the country is very, very simple. Are these laws to be enforced or are they to just adorn the statute books, honoured more in their breach than in their observance?"

The gains of economic growth frequently carry environmental and social costs. Instead of denying their existence or making arbitrary exemptions of projects, the trade-offs need to be acknowledged, making them explicit and transparent to citizens, strengthening the democratic foundation of decision-making and creating more efficient

and faster processes so that projects that further inclusive growth and development are not unduly hindered.

India's remaining forest cover, particularly natural forests with native species (in contrast to planted forests of alien species such as eucalyptus), has declined in the last few decades. Remnant natural forests continue to be threatened by loss, degradation and conversion. Conserving remaining forest tracts is critical to safeguard India's threatened biodiversity, watersheds and minimize conflicts between people and wildlife, besides providing for vital livelihood and resource needs of forests-dwelling communities. When large infrastructure projects such as roads and canals run roughshod over rural communities without paying heed to social and environmental costs, society will only stand to lose in the long run. In that sense, even, the term 'infrastructure' for such projects is a misnomer, as roads and canals are merely superstructures built upon the real infrastructure represented in human and natural capital.

The present order of the ministry, masterminded by the PMO, to dilute legal requirements meant to safeguard forest dwellers and the environment, is a move towards greater opacity and central control, favouring corporate-industrial interests over local people and marginalized communities. Where the government could be working to reconcile the needs of development and environment, it is instead driving further wedges between the two.

(T.R. Shankar Raman and M.D. Madhusudan are scientists with the Nature Conservation Foundation, Mysore. E-mail trsr@ncf-india.org;mdm@ncf-india.org)

Save Your City, Save Trees, Give up Meat

Maneka Gandhi

Planting trees is not the answer to the dwindling forest cover. You can only achieve India's target of 25 per cent forest cover by cutting down on those activities that denude the earth.

Each person in India uses up seven trees a year—the well off through paper, furniture, artefacts and the poor for cooking. The current population of 890 million, multiplied by seven, is 623 crore trees cut every year.

Added to this is the felling “for development.” A dam that submerges 25 lakh trees, a tourist hostel that has to be made on forest land, foreign refugees and refugees of power projects that have to be settled in green jungles—these projects take three lakh hectares of forest every year.

Every time a Government agency demands to cut trees in the interests of progress, they have to compensate to the tune of 10 trees for every tree cut. But, only one per cent of the compensatory trees have actually been planted in the last 20 years. Having had the proposals passed no government agency has seen it fit to follow the law and this ranges from docks to thermal power plants with the worst offenders being the dam builders.

But what is the main cause of forest denudation and barrenness? Forest cover destroyed by livestock.

I have witnessed breast beating on the destruction of forests, denudation of hillsides, drying up of natural springs and other water sources. Few complainants have linked their own meat eating to the 180 million hectares of land that lies as wasteland.

Meat is the ultimate luxury in this country and meat

export the ultimate folly. Let me explain: Only a small amount of land on the planet can be used for growing food. In the past agricultural and pastoral lifestyles in India were not competitive. Livestock raised for milk and meat depended on food sources that humans could not eat or did not need.

Now, however, animal protein depends almost entirely on land needed for man's wellbeing. We have 890 million people and 450 million goats, 150 million cattle all forcibly bred and all depending on the same resource green and arable land and forest.

Animal farming requires intensive feed not just scraps and waste of little value. More grain and cereal is fed by the US and Russia to livestock than is consumed by the people of the entire Third World. Britain gives 2/3rds of its homegrown cereal to its livestock—that amount could satiate 250 million people each year. Even then it imports grain for livestock.

The European Economic Community gets 20 million tonnes of cattle feed from the Third World including India. Ten per cent of their meat is produced with our fodder. South America's rain forests have been cut down to grow cattle for hamburgers for the US as a result the greenhouse effect which will destroy most of life as we know it in another 20 years has been accelerated.

Twenty million tonnes of grain protein provides two million tonnes of animal protein. Seven kg of grain produces one kg of meat. What about the fossil fuel energy required? One protein unit of soyabean, rice or wheat takes an energy factor of between two to 10. Beef, pork, eggs, milk, mutton take from 10 to 78! Can we in India afford this energy so that a few eat meat?

What about land use? A single sheep or goat eats the equivalent of four hectares each year. Its average lifetime

is four years it destroys 16 hectares of Government land before it is killed. Ninety-eight per cent of the goats and sheep feed on forest land, on hillsides, roadsides, villages, panchayat land—on Government land that is totally ravaged by the animal and has to be replanted by the Government.

The Ministry for Environment has a Wasteland Development programme which pays Rs 6000 per acre destroyed by goats. Where does this money come from? Your taxes. Even then this programme is not successful because the Government does not have the resources or the agencies to do this repair work as most of the land loses its top soil.

Forest departments get very little of the state budget—sometimes barely one per cent. So they have a limited target of a few thousand hectares a year. The total denudation, however, is closer to 450 million goats multiplied by four hectares.

Haryana's water level has fallen because the lower Shivalik hills have been rendered barren by goats and the streams coming into Haryana have dried up. All the Project Tiger areas and the other national parks are failing or are on the verge of extinction (as is Bharatpur bird sanctuary) because of the huge inflow of cattle and goats that eat up all the young shoots—and whose owners murder wild animals to protect their meat. Seventy per cent of all planting efforts by forest departments are doomed to failure because the grazing animal eats the young plant. As a result even the planting patterns change—for instance, the Delhi administration does not have the money to provide tree guards. So they plant only those trees that are not eaten by the cattle and goats let loose on the city and its peripheral villages.

Consequently, Delhi is saturated with ugly, false

Asoka, *Alstonia scholaris*, *Oleander* and *Bougainvillea*—and that's all. Gujarat is full of *Ganda Bawal* (the mad tree), *Prosopis juliflora*, that neither gives flowers, fruit, shade or lets any other tree grow in the vicinity. The well off eat the meat but the loss of tree cover is felt most keenly by the poor.

Apart from the free food that our forests provide we have diverted enormous amounts of land to grow fodder for these animals and that could have been used to grow wheat for our poor. Even then the National Commission on Agriculture save that our grown fodder shortage is 38 per cent so more land will have to be put aside to grow meat, as it were.

We even export meat to the Middle East. Which means that we put ourselves in the same position as South American republics—a slave country that destroys itself (for destroying green cover is the end of all life) to feed another country. Each kilo exported may earn us Rs 100. We have to use 150 times that amount to repair the damage done to our natural resources in growing that meat.

In other words, the more meat we sell, the poorer we grow. For instance, most of the goats grown for Delhi's meat feed on the Aravalli hills which are now so barren that their dust fills Delhi's air. To regreen them, we have taken two foreign loans of \$60 and \$63 million—100 times more than what we earned in the last five years from exporting these Aravalli-fed goats. Are we richer or poorer?

Every time you eat meat, you also pave the way for Delhi's lung diseases. Because the replanting of the Aravalli hills has been consistently unsuccessful, dust files all over Delhi. The Suspended/Solid Particulate Matter (SPM) levels of Delhi are the second highest in the world.

In plain language this means the dust that you

inhale into your lungs causes one in three people to get respiratory problems that range from asthma to lung cancer. These diseases cost not only the individual money, but place an intolerable burden on the city's hospitals which are subsidized by your money.

Environment is the science of interrelated crisis. You wear something. You use something, you eat something and its impact is felt like an earthquake somewhere else. Meat is the trigger for Delhi. You eat meat, you fire a bullet that gives you a denuded city, blood filled water and a shortage of it, unbreathable air, asthma—even plane crashes.

You want to save this country's green cover? You want to do something to increase the oxygen in the air, the fresh water in the ground? You want to breathe properly? Start with giving up meat.

The Hindustan Times, April 25, 1994

Environmental Concerns

The warning given recently by a UN Inter-Governmental panel on the greenhouse effect about global warming could not have come at a more crucial time. Earth day 1990 was observed by millions of people in over 120 countries on April 22, perhaps signifying the largest demonstration of public concern ever seen on any issue. Then again on June 5, observed as the world environment day, UN Secretary General Perez de Cuellar urged the nations to reverse the ecological degradation of the planet at least for the sake of children and grandchildren yet to be born in the near future and in the next century. The panel report fears that the rise in global temperatures in the next century would surpass even those believed to have occurred cumulatively in the last 10,000 years. The rising greenhouse warming would result in the sea levels going up by 6 cm for each decade and 65 cm by the end of the next century. The global warming could raise temperature by about one degree centigrade by 2025 and 3 degrees by 2100. The key point made in the report is that the greenhouse effect is increasing because of human activities. Twenty years ago when the first earth day was observed even experts did not know how to correctly measure all the problems the world faced. Even today the indices environmental scientists have developed for measuring different pollution problems are in danger of becoming obsolete once it is discovered how extensive and complicated the issues really are.

Statistics do, however, tell a story, the numbers revealing the extent of deterioration. For instance, the world population in 1970 was 3.72 billion; for the current year it is projected to be 5.32 billion. The Total world carbon emissions in millions of metric tonnes from burning

fossil fuels in 1970 were 3,934; in 1986 they were 5,225. The world's military expenditure in 1970 was estimated at 450 billion, while in 1990 it is projected at 750 billion. The chief greenhouse effect gas is carbon dioxide emitted from the burning of fossil fuels and deforestation, both of which are the result of human activity. Car exhaust contributes to acid rain and ground level smog. Most alarming are potential chain reactions triggered by changes taking place now in the upper atmosphere. Scientists are concerned that interactions between pollutants in the atmosphere may produce cataclysmic effects far greater than the sum of the parts. Chlorofluorocarbons found in products ranging from air conditioners to plastic foams are destroying the earth's ozone shield.

(The Hindustan Times, June 12, 1990)

K.M. Munshi writes that Matsya Purana says: "One who sinks a well lives in heaven for as many years as there are drops of water in it. But to dig ten such wells equals in merit the digging of one pond; digging of ten such ponds was equal to making a lake; making of ten lakes was as meritorious as begetting a virtuous son but begetting ten such virtuous son had the same sanctity as that of planting a single tree."

Environment Protection

P.V. Subramaniam, Madras

Sir,—Several institutions, viz. The Green Cross Society, The Department of Environment and Forests, Worldwide Fund for Nature and others in the field recently celebrated the annual day to create an awareness among the people about the need for protecting and preserving our environment and working for sustainable development so that the planet we live in and work is safe for generations to come.

They have come out with statistics which reveals a deteriorating and dismal picture of our environment leading to a global crisis. One wonders how with such statistical help preventive steps are not taken to control the environment damage and degradation and how this could happen if these institutions were alert and alive to the environs and had a steady, systematic and sustained programme of maintaining a greener and safer earth. For instance considering Madras, regular and systematic planting of saplings in locations in and around the city by over 35,000 horticulturists and agriculturists during the monsoon period in an organized way will result in creation of a happy and healthy environment.

As an illustration of how easily this can be done by collective endeavour, residents of a sandy developing colony in Tiruvanmiyur without help from the corporation and other sources, on their own initiative and expense planted over 100 trees in a week's time last monsoon. These have now grown to a size requiring or no attention.

Likewise institutions dedicated and devoted to environment improvement should evolve a systematic programme of planting and preserving the tree involving the citizens in this project. What is essential to achieve

the objective is interest, initiative public participation and a machinery for ensuring effective implementation day today. Environment protection should be made an integral part of school curriculum and all school children should be involved in efforts to look after the environment.

Unless collective steps are taken to make this a decade of environment restoration and preservation, it will lead to a crisis affecting global welfare and finally end to disaster.

(The Hindu, June 3, 1990)

- * Preserve natural resources.
- * Service of the poor and destitutes is the service of God.
- * Plant trees to save environment.
- * Wear Khadi clothes to lessen unemployment.
- * Simple living and high thinking is a bliss.
- * Use less of diesel and petrol.
- * Exercise restraint in your living habits.
- * Don't forget to plant trees. They are the sign of prosperity of a nation.

—Bhagat Puran Singh

Little Room For Hope

Environmental Protection

B.B. Vohra

It is time, 18 years after the Stockholm Conference and 10 years after setting up of a separate Department of Environment at the Centre, to take stock of the progress made by the environmental movement in the country and consider its future prospects.

The movement derived its inspiration in the initial stages from the major concerns that found expression at Stockholm. By the very nature of things, these concerns were those experienced by the developed countries and related, by and large, to the need to control industrial pollution and to protect the threatened species. This explains why the important gains made by the movement in the seventies pertain almost exclusively to these two fields. These gains include the enactment of anti-pollution legislation, the launching of "Project Tiger", the protection of the Taj against the threat posed by the Mathura Refinery and the saving of Silent Valley from submergence.

In the early eighties a new orientation was sought to be given to the environmental movement by the National Committee on Environmental Planning. The NCEP felt that in the Indian context two more concerns were necessary to be added to the agenda of the movement. Firstly, since insanitation and the lack of clean drinking water account for nearly 80 per cent of all morbidity in the country, at least as much importance needs to be given to the creation of hygienic conditions in all human habitations, whether urban or rural, as is being accorded to the problem of industrial pollution. Secondly, urgent steps should be taken to halt the degradation of land and forest resources and therefore also of water resources which is threatening the very life support systems of the country and is imposing increasingly severe penalties on its economy.

The expansion of the environmental horizon which took place as a result of this redefinition of objectives has resulted in a greatly increased awareness of the need for the better management of the country's natural resources. This has been reflected in Government initiatives (such as the NWDB) in the field of forestry, as well as in popular protest movements against big irrigation projects that not only involve high environmental costs by way of submergence of vast areas of land but also entail a great deal of human suffering among oustee population, besides of course being prohibitively expensive. Unfortunately, however, there has not been any similar increase in popular awareness of the need to improve standards of sanitation in our villages and towns.

Where does the movement stand today? On the positive side it can be claimed that, thanks to the efforts of numerous NGOs and voluntary agencies and to the increasing interest that the media is taking in this field, there is today greater appreciation than ever before of the relevance of environmental issues of the life of the people. Equally importantly, the leadership of the movement is shedding the rather elitist and dilettantish character it had in its early years and is coming closer to the ground.

INADEQUATE ACTION

However, on the negative side, the harsh fact must be faced that awareness has not been matched by anything like adequate action. Anti-pollution laws exist on the statute book but are not being implemented with the rigor they deserve. Sanctuaries and parks that harbour the threatened species are coming under increasing pressure from human and animal populations that inhabit poorly managed lands in their vicinity and are often also not run with the requisite strictness. As regards insanitation, the less said the better—there is as yet no active intolerance of even the open defecation that is becoming an increasingly familiar sight in our towns and cities. Finally, the optimal

management of our vast land, forest and water resources still remains a distant dream.

It is difficult to apportion blame for the present state of affairs. As far as the Government is concerned it seems that it is still not quite convinced that the protection of the environment is not an expensive luxury but an urgent necessity. Had it been otherwise, it would have set its own house in order before beginning to preach to State Governments—it would have converted its union Territories into models of environmental management and its numerous and huge industrial enterprises into models of pollution control. Had such an approach been adopted the Centre would have also learnt that it is easier to talk about the environment than to do something concrete about it. It also would not have given the fledgling department of Environment its 7th Secretary in 9 years or embarked on the NWDB experiment with a nepotistic casualness that guaranteed its failure.

But the real reasons for the lack of progress by the environmental movement lie far deeper than the attitudes of either NGOs or the Government. Two factors may be especially mentioned in this connection. Firstly, the continued growth of the population at over 2 per cent per annum in a situation when some 40 per cent of our 850 million people are already below the line of absolute poverty makes it practically impossible to cope effectively with environmental problems, even if the desire to do so was there. Secondary and even more importantly, it must be realized that the tradition of taking an active interest in matters of public rather than private importance is still so weak in India as to be practically non-existent.

Considerations of Karma and caste also make our ruling elites callous towards the fate of the under-privileged who invariably stand to suffer the most from environmental degradation. It is also an undeniable fact that during recent decades a most unfortunate deterioration

has taken place in the quality of our political life—it is now more or less dominated by cynical power hungry men who are bereft of idealism and have little time for environmental protection and other issues of a long-term nature.

It is clear, in this context, that the environmental movement in India has still a long way to go before it can register any real successes. The time has indeed come when we must ask whether in the third decade of its life, it should not enlarge its concerns still further and add population control as well as poverty alleviation to its agenda. For it is only when these two basic problems of the country also begin to be attended to, that any headway can be made with regard to the other issues, so closely interlinked they are with one another.

SHRINKING FRAM BASE

The situation that the country finds itself is indeed grim. Its agricultural production base is shrinking even as the demands on it by an impoverished and growing population are increasing. Poverty and its attendant ills—disease, dirt, ignorance and backwardness—still stalk the land and show few signs of abating so long as the population continues to grow and the population threatens to continue to grow till it has become double its present size. Rising unemployment and thanks to the electronic media, rising expectations confront each other to create an explosive mixture which might soon make orderly life impossible. Social, political and economic problems are constantly on the rise and have already made governance difficult.

At this juncture, nothing is so important as an all-out effort to stave off ecological disaster and improve the country's productive capacity, so that this may in turn help to alleviate poverty and give hope to the poor of a better future. It is only when there is hope for a better future that population control measures will begin to succeed and

living conditions, whether in the villages or city slums, will have a chance of improving. A rejuvenated rural sector is also the only way in which the migration of the village poor to urban centres can be controlled and the constant creation of new slums avoided. Better resource management across the board is also the best way of ensuring security for our beleaguered sanctuaries and parks. Finally, it is only if there is a flourishing rural economy—that sustains some 70 per cent of the population that there can be a flourishing industrial sector that will have the resources to deal with its problems of population.

However, it needs to be remembered that it will not be possible to do justice to the environmental imperatives of the country—so vast are these in scope and size—unless very large sums of money are forthcoming for such a purpose. Such large sums can in the ultimate analysis be found only if the security environment—both internal and external of the country is so peaceful that a major part of the huge expenditures that are being incurred today on the equipment and maintenance of large bodies of men in uniform can be diverted for more fruitful purposes. That day is however still far away.

Environmental protection is thus not such a simple matter as is generally imagined but something which touches almost all aspects of national life. In the ultimate analysis, it can be achieved only if there is a much higher level of involvement of the ruling elites with the basic problems of the country. It is a tall order, but it does seem that if India is to flourish and thrive it must produce a new breed of elites who will be concerned not with pursuing their own narrow interests but with serving those of the people at large, who will be of a caring and compassionate nature and not cynical, amoral and grasping in their attitudes. Till then, prospects for the environment will continue to remain as bleak as they have ever been.

(The Hindustan Times, August, 15, 1990)

Restoring Ecological Balance

Navin Chandra Joshi

The Union Government recently became increasingly alive to the need to reverse the process of rapid deforestation which led our ecologists to sound the alarming bells. The government is now considering a move to ban the depletion of forests during the Ninth Plan period. Perhaps, the Centre may like to compensate the states for the loss of revenue on this account.

The last amendment to the Indian Forests Act, 1980, also make it imperative for the states to get the Centre's prior permission before leasing forest land to private persons, corporates, etc. This applies even where land is leased for reforestation if it involved clearing of naturally grown trees. Hopefully, this and other measures would go some way to decelerate the felling of trees.

However, until adequate substitutes are found for firewood and for the multifarious uses to which timber is put as well as large-scale and genuine reforestation projects are implemented, depletion of forests cannot be halted. As such, the task is to save the existing forests, check the spread of wasteland and to grow more trees in the already denuded areas and wherever it could be feasible.

It the country where the annual requirement of wood is of the order of 150 million tonnes, of which nearly 80 per cent is used as firewood, the central guidelines to the states to consider banning forest felling makes little sense when the quantity that could be obtained on a sustainable basis from the existing forests is at best one-third of the total requirement. How is the shortfall of nearly 100 million tonnes to be met? If the states were to strictly allow the central guidelines, we may have to import the remaining firewood. What is urgently needed is to look for

alternative sources of energy for rural areas. Protection of forests in the circumstances is easier said than done.

India's 329 million hectare geographical landmass, nearly 75 million hectares (about 22 per cent) was under forest cover at the time of Independence. Owing to expanding industrialization, urbanization, increase in population and illegal cutting of forests, this 22 per cent forest cover now stands drastically reduced to hardly 10 per cent. About 175 million hectares, half of the total landmass, is officially estimated to be wasteland due to degradation of land. The break-up of the 329 million total landmass is specified as 191 million hectares under forests, 18 million hectares under non-cultivable or barren land 25 million hectares under illegal occupation of China and Pakistan. Forest deprivation has been most acute in the Himalayan region, particularly in the Garhwal area.

While the latest official estimates say that India's forest cover is 19.52 per cent of the land area, the general consensus among experts is that this is an overestimation which does not take into account the extensive and continuing depletion of forest resources through deforestation, poaching and most important of all, indiscriminate felling of trees by people to meet their firewood needs.

In any case, the country is still far short of the ideal 33 per cent that ecologists hold the country should try to achieve and maintain. The most challenging task, therefore is to save the existing forest and check the spread of wasteland. This has to be supplemented by afforestation programmes.

According to the Survey of India and the National Remote Sensing Agency, of the 19.52 per cent green cover, over 10 per cent is represented by closed forests, over 8 per cent from open forests, 0.12 consists of mangrove

forest and 1.10 per cent comprises of coffee plantations. We have to bring at least 10 million hectares of degraded land under forests per annum to achieve ecological balance after a decade.

As is well-known, despite stringent laws to save forests, implementation of their provisions has been utterly lacking. But more unfortunate aspect is that reforestation programmes have always lacked behind the target. Every year the country is losing 1.5 million hectares of forest cover and about 12,000 million tonnes of top soil owing to surface run-off.

As such, the success of an afforestation programme hinges essentially on two factors—people's involvement and the quantum of investment. But then, so are we have forgotten another major aspect and that is the use of methods that give optimal results. One such method is known as "social forestry" the objectives of which were spelt out by the National Commission on Agriculture (1976) as (a) firewood supply to replace cow dung, (b) small timber supply, (c) fodder supply, (d) protection of agricultural fields against winds and (e) recreational needs. Its main components would be (i) farm forestry, (ii) rural forestry and (iii) urban forestry.

In a way, social forestry combines idle land, labour and water resources for optimum production of firewood, fodder, food and manure and small constructional timber. As such, it essentially involves a kind of monolithic integration of forestry, agriculture and animal husbandry. The government has quite adequately recognized the need for rebuilding of existing forest resource near the villages for rural housing needs and agricultural implements. Therefore, dependence on forest resources cannot be wished away. The major solution would lie in launching massive programmes of social forestry throughout the

country, including the Himalayan region, keeping in view three important aspects of protection, production and environment.

Forest nurseries could play a very important part in afforestation and reforestation programmes in India. For achieving a target of five million hectares, around 10 million seedlings are required but the country is presently planting annually at the rate of 1.5 million hectares using three billion nursery plants. Obviously, such a large programme cannot be accomplished only by the government departments. As such, nursery operations need to be decentralized and involvement of non-governmental organizations should be encouraged. A nursery should, in fact, be available within a 10 km radius with at least 25,000 saplings.

The failure of social forestry to fulfill the basic needs of the poor stems from instances like big farmers growing eucalyptus instead of the traditional ragi, thereby making less food available locally, pushing food prices up and agricultural workers losing their jobs as eucalyptus requires less care. What is now needed all over the country is that voluntary agencies get involved more and more in the task of afforestation.

In the ultimate analysis, it is crucial that a change in the attitudes of foresters, villagers, politicians, decision-makers and all others involved is very necessary. Right policies will give a big boost in protecting our ecological balance, while serving many social causes as well.

(The Tribune, January 23, 1999)

Greening The Brown

Raj Gill

The annual tree plantation ritual has grown into a hoax. Far more trees are planted in India than anywhere else in the world. And yet each year the total number of standing trees is less than the previous one. What happens? Where do the trees disappear? Or are the trees really planted in the same number as announced before the beginning of the tree plantation ritual?

Take the case of Delhi. The tree plantation started in the fifties at the time of Prime Minister Nehru. It started with a couple of thousand saplings being planted. The figure went on rising till it reached well over a crore. If even a quarter of all those trees have survived, Delhi, by now, would have looked like a tropical jungle which it was in the good old times. All recorded history of Delhi tells us that it was an emerald cup, lush green and full of wildlife. Its sylvan character has been put on record by foreign tourists and traveller as well as the native royalty which hunted elephants, tigers, chinkara and blackbucks in the area. But Delhi today is mostly brown and bare. The trees planted alongside roads in Delhi are being continuously felled for road widening or some other purposes. The vandalism is on in full swing though pruning cutting or felling a tree is a crime in the Union Territory of Delhi. Even when it is a necessity one needs the permission of the Lt-Governor. But who cares. Even in the countryside only banyan and pipal trees or the babool groves are surviving. These hardly contribute to the environs of the area.

The tree plantation target for the Union Territory of Delhi was set at 1.09 last year. The actual plantation was

only 43 lakh. The target set for this year is 50 lakh. But one wonder whether it would be met or not.

Take the instance of the Delhi Development Authority an over-reaching and over-ambitious agency. It set itself a target of planting 30 lakh trees last year. It admitted to have been able only to plant 8.34 lakh. I would like to count that lot. Because I am sure that I would not go beyond a lakh or so and not even that after a few more months. Anyway in case of DDA less said the better. It has miserably failed to maintain its wooded areas in the city. It has let its parks be encroached upon or itself put them to commercial use. The result is that the green area in the city as stipulated in the first Master Plan is far less and fast shrinking. It has also hampered the future planning. Because DDA cannot green concrete. It would mean large scale demolition of buildings and rendering people homeless.

Delhi is not a singular case. The performance on this front is poor all over the country. The targets are set so high that they are absolutely difficult to meet. India would have been, once again, verdant if even 25 per cent of the saplings planted in the last four decades had survived. But it is not so. Rather it is painful to realize that we are steadfastly heading towards not greening the country but turning it into another Thar Desert by large scale deforestation and cutting of the green cover.

The situation is bad all over. Punjab gradually browning up with large scale felling of trees, even in such sensitive areas a Kandi. In Haryana about 1,50,000 hectares of forest land needs to be rehabilitated. The jungle area in Orissa has been reduced from 53, 163 sq km (1981-83) to 47137 sq km (1985-87). The deforestation

continues on an accelerated rate. This situation is worse in Punjab. It has only 5.5 per cent of the total land area under forest cover. Eighty per cent of the land is under cultivation. Uttar Pradesh today has only 5.14 m ha of forest land, i.e., 17 per cent of the total area. But the good forest cover is available only in 1.8 m ha which means that the actual forest cover is less than seven per cent.

A minimal of 33 per cent forest cover is advised for having an ideal ecological balance. India's forest cover, according to official statistics, is 23 per cent of the total land mass. But the estimate of the specialized agencies is that it is only about 18 per cent which is also being reduced steadily. The green cover comprises lungs of the nature. As such it is important to have an adequate and healthy green cover. The tree plantation campaign is aimed at this very objective. But this objective cannot be achieved if the deforestation continues at the rate of one million hectares a year. The recorded forest area in India has been put at 75 million hectares. But today it is less than 48 m ha meaning that 27 m ha have already disappeared.

Will it not be better if the plantation is made public-oriented rather than leaving it as an official annual ritual? Sections of roads and railways and canal banks should be allowed to the poor and the landless, to plant fruit or timber trees subject to the climate and the available irrigation. They should be supplied free saplings and some subsidy for their upkeep for the first one or two years or the strict condition that they would own the trees if preserved or would have to pay back the subsidy with interest.

The economic and the social incentive of owning the plantation will be a great incentive for the weaker section to take good care of the trees.

Similarly the village waste and common lands should also be allotted to the poor and the landless for afforestation. It should also be an offer to the voluntary agencies and private organizations that if they give a guarantee for the proper maintenance and growth of the trees they can have the land free and own the income from the trees. This would not only attract genuine and serious people for the tree plantation campaign but boost its acceleration also. When a person knows that a tree that he plants on the side of highway would be his property when matured he would be too wary to let it fall prey to cattle or the fuel gatherers. The scope can be further widened by making it stipulatory for all the house building societies to plant one tree for each member in the colony before they get the completion certificate. Any reduction in the number of trees required in a particular society should incur heavy penalty. This way we can certainly ensure restoration of the green cover and save our country from the jaws of another Sahara or Thar in the making.

(Hindustan Times, 24 March, 1991)

Jampui Hills Fast Losing Their Wealth

The Jampui hills on the “Tri-junction” of Tripura, Mizoram and Bangladesh once known as the eternal spring, is fast losing its charm. Large-scale Deforestation has turned this picturesque area into a near barren land. Logs worth more than Rs 1 crore have been smuggled from the hills in north Tripura district since the mid-eighties.

The tribals, mostly mijos help the smugglers clear the jungles for small payment. And the denuded land is used for orange cultivation.

The large-scale tree-felling has a terrible impact. It has changed the weather conditions. “I no more feel that cold even in winter,” said one tribal to this correspondent. Tripura’s Minister for tribal affairs and forest, Mr. Drao Kumar Reang, admitted in the state assembly during its just concluded session that all the natural springs in the area have dried up leading to an acute shortage of drinking water. The hills are situated 3,000 ft. above sea level and the springs were the only sources of drinking water for the tribals. Now they have to travel all the way down to fetch water, rainfall has also decreased.

These changes have also cheated health hazards for the inhabitants of the hills. Gastro-enteritis takes a heavy toll every year.

(The Hindu, March 11, 1991)

MYTHS AND RITUAL PRESERVE NATURE

Environmentalists tap Vedic Wisdom

Shanta Chatterji

Experience shows that “statistic never moved souls.” So what is the quickest way? What about stirring up our subconscious, the store house of myth and history which we gathered in our childhood, the association we have with stories of Krishna and Ram, of living in harmony with nature.

“When we find that it is the attitudes of man that govern wants, needs, economies and empires is the fashioning of these by the right ritual such an unnecessary thing?”

Substitute “habit” for “ritual” and you have spanned 5000 years in India.

At a time when nature conservation is at its lowest ebb, are we going to have academic discussions on whether to use the rational approach or the emotional approach to bring it about? This was the question which produce ‘Sanskar’, an audiovisual presented by World Wildlife Fund, India, on nature conservation as an ancient Indian tradition, sponsored by the National Museum of Natural History, department of Environment, New Delhi.

Let us investigate is not ritual, or habit if you wish, the surest way of inculcating in a massive population, a way of life is environmentally rational for our own existence? Did our ancients not use this to great advantage through a technique of story-telling which is potent even today? Should we reject it or should we build upon it? With our environment in a shambles, with forest cover dangerously nearing 10 per cent, with 1.3 million hectares of trees disappearing every year and 30 years to go, which is our quickest way of getting an active response from the

public?

If we give them facts and figures will they absorb them beyond a point? Having absorbed them, will they be moved to act on them? Experience shows that “statistics never moved souls.” And then, what percentage of the population, will react? For the bulk of the population, while we go through the cycle of literacy, education public awareness of social and economic issues, will the environment wait?

So what is the quickest way? What about stirring up our subconscious, the store house of myth and history which we gathered in our childhood, the association we have with stories of Krishna and Ram, of living in harmony with nature, of protecting it, of cherishing it? And one by one, all the “westernized”, “elitist” concepts concept of ecology, the environment and the interdependence of all species come alive, in an idiom which is relevant and easily assimilated by most of traditional India with a power that touch a level of consciousness which never forgets the lessons.

Why Krishna? What’s the secret of his popularity? He was never projected as a paragon of virtue. But he always keeps us amused. His fragilities make him lovable. His romance is vicariously satisfying. And once you have identified yourself with him, you are ready for his wise counsel.

MOUNTAIN’S ROLE

“Worship Govardhan and not the god Indra for the mountain give you food for yourself and fodder for your cattle.” The people of Brindavan were converted immediately for he had caught their imagination. They moved from the overgrazed and denuded Brindavan to Govardhan.

And what greater impact than the dramatic content

of the cosmic form of Krishna, as revealed to Arjun at the battlefield of Kurukshetra? What would the Gita be without this VIRAT roop where the web of life, the unity and interdependence of all species comes to life in a flash. The same energy that transforms itself from one to the other, echoing strains from Fritjof Capra, the nuclear physicist of today, who so lucidly draws parallels between ancient insights and the conclusions of quantum physics that all matter is energy that Shiva’s dance of creation is almost identical in its postures to the behaviour of the splitting of particles into energy, in a nuclear bubble chamber. Only the image of Shiva remains longer in the mind than a diagram of lines going in different directions. “Clay models are immersed, but concepts stay behind.” If you take the trouble to investigate these concepts or even if you do not, they stay with you. And so the dancing Shiva is almost a symbol of India for the world.

What beautiful imagery when the forests were likened to Shiva’s locks which broke the force of the Ganga and let it descend gently to the earth below. We know now the fury of floods and famine as the forests slowly disappear from the Himalayas, at the image of Shiva recedes from local minds.

How was nature conservation way of life in India? We seem to have gone through a range of attitudes from wonder and worship in the Vedic period, to equality and communication in the Ramayana period, to devotion and closeness during the Krishna period, tinged with romance and poetry of which scented glades and ebullient animals and birds were always a part. There was no art without nature, no music without the live symbols of the seasons which gave content to it, the Koyal heralded spring, the cranes followed the rains.

The Vedic period used the rational approach,

through ritual. Only fallen branches were used for *yagnas* and religious fires. Only branches of trees, never the trunk, were cut for the pandal poles. Out of the twenty one stakes required, the central stake was from the Rajjudata tree, two were prescribed from the *pitudara* (deodar) tree, six from the *bilwa* (bal tree), six from the *khadir* (accacia catechu) tree and the remaining six from the *palasa* tree (the flame of the forest). Fourteen species of trees were specified for use in sacrifices and nine species were prohibited. What more even use of resources according to their availability and renewing capacity can today's environmentalist ask for?

Before a branch was cut, an invocation was chanted, a prior forgiveness obtained *Swadhite ma ma hinsa. Aushadhe trayasva enam.*

(O knife, do not cause any harm, O lord of the plant, protect him).

If we were to ask Dr. J. C Bose, the modern originator of the theory that plants have life and emotions, he would have said that this was a method of hypnosis inducted in the plant, to ease its pain, to make it retreat and go numb before the axe struck any part of it. Check it out with the "Secret Life of Plants" by Pater Tompkins and Christopher Bird.

HUMBLE PRAYER

Whatever effect it had on the plant, the humble prayer must have had its influences over the man who wielded the axe, the wield it judiciously.

You then had the religious strictures to plant five species of sacred trees; banyan, peepal, umber, the flame of the forest and mango. All species which the most ardent environmentalist would urge you to plant today, for they retain the maximum soil, provide medicinal ingredients, attract birds and give fruit, not to speak of shade and

oxygen. The only difference is, would you rather be told by your grandmother about them in a nice story, with tender love, when you are a five year old and impressionable or by your botany teacher in the 10th standard when your main interest is pop music and pretty girls?

Emperor Ashok spelt out the same rules in the 2nd century B.C., of planting banyan trees on roadsides and mango orchards in your back yard. But will we listen?

Symbolism has played an important role in the shaping of our psyches. Laxmi, the goddess of prosperity is always being given a leisurely bath by the cloud elephants of the four quarters. Why? Why elephants? Could it be that elephants living in high rainfall bamboo forests signify rain? And rain brings vegetation and prosperity? And what about Ganesh? The giver of Knowledge (elephants are reputed to have a stupendous memory) and the remover of obstacles (also elephant-like)? Those who worship him, are they likely to massacre him?

Whatever the reasons our gods and goddesses had in acquiring vehicles of animals and birds—Brahma on the swan, Vishnu on the serpent or Durga on the tiger—could it be that these species have remained protected until recently due to their strong associations with worship? Snakes do happen to be the best controllers of our rat population which destroys 20 per cent of our grain and the tiger, we find is the best indicator of a healthy eco-system needed for man's well-being? Here, the goddess Durga is in complete agreement with officials of project tiger. Save the tiger. In the Sunderban, it is a joint effort.

But slowly the canvas in India began to change. Cultural imprints, carefully inculcated, began to be superimposed with other imprints. India was invaded conquered. We, a pliable people, began to be influenced by the fashion of the day. Hunting became a sport and man

called upon wildlife to give beyond his basic needs. They stopped being friends. They were on opposite side of the fence.

New modes of transport, of agriculture, perhaps, brought more and more alienation from the living things around man and his interdependence on them. He had no need to be nice to them.

From animals as an object for sport to animals for exploitation was a short step. Tigers and leopards hung as trophies or “hugged the supple shoulders of a memsahib.” Snakes became snakeskin bags and the trend continues. And one cocktail circle imitates avidly.

But the *Nag Panchami* is alive and kicking, a declared holiday where the snake is still worshipped by great numbers. Are there enough snakes to halt seriously our rats from going amuck? Even if you are only a “layman” and not an expert ecologist, whose side would you, be on? The memsahib’s or the *nag* worshippers”? The one who knows her facts and figures about rat control, or should know but ignores them? The rishi had all his facts and figures but used his imagination to use colour, shape and sound in the best psychological tradition to touch a level of consciousness which is deep enough to create a habit in people and to get their participation as the performers, the potential nature-protectors. For when you participate in a pooja, in a dance-drama, in a song, where you have been the Hanuman, or you have been the Ram who took help from Jatayu, the eagle, you have unconsciously taken a pledge. You are not likely to kill them. And you are going to prevent others from killing them. Thus are eco-systems saved?

Thirtyeight years after independence, we are still looking for a national identity. Perhaps we shall find it, now that a new generation has arisen. Can we seize

through our sanskars, our cultural imprints and come up with a mix which is rational in content and imaginative in its approach? If we are to grasp that identity and thereby unleash our energies there is no other short cut. By imitation of other societies, we are likely to remain shadows of ourselves. By a judicious blend of centuries old experience with the investigative technique, we might just about stop ourselves from throwing away the rice with the chaff.

RESTRAINED USE

In the churning of the ocean of our traditions and rituals what comes up strong and clear is the restrained use of natural resources we made and the quality of intellectual and artistic life we achieved. Whether the restraint was conscious or instinctive we have a wealth of everyday common habits, which happen to be environmentally safe and less taxing.

We are predominantly vegetarian and therefore depend upon food with a shorter production cycle. Plant life regenerates faster than animal life, apart from the recent knowledge of 16 immunities in the body which are destroyed by non-vegetarian food.

We enjoy eating with our hands and do-away with implements which require factories to manufacture, scarce steel as raw material and high energy which is mainly based on oil, a fast depleting resources.

We have traditionally used no furniture to any great extent and preferred cushions, carpets and holsters in a warm climate where the cool floor is the best means of cooling you down. The revival of this habit could have a substantial impact on saving our vanishing forests. Certainly, we never used wood for wood-paneling our offices! And what would happen to our forests if every Indian used toilet paper? We use water which is a

recyclable resource. Little drops of water make a mighty ocean and so can the continuing of some of our sane habits, as individuals.

Our investigative searchlight must fall not only on our own ancient and modern way of life but also on that of the industrially developed countries which we are trying hard to imitate. We seem to want to be like them, to improve our image in our own eyes. Will we have the courage to shed our complex? Will we be discerning enough not to invite acid rain and genetic defects, through over-industrialization and nuclearisation? To resist the cycle of creating a demand, then obsolescence, then another demand for products which are not crucial to our existence? Will our environment sustain the resource drain? Shall we ignore as obsolete, Chanakya's counsel in the 4th century B.C. that "the stability of an empire depends on the stability of its environment?"

Shall we wait for the idea to be injected to us through the West, like yoga has been put back in fashion here? Shall we look at the new trends in places like West Germany, a technologically highly developed, well-organized country where the latest thing is the Green Party, with 27 seats in the Bundestag, their parliament? Say Fritjof Capra and Charlane Spretnak, "Green politics have appealed to so many West Germans because there is a densely populated, heavily industrialized nation where the limits to growth are visible at every turn, where the madness of nuclear deterrence has made them prime candidate for a thermo-nuclear holocaust and where the level of affluence allows "big picture" election.

CULTURAL IMPRINTS

There are signs that our *Sanskars*, those invisible cultural imprints, are showing up, that we are not giving up all our safety valves. Whether by design or instinct, we

are going in for those industries like electronics, which use the least natural resources to afforestation schemes which are the quickest way to encourage dispersed employment and are also environmentally the most productive. We are taking steps, ever so small, to keep the ground under our feet and water in our wells, to use the sun for renewable energy, to recycle waste. Eventually, one hopes we shall use more and more bio-technology for pest control and bio-gas for fertilizer so that we eliminated the risk of toxic chemicals and our dependence on oil-based industries.

The outward symbols of this rethinking and resurgence of our *Sanskars*, are simple, like little lights being set afloat in a lotus pond, the five religious trees, the ecologically most important ones being planted to commemorate an inauguration, like the cleaning of the Ganga and above all, like the Chipko movement, which echoes the sacrifice of 363 Bishnois in Rajasthan 300 years ago, when they clung to their trees and lost their lives with them. The first one to give up her life to the maharaja's men was a young bride, Amrita Taru.

That song in the beacon light which till this day marks the Bishnoi villages in Rajasthan as "the high spots of greenery in the bleak desert." The black buck, an endangered species in India thrives in this area because it is still worshipped. The message is direct. Man, woman and child each plant that one tree which can change the face of the country. The secret lies in the seed. "When I dig, let it be to sow" that tiny potent force, which can stop mountains from rolling down, stop waters in their tracks.

If scientific temper is in the thing, let us evaluate each one of our everyday habits against the touchstone of environmental good sense and then decide to keep them or not. Also, let us apply that same touchstone to our changing habits, acquired from other culture, which are

probably quite relevant there but not here.

We rile India for changing slowly, but there is an advantage. We have the option not to be caught in the side effects of processes and products the world has tried and rejected. Shall we give up our strengths and take-on their weaknesses?

A civilization which lives on very little from nature, in the civilization which lasts the longest.

(The Times of India, December 18-19, 1985.)

**O my heart Listen to his flute in the gleaming waters,
in the rustling leaves, in the language of the flowers,
in the words of the holy men—the saints of God!*

** “Why is the ocean the King of all rivers and
streams?” a disciple of Lao Tze, the Chinese sage,
asked the master, “Because it is lower than all of
them”, The master replied.*

—Sadhu TL Vaswani

Environmental Crisis And Hindu Religion

Dr. Karan Singh

The dilemma of humankind in the nuclear age is symbolized dramatically in the destruction of the global environment that we have witnessed over the last half century. Science and technology have given tremendous gifts to mankind. Breakthroughs in agricultural and industrial production, medicine and communication, space exploration and countless other fields of human activity have been truly astounding. Nonetheless, we will have to pay a heavy price for this as is clear from the acute environmental crisis that we face.

It is hardly necessary to recount the terrible ravages that we have inflicted upon the global biosphere. A number of estimable publications have in recent years brought out starkly the way in which we have polluted the land, the oceans and the atmosphere to the extent that many forms of life have become extinct many more are threatened with extinction and mankind itself may be beginning to lose its precarious grip upon planet earth. The more one considers this whole question of environmental values, the more deeply is one led to the view that we have to look into the ancient in order to recapture the reverence for nature that they express.

Of all the living religious traditions, Hinduism is the oldest. Its origins lie in the Vedas, those marvelous hymns sung by seers and sages many thousand years before the birth of Christ, which are the bedrock of Hindu religion and philosophy. They provide a worldview with regard to the ecological situation which is startlingly relevant today, based as it is on the premise that mankind is not some alien species foisted upon this planet to dominate and exploit it,

but in fact an integral part of nature itself linked to the rest of creation by indissoluble bonds. The Vedic hymns deal with natural phenomena, animals and birds, flora and fauna, pollution and its prevention. There is, for example, the magnificent Hymn to the Earth in the Ayurveda which should be required reading for all those who are interested in preserving our ecological viability.

If we are to survive in the technological age we will have to change the present rapacious and exploitative attitude towards the natural environment and adopt a radically different approach. The authors, O. P. Dwivedi and B.N. Tiwari have rendered valuable service by studying in depth the Hindu view regarding the environment and presenting in a concise and effective manner the central tenets of this great religious tradition. I commend this volume to all those, wherever they may reside and to whichever religion they may belong, who are interested in the welfare of humankind and the preservation of our beautiful planet which has nurtured human consciousness for billions of years up from the slime of the primeval ocean.

PINGALWARA DIARY

(UPTO AUGUST, 2016)

Services rendered by Pingalwara Institution for the service of the suffering humanity are:-

1. Homes for the Homeless

There are 1764 patients in different branches of Pingalwara now a days:-

(a) Head Office, Mata Mehtab Kaur Ward, Bhai Piara Singh Ward	374 Patients
(e) Manawala Complex	854 Patients
(b) Pandori Warraich Branch, Amritsar	82 Patients
(c) Jalandhar Branch	39 Patients
(d) Sangrur Branch	228 Patients
(f) Chandigarh (Palsora) Branch	94 Patients
(g) Goindwal Branch	<u>93 Patients</u>
	Total <u>1764 Patients</u>

2. Treatment facilities

(a) **Dispensary & Laboratory:-** Pingalwara has a dispensary and a laboratory for the treatment of patients. It has an annual expenditure of about Rs.90 lakhs. Medicines are also distributed free of cost to the poor and needy people.

(b) **Medical Care Staff:-** Experienced medical staff like Nurses, Pharmacists and Laboratory Technicians are available for the care of the Pingalwara residents.

(c) **Blood-Donation Camps:-** A Blood Donation Camp is organized on Bhagat Ji's Death Anniversary every year. The blood is used for Pingalwara residents and road accident victims.

- (d) **Ambulances:-** Ambulances with basic Medical aid are available for victims of road accidents on G.T. Road, round the clock and provide facilities for taking Pingalwara patients to the hospital.
- (e) **Artificial Limb Centre:-** There is an Artificial Limb Centre at Manawala Complex, dedicated to the memory of Bhagat Ji which provides free of cost Artificial Limbs to Polio-affected and amputee cases. 8137 needy people have benefitted till April 2016.
- (f) **Physiotherapy Centre:-** A Physiotherapy Centre equipped with State-of-the-art equipment is functioning in the Manawala Complex since June 2005. On an average 80 patients are treated everyday.
- (g) **Operation Theatres:-** There is a well equipped Operation Theatre in Bhai Piara Singh Ward Amritsar for general surgery and A Micro Surgery Operation Theatre in Manawala Complex where Cochlear Implants and major operations are carried out.
- (h) **Dental, Eye, Ear & Ultrasound Centres:-** These Centres have been set up to provide these services to Pingalwara residents, sewadars and their families.

3. Education

Pingalwara Society is running five Educational Institutions for the poor and needy children.

- (a) **Bhagat Puran Singh Adarsh School, Manawala Complex:-** This school provides free education to 723 students from the poor and deprived sections of the society. They are provided with free books and

uniforms. Children being brought up by Pingalwara Society are also studying in this school.

- (b) **Bhagat Puran Singh Adarsh School, Buttar Kalan (Qadian):-** This school is dedicated to the sweet memory of Bhagatji. 452 students are getting free education under the able guidance of well qualified teachers. The school also provides financial help to students who have finished their school studies and are aspiring for higher studies.
- (c) **Bhagat Puran Singh School for Special Education, Manawala Complex:-** This school is providing Special Education to 205 Special children.
- (d) **Bhagat Puran Singh School for the Deaf:-** Bhagat Puran Singh School for Deaf Children is functional at the Manawala Complex since May 2005. The school is equipped with state-of-the-art training aid and has 150 children on its rolls.
- (e) **Bhagat Puran Singh School for Special Education, Chandigarh (Palsora):-** This school caters to the needs of Special adults of the branch.
- (f) **Vocational Centre:-** This Centre is providing free training in embroidery, stitching, craft work, making washing powder, candle making, painting, etc. Young girls from the villages of surroundings areas are the main beneficiaries.
- (g) **Computer Training:-** Computers are available in all the schools for academic and vocational training.
- (h) **Hostel facilities:-** There are separate hostels for boys and girls in Manawala Complex. Many girls are

pursuing higher studies in different colleges.

4. **Rehabilitation**

(a) **Marriages:-** After being educated, boys and girls at Pingalwara are married to suitable partners. 40 girls and 4 boys have been married off till date.

5. **Environment Related Activities**

(a) **Tree Plantation:-** Bhagat Puran Singh Ji was deeply concerned about the degradation of the environment. A vigorous campaign of tree plantation is started every year on Bhagat Ji's Death Anniversary. Each year 15,000 to 22,000 trees are planted in various schools, colleges, hospitals, cremation grounds and other public places. These include Amaltas, Kachnar, Behra, Champa, Arjun, Sukhchain, Chandni, Zetropa, Kari-patta were distributed to different institutions.

(b) **Nursery:-** Pingalwara has its own Nursery where saplings of various plants and trees are prepared. Every year, the aim of nursery is to grow more than 54 different kinds of saplings every year.

6. **Social Improvement Related Activities**

(a) **Awareness:-** Pingalwara has played an important role in spreading awareness about the evils in the society. This has been done by printing literature on religious, social and environmental issues at the Puran Printing Press Amritsar and is being distributed free of cost. It has an annual expenditure of printing and publicity is about 1 crores 50 lakhs rupees.

(b) **Puran Printing Press:-** The Printing Press has been updated with an Offset Press.

(c) **Museum and Documentaries:-** A Museum, and a number of documentaries have been prepared on Pingalwara activities as well as on zero budget natural farming. The C.D.s are freely available from Pingalwara.

A feature film produced by Pingalwara Society Amritsar EH JANAM TUMHARE LEKHE (Punjabi) on Rev. Bhagat Puran Singh Ji, founder Pingalwara and his struggle not only for selfless services of wounded humanity but for Environment Crisis also, will prove a beacon for the generations yet to come after us.

7. **Help to the victims of Natural Calamities**

Pingalwara makes an effort to provide succour to the victims of natural calamities like floods, earthquakes and famines. Aid was sent for the earth-quake victims in Iran, Tsunami disaster victims, Leh landslide and flood affected areas.

8. **Cremation of unclaimed dead-bodies**

Pingalwara cremates unclaimed dead bodies with full honour.

9. **Dairy Farm**

120 cows and buffalos at Manawala Complex provide fresh milk to the Pingalwara residents.

10. **Old Age Homes**

Old age homes at Sangrur and Manawala Complex of Pingalwara caters to the needs of elderly people.

11. **Projects Completed and Under Construction**

Since 1997 ambitious projects of Sangrur, Palsora at Chandigarh and Manawala Complex have been completed. In the year 2009 new buildings—

Administrative Block, Puran Printing Press, Deaf School, T.B. Ward at Manawala Complex and at Head Office and a New Administrative Block have also been completed.

In the year 2013, a new modern Bhagat Puran Singh School for Special Education in Manawala Complex of Pingalwara and a new Block for Pingalwara patients in Pandori Warraich Branch is under construction and is fast coming up.

Other Details:

- a) All India Pingalwara Charitable Society is a Registered Society, registered by Registrar of Companies vide letter No. 130 of 1956-1957 as amended vide No. A-28/4540 dated 07-07-1998.
- b) All donations to Pingalwara are exempted under Section 80 G of Income Tax-II Amritsar letter No. CIT-II/ASR/ITO (Tech.)/2011-12/4730 dated 11/12 January, 2012.
- c) PAN Number of the All India Pingalwara Charitable Society is AAATA 2237R
- d) FCRA (Foreign Contribution Regulation Act) 1976 Registration No. of Pingalwara is 115210002

Wahe Guru Ji Ka Khalsa

Wahe Guru Ji Ki Fateh

Dr. Inderjit Kaur,

President,

All India Pingalwara Charitable Society (Regd.),

Tehsilpura, G.T. Road, Amritsar. (Punjab).

Details of Banks For Sending Donation Through Online Cheque/Draft, Cheque & Bank Drafts may be sent in favour of : All India Pingalwara Charitable Society (Regd.), Amritsar. PAN No. AAATA2237R					
S. No.	Name of Account	A/C No.	Name of the Bank	IFS Code for Inland Remittance	Swift Code for Foreign Inland Remittance
1.	FOR FOREIGN CONTRIBUTORS All India Pingalwara Charitable Society (Regd.), Amritsar.	01562010002890	Oriental Bank of Commerce Sharifpura Amritsar	ORBC 0100156	ORBCINBBASR
2.	INLAND ACCOUNT No. All India Pingalwara Charitable Society (Regd.), Amritsar.	01562010003720	Oriental Bank of Commerce Sharifpura Amritsar	ORBC 0100156
3.	All India Pingalwara Charitable Society (Regd.), Amritsar.	10978255668	State Bank of India Town Hall, Amritsar	SBIN0000609	SBINHHB274
4.	All India Pingalwara Charitable Society (Regd.), Amritsar.	630510100026147	Bank of India City Centre, Amritsar	BKID0006305	BKIDINBBASR
5.	All India Pingalwara Charitable Society (Regd.), Amritsar.	0018002100097336	Punjab National Bank Hall Bazar, Amritsar	PUNB0001800	PUNBINBBAHB
6.	All India Pingalwara Charitable Society (Regd.), Amritsar.	006601012522	ICICI Bank Ltd., Lawrence Road, Amritsar.	ICIC0000066	ICICINBBFEX
7.	All India Pingalwara Charitable Society (Regd.), Amritsar.	01151000246510	HDFC Bank Ltd., Mall Road, ASR.	HDFC0000115	HDFCINBB
8.	All India Pingalwara Charitable Society (Regd.), Amritsar.	00011000096048	Punjab & Sind Bank Hall Bazar, Amritsar	PSIB000A001	PSIBINBB017
9.	All India Pingalwara Charitable Society (Regd.), Amritsar.	685010100009799	Axis Bank Ltd. City Centre Amritsar.	UTIB0000685	AXISINBB179
10.	All India Pingalwara Charitable Society (Regd.), Amritsar.	13131000082013	HDFC Bank Ltd. Ghanta Ghar, Golden Temple, Asr	HDFC0001313	HDFCINBB
11.	All India Pingalwara Charitable Society (Regd.), Amritsar.	01010100015572	Bank of Baroda, Town Hall, Amritsar	BARBOAMRITS	BARBINBBAMR