IN THE HIGH COURT OF UTTARAKHAND AT NAINITAL

MCC 139/2017
CLMA 2359/2017
CLMA 2424/2017
CLMA 2924/2017
CLMA 3003/2017
In

Writ Petition (PIL) No.140 of 2015

Lalit Miglani ..... **Petitioner**

Versus

State of Uttarakhand & others ... **Respondents**

Mr. Pankaj Miglani, Advocate for the petitioner.
Mr. Vikas Pande, Brief Holder, for the State.
Mr. Shiv Pande & Ms. Tarani Bhargava, Advocates, for respondent no.2.
Mr. Rakesh Thapliyal, Assistant S.G., for the Union of India.
Mr. Mohit Maulekhi, Advocate, for respondent no.7.

Dated: March 30, 2017

Coram: Hon'ble Rajiv Sharma , J.
Hon'ble Alok Singh, J.

Per: Hon. Rajiv Sharma, J.

In sequel to the directions issued by this Court, Mr. Praveen Kumar, Director, National Mission for Clean Ganga, along with Mr. Ishwar Singh, Legal Advisor, NAMAMI Gange Project, have appeared.

Mr. Vinod Singhal, Member Secretary Uttarakhand Environmental Protection & Control Board is also present in person. The Court has a long interaction with him. He apprised the Court that few establishments have been sealed. However, the Court asked him why the Teams who go for sealing the establishments issue the fresh notice after issuance of Closure Notices. He could not answer it satisfactorily. There is no such provision for issuing notice over and

time again once the closure notice has been issued. This practice is deprecated and be stopped forthwith.

The personal appearance of the Member Secretary of the State Board is dispensed with.

The present miscellaneous application (CLMA 3003/17) has been filed by the petitioner for declaring the Himalayas, Glaciers, Streams, Water Bodies etc. as legal entities as juristic persons at par with pious rivers Ganga and Yamuna.

In normal circumstances, we would not have permitted the petitioner to file an application after the disposal of petition but since the matter was kept alive on the principle of 'continuous mandamus' and for the compliance of the judgment, we have entertained this application in the larger public interest and to avoid further litigation . Moreover, the petition was filed as a public interest litigation.

It is settled law that the principles of pleadings are liberal in the public interest litigations and the technicalities should be eschewed.

Since, only pure question of law is involved, the parties have sought no time to file the reply. However, the parties were heard at length.

Their Lordships of Hon. Supreme Court in (1988) 4 SCC 226 in the case of '*Sheela Barse v. Union of India & others*' have held that in a public interest litigation, unlike traditional dispute resolution mechanism, there is no determination of adjudication of individual rights. Their Lordships have held as under: -

> "11. The grievance is that the final disposal of the main petition was not expeditiously done. In a public interest litigation, unlike traditional dispute resolution mechanism, there is no determination or adjudication of individual rights. While in the ordinary conventional adjudications the party structure is merely bi-polar and the controversy pertains to the determination of the legal consequences of past events and the remedy is essentially linked to and limited by the logic of the array of the parties, in a public interest action the proceedings cut across and transcend these traditional forms and inhibitions. The compulsion for the judicial innovation of the technique of a public interest action is the constitutional promise of a social and economic transformation to usher in an egalitarian social order and a welfare State. Effective solutions to the problems peculiar to this transformation are not available in the traditional judicial system. The proceedings in a public interest litigation are, therefore, intended to vindicate and effectuate the public interest by prevention of violation of the rights, constitutional or statutory, of sizeable segments of the society, which owing to poverty, ignorance, social and economic disadvantages cannot themselves assert — and quite often not even aware of — those rights. The technique of public interest litigation serves to provide an effective remedy to enforce these group rights and interests. In order that these public causes are brought before the courts, the procedural techniques judicially innovated specially for the public interest action recognises the concomitant need to lower the locus standi thresholds so as to enable public-minded citizens or social action groups to act as conduits between these classes of persons of inherence and the forum for the assertion and enforcement of their rights. The dispute is not comparable to one between private parties with the result there is no recognition of the status of a dominus litis for any individual or group of individuals to determine the course or destination of the proceedings, except to the extent recognised and permitted by the court. The "rights" of those who bring the action on behalf of the others must necessarily be subordinate to the "interests" of those for whose benefit the action is brought. The grievance in a public interest action, generally speaking, is about the content and conduct of government action in relation to the constitutional or statutory rights of segments of society and in certain circumstances the conduct of government policies. Necessarily, both the party structure and the matters in controversy are sprawling and amorphous, to be defined and adjusted or readjusted as the case may be, ad hoc, according as the exigencies of the emerging situations. The proceedings do not partake of predetermined private law litigation models but are exogenously determined by variations of the theme."

In the same judgment, their Lordships further held that the pattern of relief need not be necessarily be derived logically from the rights asserted or found. More importantly, the court is not merely a passive, disinterested umpire or onlooker, but has a more dynamic and positive role with the responsibility for the organisation of the proceedings, moulding of the relief and this is important also supervising the

implementation thereof. Their Lordships in paragraph no.12 have held as under: -

"12. Again, the relief to be granted looks to the future and is, generally, corrective rather than compensatory which, sometimes, it also is. The pattern of relief need not necessarily be derived logically from the rights asserted or found. More importantly, the court is not merely a passive, disinterested umpire or onlooker, but has a more dynamic and positive role with the responsibility for the organisation of the proceedings, moulding of the relief and — this is important — also supervising the implementation thereof. The court is entitled to, and often does, seek the assistance of expert panels, Commissioners, Advisory Committee, amici etc. This wide range of the responsibilities necessarily implies correspondingly higher measure of control over the parties, the subject-matter and the procedure. Indeed as the relief is positive and implies affirmative action the decisions are not "one-shot" determinations but have ongoing implications. Remedy is both imposed, negotiated or quasi-negotiated."

Their Lordships of Hon. Supreme Court in (1989) Supp (1) SCC 504 in the case of '*Rural Litigation & Entitlement Kendra v. State of U.P.*' have held that in matters of grave public importance, court is not bound by procedural technicalities. Their Lordships in paragraph nos.14, 16 and 17, have held as under: -

"14. One of the submissions advanced at the bar is that the decision of this Court dated 12-3-19851, was final in certain aspects including the release of the A category mines outside the city limits of Mussoorie from the proceedings and in view of such finality it is not open to this Court in the same proceedings at a later stage to direct differently in regard to what has been decided earlier. Connected with this submission is the contention that during the pendency of these writ petitions, the Environmental (Protection) Act of 1986 has come into force and since that statute and the Rules made thereunder provide detailed procedure to deal with the situations that arise in these cases, this Court should no more deal with the matter and leave it to be looked into by the authorities under the Act. Counsel have relied upon what was stated by this Court while giving reasons in support of the order of 12-3-19851, namely, "it is for the Government and the Nation — and not for the Court — to decide whether the deposits should be exploited at the cost of ecology and environmental considerations". In the order of 12-3-1985, this Court had pointed out: (SCC pp. 435-36, para 9)

16. The writ petitions before us are not inter-partes disputes and have been raised by way of public interest litigation and the controversy before the court is as to whether for social safety and for creating a hazardless environment for the people to live in, mining in the area should be permitted or stopped. We may not be taken to have said that for public interest litigations, procedural laws do not apply. At the same time it has to be remembered that every technicality in the procedural law is not available as a defence when a matter of grave public importance is for consideration before the court. Even if it is said that there was a final order, in a dispute of this type it would be difficult to entertain the plea of res judicata. As we have already pointed out when the order of 12-3-1985, was made, no reference to the Forest (Conservation) Act of 1980 had been done. We are of the view that leaving the question open for examination in future would lead to unnecessary multiplicity of proceedings and would be against the interests of society. It is meet and proper as also in the interest of the parties that the entire question is taken into account at this stage.

17. Undoubtedly, the Environment (Protection) Act, 1986 (29 of 1986) has come into force with effect from 19-11-1986. Under this Act power is vested in the Central Government to take measures to protect and improve the environment. These writ petitions were filed as early as 1983 — more than three years before the Act came into force. This Court appointed several expert committees, received their reports and on the basis of materials placed before it, made directions, partly final and partly interlocutory, in regard to certain mines in the area. Several directions from time to time have been made by this Court. As many as four reportable orders have been given. The several parties and their counsel have been heard for days together on different issues during the three and a quarter years of the pendency of the proceedings. The Act does not purport to — and perhaps could not — take away the jurisdiction of this Court to deal with a case of this type. In consideration of these facts, we do not think there is any justification to decline the exercise of jurisdiction at this stage. Ordinarily the court would not entertain a dispute for the adjudication of which a special provision has been made by law but that rule is not attracted in the present situation in these cases. Besides it is a rule of practice and prudence and not one of jurisdiction. The contention against exercise of jurisdiction advanced by Mr Nariman for the intervener and reiterated by some of the lessees before this Court must stand overruled."

Gangotri Glacier is situated in District Uttarakashi of the State of Uttarakhand. It is 330.2 kilometres long and between 0.5 to 2.0 kilometres wide. It is one of the largest Glaciers in the Himalyas. However, it is receding since 1780. The receding is quick after 1971. According to the images of NASA, over the last 25 years, Gangotri glacier has retreated more than 850 meters, with a recession of 76 meters from 1996 to 1999 alone. River Ganga originates from Gangotri Glacier.

River Yamuna originates from Yamunotri Glacier. It is also situated in District Uttarkashi. Yamunotri Glacier is also receding at an alarming rate. These Glaciers are receding due to pollution as well as climate change. The urgent remedial steps are required to be taken to ensure that the receding of these Glaciers is stopped.

Both Ganga and Yamuna Rivers are revered as deities by Hindus. Glacial Ice is the largest reservoir of fresh water on earth.

In State of Uttarakhand, there are various natural parks. The natural parks are threatened due to human activities around these parks and overall degradation of environment. These natural parks function as lungs for the entire atmosphere. The forests are also threatened due to large scale de-forestation. The mountains are denuded of the forests and jungles.

In one of the articles contained in "The Secret Abode of Fireflies, Loving and Losing Spaces of Nature in the City", the importance of trees is explained in article "Foresters without Diplomas" written by Sri Wangari Muta Maathai (Kenyan Environmentalist and Nobel Peace Winner-2004), which is as under :-

> "We could see Mount Kenya from my house, and I grew up hearing that God lives in Mount Kenya and all good things come from there. The clouds, the rains, the rivers in which I played with frogs' egg and tadpoles; they all start from there. And they said that sometimes Ngai likes to take a walk in the mountains and the forests. If anyone used their machetes to cut down trees, it was said that the trees would bleed. You were only allowed to collect dry, fallen wood for fuel these forests full of fig trees.
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> 'For my people, the fig tree is scared and when we were growing up it was everywhere. I would go collect firewood for our mother; she warned me, "Do not collect firewood from a fig tree. That is a tree of God. We don't cut it. We don't burn it. We don't use it for beauty. It must stand there." When we offer sacrifice, we do it under a fig tree, 'she shares, urging on a greater awareness of how an awesome symmetry binds people to their land and to each other, her thoughts seamlessly

flowing in and out of each other and her eyes, brilliant points, charging the mellow lighting and cream sophistication of the room. 'I am spiritually nurtured by the fact that what I am doing is in accordance with a spiritual constitution, a rhythm. For me, in the work that I do, it is a spiritual fulfillment, rather than a religious or dogmatic conviction. I was raised by people who were not detached from the land. We didn't have anything written, all our scriptures were oral, and they are embedded in me, although I went through Christian teaching and became a Catholic. But I do find that even in other scriptures, you come across a Garden of Eden or some engagement with nature. And there is much more to forests than trees; trees are only what we see, and there is so much we still don't understand,' she stresses.

Wangari continues with glorious concentration, 'One of the ways through which communities conserve their biodiversity and their resources is through culture, and I want to emphasis that for me culture is very important, very enriching, because culture influences who we are. Festivals, rituals and ceremonies are all a part of our culture as well, and can you imagine how much we conserved because we incorporated nature into our festivals, into our religions, into our dances, into our songs, into our symbols, into our stories? And they define who we are. When they are destroyed, our environment too is destroyed. Any very often when we forget who we are, we lose all our wonderful associations, our values that we've brought from the past generations. Once this gets translated into resources, it is converted into money…but in life everything is not money!' her voices rises, indignant, exasperated.

'To a very large extent, I think, globalization is a threat to the environment in countries that are not developed industrially, in countries that are poor, because these countries are looking towards globalization as an answer, and believe that corporations will get them out of poverty. Very often, these corporations simply do business, take their profits and go- leaving their problems behind. I want to say to them that unless we can appreciate that the planet is very small, that part of the problem is that you think you are doing something to a distant person, a different part of the world. But it will eventually come back to you. We must expand our concept of home, to make sure we see beyond our individual countries. The very first astronauts told us that they were overwhelmed by the fact that they could not see boundaries, and they felt a strong urge to come back home. Home was that small blue ball we've become familiar with on television, a small ball beyond borders. The whole planet is our concern, wherever we are. They are little things we can do in our lives, we can listen, we can consume less, because this is the only home we have, and we should leave it clean and green for future generations.

'And maybe if I had been born a man, all this would never have struck me,' she says next, looking over to her younger sister who is grinning. She talks about how she arrived at some realizations, 'It happened partly because I was a woman and partly because when I was in the National Council of Women. I started listening to the women from the countryside and got interested in their issues of livelihood and their connection with the environment. The women from the countryside wanted clean drinking water, firewood, good, adequate nutritious food and they needed an income. I grew up! I realized that in the span of about 20 years, a lot of vegetation that I knew had been cleared to bring in cash crops, especially coffee and tea, and indigenous forests were being cleared to make way for forests of exotic species such as eucalyptus from Australia and the pines from the northern hemisphere. As a result, the rain patterns were changing; there was massive soil erosion, so the clean streams that I knew as a child were drying up. That, for me, was the awakening experience. 'So I told the women, "Listening to you, I recognize our environment is changing and I think we can do something about it. Let us plant trees."

In the same book in article captioned "Nature has Rights too" written by Vikram Soni & Sanjay Parikh,

the rights of Nature have been explained, as under: -

> "Human rights commissions are obligatory vigilantes in all democracies. Human rights are about inequities between one set of human beings and another. These range from usurping the sovereign rights of one nation by another more powerful one, to more local violations. They arise when the rich and powerful exploit the poor and disenfranchised. They reveal themselves in violence against women, violence against members of lower caste and creeds and other such instances. They are horrible acts and are often portrayed graphically.
> Violations against nature can be equally appalling despite being viewed through the filter of 'environmental damage'. The Stockholm Declaration accepts the environment as part of basic human rights-the right to life itself.
> The United Nations Millennium Report and the International Panel on Climate Change (IPCC) Reports both indicate that 60 per cent of earth's ecosystems are experiencing terminal loss. And the loss of these natural resources, whether of the Amazon forest, of sea life, elephants and tigers, rivers and lakes, glaciers or aquifers below the ground is strongly impacting human life.
> Whereas human rights occupy centre stage and deal with human conflict, loss of natural resources threatens human survival itself. We must understand that the fundamental human rights on which human survival depends are Nature's rights.
> Language is such a powerful medium of communication that it colours all our metaphors, beliefs and imagination. But language can also craft deception – it can wash over common sense and sensibility. This is the case in the present scenario of extreme material consumption powered by the global free market.
> The seductive vision of development has become so pre-emptive that the few remaining original forests – our biodiversity treasury- are being destroyed to make way for huge mines or dams or lucrative real estate projects. And we attempt to balance the destruction with 'compensatory afforestation', words that suggest that whatever damage is being done can be undone or compensated by artificial plantation.
> To the unschooled and unsuspecting, this would appear to be a fair trade-off for development. But it is like giving sanction to the insane national that it is all right to kill all wild tigers as long as we replace them by farming the same population in captivity. Can valuable natural biodiversity that has evolved over thousands of years ever be compensated? Such subterfuge finds acceptance by court and government and is often subsumed in the dangerous cliché 'sustainable development'. If sustainable development finishes off all our biodiversity, heritage and resources, is it admissible?
> 'Green buildings' is acceptable currency in the destruction of valuable heritage and resources. In the popular imagination, the word 'green' is so comforting that it clouds, the real loss, which is irreplaceable. So do modern terms like 'ecotourism' and 'ecofriendly development', where the prefix 'eco' works to trample the true value of the natural resource. Natural water resources are exploited by commercial building activities for short-term profits; and there's the magical phrase 'water harvesting'. Apart from depleting an irreplaceable natural resource like a deep underground aquifer or a flood plain, it is a well-kept secret that water harvesting saves no more than a fraction of the original resource.
> We have to remove the hypocrisy of these 'green' clichés from our dictionary before such language seals our fate.
> Having a law is one thing, ensuring its implementation is quite another. The precautionary principle has not been enforced, for example, on big projects like the Three Gorges dam on the Yangtze river in China, which has not been declared a disaster by the government. The Tehri dam on the Ganga, in a seismic Himalayan zone, and the Sardar Sarovar dam on the Narmada in India may follow suit.
> Another notion is that poverty is itself a cause of pollution and that economic development will remove poverty and improve the environment. Poverty alleviation is often misused to justify development at the cost of environmental degradation. Let's see what is happening to people who

have no link with the global economy but live simply amidst pure unpolluted streams, clean air and forests. The environment is what gives our lives a quality that cannot be bought, and they have preserved it this way. Their simple lifestyle is non-invasive. But now this basic and essential resource is being whittled away by big companies that acquire huge swathes of virgin land for mining or 'development', leaving these people mute and destitute.

In the present climate, when we have already loss over half our natural resources, it is evident that principles like ' the polluter pays', 'the precautionary principle' or 'sustainable development' do not work any more- we are well past and point of precaution – and must be changed to stop further damage to resources that cannot be created by man.

Instead, we must have a Nature's Rights Commission made up of concerned citizens and scientists whose integrity is above any political and monetary affiliation. We only need a simple law that provides absolute protection to all valuable natural resources, be it forests, rivers, aquifers or lakes. The law could be a public trust doctrine, which has its basis in the ancient belief that Nature's laws impose certain conditions on human conduct in its relationship with Nature. There is a precedent for this. The Israeli parliament- the Knesset – has set up the Israeli Commission for Future Generations as an inner-parliamentary entity. Its charter is to safeguard valuable natural heritage and natural resources. Its role is to oversee each legislative process, with special regard to long-term issues, and to prevent potentially damaging legislation from passage in the Knesset. This Commission has been given the authority to initiate bills that advance the interests of future generations. There is a historical precedent as well. Under Byzantine law, the concept of jus gentium, a law for all people and nations, was developed to protect Nature's resources. Later, this led to the Public Trust Doctrine in the Magna Carta of the thirteenth century. More recently, the Water Framework Directive of the European Union recognises natural water resources as a protected heritage."

In the same book, in an article under the caption "Under the Banyan Tree" written by Devdutt Pattanaik, the importance of trees under Indian Mythology has been explained as under :-

"Trees are sacred in India, and are often associated with a god or a godless. Some Scholars believe that it is the tree that was worshipped first; perhaps for its medicinal or symbolic purpose, and that the gods and goddesses came later. That may be the case, but today, trees are an integral part of a deity's symbolism. The mango tree, for example is associated with the Love God Kama, the tulsi plant is dear to Vishnu, bilva is associated with Shiva worship, blades of dhruva grass are offered to Ganesha, neem or margosa is sacred to the Mother Goddess, coconut and banana are associated with Lakshim.

The bayan tree is associated with Yama, the God of Death, and the tree is often planted outside the village near crematoriums. It is believed to be the abode of ghosts. Vetals and pisachas are supposed to hang from its many branches.

Indians knew that banyan tree as the vata vriksha. When the British came to India, they notices that members of the trading or Bania community gathered under a large shady fig tree, which they named the banyan, from Bania. Technically, Ficus bengalensis, the banyan, belongs to the fig family. There are various types of fig trees all over the world and some of these are sacred. The most popular one is the Ficus religiosa, or the peepul which became especially popular in the Buddhist times, because it was under this tree that Gautama Siddhartha of the Sakya clan attained enlightenment. It was the leaves of a fig tree that Adam and Eve used to cover their nakedness in Eden after they were tempted to eat

the forbidden fruit by Satan.

The banyan tree does not let a blade of grass blow under it. Thus, it does not allow for any rebirth and renewal. While the banyan offers shade from the sun, it offers no food. That is why it is not part of fertility ceremonies like marriage and childbirth, where food-giving, rapidly renewing plants with a short lifespan such as banana, mango, coconut, betal, rice and even grass are included.

Marriage and rebirth are rites of passage; they represent major shifts in life. They are all about instability and flux; the banyan tree is the very opposite. It is stable and constant. It has a long lifespan, and hence seems immortal. Its roots descend from the branches and then anchor the tree to the ground, transforming into trunks eventually, so that decades later, it is difficult to distinguish root from stem.

Things that evolve the notion of immortality become auspicious in India; for example, the immoral mountain, the immortal sea, the immortal diamond and indestructible ash. This is because since ancient times, Indian seers were acutely aware of the transitory nature of things around us. Everything dies-every plant, every animal, even moments die; the present becomes the past in an instant. In an ever changing world, we seek constancy and permanence. The banyan tree is therefore worthy of veneration. It is evergreen and shady, hence an eternal refuge for all creatures unable to bear the vagaries of life.

Thus it emerges that in Indian though, there are two types of sacredness-one that is associated with impermanent material reality, and the other, which is associated with permanent spiritual reality. The banana and the coconut fit into the previous category; the banyan fits into the latter. Banana is the symbol of flesh, constantly dying and renewing itself. Banyan is the soul-never needing to renew itself. The banyan is the botanical equivalent of the hermit.

Just as a hermit cannot raise a family, a banyan tree cannot support a household. It represents not the material aspiration of a people; it represents the spiritual aspiration. The banyan tree is said to be immortal; it is akshaya, that which survives parlaya, the destruction of the whole world.

The Mahabharata tells the story of a woman called Savitri, who lost her husband as destined one year after her marriage near a banyan tree. She followed Yama to the land of the dead, and through determination and intelligence, managed to secure back her husband's life. In the memory of the event, Hindu women circle the banyan tree, tying seven stings around it. This is imitative magic; by symbolically going around the immortal tree, the women are binding immortality into their married lives. They are securing the lives of their husbands, the pillars of their households. They are protecting themselves from widowhood, which is believed by most Hindus to be the worst fate for a woman.

Under the banyan tree sat the sages of India – those who rejected the flesh and the material world and aspired for the soul alone. This was the favourite tree of the sadhu, the wandering hermit. The greatest of hermits, Shiva, was often represented in its shade as stone called the Lingam. Being an ascetic, Shiva was not part of the village; he was a hermit, not a householder; he did not fear ghosts and so was comfortable staying in the shade of this immortal, never dying, and never renewing plant.

In iconography, Shiva is visualized as Dakhshinamurti, he who faces the South-South being the direction of death and change. He sits under the banyan tree, the botanical embodiment of the universal soul, facing the terror of death and change stoically, unafraid, because of his profound understanding of the world. At his feet sit sages who are recipients of Shiva's wisdom. In South Indian temples, Shiva's south facing form, under the banyan tree, is placed on the south facing wall of the temple.

Like Shiva, Vishnu is also a form of God. But Vishnu is not associated with the banyan tree, perhaps because Vishnu is that aspect of God, which more associated with change. He goes with the flow- this attitude is called leela or playfulness- he does not fear change. Vishnu is therefore associated with the fragrant tulsi plant, or with flowering plants like champa and Kadamba. But there is one time when Vishnu is associated with the banyan tree. It is during the end of the world, when flood waters rise and dissolve all things. Sage Markandeya, who had a

> terrifying vision of this event, saw Vishnu as a baby lying on the leaf of banyan tree, cradled by the deadly waves. This form of Vishnu is called Vatapatra-Shayin, he who rests on the banyan leaf. The image is rich in symbols; the whole world may seem transitory, like the waves of the ocean, but all life can renew itself, as a baby replaces the older generation, because divine grace represented by Vishnu is eternal, like a banyan leaf."

Learned authors; T.S. Rana, Bhaskar Datt & R.R. Rao, in the article on Biodiversity in the Alpine Himalaya: Strategies for Conservation and Eco-development which contained in High Altitudes of the Himalaya-II (Biodiversity, Ecology & Environment) have mentioned that the alpine zone in the Himalaya constitutes a unique habitat and has contributed to great biological diversity, particularly in the flora of India. In fact, the alpine Himalayan Zone is a warehouse of biodiversity, botanical curiosity and valuable medicinal herbs. The conservation of its biodiversity particularly species which are in immediate danger of extinction is a great challenge for all conservation biologists of 21st Century. The Himalayan chain consists of the complex system of three parallel ranges of tertiary mountains namely (i) Great Himalaya or Trans Himalaya (average elevation 6000m), (ii) Lesser Himalaya or Middle Himalaya (average elevation 4500m) and (iii) Outer Himalaya or Siwalik ranges (up to 1200m), rising between the Indian Peninsula and Central Asia as a young system of mountains stretching over nearly 3000 Km. almost from the borders of Afghanistan in the west to the north of Myanmar in the east with altitude ranging from few hundred to over 8000 m.

Learned authors have described the alpine zone, alpine forests, alpine scrubs, alpine meadows and Phytogeographical considerations are as under : -

> The alpine zone -Alpine zone in the Himalaya is that section, which lies

immediately above the tree line and below the snow line. Generally, the lower part of the alpine zone is a summer grazing ground, with meadows bright with alpine flowers and the upper parts have a high alpine flora with species adapted to withstand the extremes of cold and desiccation (Polunin & Staintion, 1984). As started above, on account of the wide ranging climatic conditions at different latitudes and altitudes of the Himalaya, the demarcation of the alpine zone by altitude alone in the entire Himalayan belt is not possible because variation in alpine flora depends on local environment.

The western Himalayan ranges differ from their eastern counterparts in greater breadth and length, higher latitude, scanty rainfall, heavy snowfall and cool, dry climate. This marked difference in the humidity and quality of vegetation in eastern and western Himalayan is evident by the fact that the tree line in the western Himalaya is ca 3600 m as compared to eastern Himalayan where the tree line extends to ca 4600 m. The eastern Himalaya is more evenly than the western Himalaya. The degree of precipitation is due to the abruptly rising hills that directly confront the moisture laden clouds blowing from the Bay of Bengal. The high humidity is conducive for the tree growth, and therefore, the timber line or the upper limit of tree zone goes up to 4600 m compared to 3600 m in western Himalaya. The vegetation of the alpine zone is normally devoid of any tree growth, except for the stunted bushes and shrubs scattered among the characteristic cushion-forming or matted plants and colourful herbs, most of which are seasonal.

Although the species composition in the alpine belt is more or less same in the entire Himalaya, the density and frequency of the species vary considerably in the eastern and western sectors. Also, certain species are strictly endemic either to the alpine belt as a whole or confined to western or eastern sectors. The alpine belt in the western sector is more dominant and composed of open rolling grassy meadows termed as “bugyals” in Garhwal and Kumaon and “margs” in Kashmir.

The alpine vegetation in not very dense but is a store house of numerous colourful herbs many of them being valued medicinal plants like Aconitum heterophyllum (Atees), A. ferox (Bish), Saussurea constus (Kuth), Dactylorhiza hatagirea (Salam panja), Ephedra gerardiana (Somlata), Gentiana kurroo (Karu), Picrorhiza kurrooa (Kutki), Nardostachys jatamansi (Jatamansi), Podophyllum hexandrum (Papra), Rheum emodi (Dolu), Berberis spp. and others. The alpine vegetation of the Himalaya can be broadly discussed under:

1. Alpine forests

The alpine forests in the western Himalaya are dominated by Betula utilis, Pinus wallichiana, and Rhododendron campanulatum, which are all scattered and stunted. These forests are generally seen on rocks, ridges and other similar situations. The shrubby and herbaceous components of these forests are almost the same as noticed in the temperate zone. In the eastern sector, only dominant species is Abies densa associated with Betula utilis and rarely Juniperus wallichiana.

2. Alpine scrubs

Alpine scrubs are chiefly met with on rocks, ridges and stony slopes and generally appear above the tree limit and in similar habitats, ascending almost up to 4200 m. The chief shrubby components are Berberis jaeschkeana, Myricaria elegans, Lonicera asperifolia, L. Hypoleuca, L. semenovii, L. spinosa, Salix flagellaris, S. lindleyana, S. pychnostachya, Rhododendron anthopogon, R. lepidotum, Juniperus indica, J. recurva and J. communis. Areas where adequate water is available, the Rhododendron are frequently seen along with the species of Berberis, Lonicera and few others. In drier inner valleys, species like Rosa webbiana, Cotoneaster pruinosus, C. microphyllus, C. gilgitensis, Caragana versicolor, C. brevifolia, C. gerardiana and Cassiope fastigiata and Ephedra gerardiana are common. The herbaceous elements among these alpine scrubs are species of Artemisia, Astragalus. Androsace, Anemone, Aster, Gentiana, Geranium, Mysotis, Oxytropis, Potentilla, Ranunculus, Saxifraga, Sedum, Epilobium, Eritrichium, Primula, Thalictrum and several members of Brassicaceae and Poaceae.

3. Alpine meadows

The alpine meadows or alpine pastures the most fascinating areas which support unique plant species. These alpine meadows form a lush carpet

in some localities and are the picturesque beauty of high lofty snow peaks. Such typical alpine meadows can be found in the “Valley of Flowers”, Bishtola, Baidni, Bajmora, Lakshmiban (Garhwal) and Joharpatti (Kumaon) in the western sectos. Typical alpine meadows are not common in east Himalaya.

In the eastern sector, the alpine meadows are confined only to small pockets on hill tops surrounded by dense vegetation as one can find in Arunachal Pradesh and Sikkim. At certain places the meadows are replaced by glacial moraines, which also possess a similar type of floristic composition. Most of the alpine herbs have annual aerial parts, but perennial underground rhizomes, rootstocks and stems covered and protected by layers of leaf-bushes and scales. The distribution pattern of these alpine meadows is largely determined by the local edaphic and climatic conditions. The common herbaceous elements of the alpine meadows are Aconitum violaceum, Adonis aestivalis, himalaica, Arabis tibetica, Arnebia euchroma, Artemisia gmelinii, Aster flaccidus, var. maximowiczii, Delphinium brunonianum, D. vestitum, Dracocephalum heterophyllum, Erigeron multiradiatus, Gernium collinum, Lagotis cashmiriana, L. kunawurensis, Lomatogonium carinthiacum, Oxygraphis endlicheri, Picrorhiza kurrooa, Rheum spiciforme, Stellaria cherleriae, Swertia petiolata, Tanacetum himachalensis, Thalictrum alpinum, Trachydium roylei, Trollius acaulis, Waldheimia glabra, W. tomentosa and species of Juncus, Lactuca, Pedicularis, Polygonum, Potentilla, Primula, Ranunculus, Rhodiola, Saxifraga, Saussurea and Senecio. Most of the alpine plants have very colouful flowers much larger in size compared to the size of the plant. This could be one of the adaptations for ensuring the insect pollination, where the insect population is scarce.

Grasses and sedges are also common in the alpine meadows, the prominent of these are Bromus gracillimus, B. inermis, Carex cruenta, C. infuscate, C. nivalis, C. obscura, Dactylis glomerata, Elymus nutans, Festuca kashmiriana, Kobresia pamiroalaica, K. pygmaea, Pennisetum lanatum, Phleum alpinum, Poa alpine, P. tibetica, Trisetum spicatum, etc.

The alpine marshes, along banks and similar marshy habitats support a numbe of characteristic marshy plants such as Pinguicula alpine, Juncus leucomelas, Caltha palustris and various colourful species of Primula, Corydalis, Pedicularis and Polygonum.

At the higher limits of alpine zone which are exposed to server cold, only characteristic cushion-forming species typical of cold desert are found. Some such species form soft cushion e.g. species of Androsace, Draba, Saxifraga, Sedum and Paraquilegia, while other species like Acantholimon, Arenaria, Coaragana, Astragalus and Thylacospermum are rigid mat forming. The most curious of alpine flowering plants are the woolly species of Asteraceae e.g. Saussurea gossypiphora, S. obvallata, S. simpsoniana, S. graminifolia, Soroseris glomerata and species of Tussilago and Leontopodiuim. Saussurea gossypiphora and S. graminifolia commonly referred to as “Snow ball” plants are unique alpine species which look like snow ball due to the dense, white hairs which cover the entire plant and protect from severe cold wind and snow and maintains warmth inside the head even if outside temperature falls. The pollination biology of these species form a very interesting strategy. Bees’ and flies take shelter in the warmth and at the same time pollinate the flowers. There is yet another interesting group of ‘hot house’ plants like Rheum nobile and Saussurea obvallata which have their inflorescences sheltered by leafy bracts that can be compared to glasses of a ‘hot house’. The flower open inside the bracts, where insects also take shelter for warmth and at the same time pollinate the flower.

Phytogeographical considerations

The Himalaya defines the geographical boundary of India in the north and also influences the monsoon rainfall and the climate of India as a whole. The Himalayan uplift contributed to the shaping of the biogeogarphical characters of India (Mani, 1978). It is presumed that the Himalayan mountains had their own flora even before the Pleistocene epoch. The intermittent warm periods during the Himalayan glaciations to some extent protected the species from total extinction. The glaciations did not affect much the foothills with result the vegetation of the lower belt was not altered. Migration of floras through new corridors of

mountain chains, survival of relicts, adaptive radiation of species complexes in new ecological niches, evolution of new species by an intermixing of different flora and by mutation had a role in determining the present day composition and distribution of alpine flora (Rau, 1975).

The Himalaya forms the southern fringe of palaearctic Realm. The alpine zone represents the Turkemenian subregion in the west and Manchurian (Siberian-Mongolian) subregion in the extreme east. Good (1964) placed the Himalaya under the Sino- Himalayan, Tibetan mountain province of the Sino-Japanese region of Boreal Kingdom. Gaussen (1933) and many other considered Himalaya as a sort of phytogeoraphic barrier for many of the Asiatic elements. Mani (1978) considered the defile of the river Sutlej being the landmark in the Himalayan biogeography. He presented a gradual transition from east to west sector of the Himalaya. The geologic welding of Gondwana and Asiatic landmass led to the exchange of flora and fauna resulting in the biogeographic complexity. The flora of the Tertiary mountains of south China, Indo-China, Thailand and Malaya intruded westward, along the rising Himalaya. The continued uplift of the Himalaya has led to evolution of lowland steppe elements into temperate and alpine forms of Turkemenian subregion.

A study of the alpine flora of western Himalaya shows that a large number of species like Nepeta tibetica, Elsholtzia densa, Rimula tibetica, P. ellitica, Onosma hispidus, Tanacetum fruticulosum of the lower alpine belt in the Garhwal-Kumaon sector and eastwards appear to have come from Tibet, W. China and adjoining northeast Asia. The northwestern sector of the Himalaya has been subjected to considerable influence from the adjoining floristically rich areas of Karakoram, Pamir and further north in the Tien Shan range of mountains. Some species of these regions which are today common in N.W. Himalaya are Arctium lappa, Thalictrum alpinum, Astragalus coluteocarpus, Sibbaldia cuneata, Bupleurum falcate var. gracillimum and species of Potentilla, Geraninum, Nepeta, Thermopsis, Danthonia, Rosa, Galium, Draba, Cousinia, Lagotis, Silene, Saussurea, Taraxacum, Perovskia, Fritillaria, Oxygraphis etc., Stern (1960) considered similarity of Himalayan flora with those of China. Chinese mountains being much older than Himalaya have contributed to the present day Himalayan flora. His studies have revealed various possibilities regarding the entry of floristic elements into the alpine Himalaya from the north, west and east Asia. In the eastern Himalaya a large number of elements intrude from Indo-China subregion while some Malayan elements are also visible. According to Ohba (1988) it is quite probable that the Himalayan flora had open intercourse with those of the arctic region via the east and west margins of the highland, particularly in ages of climatic fluctuation. According to him the “Central Asiatic Corridor” favours an important pass for the migration of the flora between the arctic regions and the Himalaya as well as E. Tibet and S. W. China. The floristic connection of the Himalaya through this corridor is supported by the distribution pattern and the presence of common or corresponding species with arctic region. Such species are Acantholimon lycopodioides, Eremurus himalaicus, Physochlaina praealta, Caragana versicolor, C. brevifolia, Nepeta supine, Epilobium latifolium, Minuartia biflora and Saxifraga oppositifolia.

A number of European or Eurasian elements have got introduced through the human influences. These are Cerastium glomeratum, Thlaspi arvensis, Achillea millefolium, Verbascum thapsus, Juncus bufonicus, J. articulates, Geranium pusillum, etc. It is also assumed that the ancestors of some of the species which have only a scattered distribution at present may have flourished extensively during the major Himalayan uplift but later, due to competition or other adverse climatic conditions, most of them might have perished leaving behind only scattered distribution. While some of the species like Thlaspi andersonii, Chorispora sabulosa, Beibersteinia odora, Chritolea himalayensis, Heracleum thomsonii, Cremanthodium nanum and others have a restricted distribution being found only in western Himalaya or in adjacent Tibet, there are others like, Thalictrum alpinum, Ranunculus hyperboreus, R. pygmaeus, Potentilla multifida, Saxifraga flagellaris, Sedum rosea, Oxyria digyna, Triglochin palustre and several others which enjoy a world – wide distribution in both the alpine and arctic

locations. Some species like Thylacospermum rupifragum, Cicer soongaricum, Physochlaina praealta, and Lamium rhomboideum extend northwards to the central Asian highlands. Senecio coronopifolius, Nepeta supine and a few others are distributed westwards to Afghanistan, Iran and the Caucasus. There are many species distributed all along the Himalaya from west to east. Gueldenstaedtia himalaica, Astragalus strictus, Saussurea leontodontoides, Cicerbita macrorhiza, Picrorhiza kurrooa and other are in this category. Aletris pauciflora, Anemone rupicola and A. vitifolia are among the species which are found in west China and also throughout the Himalaya as far as west of Kashmir.

Endemism

The Himalayan mountains are one of the active centres of endemic species. Although there is no correct assessment of the endemic flora in the alpine zone, one can fairly guess that ca 50% of the endemic plants of the Himalaya occur in the alpine or subalpine zones. The high rate of endemism in the alpine zone, particularly in largest and diversified genera is quite remarkable and is an indication of active evolution (speciation) as well as considerable degree of isolation. It is observed that majority of these endemics are neoendemics of apparently recent origin with close relatives in the alpine zone itself, in the lowland vegetation of the Himalaya and also in the region around the central Asiatic highland (ohba, 1988).

Learned authors have also highlighted about endangered species and their conservation which is as under:-

Endangered species and their conservation

Although a number of alpine species have high adaptive value and can successfully survive and multiply in prevailing adverse ecological conditions, some species perhaps because of low level of genetic diversity in them, are unable to survive the competition with other vegetation. Such species have become endangered. In other words, the endangered species are those whose reproductive capacity is far lower than the number of plants eliminated from the habitat due to natural or anthropogenic factors. This consequently leads to the decline in number and size of populations. Although species disappearance attracts wide publicity and attention, the loss of genetic diversity due to extinction of population is least studies. The decrease in the size and number of populations under a given species has deleterious effect on their breeding structure, genetic and evolutionary dynamics, all of which form the focal point o concern in conservation biology (Falk & Horsinger, 1991; Harper, 1977; Barret & Kohn, 1991, Karron, 1991). In small and isolated populations, genetic drift operates and this results in the loss of variations which ultimately reduces the ability of populations to adapt to changing environmental conditions and to increase their susceptibility against pests and diseases and are thus prone to extinction (Hamilton, 1982).

To decide a species as endangered is not an easy talk, but requires very elaborate field assessments. Customarily, if a species is not represented by more collections from different localities in a herbarium, such a species is determined as rare and this may not always be correct. Sometimes if a species is collected after a gap of 25 to 50 years or more than also it is concluded as an endangered species. While partly it could be true, certain ephemeral species such as species of Thermopsis, Primula, Saxifraga, Sedum, Gentiana etc., complete their life cycle in a short period and die off, likely to be missed by botanists exploring the area. Hence, not collecting a plant for several decades may not always conclude in species as endangered.

All the endangered plants are certainly rare but not all rare plants are endangered. For example several sparsely distributed alpine plants like some species of Saussurea, Impatiens, Primula, Corydalis,

Thalictrum, Saxifraga, etc. have developed ecological adaptations to persistence in small populations showing natural rarity and are genetically stable. On other hand, there are some rare species which were supposed to be widespread at one time have now undergone a rapid decline due to anthropogenic factors (anthropogenic rarity), for example Aconitum heterophyllum, Dactylorhiza hatagirea, Alpinia galangal, Coptis teeta, Nardostachys grandiflora, Podophyllum hexandrum, Panax pseudo-ginseng, Picrorhiza kurrooa, Dioscorea deltoidea, Angelica glauca, Allium stracheyi, etc. These aspects require very extensive filed investigations before one can decide a species endangered or not. According to the minimum viable population concept (Schaffer, 1981) a minimum of 50 individuals are recommended for maintenance of the population. A species with less than 50 individuals is certainly critically endangered.

In the Himalaya, due to natural (such as landslides, glaciations, earthquakes, lack of pollination and regeneration etc.) and man- made (such as over-exploitation, destruction of habitats, etc.) factors the alpine bioresources are under varying degrees of threat. It is no wonder that today many of the valuable plants like Podophyllum hexandrum, Nardostachys grandiflora, Aconitum spp., Picrorhiza kurrooa, Saussurea lappa and Dactylorhiza hatagirea are not found in large populations in their natural habitats. Once the species gets fragmented and the demography of the population is altered, the genetic diversity that is essential for sustaining the species also get eroded. Steps should, therefore, be taken to ensure that their genetic diversity is not lost.

Conservation and management of an endangered species requires rather very extensive and frequent field surveys throughout the distribution range of a particular species, which is certainly time consuming, expensive and difficult. A large number of species so far listed from the alpine zone of the Himalaya are based on the scrutiny of herbaria. Therefore, what is urgently required is the assessment of status of individual species in its natural habitat.

For long term conservation and management of any species, its genetics and demography i.e. population dynamics is crucial. In case of Eremostachys superb the solitary population near Mohand in Siwaliks of Uttar Pradesh is so small and isolated. A strong genetic drift has set in and this results in loss and variation in the species. Another consequence of low population structure is the occurrence of inbreeding resulting in loss of fitness (inbreeding depression). Therefore, we have to think of strategies that increase the genetic diversity in rare species – say bringing together geographically isolated populations. This again requires extensive surveys to find out the distribution of various populations of a given endangered species. The reproductive biology of endangered species is another aspect of study which is almost neglected. Preservation of the habitat alone as attempted in most cases may not ensure the long term conservation of endangered species.

In situ conservation is the best method for protecting the delicate populations of endangered species. In a situation where several endangered species grow within a few hectare or sq km the whole area should be protected. The occurrence of several endemic species in a particular area also indicates the potential of that area as a centre of speciation and evolution. Furthermore, when an endangered species grows in pure population of fewer or more individuals or in association with other vegetation, it is necessary to establish a sanctuary for the individual species as for e.g. Rhododendron sanctuary in Sikkim.

Wide publicity regarding the critical nature of the species among the local people is also necessary. The local people should be involved in every effort of conserving species in its habitat.

The Botanical Survey of India has listed 625 species in the three 'Red Data Books' (Nayar & Sastry, 1987 1988 &1990). Nearly 214 species of flowering plants of the Himalaya (including alpine zones) are endangered. Out of them nearly 37 need priority attention. Most of them are in commerce as herbal drugs of repute. The monitoring of these species in the Himalayan region is not yet attempted. This involves the study of populations during different seasons over a period of time for finding out the adaptive ability of a particular species to its natural habitat. Where required, overgrowth of other surrounding species need to be controlled

to keep the population of endangered species to a level that is can sustain itself. As collection of certain endangered species with high medicinal value offers economic subsistence to the inhabitants of the Himalaya, there is an urgent need to mass multiply them through seeds, clonal propagation and tissue culture, so that biodiversity of the region is not diminished.

The UN Conference on the Human Environment was held from 5 to 16 June, 1972 at Stockholm. It was convened pursuant to UN General Assembly Resolution 2398 of 3 December, 1968, on a proposal from Sweden. Delegates from 113 States attended the Conference, representing most of the UN membership with the exception of the USSR. Stockholm Declaration of the United Nations Conference on the Human Environment contained book titles as 'Documents in International Environmental Law, Second Edition" reads as under :-

"Proclaims that: Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth. In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale. Both aspects of man's environments, the natural and the man-made, are essential to his well being and to the enjoyment of basic human rights – even the right to life itself.

The protection and improvement of the human environment is a major issue, which affects the well-being of peoples and economic development throughout the world; it is the urgent desire of the peoples of the whole world and the duty of all Governments.

3. Man has constantly to sum up experience and to on discovering, inventing, creating and advancing. In our time, man's capability to transform his surroundings, if used wisely, can bring to all peoples the benefits of development and the opportunity to enhance the quality of lie. Wrongly or heedlessly applied, the same power can do incalculable harm to human beings and the human environment. We see around us growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living beings; manor and undesirable disturbances to the ecological balance of the biosphere; destruction and depletion of irreplaceable resources; and gross deficiencies, harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment.

In the developing countries most of the environmental problems are caused by underdevelopment. Millions continue to live far below the minimum levels required for a decent human existence, deprived of adequate food and clothing, shelter and education, health and sanitation. Therefore, the developing countries must direct their efforts to development, bearing in mind their priorities and the need to safeguard and improve the environment. For the same purpose, the industrialized countries should make efforts to reduce the gap between themselves and

the developing countries. In the industrialized countries, environment problems are generally related to industrialization and technological development. The natural growth of population continuously presents problems for the preservation of the environment, and adequate policies and measure should be adopted, as appropriate, to face these problems. Of all things in the world, people are the most precious. It is the people that propel social progress, create social wealth, develop science and technology and, through their hard work, continuously transform the human environment. Along with social progress and the advance of production, science and technology, the capability of man to improve the environment increases with each passing day.

6. A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which our life and well being depend. Conversely, through fuller knowledge and wiser action, we can achieve for ourselves and our posterity a better life in an environment more in keeping with human needs and hopes. There are broad vistas for the enhancement of environmental quality and the creation of a good life. What is needed is an enthusiastic but calm state of mind and intense but orderly work. For the purpose of attaining freedom in the world of nature, man must use knowledge to build, in collaboration with nature, a better environment. To defend and improve the human environment for present and future generations has become an imperative goal for mankind-a goal to be pursued together with, and in harmony with, the established and fundamental goals of peace and of worldwide economic and social development.

To achieve this environmental goal will demand the acceptance of responsibility by citizens and communities and by enterprises and institutions at every level, all sharing equitably in common efforts. Individuals in all walks of life as well as organizations in many fields, by their values and the sum of their actions, will shape the world environment of the future. Local and national governments will bear the greatest burden for large-scale environmental policy and action within their jurisdictions. International cooperation is also needed in order to raise resources to support the developing countries in carrying out their responsibilities in this field. A growing class of environmental problems, because they are regional or global in extent or because they affect the common international realm, will require extensive cooperation among nations and action by international organizations in the common interest. The Conference call upon Governments and peoples to exert common efforts for the preservation and improvement of the human environment, for the benefit of all the people and for their posterity.

II

Principles

States the common conviction that:

Principle 1

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

Principle 2

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

Principle 3

The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.

Principle 4

Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperiled by a combination of adverse factors. Nature conservation, including wildlife,

must therefore receive importance in planning for economic development.

Principle 5

The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.

Principle 6

The discharge of toxic substances or of other substance and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of ill countries against pollution should be supported.

Principle 7

States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Principle 8

Economic and social development is essential for ensuring a favorable living and working environment for man and for creating conditions on earth that are necessary for the improvement of the quality of life.

Principle 9

Environmental deficiencies generated by the conditions of underdevelopment and natural disasters pose grave problems and can best be remedied by accelerated development through the transfer of substantial quantities of financial and technological assistance as a supplement to the domestic effort of the developing countries and such timely assistance as may be required.

Principle 10

For the developing countries, stability of prices and adequate earnings for primary commodities and raw materials are essential to environmental management, since economic factors as well as ecological processes must be taken into account.

Principle 11

The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organizations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

Principle 12

Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing countries and any costs which may emanate from their incorporating environment safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

Principle 13

In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population.

Principle 14

Rational planning constitutes an essential tool for reconciling any conflict between the needs of development and the need to protect and improve the environment.

Principle 15

Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all. In this respect projects which are designed for colonialist and racist domination must be abandoned.

Principle 16

Demographic policies which are without prejudice to basic human rights

and which are deemed appropriate by Governments concerned should be applied in those regions where the rate of population growth or excessive population concentrations are likely to have adverse effects on the environment or development, or where low population density may prevent improvement of the human environment and impede development.

Principle 17

Appropriate national institutions must be entrusted with the task of planning, managing or controlling the environmental resources of States with a view to enhancing environmental quality.

Principle 18

Science & technology, as part their contribution to economic and social development, must be applied to the identification, avoidance and control of environmental risks and the solution of environmental problems and for the common common good of mankind.

Principle 19

Education in environmental matters, for the younger generations as well as adults, giving due consideration to the underprivileged, is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension. It is also essential that mass media of communications avoid contributing to the deterioration of the environment, but, on the contrary, disseminate information of an educational nature on the need to protect and improve the environment in order to enable man to developing every respect.

Principle 20

Scientific research and development in the context of environmental problems, both national and multinational, must be promoted in all countries, especially the developing countries. In this connection, the free flow of up-to-date scientific information and transfer of experience must be supported and assisted, to facilitate the solution of environmental problems; environmental technologies should be made available to developing countries on terms which would encourage their wide dissemination without constituting an economic burden on the developing countries.

Principle 21

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Principle 22

States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction.

Principle 23

Without prejudice to such criteria as may be agreed upon by the international community, or to standards which will have to be determined nationally, it will be essential in all cases to consider the systems of values prevailing in each country, and the extent of the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for the developing countries.

Principle 24

International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big or small, on an equal footing. Co-operation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.

Principle 25

States shall ensure that international organizations play a coordinated, efficient and
dynamic role for the protection and improvement of the environment.

Principle 26

Man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction. States must strive to reach prompt agreement, in the relevant international organs, on the elimination and complete destruction of such weapons.

The world charter for Nature sought to have its guiding principles given effect through National legislation and international practice. These principles include respect for nature, safeguarding of habitats necessary to maintain sufficient population levels for the survival of all life forms, protection of unique areas, representative samples of all ecosystems and of habitats of rare or endangered species.

UN General Assembly Resolution 37/7 passed on a World Charter for Nature, 28.10.1982 reads as under :-

"Annex

World Charter for Nature*

The General Assembly,

Reaffirming the fundamental purposes of the United Nations, in particular the maintenance of international peace and security, the development of friendly relations among nations and the achievement of international co-operation in solving international problems of an economic, social, cultural, technical, intellectual or humanitarian character,

Aware that:

(a) Mankind is a part of nature, and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients,

(b) Civilization is rooted in nature, which has shaped human culture and influenced all artistic and scientific achievement, and living

in harmony with nature gives man the best opportunities for the development of his creativity, and for rest and recreation,

Convinced that:

(a) Every form of life is unique, warranting respect regardless of its worth to man, and to accord other organisms such recognition, man must be guided by a moral code of action,

(b) Man can alter nature and exhaust natural resources by his action or its consequences and, therefore, must fully recognize the urgency of maintaining the stability and quality of nature and of conserving natural resources.

Persuaded that:

(a) Lasting benefits from nature depend upon the maintenance of essential ecological processes and life support systems, and upon the diversity of life forms, which are jeopardized through excessive exploitation and habitat destruction by man,

(b) The degradation of natural systems owing to excessive consumption and misuse of natural resources, as well as to failure to establish an appropriate economic order among peoples and among States, leads to the breakdown of the economic, social and political framework of civilization,

(c) Competition for scarce resources creates conflicts, whereas the conservation of nature and natural resources contributes to justice and the maintenance of peace and cannot be achieved until mankind learns to live in peace and to forsake war and armaments,

Reaffirming that man must acquire the knowledge to maintain and enhance his ability to use natural resources in manner which ensures the preservation of the species and ecosystems for the benefit of present and future generations,

Firmly convinced of the need for appropriate measures, at the national and international, individual and collective, and private and public levels, to protect nature and promote international co-operation in this field,

Adopts, to these ends, the present World Charter for Nature, which proclaims the following principles of conservation by which all human conduct affecting nature is to be guided and judged.

I. General principles

Nature shall be respected and its essential processes shall not be impaired.

The genetic viability on the earth shall not be compromised; the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded.

All areas of the earth, both land and sea, shall be subject to these principles of conservation; special protection shall be given to unique areas, to representative samples of the different types of ecosystems and to the habitats of rare or endangered species.

4.Ecosystems and organisms, as well as the land, marine and atmospheric resource that are utilized by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist.

5. Nature shall be secured against degradation caused by warfare or other hostile activities.

II. Functions

In the decision-making process it shall be recognized that man's needs can be met only be met only by ensuring the proper functioning of natural systems and by respecting the principles set forth in the present Charter.

In the planning and implementation of social and economic development activities, due account shall be taken of the fact that the conservation of nature is an integral part of those activities.

8. In formulating long-term plans for economic development, population growth and the improvement of standards of living, due account shall be taken of the long-term capacity of natural systems to ensure the subsistence and settlement of the populations concerned, recognizing that this capacity may be enhanced through science and technology.

The allocation of areas of the earth to various uses shall be planned, and due account shall be taken of the physical constraints, the biological productivity and diversity and the natural beauty of the areas concerned.

Natural resources shall not be wasted, but used with a restraint appropriate to the principles set forth in the present Charter, in accordance with the following rules:

(a) Living resources shall not be utilized in excess of their natural capacity for regeneration;

(b) The productivity of soils shall be maintained or enhanced through measures which safeguard their long-term fertility and the process of organic decomposition, and prevent erosion and all other forms of degradations;

(c) Resources, including water, which are not consumed as they are used shall be reused or recycled;

(d) Non-renewable resourceswhich are consumed as they are used shall be exploited with restraint, taking into account their abundance, the rational possibilities of converting them for consumption, and the compatibility of their exploitation with the functioning of natural systems.

11. Activities which might have an impact on nature shall be controlled, and the best available technologies that minimize significant risks to nature or other adverse effects shall be used; in particular:

(a) Activities which are likely to cause irreversible damage to nature shall be avoided;

(b) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination, their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed;

(c) Activitieswhich may disturb nature shall be preceded by assessment of their consequences, and environmental impact studies of development projects shall be conducted sufficiently in advance, and if they are to be undertaken, such activities shall be planned and carried out so as to minimize potential adverse effects;

(d) Agriculture, grazing, forestry and fisheries practices shall be adapted to the natural characteristics and constraints of given areas;

(e) Areas degraded by human activities shall be rehabilitated for purposes in accord with their natural potential and compatible with the

wellbeing of affected populations.
12. Discharge of pollutants into natural systems shall be avoided and:
(a) Where this is not feasible, such pollutants shall be treated at the source, using the best practicable means available;
(b) Special precautionsshall be taken to prevent discharge of radioactive or toxic wastes.
13. Measures intended to prevent, control or limit natural disasters, infestations and diseases shall be specifically directed to the causes of these scourges and shall avoid adverse side-effects on nature."

The United Nations Conference on Environment and Development also known as *Rio de Janeiro Declaration* or *Earth Summit* was held in the year 1992. The *Rio Declaration* comprises 27 principles which set out the basis upon which states and people are to co-operate and further develop international law in the field of sustainable development. Declaration reads as under:-

"Preamble

The United Nations Conference on Environment and Development,
Having met at Rio de Janeiro from 3 to 14 June 1992,
Reaffirming the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972, and seeking to build upon it, with the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people,
Working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system,
Recognizing the integral and interdependent nature of the Earth, our home, Proclaims that:
Principle 1
Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.
Principle 2
States have, in accordance with the Charter of the United National and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.
Principle 3
The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.
Principle 4
In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.
Principle 5
All States and all people shall cooperate in the essential task of eradication poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.
Principle 6
The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment

and development should also address the interests and needs of all countries.

Principle 7

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

Principle 8

To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

Principle 9

States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.

Principle 10

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Principle 11

States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.

Principle 12

States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

Principle 13

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

Principle 14

States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

Principle 15

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty

shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 16

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

Principle 17

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

Principle 18

States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted.

Principle 19

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

Principle 20

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.

Principle 21

The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.

Principle 22

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

Principle 23

The environment and natural resources of people under oppression, domination and occupation shall be protected.

Principle 24

Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and Peace, development and environmental protection are interdependent and indivisible.

Principle 25

Peace, development and environmental protection are interpedently and indivisible.

Principle 26

States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United National.

Principle 27

States and people shall cooperate in good faith and in a spirit of partnership in the fulfillment of the principles embodies in this Declaration and in the further development of international law in the field of sustainable development.

Article 2 of the Kyoto Declaration made in December, 1997, reads as under :-

(a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:

(i) Enhancement of energy efficiency in relevant sectors of the national economy;

(ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements;

promotion of sustainable forest management practices, afforestation and reforestation;
(iii) Promotion of sustainable forms of agriculture in light of climate change considerations;
(iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;
(v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;
(vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;
(vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;
(viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy."

The convention on International Trade in Endangered Species of Wild Fauna and Flora was held on 03.03.1973 to recognize that international co-operation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade. The articles on convention on International Trade in Endangered Species of Wild Fauna and Flora contained in the book titled as "Documents in International Environmental

Law which read as under :-

"Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Contracting States,
Recognizing that wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come;
Conscious of the ever-growing value of wild fauna and flora from aesthetic, scientific, cultural, recreational and economic points of view;
Recognizing that peoples and States are and should be the best protectors of their own wild fauna and flora;
Recognizing, in addition, that international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade;
Convinced of the urgency of taking appropriate measures to this end;
Have agreed as follows:
Article I
Definitions
For the purpose of the present Convention, unless the context otherwise requires:
(a) 'Species' means any species subspecies, or geographically separate population thereof;
(b) 'Specimen' means:

(i) any animal or plant, whether alive or dead;
(ii) in the case of an animal: for species included in Appendices I and II, any readily recognizable part or derivative thereof; and for species included in Appendix III, in relation to the species; and
(iii) in the case of a plant: for species included in Appendix I, and readily recognizable part or derivative thereof; and for species included in Appendices II and III, any readily recognizable part or derivative thereof specified in Appendices II and III in relation to the species;
(c) 'Trade' means export, re-export, import and introduction from the sea;
(d) 'Re-export' means export of any specimen that has previously been imported;
(e) 'Introduction from the sea' means transportation into a State of specimens of any species which were taken in the marine environment not under the jurisdiction of any State;
(f) 'Scientific Authority' means a national scientific authority designated in accordance with Article IX;
(g) 'Management Authority' means a national management authority designated in accordance with Article IX;
(h) 'Party' means a State for which the present Convention has entered into force.

Article II
Fundamental principles
1. Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances.
2. Appendix II shall include:
(a) all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival; and
(b) other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control.

3. Appendix II shall include all species which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or
restricting exploitation, and as needing the cooperation of other Parties in the control of trade.
The Parties shall not allow trade in specimens of species included in Appendices. I, II and III except in accordance with the provisions of the present Convention.

Article III
Regulation of trade in specimens of species included in Appendix I
All trade in specimens of species included in Appendix I shall be in accordance with the provisions of this Article.
The export of any specimen of a species included in Appendix I shall require the prior grant and presentation of an export permit. An export permit shall only be granted when the following conditions have been met:

(a) a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of that species;
(b) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora;
(c) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment; and
(d) a Management Authority of the State of export is satisfied that m import permit has been granted for the specimen.

3. The import of any specimen of a species included in Appendix I shall

require the prior grant and presentation of an import permit and either an export permit or a re-export certificate. An import permit shall only be granted when the following conditions have been met:
(a) a Scientific Authority of the State of import has advised that the import will be for purposes which are not detrimental to the survival of the species involved;
(b) a Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and
(c) a Management Authority of the State of import is satisfied that the specimen is not to be used for primarily commercial purposes.

4. The re-export of any specimen of a species included in Appendix I shall require the prior grant and presentation of a re-export certificate. A re-export certificate shall only be granted when the following conditions have been met:
(a) a Management Authority of the State of re-export is satisfied that the specimen was imported into that State in accordance with the provisions of the present Convention;
(b) a Management Authority of the State of re-export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment; and
(c) a Management Authority of the State of re-export is satisfied that an import permit has been granted for any living specimen.

5. The introduction from the sea of any specimen of a species included in Appendix I shall require the prior grant of a certificate from a Management Authority of the State of introduction. A certificate shall only be granted when the following conditions have been met:
(a) a Scientific Authority of the State of introduction advises that the introduction will not be detrimental to the survival of the species involved;
(b) a Management Authority of the State of introduction is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and
(c) a Management Authority of the State of introduction is satisfied that the specimen is not to be used for primarily commercial purposes.

Article IV
Regulation of trade in specimens of species included in Appendix II
All trade in specimens of species included in Appendix II shall be in accordance with the provisions of this Article.
The export of any specimen of a species included in Appendix II shall require the prior grant and presentation of an export permit. An export permit shall only be granted when the following conditions have been met:

(a) a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of that species:
(b) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora; and
(c) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.

A Scientific Authority in each Party shall monitor both the export permits granted by that State for specimens of species included in Appendix II and the actual exports of such specimens. Whenever a Scientific Authority determines that the export of specimens of any such species should be limited in order to maintain that species throughout it range at a level consistent with its role in the ecosystems in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I, the Scientific Authority shall advise the appropriate Management Authority of suitable measures to be taken to limit the grant of export permits for specimens of that species.
The import of any specimen of a species included in Appendix II shall

require the prior presentation of either an export permit or a re-export certificate.
The re-export of any specimen of a species included in Appendix Ii shall require the prior grant and presentation of a re-export certificate. A re-export certificate shall only be granted when the following conditions have been met:

(a) a Management Authority of the State of re-export is satisfied that the specimen was imported into that State in accordance with the provisions of the present Convention; and
(b) a Management Authority of the State of re-export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.

6. The introduction from the sea of any specimen of a species included in Appendix II shall require the prior grant of a certificate from a Management Authority of the State of introduction. A certificate shall only be granted when the following conditions have been met:
(a) a Scientific Authority of the State of introduction advises that the introduction will not be detrimental to the survival of the species involved; and
(b) a Management Authority of the State of introduction is satisfied that any living specimen will be so handled as to minimize the risk of injury, damage to health or cruel treatment.

7. Certificates referred to in paragraph 6 of this Article may be granted on the advice of a Scientific Authority, in consultation with other national scientific authorities or, when appropriate, international scientific authorities, in respect of periods not exceeding one year for total numbers of specimens to be introduced such periods.
Article V
Regulation of trade in specimens of species included in Appendix III
All trade in specimens of species included in Appendix II shall be in accordance with the provisions of this Article.
The export of any specimen of a species included in Appendix III from any State which has included that species in Appendix III shall require the prior grant and presentation of an export permit. An export permit shall only be granted when the following conditions have been met:

(a) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora; and
(b) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.

The import of any specimen of a species included in Appendix III shall require, except in circumstances to which paragraph 4 of this Article applies, the prior presentation of a certificate of origin and, where the import is from a State which has included that species in Appendix III, an export permit.
In the case of re-export, a certificate granted by the Management Authority of the State of re-export that the specimen was processed in that State or is being re-exported shall be accepted by the State of import as evidence that the provisions of the present Convention have been complied with in respect of the specimen concerned.

Article VI
Permits and certificates
Permits and certificates granted under the provisions of Articles III, IV, and V shall be in accordance with the provisions of this Article.
An export permit shall contain the information specified in the model set forth in Appendix IV, and may only be used for export within a period of six months from the date on which it was granted.
Each permit or certificate shall contain the title of the present Convention, the name and any identifying stamp of the Management Authority granting it and a control number assigned by the Management

Authority.
Any copies of a permit or certificate issued by a Management Authority shall be clearly marked as copies only and no such copy may be used in place of the original, except to the extent endorsed thereon.
A separate permit or certificate shall be required for each consignment of specimens.
A Management Authority of the State of import of any specimen shall cancel and retain the export permit or re-export certificate and any corresponding import permit presented in respect of the import of that specimen.
Where appropriate and feasible a Management Authority may affix a mark upon any specimen to assist in identifying the specimen. For these purposes 'mark' means any indelible imprint, lead seal or other suitable means of identifying a specimen, designed is such a way as to render its imitation by unauthorized persons as difficult as possible.
Article VII
Exemptions and other special provisions relating to trade. The provisions of Articles III, IV and V shall not apply to the transit or transhipment of specimens through or in the territory of a Party while the specimens remain in Customs control.
Where a Management Authority of the State of export or re-export is satisfied that a specimen was acquired before the provisions of the present Convention applied to that specimen, the provisions of Articles III, IV and V shall not apply to that specimen where the Management Authority issues a certificate to that effect.
The provisions of Articles III, IV and V shall not apply to specimens that are personal or household effects. This exemption shall not apply where:

(a) in the case of specimens of a species included in Appendix I, they were acquired by the owner outside his State of usual residence, and are being imported into that State; or
(b) in the case of specimens of species included in Appendix II:
(i) they were acquired by the owner outside his State of usual residence and in a State where removal from the wild occurred;
(ii) they are being imported into the owner's State of usual residence; and
(iii) the State where removal from the wild occurred requires the prior grant of export permits before any export of such specimens;
Unless a Management Authority is satisfied that the specimens were acquired before the provisions of the present Convention applied to such specimens.
Specimens of an animal species included in Appendix I bred in captivity for commercial purposes, or of a plant species included in Appendix I artificially propagated for commercial purposes, shall be deemed to be specimens of species included in Appendix II.
Where a Management Authority of the State of export is satisfied that any specimen of an animal species was bred in captivity or any specimen of a plant species was artificially propagated, or is a part of such an animal or plant or was derived therefrom, a certificate by that Management Authority to the effect shall be accepted in lieu of any of the permits or certificates required under that provisions of Article III, IV or V.
The provisions of Articles III, IV and V shall not apply to the noncommercial loan, donation or exchange between scientists or scientific institutions registered by a Management Authority of their State, of herbarium specimens, other preserved, dried or embedded museum specimens, and live plant material carry a label issued or approved by a Management Authority.
A Management Authority of any State may waive the requirements of Articles III, IV and V and allow the movement without permits or certificates of specimens which from part of a travelling zoo, circus, menagerie, plant exhibition or other travelling exhibition provided that:
(a) the exporter or importer registers full details of such specimens with that Management Authority;
(b) the specimens are in either of the categories specified in paragraph 2 or 5 of this Article; and
(c) the Management Authority is satisfied that any living specimen will be so transported and cared for as to minimize risk of injury, damage to health or cruel treatment.

Article VIII
Measures to be taken by the Parties
1. The Parties shall take appropriate measures to enforce provisions of the present Convention and to prohibit trade in specimens in violation thereof.
These shall include measures:
(a) to penalize trade in, or possession of, such specimens, or both; and
(b) to provide for the confiscation or return to the State of export of such specimens.
In addition to the measures taken under paragraph 1 of this Article, a Party may, when it deems it necessary, provide for any method of internal reimbursement for expenses incurred as a result of the confiscation of a specimen traded in violation of the measures taken in the application of the provisions of the present Convention.
As far as possible, the Parties shall ensure that specimens shall pass through any formalities required for trade with a minimum of delay. To facilitate such passage, a Party may designate ports of exit and ports of entry at which specimens must be presented for clearance. The Parties shall ensure further that all living specimens, during any period of transit, holding or shipment, are properly cared for so as to minimize the risk of injury, damage to health or cruel treatment.
Where a living specimen is confiscated as a result of measures referred to in paragraph 1 of this Article:

(a) the specimen shall be entrusted to a Management Authority of the State of confiscation;
(b) the Management Authority shall, after consultation with the State of export, return the specimen to that State at the expense of that State, or to a rescue centre or such other place as the Management Authority deems appropriate and consistent with the purposes of the present Convention:
(c) the Management Authority may obtain the advice of a Scientific Authority, or may, whenever it considers it desirable, consult the Secretariat in order to facilitate the decision under sub-paragraph

(b) of this paragraph, including the choice of a rescue centre or other place.
A rescue centre as referred to in paragraph 4 of this Article means an institution designated by a Management Authority to look after the welfare of living specimens, particularly those that have been confiscated.
Each Party shall maintain records of trade in specimens of species included in Appendices I, II and III which shall cover:

(a) the names and addresses of exporters and importers; and
(b) the number and type of permits and certificates granted; the States with which such trade occurred; the numbers or quantities and types of

specimens, name of species as included in Appendices I, II and III and, where applicable, the size and sex of the specimens in question.
7. Each Party shall prepare periodic reports on its implementation of the present Convention and shall transmit to the Secretariat:
(a) an annual report containing a summary of the information specified in sub-paragraph (b) of paragraph 6 of this Article; and
(a) a biennial report on legislative, regulatory and administrative measures taken to enforce the provisions of the present Convention.

8. The information referred to in paragraph 7 of this Article shall be available to the public where this is not inconsistent with the law of the Party concerned.
United Nations Conference on Environment and Development also known as Rio de Janeiro Declaration or Earth Summit has adopted non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests. The preamble and principles are also contained in the book titled as “Documents in International Environmental Law which reads as under :-

“Preamble
(a) the subject of forests is related to the entire range of environmental and development issues and opportunities, including the right to socio-economic development on a sustainable basis.
(b) the guiding objective of these principles is to contribute to the management, conservation and sustainable development of forests and to provided for their multiple and complementary functions and uses.
(c) Forestryissues and opportunities should be examined in a holistic and balanced manner within the overall context of environment and development, taking into consideration the multiple functions and uses of forests, including traditional uses, and the likely economic and social stress when these uses are constrained or restricted, as well as the potential for development that sustainable forest management can offer.
(d) These principles reflect a first global consensus on forests. In committing themselves to the prompt implementation of these principles, countries also decide to keep them under assessment for their adequacy with regard to further international cooperation on forest issues.
(e) These principles should apply to all types of forests, both natural and planted, in all geographical regions and climatic zones, including austral, boreal, sub-temperate, temperate, subtropical and tropical.
(f) All types of forests embody complex and unique ecological processes which are the basis for their present and potential capacity to provided resources to satisfy human needs as well as environmental values, and as such their sound management and conservation is of concern to the Governments of the countries to which they belong and are of value to local communities and to the environment as a whole.
(g) Forests are essential to economic development and the maintenance of all forms of life.
(h) Recognizing thatthe responsibility for forest management, conservation and sustainable development is in many States allocated among federal/national, state/provincial and local levels of government, each State, in accordance with its constitution and/or national legislation, should pursue these principles at the appropriate level of government.

Principles/elements
1.(a) ‘States have, in accordance with the Charter of the United Nations and the principles of international law, sovereign right to exploit their own resources pursuant to their own environmental policies and have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction’.
(b) The agreed full incremental cost of achieving benefits associated with forest conservation and sustainable development requires increased international cooperation and should be equitably shared by the international community.
2.(a) States have the sovereign and inalienable right to utilize, mange and develop their forests in accordance with their development needs and level of socio-economic development and on the basis of national policies consistent with sustainable development and legislation, including the conversion of such areas for other uses within the overall socio-economic development plan and based on rational land-use policies.
(b) Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual human needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products. Appropriate measures should be taken to protect forests against harmful effects of pollution, including air-borne pollution, fires, pests and diseases, in order to maintain their full multiple value.
(c) The provision of timely, reliable and accurate information on forests and forest ecosystems is essential for public understanding and informed decision-making and should be ensured.
(d) Governments should promote and provide opportunities for the participation of interested parties, including local communities and indigenous people, industries, labour, nongovernmental organizations

and individuals, forest dwellers and women, in the development, implementation and planning of national forest policies.
3.(a) National policies and strategies should provide a framework for increased efforts, including the development and strengthening of institutions and programmes for the management, conservation and sustainable development of forests and forest lands.
(b) International institutional arrangements, building on those organizations and mechanisms already in existence, as appropriate, should facilitate international cooperation in the field of forests.
(c) All aspects of environmental protection and social and economic developments as they relate to forests and forest lands should be integrated and comprehensive.

4. The vital role of all types of forests in maintaining the ecological processes and balance at the local, national, regional and global levels through, inter alia, their role in protecting fragile ecosystems, watersheds and freshwater resources and as rich storehouses of biodiversity and biological resources and sources of genetic material for biotechnology products, as well as photosynthesis, should be recognized.
5.(a) National forest policies should recognize and duly support the identity, culture and the rights of indigenous people, their communities and other communities and forest dwellers. Appropriate conditions should be promoted for these groups to enable them to have an economic stake in forest use, performs economic activities, and achieve and maintain cultural identity and social organization, as well as adequate levels of livelihood and wellbeing, through, inter alia, those land tenure arrangements which serve as incentives for the sustainable management of forests.
(b) The full participation of women in all aspects of the management, conservation and sustainable development of forests should be actively promoted.
6. (a) All types of forests play an important role in meeting energy requirements through the provision of a renewable source of bio-energy, particularly in developing countries, and the demands for fuelwood for household and industrial needs should be met through sustainable forest management, afforestation and reforestation. To this end, the potential contribution of plantations of both indigenous and introduced species for the provision of both fuel and industrial wood should be recognized.
(b) National policies and programmes should take into account the relationship, where it exists,
between the conservation, management and sustainable development of forests and all aspects related to the production, consumption, recycling and/or final disposal of forest products.
(c) Decisions taken on the management, conservation and sustainable development of forest resources should benefit, to the extent practicable, from a comprehensive assessment of economic and non-economic values of forest goods and services and of the environmental costs and benefits. The development and improvement of methodologies for such evaluations should be promoted.
(d) The role of planted forests and permanent agricultural crops as sustainable and environmentally sound be recognized, enhanced and promoted. Their contribution to the maintenance of ecological processes, to offsetting pressure on primary/old-growth forest and to providing regional employment and development with the adequate involvement of local inhabitants should be recognized and enhanced.
(e) Natural forests also constitute a source of goods and services, and their conservation, sustainable management and use should be promoted.
7.(a) Efforts should be made to promote a supportive international economic climate conducive to sustained and environmentally sound development of forests in all countries, which include, inter alia, the promotion of sustainable patterns of production and consumption, the eradication of poverty and the promotion of food security.
(b) Specific financial resources should be provided to developing countries with significant forest areas which establish programmes for the conservation of forests including protected natural forest areas.

These resources should be directed notably to economic sectors which would stimulate economic and social substitution activities.

8.(a) Efforts should be undertaken towards the greening of the world. All countries, notably developed countries, should take positive and transparent action towards reforestation, afforestation and forest conservation, as appropriate.
(b) Efforts to maintain and increase forest cover and forest productivity should be undertaken in ecologically, economically and socially sound ways through the rehabilitation, reforestation and re-establishment of trees and forests on unproductive, degraded and deforested lands, as well as through the management of existing forest resources.
(c) The implementation of national policies and programmes aimed at forest management, conservation and sustainable development, particularly in developing countries, should be supported by international financial and technical cooperation, including through the private sector, where appropriate.
(d) Sustainable forest management and use should be carried out in accordance with national development policies and priorities and on the basis of environmentally sound national guidelines. In the formulation of such guidelines, account should be taken, as appropriate and if applicable, of relevant internationally agreed methodologies and criteria.
(e) Forest management should be integrated with management of adjacent areas so as to maintain ecological balance and sustainable productivity.
(f) National policies and/or legislation aimed at management, conservation and sustainable development of forests should include the protection of ecologically viable representative or unique examples of forests, including primary/orgrowth forests, cultural, spiritual, historical, religious and other unique and valued forests of national importance.
(h) National policies should ensure that environmental impact assessments should be carried out where actions are likely to have significant adverse impacts on important forest resources, and where such actions are subject to a decision of a competent national authority.

9.(a) the efforts of developing counties to strengthen the management, conservation and sustainable development of their forest resources should be supported by the international community, taking into account the importance of redressing external indebtedness, particularly where aggravated by the net transfer of resources to developed countries, as well as the problem of achieving at least the replacement value of forests through improved market access for forest products, especially processed products. In this respect, special attention should also be given to the countries undergoing the process for transition to market economies.
(b) The problems that hinder efforts to attain the conservation and sustainable use of forest resources and that stem from the lack of alternative options available to local communities, in particular the urban poor and poor rural populations who are economically and socially dependent on forests and forest resources, should be addressed by Governments and the international community.
(c) National policy formulation withrespect to all types of forests should take account of the pressures and demands imposed on forest ecosystems and resources from influencing factors outside the forest sector, and intersect-oral means of dealing with these pressures and demands should be sought.

New and additional financial resources should be provided to developing countries to enable them to sustainably mange, conserve and develop their forest resources, including through afforestation, reforestation and combating deforestation and forest and land degradation.
In order to enable, in particular, developing countries to enhance their endogenous capacity and to better manage, conserve and develop their forest resources, the access to and transfer of environmentally sound technologies and corresponding know-how on favourable terms, including on concessional and preferential terms, as mutually agreed, in accordance with the relevant provisions of Agenda 21, should be

promoted, facilitated and financed, as appropriate.

12.(a) Scientific research, forest inventories and assessments carried out by national institutions which take into account, where relevant, biological, physical, social and economic variables, as well as technological development and its application in the field of sustainable forest management, conservation and development, should be strengthened through effective modalities, including international cooperation. In this context, attention, should also be given to research and development of sustainable harvested non-wood products.
(b) National and, where appropriate, regional and international institutional capabilities in education, training, science, technology, economics, anthropology and social aspects of forests and forest management are essential to the conservation and sustainable development of forests and should be strengthened.
(c) International exchange of information on the result of forest and forest management research and development should be enhanced and broadened, as appropriate, making full use of education and training institutions, including those in the private sector.
(d) Appropriate indigenous capacity and local knowledge regarding the conservation and sustainable development of forests should, through institutional and financial support and in collaboration with the people in the local communities concerned, be recognized, respectd, recorded, developed and, as appropriate, introduced in the implementation of programmes. Benefits arising from the utilization of indigenous knowledge should therefore be equitably shared with such people.
13.(a) Trade in forest products should be based on non-discriminatory and multilaterally agreed rules and procedures consistent with international trade law and practices. In this context, open and free international trade in forest products should be facilitated.
(b) Reduction or removal of tariff barriers and impediments to the provision of better market access and better prices for higher value-added forest products and their local processing should be encouraged to enable producer countries to better conserve and mange their renewable forest resources.
(c) Incorporation of environmental costs and benefits into market forces and mechanisms, in order to
achieve forest conservation and sustainable development, should be encouraged both domestically and internationally.
(d) Forest conservation and sustainable development policies should be integrated with economic, trade and other relevant policies.
(e) Fiscal, trade, industrial, transportation and other policies and practices that may lead to forest degradation should be avoided. Adequate policies, aimed at management, conservation and sustainable development of forests, including, where appropriate, incentives, should be encouraged.

Unilateral measures, incompatible with international obligations or agreements, to restrict and/or ban international trade in timber or other forest products should be removed or avoided, in order to attain long-term sustainable forest management.
Pollutants, particularly air-borne pollutants, including those responsible for acidic deposition, that are harmful to the health of forest ecosystems at the local, national, regional and global levels should be controlled.

The Conference of the Parties was convened in Bali. International conference of Bali was under the frame work on Climate Change. The objectives of the conference are known as “Bali Action Plan” whereby it was resolved to urgently enhance implementation of the

convention in order to achieve its ultimate objective with regard to principles and commitments. According to the **Bali Action Plan** which was convened in the year 2007 at Bali (Indonesia), it was decided to launch a comprehensive process to enable to full, effective and sustained implementation of the Convention through long term cooperative action. Paragraph 1(b)(iii) reads as under :-

> "Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries."

In the book of Forest Futures (Global Representations and Ground Realities in the Himalayas) authored by Antje Linkenbach has made following pertinent observations on the concept of **Chipko Andolan** which was nationally and internationally acclaimed :

> "With the global emergence of the ecological debate the fame of the Chipko Andolan (i.e. the 'hug the trees' movement) spread in India and abroad. This andolan was represented national and internationally by two of its leading figures, Chandi Prasad Bhatt, and, especially, Sunderlal Bahuguna. Both received several awards for their ecological commitment and are widely accepted as spokesman in ecological matters. Chipko developed into a popular subject in print and audio-visual media; it has been taken up as an issue in academic debates; it served and still serves political and ideological arguments. Numerous publications have dealt with, or have at least referred to, Chipko's incidents. And differing re-presentations of the Chipko anodlan show that the movement became instrumental for various interest groups: it has been presented to the public as an 'ecological movement, as a 'peasant movement' with ecological impact, as a 'women's or eco-feminist movement' as a 'Gandhian movement' (forest satyagraha). In most of these publications a protective ('ecologically friendly') attitude is assumed to guide traditional relations with nature and the social practices of the people in Uttarakhand, who, accordingly, are believed to perceive environmental degradation as primarily an ecological problem."

According to the author, there are three most effective representations of Chipko Andolan which consist of Peasant movement, Ecological movement and Eco-feminist movement.

Author has translated Chipko song, composed and sung by Women of Lata which is as under :-

> "Hey, didi, hey bhulli, let us all unite and with our own efforts let us save our jungle. The maldars and thekedars want to make money. Our cows and our cattle, they go to the jungle and with them our young people. Hey, Rishi Maharaj, come and show yourself with your real power. Chase for away the 600 trucks heavily loaded, and along with them drive back the strangers. Hey, Lata Bhagvati, come and show yourself with your real power, chase for away the maldars and thekedars. When our jungle is saved, only then will return (to our villages).

The Tilari Declaration was adopted by the people on 30.05.1968 in the memory of the martyrs who laid down their lives for the protection of the forest rights on 30.05.1968.

> "Forests have been the basis of our cultural and economic life from the very beginning of this civilization. Our main duty is to protect the forest.
> We declare our birthright as being to fulfil our basic needs through forest products, through the forest, and to get employment from the forest.
> The harmonious relationship to the forest which is the basis of our happiness and prosperity should be permanent, for it is essential.
> The first use of forest wealth should be for the happiness and prosperity of the forest dwellers, of the people living near the forest.
> The forest products which are of daily use and which are used for village industries should be easily available for everybody.
> Forest industries based on forest products should be established near the forest.
> The present system of forest exploitation by the contractors should be replaced with forest labour co-operatives of the local people.
> In order to link love with knowledge about the forest in forest areas, botany and geology should be a part of curriculum at every stage of education in forest areas.
> On this day we pay our homage to the brave martyrs of Tilari and we remember them with great reverence.
> Their peaceful movement and brave martyrdom may inspire us and keep us alert for the protection of forest and forest rights.
> So we take a pledge to celebrate this day as 'Forest Day'.

Learned author has reproduced Chipko slogans as under: -

- Protection of forests means protection of the country! (Vanon ki raksha, desh ki raksha)
- This is the call of Uttarakhand-forest rights in panchayats hands!

(Uttarakhand ke yeh lalkar, panchayaton ko van adhikar)

Stop our exploitation by the contactor system!

Daily earnings from forest wealth – this is a right of forest dwellers!

(Van sampada se rozgar, vanvasiyon ka adhikar)

> Learned author has also translated Chipko Song composed by Ghanshyam Shailani which reads as under :- "Brothers and Sisters from the hills! Let us all gather and unite.
>
> Let us be ready to save our beloved jungle from the government's forest policy. Through auctioneers and contractors all the forests have been cut away.
>
> Bad times have come and in the hills the forest has been destroyed. The whole benefit of the jungle has been taken away by contractors. For years, we have cared for the forest and for long we have protected the jungle. Today the rich capitalists are cutting forests and accumulating wealth, And young people of the hills, who have real rights to the forest go to the plains and wash their dishes.
>
> Today the factory for resin processing is located in Bareilly, but the resin, the law material, they get from here; and the whole profit goes to the Bareilly resin factory in order to earn more wealth from the chir pines deep wounds were cut in them and resulted in too many trees dying.
>
> The government and the rich capitalists together are sweeping the jungle clear, and nobody worries about plating new trees. Instead, the Forest Department has become the destroyer of forests. To save the jungle there are no hopes, to save the jungle there are no words. Cling to the trees and don't let them be cut! Don't let the forest's wealth be plundered! Through the establishment of small forest-based industries benefit will come to the hill region, and through it fortune and prosperity to forest dwellers. Everywhere in the hills socialism will come and from village to village the sound of the conch* will be heard.

The contribution of Sri Sunderlal Bahuguna is discussed as under:-

> "In sum, Bahuguna's alternative concept of development is marked by an emphasis on sustainability and ethics which lead to an attitude towards nature instructed b worship and respect. To achieve sustainability, care for posterity should get at least that much, if not more' (1990:12). Therefore, the contract between the generations', to put it in the words of Jonas and King, demands not exploiting or over exploiting non-renewable as well as renewable resources. This alternative does not dismiss science and technology, but demands they be guided by 'wisdom', which is neither contained in volumes of books nor in the minds of great professors, but in the lives of the common people' (1992:9). And this wisdom lies, in part, in 'switching over from agriculture to tree farming' (1992:10). Such farming would not propagate species which are useful for commercial purposes:
> The tree cover around the villages should be such as to provide food to human beings and fodder to the cattle. Priority should be given to trees yielding edible seeds, nuts, oilseeds, honey and seasonal fruits. In higher altitudes, above 1500 metres, soft walnut, sweet chestnut, hazelnut and wild apricot can be successfully cultivated. In lower altitudes mango, amla, bael, and jamun [indigenous names of local fruits] will thrive. An average hill family will need 300 nuts/fruits, 1500 fodder and 200 fibre trees (mulberry, ringal and bamboo) to be self-sufficient.(1989c:8).

Forest fires emanate carbon-dioxide posing serious threat to environment and ecology. It is the human beings who have encroached upon the forest land of wild animals. The habitat of wild animal is shrinking

resulting in wild animals coming in contact with the human beings.

The preamble and principles formulated by United Nations Conference on Environment and Development states that the forestry issues and opportunities should be examined in a holistic and balanced manner within the overall context of environment and development, taking into consideration the multiple functions and uses of forests, including traditional uses, and the likely economic and social stress when these uses are constrained or restricted. All types of forests embody complex and unique ecological processes which are the basis for their present and potential capacity to provided resources to satisfy human needs as well as environmental values. Forests are essential to economic development and the maintenance of all forms of life. Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual human needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products. Appropriate measures should be taken to protect forests against harmful effects of pollution, including air-borne pollution, fires, pests and diseases, in order to maintain their full multiple value. The provision of timely, reliable and accurate information on forests and forest ecosystems is essential for public understanding and informed decision-making and should

be ensured. Governments should promote and provide opportunities for the participation of interested parties, including local communities and forest dwellers and women, in the development, implementation and planning of national forest policies. National policies and strategies should provide a framework for increased efforts, including the development and strengthening of institutions.

The vital role of all types of forests in maintaining the ecological processes and balance at the local, national, regional and global levels should be recognized. National forest policies should recognize and duly support the identity, culture and the rights of indigenous people, their communities and other communities and forest dwellers. The full participation of women in all aspects of the management, conservation and sustainable development of forests should be actively promoted. The forests play an important role in meeting energy requirements through the provision of a renewable source of bio-energy. The role of planted forests and permanent agricultural crops as sustainable and environmentally sound be recognized, enhanced and promoted. Their contribution to the maintenance of ecological processes, to offsetting pressure on primary/old-growth forest and to providing regional employment and development with the adequate involvement of local inhabitants should be recognized and enhanced. Natural forests also constitute a source of goods and services, and their conservation, sustainable management and use should be promoted. Efforts should be made for increasing the forest

productivity.

National policies and/or legislation aimed at management, conservation and sustainable development of forests should include the protection of ecologically viable representative or unique examples of forests, including primary/or-growth forests, cultural, spiritual, historical, religious and other unique and valued forests of national importance. National policies should ensure that environmental impact assessments should be carried out where actions are likely to have significant adverse impacts on important forest resources. National policy should be formulated with respect to all types of forests taking into account of the pressures and demands imposed on forest ecosystems.

Lord Gautam Budha and Lord Mahavira also sat under the trees for enlightenment. The trees in India are worshipped as incarnations of the goddess: Bamani Rupeshwari, Vandurga. The goddess of the forest, Aranyi, has inspired a whole body of texts, known as 'Aranyi Sanskriti'. It means, "**the Civilisation of Forest**".

Animals and birds are trapped in the fire. Birds lose their sense of direction due to heavy smog.

It is the human beings who have encroached upon the forest land of wild animals. The habitat of wild animal is shrinking resulting in wild animals coming contact with the human beings.

Trees and wild animals have natural fundamental rights to survive in their natural own habitat and healthy environment.

The New Zealand Parliament has enacted '*Te*

Urewera Act 2014' whereby the 'Urewera National Park' has been given the legal entity under Section 11 of the Act. The purpose of the Act is to preserve, as far as possible, *Te Urewera* in its natural state, the indigenous ecological systems, biodiversity and its historical cultural heritage.

It is the fundamental duty of all the citizens to preserve and conserve the nature in its pristine glory. There is a grave threat to the very existence of Glaciers, Air, Rivers, rivulets, streams, Water Bodies including Meadows and Dales. The Court can take judicial notice of the fact that few cities are not liveable due to higher level of pollutants in the atmosphere. The Courts are duty bound to protect the environmental ecology under the 'New Environment Justice Jurisprudence' and also under the principles of *parens patriae*.

The principle of *parens patraie* has been evoked by the Hon. U.S. Supreme Corut in 136 U.S. 1 (1890) in the case of *Mormon Church v. United States, 136 U.S. 1* as under: -

> If it should be conceded that a case like the present transcends the ordinary jurisdiction of the court of chancery and requires for its determination the interposition of the *parens patriae* of the state, it may then be contended that in this country there is no royal person to act as *parens patriae* and to give direction for the application of charities which cannot be administered by the court. It is true we have no such chief magistrate. But here the legislature is the *parens patriae,* and unless restrained by constitutional limitations, possesses all the powers in this regard which the sovereign possesses in England. Chief Justice Marshall, in the *Dartmouth College Case,* said:
> "By the Revolution, the duties as well as the powers of government devolved on the people. . . . It is admitted that among the latter was comprehended the transcendent power of Parliament, as well as that of the executive department."
> And Mr. Justice Baldwin, in *Magill v. Brown,* Brightly 346, 373, a case arising on Sarah Zane's will, referring to this declaration of Chief Justice Marshall, said:
> "The Revolution devolved on the state all the transcendent power of Parliament, and the prerogative of the Crown, and gave their acts the same force and effect."
> Chancellor Kent says:
> "In this country, the legislature or government of the state, as *parens patriae,* has the right to enforce all charities of a public nature by virtue of its general superintending authority over the public interests where no other person is in trusted with it."

In *Fontain v. Ravenel,* 17 How. 369, 58 U. S. 384, Mr. Justice McLean, delivering the opinion of this Court in a charity case, said:

"When this country achieved its independence, the prerogatives of the Crown devolved upon the people of the states. And this power still remains with them except so far as they have delegated a portion of it to the federal government. The sovereign will is made known to us by legislative enactment. The state, as a sovereign, is the *parens patriae*."

This prerogative of *parens patriae* is inherent in the supreme power of every state, whether that power is lodged in a royal person or in the legislature, and has no affinity to those arbitrary powers which are sometimes exerted by irresponsible monarchs to the great detriment of the people and the destruction of their liberties. On the contrary, it is a most beneficent function, and often necessary to be exercised in the interests of humanity, and for the prevention of injury to those who cannot protect themselves. Lord Chancellor Somers, in *Cary v. Bertie,* 2 Vernon 333, 342, said:

"It is true infants are always favored. In this court there are several things which belong to the King as *pater patriae* and fall under the care and direction of this court, as charities, infants, idiots, lunatics, etc."

The Supreme Judicial Court of Massachusetts well said in *Sohier v. Mass.Gen. Hospital,* 3 Cush. 483, 497:

"It is deemed indispensable that there should be a power in the legislature to authorize a sale of the estates of infants, idiots, insane persons, and persons not known, or not in being, who cannot act for themselves. The best interest of these persons, and justice to other persons, often require that such sales should be made. It would be attended with incalculable mischiefs, injuries, and losses if estates in which persons are interested, who have not capacity to act for themselves, or who cannot be certainly ascertained, or are not in being, could under no circumstances be sold and perfect titles effected. But in such cases, the legislature, as *parens patriae,* can disentangle and unfetter the estates by authorizing a sale, taking precaution that the substantial rights of all parties are protected and secured."

These remarks in reference to infants, insane persons, and persons not known or not in being apply to the beneficiaries of charities, who are often incapable of vindicating their rights, and justly look for protection to the sovereign authority, acting as *parens patriae.* They show that this beneficent function has not ceased to exist under the change of government from a monarchy to a republic, but that it now resides in the legislative department, ready to be called into exercise whenever required for the purposes of justice and right, and is clearly capable of being exercised in cases of charities as in any other cases whatever.

It is true that in some of the states of the union in which charities are not favored, gifts to unlawful or impracticable objects, and even gifts affected by merely technical difficulties, are held to be void, and the property is allowed to revert to the donor or his heirs or other representatives. But this is in cases where such heirs or representatives are at hand to claim the property and are ascertainable. It is difficult to see how this could be done in a case where it would be impossible for any such claim to be made, as where the property has been the resulting accumulation of ten thousand petty contributions extending through a long period of time, as is the case with all ecclesiastical and community funds. In such a case, the only course that could be satisfactorily pursued would be that pointed out by the general law of charities -- namely, for the government or the court of chancery to assume the control of the fund and devote it to lawful objects of charity most nearly corresponding to those to which it was originally destined. It could not be returned to the donors nor distributed among the beneficiaries.

The impracticability of pursuing a different course, however, is not the true ground of this rule of charity law. The true ground is that the property given to a charity becomes in a measure public property, only applicable as far as may be, it is true, to the specific purposes to which it is devoted, but within those limits consecrated to the public use, and become part of the public resources for promoting the happiness and wellbeing of the people of the state. Hence, when such property ceases to have any other owner, by the failure of the trustees, by forfeiture for illegal application, or for any other cause, the ownership naturally and necessarily falls upon the sovereign power of the state, and thereupon the court of chancery, in the exercise of its ordinary jurisdiction, will appoint a new trustee to take the place of the

trustees that have failed or that have been set aside, and will give directions for the further management and administration of the property, or, if the case is beyond the ordinary jurisdiction of the court, the legislature may interpose and make such disposition of the matter as will accord with the purposes of justice and right. The funds are not lost to the public as charity funds; they are not lost to the general objects or class of objects which they were intended to subserve or effect. The state, by its legislature or its judiciary, interposes to preserve them from dissipation and destruction and to set them up on a new basis of usefulness, directed to lawful ends coincident as far as may be with the objects originally proposed.

The Hon. U.S. Supreme Court in 185 U.S. 125 (1902) in the case of '*Kansas v. Colorado*' has held that: -

"In Missouri v. Illinois, 180 U. S. 208, it was alleged that an artificial channel or drain constructed by the sanitary district for purposes of sewerage, under authority derived from the State of Illinois, created a continuing nuisance dangerous to the health of the people of the State of Missouri, and the bill charged that the acts of defendants, if not restrained, would result in poisoning the water supply of the inhabitants of Missouri and in injuriously affecting that portion of the bed of the Mississippi River lying within its territory. In disposing of a demurrer to the bill, numerous cases involving the exercise of original jurisdiction by this Court were examined, and the court, speaking through MR. JUSTICE SHIRAS, said:

"The cases cited show that such jurisdiction has been exercised in cases involving boundaries and jurisdiction over lands and their inhabitants, and in cases directly affecting the property rights and interests of a state. But such cases manifestly do not cover the entire field in which such controversies may arise and for which the Constitution has provided a remedy, and it would be objectionable and indeed impossible for the Court to anticipate by definition what controversies can and what cannot be brought within the original jurisdiction of this Court. An inspection of the bill discloses that the nature of the injury complained of is such that an adequate remedy can only be found in this Court at the suit of the State of Missouri. It is true that no question of boundary is involved, nor of direct property rights belonging to the complainant state, but it must surely be conceded that if the health and comfort of the inhabitants of a state are threatened, the state is the proper party to represent and defend them. If Missouri were an independent and sovereign state, all must admit that she could seek a remedy by negotiation, and, that failing, by force. Diplomatic powers and the right to make war having been surrendered to the general government, it was to be expected that, upon the latter would be devolved the duty of providing a remedy, and that remedy, we think, is found in the constitutional provisions we are considering. The allegations of the bill plainly present such a case. The health and comfort of the large communities inhabiting those parts of the state situated on the Mississippi River are not alone concerned, but contagious and typhoidal diseases introduced in the river communities may spread themselves throughout the territory of the state. Moreover, substantial impairment of the health and prosperity of the towns and cities of the state situated on the Mississippi River, including its commercial metropolis, would injuriously affect the entire state. That suits brought by individuals, each for personal injuries, threatened or received, would be wholly inadequate and disproportionate remedies, requires no argument."

As will be perceived, the court there ruled that the mere fact that a state had no pecuniary interest in the controversy would not defeat the original jurisdiction of this Court, which might be invoked by the state as parens patriae, trustee, guardian, or representative of all or a considerable portion of its citizens, and that the threatened pollution of the waters of a river flowing between states, under the authority of one of them, thereby putting the health and comfort of the citizens of the other in jeopardy, presented a cause of action justiciable under the Constitution.

In the case before us, the State of Kansas files her bill as representing and on behalf of her citizens, as well as in vindication of her alleged rights as an individual owner, and seeks relief in respect of being deprived of the waters of the river accustomed to flow through and across the state, and the consequent destruction of the property of herself and of her citizens and injury to their health and comfort. The action complained of is state action, and not the action of state officers in abuse or excess of their powers."

The Hon. U.S. Supreme Court in 304 U.S. (1938) in the case of '*Oklahoma ex. Rel. Johnson v. Cook*' has dealt with the issue of *parens patriae*: -

"In determining whether the State is entitled to avail itself of the original jurisdiction of this Court in a matter that is justiciable (*see Massachusetts v. Mellon,* 262 U. S. 447, 262 U. S. 485), the interests of the State are not deemed to be confined to those of a strictly proprietary character, but embrace its "*quasi*-sovereign" interests which are "independent of and behind the titles of its citizens, in all the earth and air within its domain." *Georgia v. Tennessee Copper Co.,* 206 U. S. 230, 206 U. S. 237. Thus, we have held that a State may sue to restrain the diversion of water from an interstate stream (*Kansas v. Colorado,* 206 U. S. 46, 206 U. S. 95-96) or an interference with the flow of natural gas in interstate commerce (*Pennsylvania v. West Virginia,* 262 U. S. 553, 262 U. S. 592); or to prevent injuries through the pollution of streams or the poisoning of the air by the generation of noxious gases destructive of crops and forests, whether the injury be due to the action of another State or of individuals. *Missouri v. Illinois,* 180 U. S. 208; 200 U. S. 200 U.S. 496; *Georgia v. Tennessee Copper Company, supra; North Dakota v. Minnesota,* 263 U. S. 365, 263 U. S. 373-374; *Wisconsin v. Illinois,* 278 U. S. 367; 281 U. S. 281 U.S. 179."

The Hon. U.S. Supreme Court in 458 U.S. 592 (1982) in the case of *Snapp & Son, inc. v. Puerto Rico ex rel. Barez*. has explained *parens patriae* as under: -

"Parens patriae means literally "parent of the country." The *parens patriae* action has its roots in the common law concept of the "royal prerogative." The royal prerogative included the right or responsibility to take care of persons who are legally unable, on account of mental incapacity, whether it proceed from 1st. nonage: 2. idiocy: or 3. lunacy: to take proper care of themselves and their property. "

At a fairly early date, American courts recognized this common law concept, but now in the form of a legislative prerogative:

"This prerogative of *parens patriae* is inherent in the supreme power of every State, whether that power is lodged in a royal person or in the legislature [and] is a most beneficent function . . . often necessary to be exercised in the interests of humanity, and for the prevention of injury to those who cannot protect themselves."

Mormon Church v. United States, (1890).

This common law approach, however, has relatively little to do with the concept of *parens patriae* standing that has developed in American law. That concept does not involve the State's stepping in to represent the interests of particular citizens who, for whatever reason, cannot represent themselves. In fact, if nothing more than this is involved -- *i.e.,* if the State is only a nominal party without a real interest of its own -- then it will not have standing under the *parens patriae* doctrine. *See Pennsylvania v.*

New Jersey, 426 U. S. 660 (1976); *Oklahoma ex rel. Johnson v. Cook,* 304 U. S. 387 (1938); Oklahoma v. Atchison, T. & S. F. R. Co., 220 U.S. 277 (1911). Rather, to have such standing, the State must assert an injury to what has been characterized as a "quasi-sovereign" interest, which is a judicial construct that does not lend itself to a simple or exact definition. Its nature is perhaps best understood by comparing it to other kinds of interests that a State may pursue, and then by examining those interests that have historically been found to fall within this category.

Two sovereign interests are easily identified: first, the exercise of sovereign power over individuals and entities within the relevant jurisdiction -- this involves the power to create and enforce a legal code, both civil and criminal; second, the demand for recognition from other sovereigns -- most frequently this involves the maintenance and recognition of borders. The former is regularly at issue in constitutional litigation. The latter is also a frequent subject of litigation, particularly in this Court:

"The original jurisdiction of this Court is one of the mighty instruments which the framers of the Constitution provided so that adequate machinery might be available for the peaceful settlement of disputes between States and between a State and citizens of another State. . . . The traditional methods available to a sovereign for the settlement of such disputes were diplomacy and war. Suit in this Court was provided as an alternative."

Georgia v. Pennsylvania R. Co., 324 U. S. 439, 324 U. S. 450 (1945).

Not all that a State does, however, is based on its sovereign character. Two kinds of nonsovereign interests are to be distinguished. First, like other associations and private parties, a State is bound to have a variety of proprietary interests. A State may, for example, own land or participate in a business venture. As a proprietor, it is likely to have the same interests as other similarly situated proprietors. And like other such proprietors, it may at times need to pursue those interests in court. Second, a State may, for a variety of reasons, attempt to pursue the interests of a private party, and pursue those interests only for the sake of the real party in interest. Interests of private parties are obviously not, in themselves, sovereign interests, and they do not become such simply by virtue of the State's aiding in their achievement. In such situations, the State is no more than a nominal party.

Quasi-sovereign interests stand apart from all three of the above: they are not sovereign interests, proprietary interests, or private interests pursued by the State as a nominal party. They consist of a set of interests that the State has in the wellbeing of its populace. Formulated so broadly, the concept risks being too vague to survive the standing requirements of Art. III: a quasi-sovereign interest must be sufficiently concrete to create an actual controversy between the State and the defendant. The vagueness of this concept can only be filled in by turning to individual cases.

That a *parens patriae* action could rest upon the articulation of a "quasi-sovereign" interest was first recognized by this Court in *Louisiana v. Texas,* 176 U. S. 1 (1900). In that case, Louisiana unsuccessfully sought to enjoin a quarantine maintained by Texas officials, which had the effect of limiting trade between Texas and the port of New Orleans. The Court labeled Louisiana's interest in the litigation as that of *parens patriae,* and went on to describe

that interest by distinguishing it from the sovereign and proprietary interests of the State:

"Inasmuch as the vindication of the freedom of interstate commerce is not committed to the State of Louisiana, and that State is not engaged in such commerce, the cause of action must be regarded not as involving any infringement of the powers of the State of Louisiana, or any special injury to her property, but as asserting that the State is entitled to seek relief in this way because the complained of affect her citizens at large."

Id. at 176 U. S. 19. Although Louisiana was unsuccessful in that case in pursuing the commercial interests of its residents, a line of cases followed in which States successfully sought to represent the interests of their citizens in enjoining public nuisances. *North Dakota v. Minnesota,* 263 U. S. 365 (1923); *Wyoming v. Colorado,* 259 U. S. 419 (1922); *New York v. New Jersey,* 256 U. S. 296 (1921); *Kansas v. Colorado,* 206 U. S. 46 (1907); *Georgia v. Tennessee Copper Co.,* 206 U. S. 230 (1907); *Kansas v. Colorado,* 185 U. S. 125 (1902); *Missouri v. Illinois,* 180 U. S. 208 (1901).

In the earliest of these, *Missouri v. Illinois,* Missouri sought to enjoin the defendants from discharging sewage in such a way as to pollute the Mississippi River in Missouri. The Court relied upon an analogy to independent countries in order to delineate those interests that a State could pursue in federal court as *parens patriae,* apart from its sovereign and proprietary interests:

"It is true that no question of boundary is involved, nor of direct property rights belonging to the complainant State. But it must surely be conceded that, if the health and comfort of the inhabitants of a State are threatened, the State is the proper party to represent and defend them. If Missouri were an independent and sovereign State, all must admit that she could seek a remedy by negotiation, and, that failing, by force. Diplomatic powers and the right to make war having been surrendered to the general government, it was to be expected that upon the latter would be devolved the duty of providing a remedy, and that remedy, we think, is found in the constitutional provisions we are considering."

Id. at 241. This analogy to an independent country was also articulated in *Georgia v. Tennessee Copper Co., supra,* at 206 U. S. 237, a case involving air pollution in Georgia caused by the discharge of noxious gasses from the defendant's plant in Tennessee. Justice Holmes, writing for the Court, described the State's interest under these circumstances as follows:

"[T]he State has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air. It might have to pay individuals before it could utter that word, but with it remains the final power. . . ."

". . . When the States, by their union, made the forcible abatement of outside nuisances impossible to each, they did not thereby agree to submit to whatever might be done. They did not renounce the possibility of making reasonable demands on the ground of their still remaining *quasi*-sovereign interests."

Both the Missouri case and the Georgia case involved the State's

interest in the abatement of public nuisances, instances in which the injury to the public health and comfort was graphic and direct. Although there are numerous examples of such *parens patriae* suits, *e.g., North Dakota v. Minnesota, supra,* (flooding); *New York v. New Jersey, supra* (water pollution); *Kansas v. Colorado,* 185 U. S. 125 (1902) (diversion of water), *parens patriae* interests extend well beyond the prevention of such traditional public nuisances.

In *Pennsylvania v. West Virginia,* 262 U. S. 553 (1923), for example, Pennsylvania was recognized as a proper party to represent the interests of its residents in maintaining access to natural gas produced in West Virginia:

"The private consumers in each State . . . constitute a substantial portion of the State's population. Their health, comfort and welfare are seriously jeopardized by the threatened withdrawal of the gas from the interstate stream. This is a matter of grave public concern in which the State, as representative of the public, has an interest apart from that of the individuals affected. It is not merely a remote or ethical interest, but one which is immediate and recognized by law."

Id. at 262 U. S. 592.

The public nuisance and economic wellbeing lines of cases were specifically brought together in *Georgia v. Pennsylvania R. Co.,* 324 U. S. 439 (1945), in which Georgia alleged that some 20 railroads had conspired to fix freight rates in a manner that discriminated against Georgia shippers in violation of the federal antitrust laws:

"If the allegations of the bill are taken as true, the economy of Georgia and the welfare of her citizens have seriously suffered as the result of this alleged conspiracy. . . . [Trade barriers] may cause a blight no less serious than the spread of noxious gas over the land or the deposit of sewage in the streams. They may affect the prosperity and welfare of a State as profoundly as any diversion of waters from the rivers. . . . Georgia, as a representative of the public, is complaining of a wrong which, if proven, limits the opportunities of her people, shackles her industries, retards her development, and relegates her to an inferior economic position among her sister States. These are matters of grave public concern in which Georgia has an interest apart from that of particular individuals who may be affected."

Id. at 324 U. S. 450-451.

This summary of the case law involving *parens patriae* actions leads to the following conclusions. In order to maintain such an action, the State must articulate an interest apart from the interests of particular private parties, *i.e.,* the State must be more than a nominal party. The State must express a quasi-sovereign interest. Although the articulation of such interests is a matter for case-by-case development -- neither an exhaustive formal definition nor a definitive list of qualifying interests can be presented in the abstract -- certain characteristics of such interests are so far evident. These characteristics fall into two general categories. First, a State has a quasi-sovereign interest in the health and wellbeing -- both physical and economic -- of its residents in general. Second, a State has a quasi-sovereign interest in not being discriminatorily denied its rightful status within the federal system.

> The Court has not attempted to draw any definitive limits on the proportion of the population of the State that must be adversely affected by the challenged behavior. Although more must be alleged than injury to an identifiable group of individual residents, the indirect effects of the injury must be considered as well in determining whether the State has alleged injury to a sufficiently substantial segment of its population. One helpful indication in determining whether an alleged injury to the health and welfare of its citizens suffices to give the State standing to sue as *parens patriae* is whether the injury is one that the State, if it could, would likely attempt to address through its sovereign lawmaking powers.
>
> Distinct from but related to the general wellbeing of its residents, the State has an interest in securing observance of the terms under which it participates in the federal system. In the context of *parens patriae* actions, this means ensuring that the State and its residents are not excluded from the benefits that are to flow from participation in the federal system. Thus, the State need not wait for the Federal Government to vindicate the State's interest in the removal of barriers to the participation by its residents in the free flow of interstate commerce. *See Pennsylvania v. West Virginia,* 262 U. S. 553 (1923). Similarly, federal statutes creating benefits or alleviating hardships create interests that a State will obviously wish to have accrue to its residents. *See Georgia v. Pennsylvania R. Co.,* 324 U. S. 439 (1945) (federal antitrust laws); *Maryland v. Louisiana,* 451 U. S. 725 (1981) (Natural Gas Act). Once again, we caution that the State must be more than a nominal party. But a State does have an interest, independent of the benefits that might accrue to any particular individual, in assuring that the benefits of the federal system are not denied to its general population. We turn now to the allegations of the complaint to determine whether they satisfy either or both of these criteria.

The term *parens patriae* has been explained in an equally important Law Journal authored by *Michael L. Rustad & Thomas H. Koenig* titled as '*Reconceptualizing Parens Patraie as Environmental Crimtorts*' in Harvard Law Journal, which reads as under: -

> "The "royal prerogative" and the "parens patriae" function of the King was imported from England into the U.S. legal system.174 The doctrine of parens patriae enabled the state to "make decisions regarding treatment on behalf of one who is mentally incompetent to make the decision on his or her own behalf, but the extent of the state's intrusion is limited to reasonable and necessary treatment." This "judicial patriarchy" gave the judges great discretion in protecting the welfare of minors and other vulnerable persons.
>
> The parens patriae doctrine is a well-established legal institution in the United States. "For more than a century, the Supreme Court has endorsed" parens patriae by the states "for the prevention of injury to those who cannot protect themselves," a category that includes vulnerable consumers. The U.S. Supreme

Court recognized that the "prerogative of parens patriae is inherent in the supreme power of every state, whether that power is lodged in a royal person or in the legislature [and] is a most beneficent function often necessary to be exercised in the interest of humanity, and for the prevention of injury to those who cannot protect themselves." After the American Revolution, the U.S. states extended this quasi-sovereign doctrine to cover "disputes between the interests of separate states with regard to natural resources and territory." The doctrine has a lengthy history of application to protect "rivers, the sea, and the seashore… [that] is especially important to the community's well being.

(2) Environmental Parens Patriae Actions -Parens patriae public nuisance claims for water and air pollution were used in several interstate environmental lawsuits in the early twentieth century. By the turn of the twentieth century, states were suing other states using their parens patriae powers to protect natural resources and territory. The United States Supreme Court decided an environmental parens patriae case in 1906, in Georgia v. Tennessee Copper Co. Here, the Court reviewed Georgia's request to enjoin a Tennessee manufacturing company from emitting sulphurous acid gas over Georgia's territory. These state versus state actions declined with the enactment of federal (and state) environment regulations.

(3)The Parens Patriae Action as a Fourth Branch of Government

Critics fear that the unseemly alliance of greedy trial lawyers and publicity-seeking government lawyers will undermine the public interest. Public health torts by state AGs raise the objectionable prospect of trial lawyers receiving multi-billion dollar payouts, among other public policy and ethical concerns. The state AGs solicited trial lawyers to pursue contingent fee lawsuits, which meant that if the state lost, the private attorneys would bear the expenses. The concern is that these contingency fee arrangements may prevent government lawyers from properly representing their state's citizenry. Cash-strapped states may be tempted to misuse the legal system by extorting concessions from deep-pocked corporations even when the legal liability is unclear. Financial, careerist and/or ideological incentives may encourage AGs to violate their fiduciary duty to protect the public, creating a crisis of legitimacy.

239 American Psychiatric Association, News Release, American Psychiatric Association Calls for Payment of Oil Spill Mental Health Claims (Aug. 13, 2010) http://www.psych.org/ MainMenu/Newsroom/NewsReleases/2010-News-Releases/Oil-Spill-Mental-Health-Claims-.aspx?FT=.pdf (last visited Aug. 26, 2010) ("'Mental illnesses brought on by difficult situations surrounding the BP oil spill may be less visible than other injuries, but they are real. An entire way of life has been destroyed, and this is causing anxiety, depression, posttraumatic stress disorder, substance use disorders, thoughts of suicide and other problems,' said APA President

Deborah Hensler, a prominent critic of these "social policy torts" asks whether it is appropriate for state AGs and trial lawyers to be bypassing the legislature in regulating by government litigation:

Social policy torts have been criticized as 'a form of regulation through litigation' in that attorneys general not only seek payments for government programs that help those who have been

injured but also seek changes in the business practices of the industries being sued. The tobacco litigation has inspired new private/public partnerships in handgun, lead paint, and managed care litigation. She asks whether it is good public policy to entrust changes in industry practice to private litigants. 'Should legislatures validate the results of privately negotiated lawsuit settlements?' Is it good social policy to permit private litigators to receive large fees from such litigation?

"During the course of this litigation, defendants sought a ruling by the Superior Court that the contingent fee agreement was unenforceable and void because, in defendants' view, said agreement (1) constituted an unlawful delegation of the Attorney General's authority and (2) was violative of public policy." State v. Lead Industries, Ass'n, Inc. 951 A.2d 428, 467 (R.I. 2008) (discussing ethic and public policy issues in the Rhode Island state AG action against lead paint manufacturers where law firms were to received 16.67% of the total recovery on behalf of the state);

243 Editorial, The Pay-to-Sue Business: Write a Check, Get No-Bid Contract to Litigate for the State, WALL ST. J. (April 16, 2009).

244A government lawyer's goal is to represent the sovereignty "whose obligation…is not that it shall win a case but that justice be done." Berger v. United States, 295 U.S. 78 (1935).

245 Michael L. Rustad, Smoke Signals from Private Attorneys General in Mega Social Policy Cases, 51 DEPAUL L. REV. 511, 514 (2001).

Despite these risks, a "de facto fourth branch of government" may be a pragmatic necessity. Hundreds of thousands of potential plaintiffs will not be able to find representation if no collective injury mechanism is available. Tort reforms such as caps on damages enacted in Gulf Coast states makes it likely that attorneys will screen out many worthy cases. To the extent that many businesses and others injured by the oil spill do not sue, there will be a problem of under-deterrence. Government-sponsored parens patriae lawsuits result in a deterrence gain from bringing cases not cost-efficient if filed by individual claimants. Crimtorts in parens patriae actions are public torts that punish corporate wrongdoers when regulators and prosecutors fail. In Part III of this essay, we suggest a principled approach to develop a system of checks and balances in these parens patriae actions."

The term *parens patraie* has also been dealt with by *Margaret H. Lemos* in '*Aggregate Litigation Goes Public: Representative Suits by State Attorneys General*' in *Harvard Law Review*, Vol.126 (486) as under: -

"A. Public Aggregate Litigation

In its modern form,22 the common law doctrine of parens patriae permits states to sue to vindicate sovereign or quasi-sovereign interests. The state's sovereign interests include "the power to create and enforce a legal code, both civil and criminal."24 Quasi-sovereign interests are harder to define, but include the state's "interest in the health and well-being — both physical and economic — of its residents in general."

Plainly, a state's interest in the well-being of its residents might overlap with the personal interests of the residents themselves, raising difficult questions about the relationship between public and private standing. In Alfred L. Snapp & Son, Inc. v. Puerto Rico — the leading modern case on the scope of parens patriae power — the Supreme Court stated that in order to establish common law standing as parens patriae, "the [s]tate must articulate an interest apart from the interests of particular private parties, i.e., the [s]tate must be more than a no-minal party." Thus, the state itself must have an interest in the case. Some courts have interpreted Snapp to preclude states from us-ing parens patriae authority to pursue damages that could be recov-ered through private litigation, on the view that the state in such cases is not the real party in interest.30 Properly understood, however, Snapp supports the majority view that the state's interest may be par-asitic on the interests of individual citizens. The Court explained that parens patriae authority will lie if the state acts on behalf of "its residents in general" rather than "particular individuals," and as-serts a "general interest" in the welfare of its citizens of the sort that a state might try "to address through its sovereign lawmaking powers." In other words, private interests can rise to the level of a quasi-sovereign state interest when sufficiently aggregated. The operative question is whether the injury in question affects a "sufficiently sub-stantial segment of [the state's] population." The Court has not sought to specify the necessary proportion, but the cases make clear that the affected population need not account for all or even most of the state's residents. Snapp itself "involved '787 [temporary] job op-portunities' for residents of Puerto Rico, which had a population at the time of about 3 million."

Even if the restrictive reading of Snapp were correct, it would have little bearing on the majority of cases, where the state's litigation au-thority derives not from the common law doctrine of parens patriae but from state or federal statutes that explicitly authorize the attorney general to sue on behalf of the state's citizens to redress particular wrongs. Modern federal consumer protection statutes frequently contain provisions empowering state attorneys general to sue as parens patriae to recover damages for state citizens injured by violations of federal law. Many state statutes, particularly in the area of antitrust, grant similar authority to their attorneys general. The only courts to consider the question have held that state actions under such statutes present cases or controversies that satisfy the irreducible minima of Article III standing in federal court. The federal courts have de-scribed parens patriae standing requirements as prudential, meaning that any limitations they contain can be abrogated by Congress. And, of course, the intricacies of federal standing doctrine have no bearing on state courts.

Doctrinal puzzles aside, states do use parens patriae actions to obtain damages and other monetary remedies for their citizens. As noted above, most state attorneys general also have statutory authority to pursue restitution on behalf of their citizens. Many states' consumer protection laws explicitly empower the attorney general to seek restitution, and others have been interpreted to embrace such a power. The differences between restitution and other monetary damages are immaterial for present purposes, and for ease of exposition I will adopt the common shorthand of referring to state suits seeking financial recoveries for identifiable citizens as parens patriae actions. Such suits run the gamut from multimillion-dollar, multistate treble-damages antitrust suits to

single-state actions against unscrupulous businesses that bilked residents out of a few hundred dollars.49 There is no easy way to identify the universe of relevant cases, in part be-cause they almost always settle. But attorneys general take pains to publicize their litigation successes, and their press releases paint a colorful picture of public attorneys going to bat for the "little guy" against a variety of bad actors.

B. Relationship to Class Actions

As others have recognized, parens patriae and other public actions that put money in the pockets of state citizens share much in common with damages class actions51: "The nature of these suits is to achieve broad compensation, to deter wrongful conduct by one or more defendants, and to focus on injuries to a large set of state citizens." In-deed, parens patriae suits often serve as a substitute for private aggregate litigation.53 In other cases, parens patriae and private class actions proceed in tandem, with public and private attorneys working together to seek common remedies. Like class actions, representative suits by state attorneys general adjudicate the rights of individuals who play no direct role in the conduct of the case. Although the case law on the preclusive effect of public aggregate litigation is surprisingly sparse, the prevailing view is that the judgment in a state case is binding "on every person whom the state represents as parens patriae."55 That view rests on the conventional principle that no party should get multiple bites at the apple: if a citizen's interests are advanced in litigation by the state, then that citizen is a "'part[y]' to the . . . suit within the meaning of res judicata."

Despite their apparent similarities, damages class actions and parens patriae suits are governed by markedly different procedural regimes. As described in more detail below, private class actions are subject to careful controls to safeguard the interests of class members and to ensure adequacy of representation. Scholars have used the terms "exit," "voice," and "loyalty" to describe the core procedural requirements for class actions — terms borrowed, quite intentionally, from literature addressing the rights individuals enjoy in more familiar governance schemes, including as citizens of a state. Perhaps unsurprisingly, therefore, most of those procedures have no bearing on suits brought by states themselves.

This section provides an overview of the procedural requirements for public and private aggregate litigation. The rules governing private class actions reflect the uneasy position that aggregate litigation occupies in the modern legal order. Aggregation offers an economical way of resolving multiple related disputes, but it collides with the venerable principle "that one is not bound by a judgment in personam in a litigation in which he is not designated as a party or to which he has not been made a party by service of process." Aggregate litigation also stands in tension with traditional notions of affirmative client con-sent — consent to be represented by a particular attorney, and consent to any settlement that the attorney negotiates.

In the context of private class actions, federal law has struck the balance in favor of claim aggregation, but only where it appears that aggregation is both efficient and fair. To that end, Rule 23(a) of the Federal Rules of Civil Procedure requires judges to scrutinize any pro-posed class action and to certify the action only if four requirements are satisfied: numerosity, commonality,

typicality, and adequacy of representation. The numerosity requirement ensures that there is some benefit to aggregation — that is, resort to the class mechanism should prove to be an economical way of resolving multiple disputes. The remaining requirements promote fairness by demanding that the representative parties share interests in common with, and will vigorously represent, the absent class members. Some, but not all, of the Rule 23(a) requirements apply to public aggregate actions by virtue of the basic standing rules outlined above. The common law rules governing parens patriae actions effectively in-corporate a numerosity requirement by demanding that the state act on behalf of a "sufficiently substantial segment" of its population. And, while courts assessing claims of parens patriae authority do not make any explicit inquiry into commonality, the fact that the state must assert an injury to the members of the parens patriae group — the equivalent of a Rule 23 "class" — effectively ensures that there will be some legal or factual questions common to the group.

Matters become more complicated when one turns to the requirement of typicality, because the state — the equivalent of the representative party in a private class action — may not be asserting a claim that can be analogized to a private plaintiff's claim. In an antitrust parens patriae action, for example, the state need not assert that it has suffered antitrust damages, but may simply claim an interest in remedy-=ing the antitrust injury suffered by its citizens. The state is therefore representing the parens patriae group in the way that an organization might represent its members, not in the way contemplated by Rule 23. And in cases where the state is asserting proprietary claims in addition to claims on behalf of its citizens, there is no judicial inquiry into whether the former claims are typical of the latter.

Most important for present purposes is the question of adequacy of representation. Rule 23(a) requires the certifying court to determine that "the representative parties will fairly and adequately protect the interests of the class." Rule 23(g) demands a similar inquiry regarding class counsel. These "loyalty" requirements transcend Rule 23, forming the bedrock constitutional protections for absent class members. Questions of adequate representation recede from view when aggregate litigation moves into the public sphere. Although it seems clear that a public suit should not preclude subsequent private litigation (either individual or aggregate) absent some assurance of adequate representation, there is no mechanism for an inquiry into the adequacy of representation in parens patriae suits akin to that mandated by Rule

23. At best, the question of adequacy could be addressed collaterally in a subsequent private suit seeking to relitigate the issues presented in the state action. Yet the available evidence suggests that courts will tend to presume that the attorney general will work diligently to vindicate the interests of the citizens whom he purports to represent.68 The Supreme Court has not addressed the issue directly, but it has re-served the question "whether public officials are always constitutional-ly adequate representatives of all persons over whom they have juris-diction when . . . the underlying right is personal in nature"— intimating that the litigant seeking to show inadequate representation by a state attorney general will face an uphill battle.

In addition to the certification provisions discussed above, Rule 23

requires the court in any class action to assess whether a proposed settlement is "fair, reasonable, and adequate." Although scholars have questioned the efficacy of the approval requirement, the purpose is clear enough. Judicial review of settlements supplements the front-end requirement of adequate representation by adding a second opportunity for scrutiny at the close of the case. As such, it helps ensure that lack-luster or conflicted representation does not saddle absent class members with a judgment that does nothing to advance their interests. Again, the requirement applies only to private actions. Some statutes prescribe a similar approval process for parens patriae settlements, but courts tend to rely heavily on the fact that the litigation is controlled by public rather than private attorneys. As one court put it, "[t]he Court cannot overlook the governmental nature of these parens patriae suits in which the primary concern of the Attorneys General is the protection of and compensation for the States' resident consumers, rather than insuring a fee for themselves." In other contexts, there is no require-ment whatsoever of court approval of public aggregate settlements.

The discussion thus far has focused on procedural requirements that apply to all class actions, regardless of type. Damages class actions — which bundle together what might otherwise be autonomous individual claims — must clear an additional set of hurdles.75 In order to certify a damages class under Rule 23(b)(3), the court must find that "the questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy." Both inquiries are designed to ensure that there is good reason to abandon the norm of individualized representation in favor of claim aggregation, and "further cement the cohesion between class representative and class members."

Neither finding is necessary in the typical parens patriae action. On the contrary, because the state is technically the sole plaintiff in a parens patriae suit, it can avoid difficult questions of predominance that might arise in a class action in which individualized evidence of injury or causation would be necessary. As for superiority, not only do courts forgo such an inquiry in public aggregate litigation, but they also tend to presume that public adjudication is superior to private alternatives. Thus, federal courts regularly permit parens patriae actions to take the place of class actions, holding that the class mechanism is an "inferior method of adjudication" if the attorney general is pursuing81 a parens patriae action seeking the same sort of remedies from the same defendant.82 The reasoning in the cases is spotty but tends to run along two lines. Some courts stress that government actions can avoid the difficult procedural requirements that apply to private class actions.83 On that view, public aggregate litigation is superior to a private class action simply because it is easier. Other courts express a preference for public litigation because it is public. They assume that the attorney general will ably represent the interests of the state's citizens. And, because the attorney general's fee will likely be far. Smaller than that of private counsel, courts reason that public representation will put more money in the hands of the interested individuals.

Finally, consider Rule 23(c), which mandates that the members of any damages class action be afforded "the best notice [of the class

ac-tion] that is practicable under the circumstances." The purpose of the notice requirement is to inform the class members that the case exists and to give them an opportunity to be heard in the action or to opt out of it. As others have explained, the rights of notice and opt-out "serve as 'procedural safeguards' of adequate representation" by bringing intraclass conflicts to light, encouraging class representatives to attend to absent class members' interests, and allowing those with conflicting interests to escape the preclusive effect of the aggregate judgment.89 Here, too, the requirements of Rule 23 take on constitutional overtones, as the Court has indicated that absent members of a damages class action may not be bound by the judgment if they do not enjoy rights of "voice" and "exit" — that is, if they are not afforded notice and an opportunity to be heard or to opt out of the class. And here, too, public aggregate suits are treated differently. Some statutes that authorize state parens patriae actions contain provisions for notice to the represented individuals. Notice by publication is the norm, though federal and some state antitrust statutes provide that the court may demand other forms of notice if it concludes that publication is inadequate to satisfy due process. Other parens patriae statutes93 — and all state statutes authorizing attorneys general to seek restitution for injured citizens — omit any requirement of notice.

Once again, the difference in treatment of public and private aggregate litigation seems to stem from a presumption that state attorneys general will protect the interests of the individuals they represent, making it unnecessary for those individuals to take a hand in (or ex-clude themselves from) the litigation. That presumption has been made explicit in the context of decisions considering whether private individuals may intervene in a public action under federal Rule 24. Proposed intervenors must show, among other things, that existing parties in the litigation will not adequately represent their interests.94 Normally, the movant's burden is "minimal" and "is satisfied if the applicant shows that representation of his interest 'may be' inade-quate."95 In a parens patriae or other representative governmental ac-tion, however, "a governmental entity is presumed to represent its citizens adequately." Although the presumption is rebuttable, most courts have erected a significant hurdle to intervention in such cases, requiring the movant to make "a strong affirmative showing that the sovereign is not fairly representing the interests of the applicant."97 That burden cannot be discharged simply by pointing to a disagreement over "litigation strategy" or the "type or amount of damages to be claimed." Instead, the movant must show that the governmental party is "ill-equipped or unwilling to protect" the asserted interest, that the "applicant's interest cannot be subsumed within the shared interest of the citizens,"101 or that the "parens patriae has committed misfeasance or nonfeasance in protecting the public."102

The prevailing approach to private intervention in parens patriae litigation stands in sharp contrast to intervention practice in damages class actions. As noted, Rule 23 ensures that absent members of dam-ages class actions receive notice of the action informing them "that a class member may enter an appearance through an attorney if the member so desires," and the Court has indicated that the Due Process Clause may demand such notice, together with an opportunity to be heard in the action.104 The upshot is that members of the class have an automatic right to take part in the litigation, and other individuals — those whose

> rights are not being directly adjudicated in the action — need only satisfy the "minimal" burden of Rule 24 to intervene. Yet when an individual's interests are represented by the state attorney general rather than another private party (and a private attorney), adequacy of representation is presumed and the individual has no procedural right to be heard.
>
> Given that parens patriae actions serve the same aggregative function as private damages class actions, one might expect the two categories of litigation to labor under similar procedural rules. As we have seen, the reality is quite different. To the extent that courts inquire in-to the adequacy of public representation, they tend to assume that the attorney general's "loyalty" to the individuals he represents is assured by his elected status.105 Therefore, the assumption seems to run, there is no need for a complicated set of procedural rules to protect the purported beneficiaries of aggregate litigation.
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> The remainder of this Article challenges the assumption of adequate public representation. Part II applies familiar critiques of class actions to parens patriae suits, demonstrating that many of the problems thought to bedevil private aggregate actions are present in state suits as well. In short, there is good reason to fear that state attorneys general will not in fact adequately represent the interests of the citizens whose rights are at stake in parens patriae suits. Part III returns to the question of procedure. There, I argue that the current state of affairs — in which state suits can supplant class actions while avoiding the elaborate procedures that govern private suits — violates fundamental principles of due process.

In yet another well-researched article, learned author Patrick Hayden, under the caption 'Parens Patriae Standing and the Path Forward, published in 'The Yale Law Journal' November, 2014 (Vol.124, No.2), has explained parens patriae as under: -

PARENS PATRIAE STANDING AND THE PATH FORWARD

> "The remedy to this problem might come from an unlikely source: the federal court doctrine of parens patriae standing. After all, the analytical issue at the heart of the perceived abuse is not one about removability or the superiority of the federal forum; rather, it is whether the state is truly acting as a state—not as a class action representative in disguise.
>
> This inquiry bears a striking resemblance to standing analysis: it asks whether or not the state is seeking to redress its own injury or that of only a handful of its citizens. This is precisely the inquiry that federal courts have developed in determining whether a state has standing to bring an action as parens patriae. Under Alfred L. Snapp & Son v. Puerto Rico and its progeny, a state may not proceed as parens patriae if it acts as "only a nominal party without a real interest of its own"; rather, it must "(1) articulate an interest apart from the interests of particular private parties, (2) express a quasi-sovereign interest, and (3)

allege injury to a sufficiently substantial segment of its population." This inquiry—which is independent from the question of removal under CAFA—is the appropriate analytical starting point for evaluating whether a state is abusing its authority to proceed as parens patriae.

Why, then, has the issue of standing been overlooked by those, like Chief Justice Roberts, who have puzzled over the tension between CAFA and parens patriae? One reason might be the view that standing doctrine governs only federal courts and does not control what the Mississippi Attorney General might do in the courts of his own state. This view is right as a formal matter but wrong in practice. The reality is that state courts have incorporated Snapp's standing requirements in determining whether the state attorney general has the authority to bring an action as parens patriae. In fact, state courts routinely apply Snapp's general standard—set forth by federal actors, including Chief Justice Roberts himself—to see whether the interests of their attorneys general are sufficient.47 State courts have often found that the state may proceed as parens patriae, but they have also often found such authority lacking.

Federal actors may therefore continue to play a role in determining what state attorneys general may do in their own courts by refining the law of parens patriae standing and allowing this law to filter down to the state courts. In particular, if federal judges are concerned about class actions masquerading as parens patriae actions to evade CAFA, then they could clarify that the availability of a class action for harmed individuals is a factor counselling against a finding of parens patriae standing. Considering the availability of class actions in parens patriae standing analysis is consistent with Snapp, since this consideration helps courts understand whether a state has an "interest apart from the interests of particular private parties." A state is less likely to have such an interest when its parens patriae action mirrors the class action "particular private parties" could bring instead. So by considering whether class actions would be available to private parties, courts would vindicate the core teachings of Snapp and clarify the relationship between class actions and parens patriae.

As an illustration of this approach, the Supreme Court of New Hampshire recently considered the availability of class actions as an alternative to a parens patriae action. Remanding the state's action against gasoline suppliers seeking damages for groundwater contamination, the New Hampshire Supreme Court explained that in evaluating the state's parens patriae authority, the trial court should consider as a factor whether individual property owners could bring a class action against the gasoline companies.51 By adopting this consideration in analyzing parens patriae standing, federal courts thus prevent the use of parens patriae to evade CAFA; states would generally not be able to bring parens patriae actions where class actions are available, and the injured individuals would be forced to bring a separate action—one likely subject to CAFA's provisions.

The question of whether class actions are available should be practical in nature. The goal I endorse here is to limit the use of parens patriae to situations in which private litigants cannot, as either a formal or practical matter, bring suit on their own. In some cases, the practical availability of a class action will be obvious based on real world examples of class actions asserting identical or similar claims. In Hood, for example, over one

hundred claims against LCD manufacturers had successfully been certified as class actions before Mississippi filed a similar claim. In other instances, however, a court may need to consider several factors in evaluating the feasibility of a class action. These factors could include, for example, procedural barriers, such as sovereign or statutes of limitations,54 that may stand in the way of a class action but not a parens patriae suit. Courts could also consider the challenge of ascertaining class members, the amount of recovery sought,56 and the relative resources of the parties in determining whether a parens patriae claim could instead be brought as a class action. These factors will, of course, be resolved as a matter of degree, but courts could apply them flexibly with the goal of ensuring that a state becomes neither beholden to class action lawyers nor incapable of protecting those of its citizens who cannot protect themselves.

This Comment thus proposes that courts engaging in parens patriae standing analysis consider the availability of class actions as a factor counting against standing. This approach yields three key advantages over the most obvious—and most likely—alternative: a legislative fix providing for the removability of parens patriae actions to federal courts. First, the standing-based approach preserves the states' general ability to sue in their own courts. As a result, this approach respects the states' dignity and sovereignty interests, provides the convenience that state attorneys general want in accessing courts, and—given the role of state attorneys general as regulators whose actions often jump-start national regulation—provides for the variance and experimentation across court systems that makes the most of the modern state attorney general's role. Second, the standing-based approach is preferable to amending CAFA because it is analytically cleaner: whereas any amendments to CAFA necessarily involve questions regarding the superiority of one forum over another, standing analysis allows decision makers to focus squarely on the issue of whether a state attorney general is truly acting on behalf of the state's citizens, without allowing concerns about removability and forum to cloud the analysis.

Finally, as a matter of institutional competence, state courts are likely superior at determining whether their attorneys general are truly representing state interests. Whereas federal courts may balk at questioning a state's self-stated interest in suing as parens patriae, state courts—however less effective they might be in managing class actions—are perfectly capable of distinguishing between "real" state interests and private actions under the veil of parens patriae. So, for example, a New York judge can determine whether its attorney general has parens patriae authority to challenge excessive executive compensation at a stock exchange, while a Mississippi judge can determine whether a scheme to fix the prices of certain household goods affected a sufficient number of households in its state to support parens patriae authority. To summarize, the standing solution is superior to a legislative fix because it allows the right actors to do the right analysis in the right forum."

Besides our constitutional and legal duties, it is our moral duty to protect the environment and ecology.

The terms 'Morality and Law' have been explained in article written by '*Peter Cane*' under the caption 'Morality, law and Conflicting Reasons for Action' reported in the Cambridge Law Journal (March, 2012), Vol.71, 2012 C.L.J. as under:-

> "Law and morality are both concerned with practical reasoning- that is , with reasoning about what to do, what goals to aim for and what sort of person to be. In this sense, both law and morality are about right and wrong, good and bad, virtue and vice. These contrasts are "normative" : they express value judgments. Sometimes the terms "moral" and "morality" are used in contrast to "immoral" and "immorality" to distinguish normatively between right and wrong, good and bad, virtue and vice. In the similar way, what is "legal" may be contrasted with what is "illegal", "legality" with "illegality". On the other hand, the terms "morality" and "law" may also be used to distinguish between different aspects of social life and different domains of practical reasoning. Thus morality may be contrasted with tradition or etiquette or custom and, of course, with law. We may, that is, use the words descriptively, contrasting the moral not with the immoral but with the non-moral."

Mr. Praveen Kumar apprised that in compliance of the judgment rendered by this Court, a sum of Rs.662.00 crore has been released for setting up of Sewage Treatment Plants etc. He further apprised the Court that a sum of Rs.200.00 crore has also been released for rejuvenation of River Ganga as per the judgment of this Court. Thus, a total sum of Rs.882.00 crore has been released by the Union of India for the rejuvenation of River Ganga. He further apprised the Court that 18 Crematoriums are under construction and tender process for 10 Crematoriums has started and construction of 40 Crematoriums is under pipeline.

Mr. Ishwar Singh, Legal Advisor, NAMAMI Gange has drawn the attention of the Court to the Notification issued by the Government of India on 7.10.2016, whereby, the Ministry of Water Resources,

River Development and Ganga Rejuvenation has issued the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.

Rivers and Lakes have intrinsic right not to be polluted. Polluting and damaging the rivers, forests, lakes, water bodies, air and glaciers will be legally equivalent to harming, hurting and causing injury to person.

Rivers, Forests, Lakes, Water Bodies, Air, Glaciers and Springs have a right to exist, persist, maintain, sustain and regenerate their own vital ecology system. The rivers are not just water bodies. These are scientifically and biologically living.

The rivers, forests, lakes, water bodies, air, glaciers, human life are unified and are indivisible whole. The integrity of the rivers is required to be maintained from Glaciers to Ocean.

However, we would hasten to observe that the local inhabitants living on the banks of rivers, lakes and whose lives are linked with rivers and lakes must have their voice too.

The rivers sustained the aquatic life. The flora and fauna are also dependent on the rivers.

Rivers are grasping for breath. We must recognize and bestow the Constitutional legal rights to the 'Mother Earth'.

The very existence of the rivers, forests, lakes, water bodies, air and glaciers is at stake due to global warming, climate change and pollution.

Trees are the buffer zone necessary to protect the glaciers from direct and indirect heat. One tree sustains life of thousand of insects. Birds chirp and make their nests on the trees. Trees are mini-reservoirs and have a capacity to store the water. The water stored by the trees is released slowly. The Oak tree preserves about 75,000/- gallon of pure water. Plucking of one leaf, grass blade also damages the environment universally.

The leading civilizations have vanished due to severe droughts. Water is elixir of life and we must conserve and preserve every drop of water. The value of water should not be undermined only for the reason that it is still available in plenty.

The past generations have handed over the 'Mother Earth' to us in its pristine glory and we are morally bound to hand over the same Mother Earth to the next generation.

With the development of society where the interaction of individuals fell short to upsurge the social development, the concept of juristic person was devised and created by human laws for the purposes of the society. A juristic person, like any other natural person is in law also conferred with rights and obligations and is dealt with in accordance with law. In other words, the entity acts like a natural person but only through a designated person. For a bigger thrust of socio-political-scientific development, evolution of a fictional personality to be a juristic person becomes inevitable. This may be any entity, living inanimate, objects or things. It may be a religious institution or any such useful unit which may impel the Courts to recognise it. This recognition is for

subserving the needs and faith of the society. All the persons have a constitutional and moral responsibility to endeavour to avoid damage or injury to nature (*in damno vitando*). Any person causing any injury and harm, intentionally or unintentionally to the Himalyas, Glaciers, rivers, streams, rivulets, lakes, air, meadows, dales, jungles and forests is liable to be proceeded against under the common law, penal laws, environmental laws and other statutory enactments governing the field.

Corpus Juris Secundum, Vol.6, page 778 explains the concept of juristic persons/artificial persons thus: "Artificial persons. Such as are created and devised by human laws for the purposes of society and government, which are called corporations or bodies politic." A juristic person can be any subject matter other than a human being to which the law attributes personality for good and sufficient reasons. Juristic persons being the arbitrary creations of law, as many kinds of juristic persons have been created by law as the society require for its development. (*See Salmond on Jurisprudence 12th Edition Pages 305 and 306*). Thus, the Himalayan Mountain Ranges, Glaciers, rivers, streams, rivulets, lakes, jungles, air, forests, meadows, dales, wetlands, grasslands and springs are required to be declared as the legal entity/legal person/juristic person/ juridicial person/moral person/artificial person for their survival, safety, sustenance and resurgence.

Miscellaneous Application (CLMA 2924/2017)

By way of this application, it is stated by the petitioner that despite the judgment of this Court, still beggars are found on the Ghats of Haridwar. The District

Magistrate, Haridwar is directed to ensure that the Beggars are not allowed to be present on the Ghats. The application stands disposed of.

Accordingly, the following directions are issued: -

1. The Union of India is directed to complete the tender process of 10 Crematoriums within eight weeks. Codal formalities for remaining 40 Crematoriums be also completed within three months.

2. We, by invoking our *parens patriae* jurisdiction, declare the Glaciers including Gangotri & Yamunotri, rivers, streams, rivulets, lakes, air, meadows, dales, jungles, forests wetlands, grasslands, springs and waterfalls, legal entity/ legal person/juristic person/juridicial person/ moral person/artificial person having the status of a legal person, with all corresponding rights, duties and liabilities of a living person, in order to preserve and conserve them. They are also accorded the rights akin to fundamental rights/ legal rights.

3. The Chief Secretary, State of Uttarakhand, Director NAMAMI Gange Project, Mr. Praveen Kumar, Director (NMCG), Mr. Ishwar Singh, Legal Advisor, NAMAMI Gange Project, Advocate General, State of Uttarakhand, Dr. Balram K. Gupta, Director (Academics), Chandigarh Judicial Academy and Mr. M.C. Mehta, Senior Advocate, Hon. Supreme Court, are hereby declared the *persons in loco parentis* as the human face to

protect, conserve and preserve all the Glaciers including Gangotri & Yamunotri, rivers, streams, rivulets, lakes, air, meadows, dales, jungles, forests wetlands, grasslands, springs and waterfalls in the State of Uttarakhand. These Officers are bound to uphold the status of these bodies and also to promote their health and well being.

4. The Chief Secretary of the State of Uttarakhand is also permitted to co-opt as many as Seven public representatives from all the cities, towns and villages of the State of Uttarakhand to give representation to the communities living on the banks of rivers near lakes and glaciers.

5. The rights of these legal entities shall be equivalent to the rights of human beings and the injury/harm caused to these bodies shall be treated as harm/injury caused to the human beings.

6. There shall be a direction to the respondent no.2 to strictly comply by the judgment dated 02.12.2016 and to ensure that the industries, hotels, Ashrams and other establishments, which are discharging the sewerage in the rivers, are sealed.

7. Now, as far direction no.'A', issued vide judgment dated 02.12.2016, is concerned, the Union of India is directed to reconcile the constitution of Inter-State Council under Article 263 of the Constitution of India vis-à-vis the Statutory Authority created under Section 3 of the

Environment (Protection) Act, by making it Ganga specific, and the decision, to this effect, be taken within six months instead of one month, as undertaken by Mr. Praveen Kumar, Director (NMCG).

The Court appreciates the timely release of a sum of Rs.862.00 crores by the Union of India. The Court also places on record its appreciation for the sincere concern shown by Ms. Uma Bharti, Minister, Water Resources, River Development & Ganga Rejuvenation, Dr. Amarjit Singh, Secretary, Ministry of Water Resources, River Development & Ganga Rejuvenation, Mr. U.P. Singh, Director General (NMCG), Mr. Praveen Kumar, Director (NMCG) and Mr. Ishwar Singh, Legal Advisor, NAMAMI Ganga Project for their untiring efforts made to save River Ganga in particular and environment in general.

All pending applications stand disposed of in the above terms.

(Alok Singh, J.) **(Rajiv Sharma, J.)**

Rdang