



TAMIL NADU ASSOCIATION OF SENIOR PROFESSIONALS OF ENVIRONMENT AND FORESTS (TASPEF)

நமது வனம்

Namathu Vanam

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BIRTHDAY WISHES

The Editorial team wishes all the members who are celebrating their birthday in the months of January, February and March 2018.

'A VERY HAPPY BIRTH DAY'

From the Chief Editor's desk

Tamil Nadu Association of Senior Professionals of Environment and Forests (TASPEF) have been in existence as a registered organization since 2007. As a Professional body, comprising of veteran foresters who spent three to four decades of service in pursuit of excellence in their area of operation in forestry and environment, the Association had in the past undertaken many consultancy projects for the Tamil Nadu Forest department under the guidance of senior veterans, who hold expertise in forestry and environment. Currently, the organization has made many proposals to various agencies for consultancy works in the fields of forestry and environment.

One of the long felt needs for the Association is to function from a permanent office building, for which it pursued the request for allotment of an office space for the functioning of the body and for commencing the publication of an e-magazine by TASPEF. The Principal Chief Conservator of Forests and Head of Department Dr.H.Basavaraju, IFS has been kind enough to accede to this long pending request. He issued necessary permission to TASPEF to take over an office room in the 4th Floor of Forest department premises in the DMS complex. The Association fondly acknowledges this gesture of the department. In tune with the stated purpose, the first issue of the quarterly e-magazine of TASPEF 'Namathu Vanam' has been got ready and is before the readers.

At this juncture, we wish the members a very happy new year and request the members to contribute thought-provoking and interesting articles, reports, anecdotes etc to the e-magazine.



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FOREWORD

I am very happy that a quarterly e magazine “*Namadhu Vanam*” has made its grand debut. Tamil Nadu Association of Senior Professionals of Environment and Forest (TASPEF) was started in 2007 with a purpose of using the immense knowledge of the retired forest officials to share their knowledge and experience in the vast realm of their past experiences in Forest Department. I find this as a unique link between the veterans and the serving young officers so that the wisdom is passed on seamlessly.

I hope this e magazine will enrich the Forest and Wildlife management of our State to a great extent. Forestry is fast emerging as a critical science in an era dominated by challenges in environment and ecology in view of unabated global warming factors throughout the world. The young generation officers are in need of documentation of the past management practices and would like to have a glimpse at the past history to sharpen their real-time management. In this context “*Namadhu Vanam*” will be of immense help to the Forest Department

TASPEF has already proved to be an able ally of Tamil Nadu Forest Department and this e magazine will provide a good opportunity to maintain a continuous communication.

I hope that serving forest officials and the interested foresters will stand to gain a wealth of knowledge from this publication.

I congratulate TASPEF for their efforts and extend my best wishes.

Dr. H. BASAVARAJU

RANDOM THOUGHTS ON URBAN GREENING

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Background:

India is a land of rich cultural and natural heritage. Its people venerated trees, plants and its wild animals in the past, which tradition continues even to this day. The country boasted primarily of an agrarian economy with nearly 90 per cent of its population living in its villages not long ago. But with shift on emphasis to the industry-based economic growth in the post-independence period and the successive Governments' thrust in boosting the development sectors, pushed the speed of urban migration. This resulted in the expansion of cities and towns and large scale migration of people towards urban centres in search of livelihood. Modernity brings along with it several ills. Urbanization has two characteristics associated with it. Too many people occupy much lesser land mass, meaning thereby human density is astoundingly higher in urban agglomerates. Take the case of Tamil Nadu. While population density is about 555 per sq.km as on 2017, nearly 26,900 people cram over a sq.km land surface in a city like Chennai. Such increased numbers of people place far greater demand for living space and several other basic resources like transportation, water supply, sewerage, sanitation and domestic waste management. Enhanced demand for urban land for the installation of different basic amenities-related infrastructure leaves much less land for any meaningful greenery development. The consequence is that urban Indians are forced to live in concrete jungles, disconnected from natural wooded groves and forests. In the process, various ecological services provided by the trees are becoming a rarity to the urbanites.

Case of Chennai:

Being one of the highly urbanised states, nearly 45% of Tamil Nadu's population live in its urban areas. Trees in urban environment provide shade, sequester carbon, remove atmospheric pollutants, reduce ambient temperature and noise, moderate wind velocity, regulate surface run-off, and provide aesthetic and other recreational benefits. Incidentally, with 10 percent of its surface area alone covered with tree cover, Chennai compares poorly with the other capital cities of the country like Chandigarh, New Delhi and Bengaluru. Tree population is largely confined to a very few pockets like city's notified forests, large institutional campuses and industrial premises that serve as green lung of the city. In the back drop of scarce green cover, trees routinely fall prey to various development requirements. Furthermore, natural phenomena like storm surge, hurricane, cyclone, heavy rain fall and tsunami that frequently visit the coastal city cause extensive damage to the standing trees and other vegetation and in the process create open spaces all around. Cumulative impact is that the city and its suburban areas suffer extensive loss of both natural and man-made green cover.

Constraints in urban greening:

Restoration of the lost vegetation and creation of fresh green cover call for maintaining dedicated land parcels- compact blocks and/or linear spaces. Usually space required for tree development in an urban area, where land is at a premium, is considered as a luxury in the context of the demand for land for many competing uses. Even the land surface devoted for the existing greenery sometimes becomes unavailable due to the unplanned development of pedestrian paths, laying of underground cables, pipelines for water supply and sewerage, storm water drains, overhead electricity lines etc.

Many options are considered relevant to augment green cover in urban areas, even within the framework of operational constraints. They are enumerated as below:

- Several isolated hillocks or plain forests under the control of forest or revenue department lie scattered in the heart of Chennai and in the peri-urban areas. Considerable gaps exist in these notified forests and revenue hillocks. They are amenable for afforestation with suitable indigenous species of trees and shrubs. Our experience in the past shows that relatively open and sparsely vegetated areas were transformed into lush green hillocks through active intervention by the Forest department.
- In the Greater Chennai area, the Corporation owns large parcels of open space that are meant for development as parks and gardens. These areas should not be diverted for any other form of land use and reserved only for raising appropriate tree species or shrub plants. The same principle should be applied to Open Space Reservation (OSR) areas set apart by the plot owners and handed to the local body, as per the provisions of the Town and Country Planning Act.



An urban tree park

- Most of the multi-storey building complexes and individual plot owners need to follow certain set back area norms around the buildings. These norms are mostly violated by the promoters, which has to be put down by proper monitoring. These areas provide good scope for planting appropriate species of short trees and shrubs.

• Large number of industries has been established in various industrial complexes within city limits or in its periphery. Industries are required to set apart 33% of their area for green belt development at their cost, which is fixed as a condition in the environment clearance under the provisions of relevant act. However, many industries never comply with this condition in full, which must be enforced on ground by the respective agencies.

• Linear plantations often suffer the onslaught of infrastructure development in urban centres, as most of the infrastructures are built at a random phase, without any semblance of order or sequence. Installation of infrastructure relating to different amenities doesn't occur parallelly in any planned manner. For example, the road opened up and relaid after laying a water supply pipeline sometime back is again dug within a few months for carrying a OF Cable and so on. Planned and holistic development of each stretch of road with suitable allocation of space for planting is a *sine qua non* for developing lasting greenery.



An ideal avenue plantation

- Pedestrian pathways made of concrete pavements or tiled segments are seldom kept free of pavement hawkers or encroachments from roadside shops. Such encroachers never want a tree to stand as an obstruction against their business activities. The trees very often fall victim to the vandalism from such perpetrators.

- Existing standing trees many times fall prey to the concrete development by resorting to end-to-end surfacing of road margins, resulting in blocking of the circumference around the trees, thus disallowing infiltration of rain water around the plants. Careful exclusion of at least one metre radius around the tree trunk by avoiding the laying of concrete or paver blocks will ensure water availability.
- Even in a big city like Chennai, passing of overhead power transmission lines has not been totally done away with. In the course of routine periodical maintenance of the power lines, men of the electricity board hack the trees very severely

affecting well grown tree crowns. Trees as a consequence fail to discharge their beneficial role. Can't the concerned agencies replace the overhead lines with underground cables as a onetime solution?

The solution lies in drawing road and street wise comprehensive plan for the greener development in case of linear stretches and block wise planting plan in respect of compact areas. Such a plan needs to incorporate appropriate strategy that would include proper identification of planting zones using GPS, followed by development of plantation maps. There should be a tree planting policy for urban areas.

RANDOM THOUGHTS ON FOREST AND WILDLIFE MANAGEMENT IN SEARCH OF SOLUTION FOR HUMAN WILDLIFE CONFLICT - A LONG WAY TO GO!

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I would like to share some of my learning during the course of my three and a half decades of forest service and intense field works for evaluation by the readers. My field observations and the inferences are shared with you so that my postulations can be co-related by the readers with their field observations.

1. Water availability to wild animals and our interventions:

The bore wells – Excessive tapping of ground water leads to dropping of water table level resulting in drier surface and death of grass, other annuals and perennial flora. Resultant fodder shortage drives the herbivores towards cultivated lands and water trough satisfying water needs of elephants the carnivores follow the herbivores. And the situation becomes ripe for Human Wildlife Conflict / Competition for resources. The department has made several initiatives, particularly to tide over the pinch period. Provision of water troughs and filling them with water from energized bore/open wells is commonly practised.



Water trough satisfying water needs of elephants

Depth of the water trough – The depth need not be more than a foot for our water troughs. This way we can avoid dead storage of water in the trough which the animals cannot reach and also leads to wastage of scarce water resource. Periodic visiting and cleaning the trough is easy and these visits will reduce the risk of poachers using the site for poaching by traps, shooting and poisoning the water. We should avoid providing water to the trough in rainy season. Use this time for cleaning and maintenance works.

Water management - Provide just adequate water and not excess water in the troughs, water management based on consumption by the animals is the need of the hour. In some bore wells, I have observed the continuous pumping of water and the excess water forming a small swamp near the trough or forming a small rivulet. This is sheer waste of water. Some argue that this excess water allows the animals to wallow in the mud etc. Since water table is not in adequate, one we will soon find the drying up of the bore wells and animals will be left in lurch. Conserve and economise water usage to the bare minimum need.

Contra view – There are contra views in providing water supply for the wild animals in artificial water storage points. The noted Conservationist Dr Ullas Karanth* observes, that “One of the guiding principles of wildlife management in conservation areas is that the natural population dynamics of animal populations should not be interfered with. Wildlife populations are entirely different from domestic animals, which have to be fed, watered and maintained at economically viable densities through human interventions for human consumption. On the other hand, wildlife populations must undergo natural stressors such

* Ullas Karanth, K and N. Samba Kumar. 2013. Replenishing Water Tanks in Wildlife Reserves: How Scientific? In Conservation India, February 20, 2013

as droughts, disease etc. and should get impacted by cycles of lower survival rates and densities as well as increases in these. Successive and massive habitat modifications in the form of continually providing water sources over the past three decades have already caused huge unnatural interference in these natural population dynamics in Nagarhole and Bandipur leading to artificially high densities of some species and shrinkage of distribution of others. The current drought, cyclical flowering of bamboo etc. are natural evolutionary stressors that must now be allowed to prevail and shape the evolutionary and ecological fitness of these populations in these areas". This issue needs to be debated in the light of degradation of habitats in recent years, read with the need for human intervention to counter natural loss.

2. Fodder and food supply to wild herbivores:

According to a study conducted by The Tamil Nadu Veterinary and Animal Sciences University and published in the Indian Veterinary Journal**, the total live stock population in the state is about 81.46 lakh ACUs. (Active Cow units) of which cattle constitute 71.72 per cent, buffaloes 18.24 per cent and sheep and goats put together form the balance 10.04 per cent. While the total availability of green fodder in the State was 328.60 lakh tons and the requirement was only 297.34 lakh tons. There is a surplus of green fodder to the tune of 31.26 lakh tons.

** Thirunavukkarasu, M., V.M. Sankaran, G. Kathiravan and R. Karunakaran. 2012. Green Fodder Availability in Tamil Nadu – A District Wise Analysis. *The Indian Veterinary Journal*, 89(10): 18 - 20 October, 2012.

Fodder Regeneration: This is an advantage for the Forest department to procure and supply fodder in the reserves where there is crop raiding

by the elephants and other large herbivores. Though this may sound outlandish, it is worth trying to avoid loss of human lives and precious crops, which are the lifeline for the farmers. Apart from this, as was tried in a limited scale in the Sathyamangalam Tiger reserve and many other divisions in the elephant tract, sowing of seeds of annual fodder species like millets along with sowing seeds of perennial fodder crop too needs to be done in the monsoon season at least for five consecutive years.

NTFP / Tamarind Collection: Tamarind collection in elephant populated areas needs to be dispensed with. I have seen these persons stray deep into the forests and burst crackers to scare the elephants away and keep cooking fire on throughout the night. Creating too much disturbance to the wildlife like elephants results in their movement away from deep forests to avoid them and come to periphery and there too they are disturbed. In this situation the elephants become angry and confused resulting in serious conflicts often. Tamarind trees that bear fruits in summer when most fodder supply is almost nil, comes as a boon and distress food for animals like deer, monkeys, elephants, wild boars etc. Similarly, in high animal density areas, NTFP collections can be stopped or efficiently regulated.

Snippet:

During my sojourns into the forests across the State and through interaction with field staff, I have found that there is a marked decrease in the population of smaller mammals. It is time for us to conduct programmes, aimed at estimation and restoration measures for lesser mammals in forests. Excessive or exclusive importance to tiger alone should be debated too.

BIOMIMICRY APPLICATIONS FOR HUMAN BENEFITS

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The term ‘biomimicry’ is a recently introduced word for explaining how to mimic a nature’s principle for the application of human benefit. The human benefit here includes all types of benefits such as monetary, economical, social, business, health , management etc. According to the Biomimicry Institute, the biomimicry application applies to ‘incorporating nature’s time-tested strategies into products, organizations and services’. During recent years, lot many problems and questions are found difficult to solve even with the latest technological developments. Under such circumstances, the major question before us is where to get proper answer or correct solutions for solving our difficult or unsolved issues or problems.

The best teacher for solving our difficult problem is the ‘Nature’. The Nature refers to all those living and non-living things that are not controlled or influenced by human activities and functioning or living as per the Nature’s decisions.

Why Nature’s selections are superior?

During the evolutionary process say, millions of years, animals, plants, atmosphere matters etc. might have faced so many hardships and hurdles and many might have vanished while many might have developed résistance or adaptations and survived over all those hurdles and stabilized and successfully surviving now.

Thus, what we are seeing in Nature are time tested and successfully evolved life or life system. These natural plants and animals never go against the nature nor do any harm to nature. Nobody question the nature’s decisions because their decisions are time tested and proved effective and correct. On the other hand what the human being

say or decide are all subject to questioning as they are not time tested under various situations. Thus we see many of the observations / findings that were said to be working for some periods ago, now found to be wrong or problematic. We can site so many examples for this. One best example that many of us have witnessed is application of DDT, a chemical that was widely used for the eradication of mosquitoes. However, later it was found to be harmful pollutant against human health. Another best example is white sugar, which is even now used widely, found to be harmful to our health. However, there are many naturally available substances produced by the plants that are found to be effective and harmless to human health. In other words the solutions that we are getting from nature are not only effective but also safe and easily acceptable to our body. Because, we also evolved along with the nature surrounding us.

Most of our inventions are against the Nature or nature’s principle. As a result, they many times fail and could not survive for a longer period. The time has come, we now seriously think of going with nature and nature’s principle in order to avoid adversity in future. We seek solutions for our problems without affecting nature and its principle. Many times easy solutions and applications are available in Nature that are not only cost effective but also unique. For example, deriving a design for our fabric industries from butterfly’s colourfully designed wings is the nature’s gift (see fig.1).



Fig. 1. Fabric design mimicked from butterfly wings

Now we will see here some of the diversified applications of Nature and nature's principle in various industries. Management science, Social science and Medical science are some vital areas in science where the applications of the biomimicry principles are invaluable to mankind.

Application of Biomimicry principles in Management Studies:

Utilization of Management principles in our modern management of business or industries are part of management techniques. These provide effective management strategies and help the management to solve problems. Although such management principles are man-made based on experiences, the nature already developed several management principles that are now practiced in our modern day management. One such management strategy is the 'Team work' principle. Although these principles were derived by men recently by experience and practice, these had been already developed and followed by ants millions of years of their evolution. These time-tested principles derived by the nature are unquestionable for their reality and success. If we critically study the life of insects or any other animal groups, we may find out many such principles for practicing in our management system.

The following are some teamwork principles that are taught and practiced by major industries. But, on critical study of ant's way of 'team work', it is surprising to know that, these principles are already found in ants' team work. Let us see some of the facts of Ant's way of life and find out how they fit with the man made management principles.

Fact 1

In a colony of ant, there is a team work with different specialists performing their duties

assigned to them according to their specialization. The queen ant specializes in laying eggs, whereas, different groups of workers, being morphologically specialized, take on different tasks which are most fitting to their size and morphology.

Management Principle: 'The basic idea behind constituting teams is to leverage diverse talents and achieve synergistic effects'

Fact 2

Minor workers are specialized for killing the prey and they involved more in numbers in this task than major workers. Whereas, for the task of carrying the prey, both major and minor are involved almost in equal numbers.

Management Principle: 'Right mix of talents ensures team success'

Fact 3

In ants, the queen carries out reproduction of the whole colony, whilst the remaining task of colony maintenance, brood care, and foraging are all taken on by her workers. This may seem like an unfair, feudalistic relationship, which at first glance makes little evolutionary sense. The Natural selection favours, whilst the queen specializes in laying eggs, the workers are freed from reproductive duties, which allow them to concentrate on other tasks. This leads to exceptional colony efficiency. Here, the natural selection favours only the team spirit of cooperation and not competition among team members.

Management Principle: 'Team spirit is not competition (me vs. others) but cooperation (me with others)'.

Fact 4

The ants (*Pheidolegeton diversus*) engaged in cooperative transport can hold at least ten times more weight than do solitary transporters"

Management Principle: ‘The joint efforts will help to achieve goals quicker and produce incredible results’

Fact 5

In army ants, the Minor workers participate in large numbers in the task of killing in which they have specialization. Whereas, the Major workers are more involved in transporting task. (Fig.2). Similarly, in Leaf-cutter Ants, the huge Major worker groups are involved in cutting and carrying the leaves to the nest site, while the tiny minor worker groups work inside the nest, chewing the big leave into small pieces and use it for feeding the colony. Thus, there is a distinct division of labour according to their specialization and each specialist are free to carry out the task according to their specialization.



Fig. 2. Team work in Ants: Smaller members involved in killing the prey while larger members take up the work of carrying and transporting the killed prey

Management Principle: ‘In a team, the members are free to focus on what they are good at, leaving the rest to others with distinct skill’.

All the above team-work principles followed in our modern management systems are now unquestionable as, these are derived and practiced by the ‘Nature’ for thousands of years.

Similarly, ‘outsourcing’ is a common management technique followed in many business. This outsourcing business technique was evolved and is being practiced by one group of ants. This may be discussed in detail later in another issue of this journal.

Now let us see some examples of biomimicry applications that are applicable for better our social life.

What sort of our marital system well fitted to nature and long lasting? Practicing ‘monogamy’ or ‘polygamy’? If we ask this question to our population, the answer would be varied depending on religion or culture. But, there exists one system that Nature has developed. The answer is well available in Nature. If we study the social life of birds, we could understand what type of family life the majority of the bird species are following. It is surprising to note that more than 90% of the bird species of the world are practicing monogamous style of life (ex. Egrets, Ibis, storks, penguins etc) and only a few groups of birds are polygamous (ex. the peasant / peacock groups). Another surprise is that if we go through the body morphology of the male and female monogamous birds, both male and female almost look similar and it is difficult for us to find out the sexual differences in the body appearances of these birds (fig.3). Another interesting character of these monomorphic birds is that in these birds both male and female take part in parental care such as nest building, brooding, and feeding the young ones etc. In the evolutionary process, the nature selected only the birds that practice monogamy and they survived better than the polygamous groups. The polygamy group of birds slowly vanished whereas, the monogamous bird species evolved further and further and survived better resulting in more number of species are now belong to monogamous species.



Fig. 3. A pair of male and female penguins showing monomorphism

The nature's lesson here is that for a better survival of the human species, the practice of monogamous social life has got better survival value!

Can Nature provide solution for cancer?

We can say yes to this question. After exploring various possibilities to fight against cancer, now scientist started seeking answer from Nature. Now Scientists come to know that some genes are responsible for fighting against abnormal cells like, cancer. If such genes get mutated and become malfunctioning, the control of cancer cell appearance becomes weakened resulting in appearance of cancer cells. When the scientist search for a solution from the animals, they found that in the animal kingdom, there is one mammal, Elephant, which is rarely affected by tumour /

cancer cells. The reason they found was that in elephants their cells possess 16 pairs of p53 genes. Whereas, the human cell has only one pair of this p53 gene. This is the gene responsible for destroying all abnormal cells including the cancer cells as and when they appear in the body. When this one pair gene gets mutated, this gene cannot function properly, resulting in the appearance of cancer cells. If we humans have more than one pair of this gene in their cells like that of elephants, the chance of existence of functional p53 genes are more in our body, thereby, fighting against the cancer cells would be very effective. Now, with this interesting information, the scientists are working how to increase the p53 proteins in our body as a natural self defence system. Hope we may get an effective solution for cancer problem from natural animal physiology soon.

MY ROLE AS DISTRICT FOREST OFFICER IN CONSERVING THE HILLS AND HILLOCKS OUTSIDE THE RESERVE FOREST

V. Sundararaju, IFS (Retd)

Former Deputy Conservator of Forests

While I was working as the District Forest Officer (DFO), Kanyakumari Forest division, this incident took place sometime during 2010. It was a Sunday. Since I used to be very busy during the weekdays, I could find time mostly on weekends only for my field inspection. That day, I was heading towards Kodayar along the Nagercoil-Azhagiypandipuram road. While we were travelling somewhere near Erachakulam, a small village, I turned casually towards my left on the Western direction. By seeing a few earth movers (JCBs) on the top of a hillock, I was very much surprised. I told my driver to look in the direction and find out. He too confirmed the same. Immediately, I instructed him to take the vehicle towards the hillock. Within ten minutes, we reached the hillock that is around 40 ha in extent. Of course the hillock was about 3 kilo metres away from the nearest Reserve Forest. Two tipper trucks loaded with earth and one more with boulders were readily waiting there for departure. By seeing that, I became a bit angry as a natural ecosystem is in danger. Though I tried to hide my temperament on my face, my talk with the concerned fellows naturally revealed it. On my interrogation, one fellow showed me an order signed by the District Collector allowing removal of earth and boulders from the specific survey number. But nothing was mentioned about the landscape as a hillock in the order. Our discreet enquiry revealed that three doctors have bought the hillock and tried to build a college after destroying the hillock by way of removing the earth and the boulders with an intention of levelling the ground. There is very good demand for earth and boulders in Kanyakumari district and mostly transported to the nearby Kerala state.

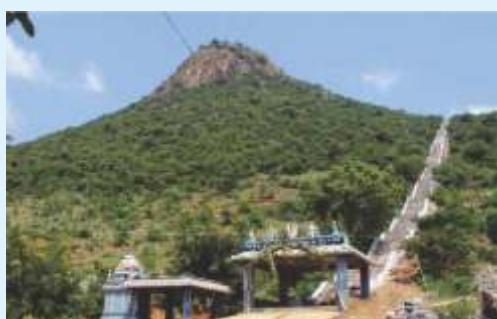
I tried to contact the Collector, Kanyakumari district over my mobile. His number was busy. Then I tried to contact the Assistant Director of Mines. His number too was not reachable. Then I tried to contact the Thasildar. Luckily he came on line. When I enquired him about the permission given for removal of earth and boulders by destroying a hillock near Erachakulam, he said that he had joined only a week back and yet to see the spot. In the mean time, Collector came on line. When I narrated him about the order issued by him for destruction of a hillock near Erachakulam village for construction of a college and the violations noticed in implementation of the provisions of the Hill Area conservation Authority (HACA), he requested me to inform the proceeding number and date. That day, being Sunday, he informed that he would verify it the next day and take suitable action.

The next day I had gone over to the Collector's office to attend a meeting. While I was waiting in the Conference hall, one Office Assistant informed me that the Collector wanted me to come over to his chamber. I met the Collector in his chamber. After exchanging the usual pleasantries, Collector told me that he was not guided properly in that matter and hence cancelled the order forthwith.

HACA is in vogue in many of the districts which are close to the Western and Eastern Ghats. For carrying out any developmental activity in this region, one should take permission from the Director of Town and Country Planning (DTCP). Even to construct a building of more than 800 square metres, due permission is very much required. The Committee under HACA headed by the Director of DTCP as the Chairman has the Principal Chief Conservator of Forests and the Chairman of Tamil Nadu Pollution Control Board as the members. Whatever application is received requesting permission from the HACA authorities, will be forwarded to the District Forest Officer for inspection and report.

There is one Dr. Lalmohan, a noted Environmentalist and Convener of the ‘Indian National Trust for Art and Cultural Heritage’ (INTACH) in Nagercoil. He is a good friend of mine. I discussed this matter with him and within a week time he organised a seminar on the topic ‘Conservation of Hills and Hillocks’. The seminar was to be inaugurated by the Collector and the key note address to be delivered by me. Since the Collector had some urgent programme at Thiruvananthapuram on that day, I had the opportunity of inaugurating the seminar at the Notary Public Hall, Nagercoil.

The gist of my inaugural address may throw some light on the topic. “Hills and hillocks become one of the important terrestrial ecosystems. We have to clearly recognize the difference between the hills and hillocks. While Yercaud hills, Kolli hills, Sirumalai hills, Kodai hills, etc., are called hills, Thirupparankundram, Senkundram, Nerkundram, Pazhani malai (where Pazhaniyandavar temple is located), Viralimalai, etc., are hillocks. Though generally mountains, hills and hillocks are called Malai in Tamil, they have got their own difference. In Tamil Nadu state, there may be about one thousand hillocks.

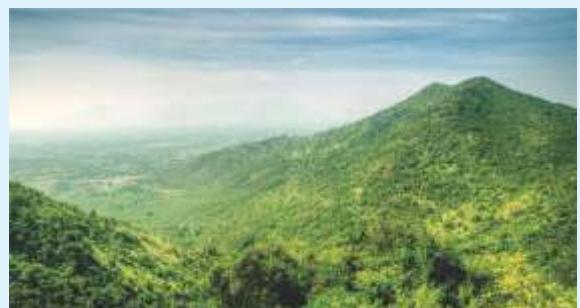


A view of Perumalmalai hillock in Thurairiyur

Hills and hillocks play a crucial role by providing valuable ecosystem services. With the available soil, air and water they support a variety of plants and animals including microorganisms. Thus, they not only provide shelter for various species of animals, birds, reptiles, insects and microorganisms through the grasses, herbs,

shrubs, climbers, creepers and trees that have grown on them, but also absorb carbon dioxide and release oxygen, conserve the soil and water in addition to moderate the climate of the particular region. When we have hills and hillocks, the plant community on them harvest the rain water and store underneath. The rain water is gradually released as springs, finally taking the shapes of streamlets, streams, rivulets and rivers. These water bodies make the area fertile wherever they pass through. Eventually when they join the sea, they provide life to the marine organisms besides carrying valuable minerals with them. Only an Environmentalist, Ecologist, Naturalist or Scientist can understand all these intricacies. But, fortunately many hillocks are the abodes of Gods of various religions like Hinduism, Christianity, Jainism and Islam. Because of the spiritual protection, they are safe to a certain extent. We must be ever thankful to our ancestors in this regard”.

During 2015, when I had gone over to Kanyakumari for monitoring the activities carried out in Kanyakumari Forest Division under Tamil Nadu Biodiversity Greening Project (TBGP), I was happy to notice the very same Erachakulam hillock, which at my intervention was stopped from destruction, remained in its original condition.



A view of Sirumalai hill in Dindigul district

Even now, many hillocks have been vandalized by the greedy quarry contractors of many districts across the State. Certain hillocks have been notified by the Revenue authorities as water bodies in a district like Madurai. For example, the

Pancha Pandavar hillock, an archaeological site has been listed in the revenue records of Madurai district as a water tank in Keezhavalavu panchayat. Likewise, this hillock with Jain stone beds (samanar padugai) dated back to 2nd century BC has not been entered in the Prohibitory Order Book (POB). This hillock has been quarried, even

after repeated representations by Keezhavalavu Panchayat President to the Collectors.

The need of the hour is to preserve and protect such isolated hills and hillocks that bear unique cultural, historical and biological heritage values, for them to continue to provide the ecosystem services for the benefit of mankind.

FOSTERING SOCIAL RESPONSIBILITY TO WILDLIFE

G. Ramprasad

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“A society is judged by the way it treats the animals”- **Mohandas Karamchand Gandhi**

We are living in a country that venerates several animal species as God or God’s beloved vahanams and among 10 avatars of Mahavishnu four are in the form of wildlife viz. Macha (Fish), Koorma (Turtle), Varaha (Boar) and Narasimha (Lion). We also measure the valour of a man by comparison to tiger/lion and strength to that of elephants. All these things are mythological or literary. Do we really respect animals? While “Animal” is a generic term for all mammalian species other than Homo sapiens (man) “wildlife” always refers to the ones in wilderness in their own habitats.

Our past:

At the same time, we are also a great country that presents thought-provoking evidence of human-wildlife co-evolution and cultural tolerance to wildlife. Bishnois are one standout example. Though there are 29 tenets in this belief system, the most important of them all is ‘praandaya’ or compassion for all living things. The Bishnois consider trees as sacred, but their empathy extends to every living being on earth. So they protect the entire ecosystem that exists in their villages. Animals like blackbucks and chinkaras, and birds like vultures, partridges, peacocks and even the endangered Great Indian Bustard, find the Bishnoi village a safe home. Not only do the Bishnois protect them from poachers, they also actively participate in helping them lead a life of plenty. By allowing them to graze freely in their farm lands by keeping stone vessels near their home that are always filled with water and even hang water-filled pots from the branches of trees for the birds to drink from. For close to 525 years, every

Bishnoi, young and old, has lived and even died for this spirit of love and compassion.



Bishnoi man feeding a pair of black bucks

The Maldhari community is a tribe of herdsman of Gujarat. The Maldharis have lived in the Gir National Park, in the Banni Grasslands Reserve area, for the past thousand years. They have co-existed with the lions, which the Gir National Park was created to preserve, for these thousand years. The lions have been periodically hunting the Maldhari cattle for food, but the Maldharis understand the cycle of life. They consider the taken cows an offering to the lions, whose territory they share. The traditional fishermen of Orissa also shared a close relationship with Olive Ridley turtles in the past.

From Human-Human conflict to Human wildlife Conflict!!!

Then how did we get entangled in Human Wildlife Conflict (HWC) and where did we lose our love to fellow creatures? My strong conviction is it is due to Human-Human Conflict which made us to become selfish and end in a sad Human Wildlife Conflict. Therefore, the so called conflict with wildlife is due to the struggles among people over their selfish actions to gain access to dwindling resources or needs for survival.



Who is wild here?

This is how Man lost his way with biodiversity and love for his own species and started thinking other life forms as intruders and not as a fellow species that preceded him and refuses to coexist with him. If Protected Area Authorities fail to recognize the view of the local people to work with them to address such conflict adequately, the conflict intensifies. Then people begin to feel that the needs or values of wildlife are given priority over their own needs. The negative impact is reflected in the form of social hatred towards wildlife.

Is Wildlife Conservation Biological or Social?

Conservation may be a biological entity but it will never be achieving its goals unless the social dimensions and dynamics are factored in. The complexity has reached the peak due to conflict with wildlife is driven by struggles among people over the rush to gain access to resources and needs for subsistence and survival. Gradually our Reserve Forests , Parks, Reserves, Sanctuaries are becoming islands amidst plantation estates, cultivating

lands, habitations and institutions. Sadly due to poor understanding of the local authorities the Wildlife Protection Act is seen as pro wildlife and anti-people. Fostering social and attitudinal change is a must in addition to biological measure which is scientific and not essentially a social one. Then how do we go about? Is there a tool box to fix this problem?

Fostering Social Responsibility to wildlife:

Somehow the people have lost their love to other life forms due to sheer struggle for their own survival. Authorities and political diaspora are interested in diffusing the crisis ad hoc than finding the co-existence elements. Human-wildlife conflict is likely to increase in both frequency and severity and certainly continue to escalate and this necessitates an inclusive solution to institutional adaptive mitigation management. We must take into consideration the fact that Indian economic development has failed to create livelihood opportunities in the past five decades and subsistence migration has resulted in people from poor localities settling down in hills as estate labourers and agricultural/farm labourers in forest abutting farms. Their cultural and historical co-existence is totally lacking when compared with local and tribes. Sadly settlers outnumber the locals.

It is now imperative that the Wildlife authorities to build social responsibilities by way of partnership in conservation efforts. In my view, following in situ measures are necessary.

1. Form HWC resource centres with local people. NGOs to educate them about the probable time, season and situations of conflict. But there is no straight jacket solution fit for all situations. Conflict involving elephants is different from conflict involving the carnivores. Fostering communication and trust, with demonstrating effort and a willingness to address the issue rapidly and congenially will often provoke an

effective social response and responsibility and result will gradually change the attitudes and actions of people in conflict situations.

2. Adequately address the needs of the vulnerable villages and help them in socio-economic development. Tamil Nadu Afforestation Project model of Joint Forest Management will be useful.

3. Develop a credible compensatory mechanism where the affected people undergo least mental agony. In several situations, the public outcry is often exaggerated to attract political attention and gain advantage. Building trust and belief will mollify local outcry.

4. Strong partnership with NGOs is needed to take the local people on board initially. But the wildlife authorities should not eternally depend on them nor should they become spokesmen of Government or trouble shooter. It is often found that some NGOs do katta panchayat taking advantage of the crisis and fuel antipathy with local forest personnel.

5. Women and children should be taught on proven tactics to avoid conflict situations adopting preventive measures. The HWC resource centres can function as Community capacity building centres. In Namibia the school

children are taught on field how to avoid confrontation with elephants while they are on their way to schools. This has reduced to injuries and casualties to a great extent.

6. Celebrating Wildlife Week, World Forestry Day, Biodiversity Day in a participatory manner will do a lot to foster social responsibility.

7. Anti-Poaching Watchers and Guides and Trackers may be from among the local village youth.

8. Forest and wildlife authorities may create a Mitigation Fund for each and every HWC Resource Centre and form EDCs to address HWC issues.

These are all some indicative and illustrative actions but the HWC is a continuous challenge and dynamics are real time situations. Treating wildlife conservation as a conservation biology is a thing of past with global focus on biodiversity conservation, fostering a social responsibility is a pre requisite in wildlife management. If a right beginning is made we can easily mollify the negative impacts of HWC as social, cultural and economic dimensions play an equal role in conservation. Instilling social responsibility should be our responsibility now hence.

இயற்கைப் பாதுகாப்பு (Conservation of Nature)

லா. நாதன் இவப (ப.ஒ)

இயற்கைப் பாதுகாப்பு என்பது தற்கால சந்ததிகள் மற்றும் எதிர்காலச் சந்ததிகளின் தேவைகளையும், அபிலாசைகளையும் பூர்த்தி செய்வதற்காக, நாம் வாழும் இந்த உயிர்க்கோளத்தை (Biosphere) நம்மிடம் உள்ள மனிதவளம், நிதி ஆதாரம் மற்றும் விஞ்ஞான அறிவு ஆகியவற்றை அடிப்படையாகக் கொண்டு முறையாகப் பராமரிப்பதேயாகும் (World Conservation Strategy).

ஆனால், தற்போதைய பெரும்பாலான வளர்ச்சிப் பணிகள் யாவும், பெரும்பாலும் தற்போது வாழும் சந்ததியினரை மட்டுமே கருத்திற்கொண்டு செயல்படுத்தப்படுகின்றன. நீண்ட தொலைநோக்குப் பார்வையோடு, எதிர்காலச் சந்ததியினரையும் கருத்திற் கொண்டு பெரும்பாலான திட்டங்கள் செயல்படுத்தப் படுவதில்லை. உதாரணம், வனத்தை அழித்து சாலைகள் அமைத்தல், கட்டிடம் கட்டுதல் மற்றும் வனத்தை வனமற்றகாரியங்களுக்காகப் பயன்படுத்துவது போன்ற நிகழ்வுகள் இதில் அடங்கும்.

இந்த உயிர்க் கோளத்தைப் (Biosphere) பாதுகாக்க, அரசால் செயல்படுத்தப் படும், சில சீரிய முயற்சிகளாவன.

மனிதர் களும், அவர்கள் வாழும் உயிர்க்கோளமும் (Man and Biosphere) என்ற கோட்பாட்டில், உலக அளவில் சுமார் 120 நாடுகளில், 651 உயிர்க்கோளப் பாதுகாப்புப் பகுதிகள் நிர்வகிக்கப்படுகின்றன. அதில், இந்தியாவில் நிர்வகிக்கப்படும் சுமார் 18 உயிர்க் கோளப் பகுதிகளும் (Biosphere reserves) அடங்கும்.

குறிப்பாகத் தமிழ்நாட்டில் நிர்வகிக்கப்படும்,

1) நீலகிரி உயிர்க் கோளப் பாதுகாப்பகம் (5520 ச.கி.மீ.) கேரளாவைச் சேர்ந்த வயநாடு

மற்றும் கர்நாடகத்தைச் சேர்ந்த பந்திப்பூர் ஆகிய பகுதிகள் இதில் அடங்கும்.

2) மன்னார் வளைகுடா உயிர்க் கோளப் பாதுகாப்பகம் (10500 ச.கி.மீ) இந்தியாவின், தென்கோடியில் கடல்-கடல் சார்ந்த மக்கள், உயிர்கள், நில, நீர், காற்று மற்றும் இயற்கைப் பாதுகாப்பு பகுதிகள் அடங்கிய, இந்தியாவிலேயே மிகப் பெரிய உயிர்க் கோளப் பாதுகாப்பகம் ஆகம்.

இதே போல, உத்தரகாண்ட் மாநிலத்திலுள்ள நந்தாதேவி (5860.69 ச.கி.மீ) மேற்கு வங்கத்திலுள்ள சுந்தரபான் (9630 ச.கி.மீ), அஸ்ஸாமிலுள்ள மாணாஸ் (2837 ச.கி.மீ), ஓரிஸ்ஸாவிலுள்ள சிம்லிபால் (4374 ச.கி.மீ), மத்தியப் பிரதேசத்திலுள்ள பச்சமார்ரி (4926 ச.கி.மீ), தமிழ்நாடு - கேரளாவிலுள்ள அகஸ்தியர் மலை (828 ச.கி.மீ), குஜராத்திலுள்ள ரன் ஆப் கட்ச (1275 ச.கி.மீ), ஆந்திராவின் சேஷாசலம் மலை (4755.997 ச.கி.மீ), அந்தமான் நிகோபாரிலுள்ள பெரிய நிகோபர் (885 ச.கி.மீ) பகுதிகள், நமது நாட்டில் நிர்வகிக்கப்படும் சில முக்கிய உயிர்க் கோளப் பாதுகாப்பகங்களாகும்.

இயற்கைப் பாதுகாப்பு (Nature Conservation) என்பது மூன்று முக்கிய குறிக்கோள்களைக் கொண்டுள்ளது.

1. **உயிர்வாழுத் தேவையான இயற்கையின் காரணிகளையும், உயிர்காக் கும் தொழில் களையும் பாதுகாப்பதும், பராமரிப்பதும் (Ecological Processes & Life supports):**

உயிர்கள் இவ்வுலகில் தொடர்ந்து வாழுத் தேவையான, பிராண்வாயு, மழை, மண் உருவாதல், ஓடும் நீர் இயற்கையில் சுத்தமாவது, நிலத்தடி நிரைப் பராமரிப்பது, குப்பைகளை மக்கச் செய்வது, காற்றில் கரியமில வாயுவின் அளவைக் கட்டுப்படுத்துவது, மண்ணில் உள்ள சத்துப் பொருட்களான நெட்ரஜன், பாஸ்பரஸ்,

பொட்டாஷ், மெக்னீசியம், மாங்கனீஷ், இரும்புச் சத்து, சல்பர், கால்சியம், சிங்க், மாலிப்பனம், போரான் போன்ற சத்துக்களை உயிர்கட்கு தொடர்ந்து கிடைக்கச் செய்வது, மீன்வளத்திற்கு அடிப்படையான சதுப்புநிலக் காடுகளை அழியாமல் பாதுகாப்பது போன்ற அத்யாவசியப் பணிகள் இயற்கையாகவே தொடர்ந்து நடைபெறாத பட்சத்தில், உயிர்கள் இவ்வலகில் தொடர்ந்து வாழ இயலாத நிலை ஏற்படும்.

அதேபோல், உயிர் காக்கும் தொழில்களான விவசாயம், கால்நடை பராமரிப்பு, மீன்வளத்தைப் பேணுதல், வனப்பராமரிப்பு ஆகிய தொழில்கள் அழிவின்றி தொடர்ந்து நடைபெறவும், மேற்படித் தொழில்கள் தொடர்ந்து வளர்ச்சியடையவும், தேவையான அடிப்படையான மூலத் தாவரங்களும், விலங்குகளும், மீன் வகைகளும், செடி, கொடிகளும் வனப்பகுதிகளிலும் இயற்கைப் பகுதிகளிலும், பாதுகாக்கப்பட்ட பகுதிகளிலுமே பெரும்பாலும் காணப்படுகிறது.

உதாரணமாக, காட்டு ஏருமை (Wild buffalo in Kaziranga), இயற்கை மற்றும் வனப்பகுதியில் இயற்கையாகக் காணப்படும் மீன் வகைகள், புல் இனத்தைச் சேர்ந்த ஆரம்பகால நெல் மற்றும் சிறுதானிய வகைகள், சப்போட்டா (Sapota) பழத்தை தரமுயர்த்தி, இனவிருத்தி செய்யப் பயன்படும் பாலைமரம் (Manilkara hexandra) போன்ற உயிர்கள், தற்போது மக்களால் பயன்படுத்தப்படும் தாவரங்களையும், விலங்குகளையும் இனவிருத்தி மற்றும் தெரிந்தெடுத்தல் முறைகள் மூலம் பெருக்கமடையச் செய்யவும், தரத்தை உயர்த்தவும் பயன்படுகின்றன.

2. வேறுபட்ட வெவ்வேறு உயிரினங்களைப் பாதுகாத்தல் (Bio-diversity):

பூமியில், மொத்தத்தில் 15-16 இலட்சம் வெவ்வேறு வகையான உயிர்கள் வாழ்கின்றன. அவற்றில் 4-5 சதவீதம் மட்டுமே இந்தியாவில்

உள்ளன. அவைகளில் 80-85 சதவீத உயிர்கள் வடகிழக்கு இந்தியா, மேற்குத் தொடர்ச்சி மலை, அந்தமான்-நிகோபர் ஆகிய பகுதிகளில் மட்டுமே தென்படுகின்றன.

ஆனால், மேற்படி உயிர்கள் வேகமாக அழிந்து வருகின்றன. இந்தியாவில் மட்டும் வெவ்வேறு வகையான, சுமார் 5000 பூக்கும் தாவரங்களும், 45 வகையான பாலூட்டி இனங்களும் அழியக் கூடிய, ஆபத்தான நிலையில் உள்ளன. உதாரணமாக, Gluta travancorica, Saraca indica, Pimpinella pulneyensis போன்ற தாவர வகைகளும், சிங்கம், புலி, கரடி, யானை, காண்டாமிருகம், சிங்கவால் குரங்கு, நீலகிரி குரங்கு, கடற்பசு, காட்டு மாடு, போன்ற பாலூட்டிகளும் அழிவின் விளிம்பில் உள்ளன.

ஆப்பிரிக்க சிறுத்தைப் புலி, டைனோசர், Guam rail, Guam King fisher, Northern white Rhinoceros, செந்தலை வாத்து போன்ற உயிர்கள் முழுவதும் அழிந்தே போய் விட்டதாகக் கருதப்படுகிறது.

மேற்படி, அழிவிற்குப் பல் வேறு காரணங்கள் இருப்பினும், குறிப்பாக மேற்படி உயிரினங்கள் வாழுமிடங்கள் அழிக்கப்படுவதும், தட்ப, வெட்ப, இயற்கை நிலை மாறுபாடுகளும், மரபணுக் களில் ஏற்படும் மாசுகளும், மாற்றங்களும், வளர்ந்து வரும் மக்கள் தொகையும், அவர்களின் தேவைகளும் மற்றும் சுற்றுச் சூழலில் ஏற்படும் மாசு மற்றும் மாற்றங்களுமே முக்கியக் காரணங்களாகக் கருதப்படுகின்றன.

உயிர்கள் முழுவதும் அழிந்து விடாத படி பாதுகாப்பது நமது தார்மீக கடமையும், பொறுப்புமாகும். மேற்படிப் பணிகளை உண்மையோடும், பொறுப்போடும் இயற்கையின் மீது ஆர்வம் கொண்டு பணிகளை நிறைவேற்றும் பணியாளர் களையும், அலுவலர் களையும்,

ஊக்குவிப்பதும், பாதுகாப்பதும் நமது முக்கியக் கடமைகளில் ஒன்றாக இருப்பினும், அவற்றை முறையாக நிறைவேற்றுவது சாத்தியமாகிறதா? இல்லையே !

சந்தன மரங்கள் இந்தியாவில், காநாடகாவிற்கு அடுத்தபடியாக தமிழ் நாட்டில்தான், 1980 வருடங்களில், இயற்கையாக பெருமளவில் உற்பத்தி ஆனது. ஆனால், சந்தன மரக் கொள்ளைகளை தடுக்க இயலாத்தால், இன்று, தமிழ்நாட்டில் சந்தன மரங்களே இல்லை என்று சொல்லுமளவிற்கு அழிக்கப்பட்டு விட்டது. சந்தன மரச் சரணாலயமாக விளங்கிய தர்மபுரி, சித்தேரி பகுதிகளில், பெருவாரியான சந்தன மரத்திருட்டைத் தடுக்கச் சென்ற பணியாளர்கள் யாவரும், பாதிக்கப்பட்டு, தண்டனைக்குட்பட்டு, அவலமான சூழ்நிலையில் வாழ்ந்து வருகின்றனர். ஆனால் சந்தன மரக் கொள்ளைகளில் ஈடுபட்டவர்கள் இன்னல்கள் ஏதுமின்றி, சுதந்திரமாக, உலா வந்துள்ளனர். இதே சந்தன மரக் கொள்ளையாளர்களில் சிலர் தான், மாநிலம் விட்டு ஆந்திரா சென்று, சிவப்பு சந்தன மரங்களை வெட்டிக் கடத்த முற்பட்ட போது, தவிர்க்க இயலாத நிலையில், உயிரையும் இழந்துள்ளனர். ஆம், இயற்கைப் பாதுகாப்பிற்கு ஆந்திர அரசு அளித்த உத்திரவாதமும், முக்கியத்துவமும் பாராட்டுக்குரியதல்லவா? மனித வாழ்விற்கு, இயற்கைப் பாதுகாப்பு இன்றியமையாதது என்பதை நன்றாகவே உணர்ந்துள்ளனரோ? அந்த இயற்கைப் பகுதியில் உற்பத்தியாகும் நீரும், காற்றும் தமிழ்நாட்டை நோக்கி வருவதை யாரும் தடுக்க முடியுமா? சிந்திக்க வேண்டிய தருணமிது !

உலகில் வாழும் உயிர்கள் யாவும் இயற்கையின் ஓர் அங்கமாகும். உயிர்கள் யாவும், நீர், நிலம், காற்று, சூரிய ஒளி ஆகியவற்றின் உதவியோடு மட்டுமே வாழ முடியும். மேற்படி உயிர் கொடுக்கும் பொருட்கள் மாசு அடையும்

போது, உயிர்களின் வாழ்க்கையில் ஒரு பாதிப்போ அல்லது வாழ முடியாத ஒரு சூழலோ உருவாகிறது. இந்நிலையைத் தவிர்ப்பதற்காகவே, உயிரியல் பூங்காக்களும், வனாட்சியில் சரணாலயங்களும், தேசியப் பூங்காக்களும் குறிப்பாக உயிர்க் கோள்ப் பாதுகாப்பகங்களும் (Biosphere reserves) பராமரிக்கப்படுகின்றன.

எனவே தான், நமது முதாதையர்கள் பூமியையும், காற்றையும், நீரையும், சூரியனையும் முறையே பூமாதேவி, வாயுபகவான், வர்ண பகவான், அக்ணி தெய்வம் என்ற பெயர்களில் வணங்கினார்.

அதேபோல், வில்வமரம், வேப்பமரம், ஆலமரம், அத்திமரம், வன்னி மரம், துளசி போன்ற தாவரங்களையும், சிங்கம், புலி, யானை, நாய், மயில், பாம்பு, கருடன், பசு போன்ற விலங்குகளையும் நாம் இன்றும் போற்றி வணங்குகிறோம். எனவே தான், உயிர் வகைகளில் ஓர் இனம் கூட அழிந்து போய் விடாதபடி பாதுகாக்க வேண்டியது நமது தலையாயக் கடமையாகக் கருதப்படுகிறது.

3. இயற்கையால் ஏற்படும் நன்மையும், இயற்கை சார்ந்த பொருட்களும், தொலைநோக்குப் பார் வையில், உயிர்களின் தேவைக் குத் தொடர்ந்து கிடைத்திடச் செய்வது (Sustainable utilization of Nature & Natural resources) :

உயிர்களுக்குத் தேவையான நீரும், நிலமும், காற்றும், சூரிய ஒளியும் தொடர்ந்து, உயிர்வாழக் கிடைத்திட வேண்டும். இவையாவும் புதுப்பிக்கத் தக்க சக்தி (renewable sources of energy) ஆகும். ஆனால், நிலத்திற்கடியிலிருந்து எடுக்கப்படும் பெட்ரோலியப் பொருட்கள், தாதுக்கள், நிலக்களி (Non-renewable resources) ஆகியவை, தொலைநோக்குப் பார் வையில், தொடர்ந்து கிடைத்திடும் வகையில், சீராகப்

பயன்பாடு அமைய வேண்டும். அவற்றை அதிகம் பயன்படுத்தினால், இப்புதுப்பிக்க இயலாத பொருட்கள், விரைவில் காலியாகி, தொடர்ந்து கிடைக்க இயலாமல் போய்விடும். எனவே, இயற்கை சார்ந்த பொருட்களை, தற்கால, எதிர்காலச் சந்ததிகள் அனைவருக்கும், எக்காலத்திலும் தொடர்ந்து பெற்றிடும் வண்ணம், அரசின் சீரிய திட்டங்களும், முயற்சிகளும் அமைய வேண்டும் என்பதை உறுதி செய்ய கொள்ள வேண்டும்.

இச்சீரான பயன்பாடு என்பது, நம்மிடம் உள்ள மூலதனத்தை (capital) வங்கிகளில் இட்டு, அதிலிருந்து கிடைக்கும் வட்டியை (interest) மட்டும், தொடர்ந்து பயன்படுத்துவதற்கு ஒப்பாகும். வட்டி மூலம் கிடைக்கும் வருவாயை, எதிர்காலச் சந்ததிகளும், இன்னளின் றி தொடர்ந்து பயன்படுத்த முடியும். இந்த கோட்பாட்டைப் பின்பற்றி இயற்கையை நாம் ஒரு மூலதனமாகக் கருதி இயற்கை மற்றும் இயற்கை சார்ந்த பொருட்களை நன்கு பாதுகாத்து, அவற்றின் மூலம் கிடைக்கும் பயன்களை மட்டும் அழுத சுரபியாக, உயிர்கள் என்றென்றும் பயன்படுத்திக் கொள்ள இயலும். (உ.ம்) சிறுவன மக்குல்கள், மூலிகைகள், காய்களிகள், மழை நீர், பிராண்வாயு, தானியங்கள் முதலானவை.

இயற்கைப் பாதுகாப்பின் கோட்பாடுகளை நாம் மதிக்காமல் நடப்போமேயானால், அதன் விளைவுகள் மிகவும் மோசமானதமாகவும், திரும்பவும் சரிசெய்ய இயலாத நிலையையும் உருவாக்கி விடும். நாம் அறிந்தவரை, உலகிலுள்ள கிரகங்களில், பூமியில் மட்டுமே உயிர்கள் வாழ்கின்றன. ஆனால், வளர்ந்து வரும் மக்கள் தொகையும், அவர்களின் தேவைகளும், பூமியின் உயிர்களைத் தாங்கிச் செல்லும் சக்தியை வெகுவாகக் குறைத்து, பூகம்பம், சுனாமி, பஞ்சம், புயல், வெள்ளம் போன்ற இயற்கைப் பேரிடர்களை அதிகரித்து, பூமி தொடர்ந்து இயல்பான நிலையில் இயங்குவதில் இன்னல்களை ஏற்பட்டு உள்ளன.

பூமியானது, முதாதையர்களால் நமக்கு வழங்கப்பட்ட சொத்து எனக் கருதாமல், எதிர்காலச் சந்ததியினரிடமிருந்து, நாம் கடனாகப் பெற்ற சொத்து எனக் கருதி, இப்புவியைப் பாதுகாப்பாக, நம் இளம் தலைமுறையினரிடம் ஒப்படைக்க வேண்டியது நமது கடமையாகும். எனவே, இயற்கையை வணங்குவோம் ! தற்போதைய மற்றும் எதிர்காலச் சந்ததிகள் தொடர்ந்து வாழ வழிவகை செய்வோம்.

மேற்கு தொடர்ச்சி மலையில் பெருச்சசாளி மரம்

ஜி. சிவகுருநாதன்
உதவி வனப் பாதுகாவலர் (ப.ஓ.)

கிருஷ்ணகிரியை சேர்ந்த என்னுடைய நெருங்கிய நண்பர் ரூத்திரப்பா வனச்சரகர் பொறுப்பு வகித்து ஓய்வு பெற்றவர். காடுகளில் மரங்களை அடையாளம் கண்டு தாவரவியல் பெயர், தமிழ் பெயர், கண்ணட பெயர் எல்லாம் உடனே சொல்லி விடுவார். கண்ணடம் இவரது தாய் மொழி என்பது கூடுதல் சிறப்பு. அப்போது 1981-82ல் Resources Survey, சேலம் கோட்டத் தில் வனவராக பணிபுரிந்து கொண்டிருந்தார். கோட்ட வன அலுவலர் மறைந்த திரு. க. சுப்பையா, இ.வ.ப. ஆவார். அவர் வைகை அணை கானியில் பயிற்சி கல்லூரியில் முதல்வராக பணியாற்றியவர். கீழ் அதிகாரிகளிடம் ஒழுக்கத்தையும் அறிவையும் போதிப்பவர். அப்போது வனச்சரகராக இருந்தவர் பெயர் தெரியவில்லை. ஒவ்வொரு முகாமிலும் காடுகளுக்குள் நடந்து சென்று என்னென்ன மரங்கள், தாவரங்கள் இருக்கிறது என சர்வே செய்வது அவர்களின் பணி. வனச்சரகருக்கு மரங்களின் பெயர், தாவரங்களின் பெயர் பார்த்தவுடன் சொல்லத் தெரியாது. வனவருக்கு கண்ணியை விட வேகமாக சொல்லக் கூடிய திறமை. இதை வைத்து DFO அவர்கள் எப்போதும் வனச்சரகரை குறை கூறுவது வழக்கம். முகாம் என்றாலே வனச்சரகருக்கு மூடு அவட் ஆகிவிடும்.

இரு முறை காட்டினால் DFO முதலிலும் வனச்சரகர் பின்னாலும், வனவர் அதன் பின்னாலும் ஒரு மேடான பகுதியில் ஏறி கொண்டிருக்கும் போது ஒரு மரத்தை காட்டி DFO அவர்கள் வனச்சரகரிடம் இரு என்ன மரம் என

கேட்க, வனச்சரகருக்கு போச்சுடா இன்னைக்கு கெட்ட நேரம் ஆரம்பிச்சுது, என நினைத்து கொண்டு பின்னால் திரும்பி ரூத்திரப்பாவிடம் சைகையில் என்ன மரம் என கேட்சிறார். அவர் மரத்தின் பெயரை DFO க்கு கேட்காமல் பச்சாளி என சன்னமான குரலில் கூற (Dalbergia paniculata விற்கு அந்த பகுதியில் உள்ள பெயர்) சரகருக்கு சரியாக விளங்காமல் DFO விடம் பெருச்சாளி என்று கூற, DFO அதிர்ச்சியாகி விட்டார். பிறகென்ன சரகருக்கு அடுத்த மூன்று மாதம் திருவிழா தான். சரகர் முகாம் முடித்து ரூத்திரப்பாவிடம் கொஞ்சம் சத்தமாக சொன்னால் என்னையா என கேட்க ரூத்திரப்பா சத்தமாக சொன்னால் DFO க்கு கேட்கும் என்பதால் மெதுவாகக் கூறினேன் என சமாதானம் கூற, இருவருக்கு ஏழாம் பொருத்தம்தான். (திரு.க. சுப்பையா, இ.வ.ப. அவர்கள் தான் நண்பர் ரூத்திரப்பாவிற்கும் எனக்கும் கடிதும் எழுதி நட்பு ஏற்பட காரணமாக இருந்தார். நாங்கள் இருவரும் அப்போது வைகை அணை பயிற்சி கல்லூரியில் பயிற்சியாளர்கள்) இப்போதும் அந்த மரத்தை எங்கு பார்த்தாலும் எனக்கு பெருச்சாளி ஞாபகமும் நண்பர் ரூத்திரப்பா ஞாபகமும் தான் வரும்.

ஆசிரியரின் கூடுதல் தகவல்:

“சரிதான் போடா” தாவரம்.

இது மாதிரியான மகிழ்ச் தக்க தகவல்கள் நமது வனக் கல்லூரி பயிற்சியின் போது பலரும் அறிந்திருக்க வாய்ப்பு உண்டு. அந்த வகையில் நான் கோவை வனப்பயிற்சியின் போது பெற்ற தகவலை பகிர்ந்துகொள்ள விரும்புகிறேன்.

வனப் பயிற்சி “ஞேரின்” போது எங்களது பயிற்சி ஆசிரியர் மறைந்த திரு. பாலகதிரேசன் அவர்கள் வனத்திற்குள் செல்லும் பொழுது

பயிற்சி அலுவலர்களிடம் அங்கு பார்க்கும் தாவரப் பெயர்களைக் கேட்கும் பழக்கம் உண்டு. அந்த வகையில் நாங்கள் ஒரு வனப்பகுதிக்குள் சென்ற பொழுது மகாராஜ்ஷரா மாநிலப் பயிற்சி அலுவலர் (பெயர் திரு. காம்ளோ) என்னிடம் அடிக்கடி அங்கே காணப்படம் தாவரப்பெயர்களை டிரின் போது கேட்டு “நச்சரிப்பார்”. அதனைப் பொறுக்க முடியாத நிலையில் ஒருமுறை வன டிரின் போது ஒரு தாவரத்தைக் காட்டி முன்கூட்டியே தெரிந்து கொள்ளும் நோக்கில் என்னிடம் கேட்டார். நானும் “ஜோக்காக” அதன் தாவரப் பெயர் “சரிதான் போடா” என்ற கூற அதனை அவரும் ஆசிரியர் கேட்கும் பொழுது சொல்ல, “சீரிஸ்ஸாக” மனப்பாடம் செய்து வைத்துக் கொண்டார். ஆசிரியரும் அதன் தாவரப் பெயரை எங்களிடம் கேட்க, ஆவலுடன் இவர் அந்தப் பெயரைக் கூற முற்பட்டார். நான் அதனை உடனே தடுக்காவிடில் அன்றய தினம் எனக்கும் அவருக்கும் திரு. பாலகதிரேசன் அவர்கள் நல்ல “பூஜை” வைத்திருப்பார்.

முனைவர். சு. பால்ராஜ்
