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WESTERN GHATS PROTECTION AND SUSTAINABLE DEVELOPMENT - CHALLENGES AHEAD

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ABSTRACT

Background: Western Ghats is a mountain range and a UNESCO world heritage site. The Western Ghats is one of the world's eight hottest biodiversity hotspots. The area is ecologically sensitive to development and was declared an ecological hotspot in 1988. The Government of India has taken several initiatives to protect and save the ecology of the region. The government appointed the Western Ghats Ecology Expert Panel headed by Madhav Gadgil to assess the biodiversity and environmental issues of the Western Ghats in 2010. In 2012 the Kasturirangan committee was appointed to look further into the ecological and sustainable development issues of the region. Both these reports have evoked considerable attention from environmentalists and farmers.

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INTRODUCTION

The Western Ghats is a mountain range that runs to a length of about 1500 kms. It extends from the Satpura range in the north and goes south past Maharashtra, Goa, through Karnataka and into Kerala and Tamil Nadu. Western Ghats is older than even the great Himalayas. It is to be mentioned that the Western Ghats are not true mountains, but are the faulted edge of the Decan plateau and are believed to have been formed some 150 million years ago. Western Ghats is the main water shed divide in the Indian Peninsula south of Narmada. All the important rivers flowing through the six southern States originate in the Western Ghats. By controlling the rainfall and runoff, this mountain range has a decisive role and influence on human survival in South India. The Western Ghats are also well known for its rich mineral resources. In recent years mining activity in the region has increased and in lot of cases these facilities are in the ecologically sensitive areas of the Ghats. The future of many big and small rivers emanating from the Ghats and millions of peasantry depending on it eagerly awaits the steps that are to be taken for the protection of the ecologically fragile Western Ghats (Table 1)

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Biodiversity

The Western Ghats is one of the biodiversity hotspots of the country. It has over 5000 species of flowering plants, 508 bird species, 139 mammal species, 288 freshwater fish species and 179 amphibian species. It is the home for at least 325 globally threatened species. The Western Ghats also form one of the four watersheds in India, feeding the perennial rivers of India namely Godavari, Krishna and Kaveri. Rivers that flow eastwards drain into the Bay of Bengal and those west flowing rivers drain into the Arabian Sea. The mountains intercept the rain bearing westerly monsoon winds and are consequently an area of high rainfall, especially on the western part. The dense forests in the Western Ghats also contribute to the precipitation of the area by acting as a substrate for condensation of moist rising orographic winds from the sea and releasing much of the moisture back into the air via transpiration, allowing it to later condense and fall again as rain. A significant portion of the Western Ghats is well-covered in dense forests that provide wild food and natural habitat for native tribal people. Even though Western Ghats covers only 5 percent of India's land, it covers 27 percent of all species of higher plants in India. The Western Ghats is the home to thousands of animal species including at least 325 globally threatened species. Of the 16 endemic mammals, 13

are threatened. One important critically endangered mammal of the Western Ghats is the nocturnal Malabar large-spotted Civet. The largest population of Lion tailed Macaque is in the Silent Valley National Park and it is an endangered species. The largest population of India's tigers outside the Sunderbans is in the Western Ghats (Figure1)

Table 1. Geographical characteristics of western ghats

Geographical Attributes of Western Ghats	
Eastern Limit	720 56' 24" – 780 19' 40" (E)
Northern Limit	80 19' 8" - 210 16' 24" (N)
Maximum width	210 km
Minimum width	48 km
End to end length	1490 km
Total Area	129037 Sq.Km

Source: Western Ghats Ecology Expert Panel Report, MoE&F, New Delhi, 2011.

The Western Ghats supports a rich and diverse faunal wealth. Among the vertebrates birds represent the largest numbers of known species and it is believed that Western Ghats is the home for at least 5087 birds. In the entire stretch of Western Ghats the evergreen and most deciduous mid altitude forest are fauna to hold the largest bird community. Butterflies in the area belong to 334 species in 166 genera under 5 families. Western Ghats is the home for at least 137 species of mammals and it is believed that 16 are endemic. Among the various reptiles found in the region 124 species are endemic to the region. The southern Western Ghats extending from Agasthyamalai to the Palghat gap holds the highest diversity of butterfly species with the most number of endemics. The international conventions and programmes such as the CBD, the Ramsar Convention on Wetlands, UNESCO's Man and the

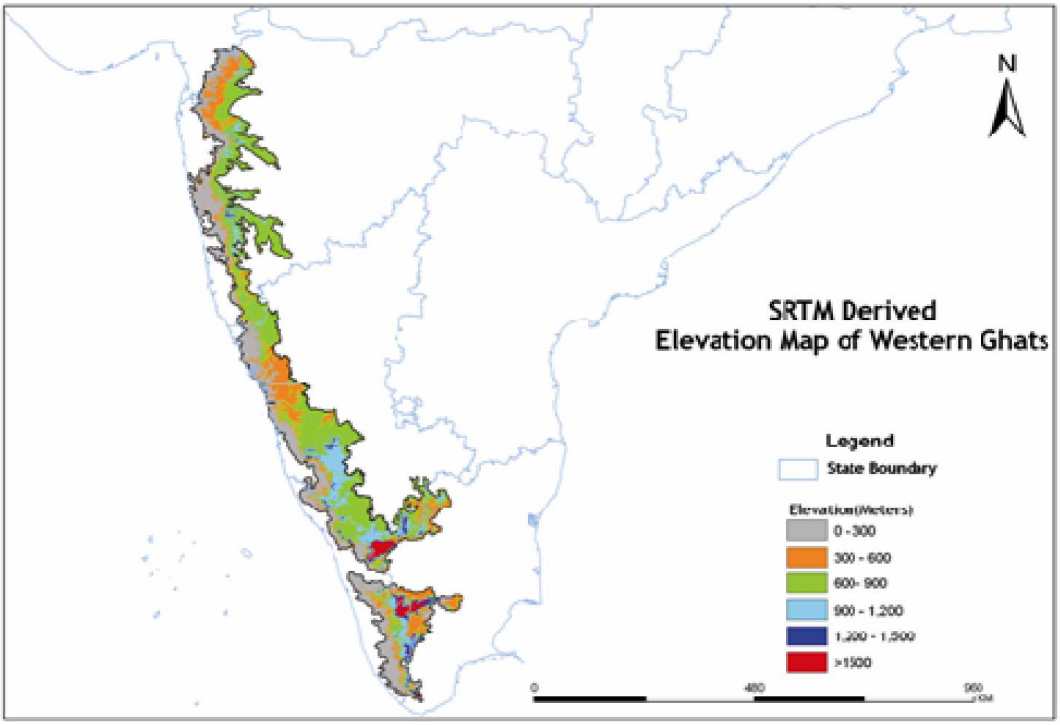

Figure 1. Elevation map of western ghats

There is a higher fish richness in the southern part of the Western Ghats and can be seen in the rivers Chalakudy, Periyar, Bharathapuzha, Pamba and Chaliyar. It is believed that 97 freshwater species from the Western Ghats were considered threatened , including the 12 critically endangered , 54 endangered and 31 vulnerable. Except for Khudree all are endemic to the Western Ghats. The main threats are from habitat loss and from overexploitation and introduced species. (Table 2)

Table 2. Endangered and Vulnerable species in the Western Ghats

Taxonomic Group	Critically Endangered	Endangered	Vulnerable	Total
Plants	39	111	79	229
Mammals	3	7	21	31
Amphibians	11	28	13	52
Fish	-	-	1	1
Reptiles	0	1	3	4
Birds	2	1	12	15
Total	55	148	129	332

Source: ATREE: Western Ghats & Sri Lanka – Biodiversity Hotspot, 2007

Biospheres (MAB) programme and the global programme of WCPA mentioned the importance of biodiversity protection, conservation and the sustainable use of natural and cultural resources. Accordingly the National Parks, Wild life sanctuaries, Biosphere reserves, Community reserves, Conservation reserves etc. play a vital role in the protection and conservation of many valuable species, both endemic and threatened fauna and flora. These protected areas play economic, social, and ecological role in improving human welfare apart from performing biodiversity conservation. UNESCO's World Heritage Committee inscribed the Western Ghats of India as world heritage site. The Western Ghats is considered an ecologically sensitive region with nearly 52 species moving one step closer to extinction. Over exploitation, Habitat change, pollution and climatic change are the principal reasons ie the principal reasons for biodiversity. The Western Ghats are the treasure trove of bio-diversity, and are recognized as one of the eight global hot-spots harbouring a wealth of flora and fauna. The world heritage status could have implications on development in and around these sites as UNESCO prescribes creation of additional buffer zones sites

and putting in place an over arching management authority for conservation of the selected 39 serial sites. Changes in the land use along the Western Ghats caused by agricultural expansion, conversion to plantations and infrastructural projects have resulted in the loss of grass lands and forests. It is to be mentioned that the intensive extraction of fuel wood, fruits and other non-timber products have also led to the loss of forest cover and bio-diversity. People in the Western Ghats ecology depend on forest resources and collection of subsistence livelihood is a major reason for deforestation and loss of biodiversity. The fragile ecosystem of the Western Ghats has come under severe strain because of the submersion of large areas under river valley projects, mining, raising of commercial plantations, soil erosion, poaching, denudation of forest and also floods and drought.

Gadgil Report

The Government of India has taken several initiatives to protect and conserve the Western Ghats. One of the earlier attempts was the establishment of a Western Ghats Development Programme (WGDP) as early as in 1974-75. From the sixth plan onwards Special Central Assistance (SCA) for the Hill Area Development Programme (HADP), was distributed between WGDP and HADP. In 2010 Government of India appointed an expert panel known as Western Ghats Ecology Expert Panel (WGEEP) to look into the various problems and issues of protecting the Western Ghats spread across six states viz. Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala. The panel headed by Madhav Gadgil submitted its report on August 31, 2011. Gadgil committee recommended that the entire Wetsern Ghats should be divided into three zones.

According to the report zone 1 comprises of highest protection area, zone 2 intermediate protection area and zone 3 comprises of moderately controlled and protected area. He also designated existing wild life sanctuaries and National Parks into Protected Areas. The committee also recommended the establishment of a Western Ghats Ecology Authority (WGEA). The report also put some restrictions on river projects and dams. The committee also mentioned that no new power plants should be built in the sensitive zones. Besides the above mentioned specific recommendations it suggested organic agricultural practices and promoting awareness about protecting the Western Ghats. The committee also recommended that illegal mining in the Western Ghats area should be stopped immediately. It also proposed not to give permission for new mines in zone 1 and zone 2. (Table 3)

Table 3. Assignment of various western ghats districts to ESZ1, ESZ2 AND ESZ3

State	No. of Districts in the WG	No. of Talukas assigned to ESZ1	No. of Talukas assigned to ESZ2	No. of Talukas assigned to ESZ2
Tamil Nadu	6	9	2	2
Kerala	12	15	2	8
Karnataka	11	26	5	12
Goa	2	NA	NA	NA
Maharashtra	10	32	4	14
Gujarat	3	1	1	1
Total	44	832	14	37

Source: Western Ghats Ecology Expert Panel Report, MoE&F, New Delhi, 2011.

Kasturirangan Report

Government of India appointed another committee under the chairmanship of Kasturirangan to look into the modalities of protecting the Western Ghats. In April 2013 the Kasturirangan Committee submitted its report. The Kasturirangan panel report also evoked a strong debate in the society and among academicians and environmentalists. The Kasturirangan panel used a different method to identify the eco-sensitive zone (ESZ). It removed cash crop plantations like rubber, agricultural fields and settlements from ESZ. This was done by using a finer remote sensing technology. Thus 37 percent of the Western Ghats, ie., 60,000 sq.km. area, was earmarked as ESZ. But this was much lesser than the area proposed by Madhav Gadgil, ie. 1,37,000 sq.km. The Gadgil committee report had faced severe opposition from state governments for recommending almost three fourth of the hills, including plantations, cultivated lands and large habitations, be turned into a restricted development zone. However the Kasturirangan committee has advised against bringing cultivated lands, plantations and habitations outside the ambit of such a restrictive regime- called Ecologically Sensitive Area(ESA) under the Environmental Protection Act, 1976. All projects in the villages falling under ESA require prior consent and no-objection from Gram Sabha (Village Council). The report banned the development of any township or construction over the size of 20,000 sq.m in the ESA zone.

It also recommended that there should be complete ban on mining activity in this zone and current mining activity should be phased out within five years or at the expiry of the mining lease. The report also recommended a ban on hydroelectric projects in the zone. It also recommended a new authority to regulate the regions development and economic growth. The debate on the two reports has created a lot of furore in the affected states. However there is unanimity among a vast section of groups that Western Ghats should be protected and preserved. It is to be noted that Kasturirangan panel was asked to find a holistic way of protecting the biodiversity of the Ghats and addressing the rightful aspirations for inclusive growth and sustainable development of the indigenous residents. The panel made a distinction between natural landscape and cultural landscape and recommended that 90 percent of the natural landscape should be protected. The public protests have been vigorous in the villages were the livelihood operations are falling within the ESA. Western Ghats People's Protection Forum says that these additional restrictions would affect 40 lakhs people in Kerala alone.

Conclusion

Environmentalist and farmers are unanimous in accepting the fact that the Western Ghats should be preserved and conserved. Therefore, educating and empowering the local communities are important for the sustainability and conservation of the region. It is imperative that the exploitation and reckless development should be stopped immediately. A lot of scientific inputs and thinking are required to preserve the Western Ghats belt. The focus of development in the Western Ghats region should be done by properly informing, educating and organizing people down to the grass root level. An educated and empowered citizen will ensure that the Western Ghats environment and biodiversity is

properly protected and conserved. A balanced and harmonious economic and social development is required for inclusive and sustainable development of this region.

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