

Managing Biodiversity with Emphasis on Sustainable Development

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Abstract

The biodiversity, which makes our lives both pleasurable and probable. No one knows precisely how many species arise on our world. According to specialist the total number of species on earth is in between 10 million to 80 million. We have been capable to procure only 1.4 million species so far. India has a flora of its possess and concerning 15000 species are widespread in this region. However biodiversity loss is continuing as a serious worry in many countries including India. Human population increase, indefensible consumerism, augmenting liberate of waste and pollutants, urbanization, international conflicts and unfairness in giving out of wealth and resources are presently being viewed in totality to ameliorate environmental problems as well as to make sure the potential of life on earth. Biodiversity is an umbrella expression acceptance numbers, assortment and variability of living organisms, the sum total of genetic materials within the organisms and the ecosystems in which they take place. Asia was the most horrible influence in terms of casualties owing to natural disasters - 65% of those killed in 2012 were Asians. Study conducted by specialist that 70% of worldwide genetic diversity of crop plants has already been gone during the last century owing to preface of elevated yielding and hybrid varieties of crops. Pollution has risen in numerous developing countries including India with elevated economic growth, as superiority of environment is ignored in favor of economic achievement. According to Global Ecology and Biogeography that global warming will make quite a lot of species of lizard go away extinct within the next 50 years. In India biodiversity is critical not only because it provides rather a few goods as well as services indispensable for human endurance, other than as well for the reason that it is unswervingly associated by means of as long as livelihoods on the way to along with improving socio-economic conditions of millions of our populace, consequently contributing to sustainable development in adding together to scarcity alleviation.

Keywords: Resource management; Sustainable development; Endemic species; Degradation

Introduction

Biodiversity is magnificent contribution of natural on our planet. Present day this superb biodiversity is gravely endangered owing to mad rat contest in the middle of countries in glut of the globe for expansion. Natural extinction, part of evolutionary [1] progression has been accelerated by manmade extinction gesticulate due to constant greed in addition to need of man. Nature has taken more than 600 million years to expand this exceptionally multifaceted range of life on this planet. India is one of the oldest culture within the world, spanning a stage of added than 4,000 years, in adding together on the way to spectator the amalgamation of rather a hardly any customs as well as civilization, which are considerate of the wealthy culture all along with inheritance of the country. The onset of biological scarcity decrease in assortment of life forms is leap have serious consequences for the whole living planet. Consequently many species are on the edge of extinction. An estimate indicates that more or less 20 million hectares of tropical forests are cleared every year. Many experts dread that at least one fourth of every part of existing species will be lost over the subsequently few decades. At this rate of extinction the survival of man himself is threatened. India is land stipulation migrants. More than 75% of the human communities have reported migrational histories. Thus human groups in the India sub-continent have been extremely itinerant, moving from one area to an additional looking for

resources as well as livelihood. FAO (Food and Agriculture Organization) and WCS (World Conservation Strategy) establish that tropical forests which are wealthy in biodiversity are shrinking at the rate of 0.8% every year. More than 20 million people in India live along the coastline, depending on the fragile intellect of balance between ocean and land ecologies for their lives and live hoods. Specialist express that wild ungulates decline in areas where grazing pressure are high. It was estimated around 10% of the world's population lives in mountain regions, with livestock contributing significantly to their economic. Very frequently economic development is based in unsustainable management of natural resources and environmental pollution. Diversity in living forms occurs owing to changes in their genetic makeup, legacy of such changes and process of natural assortment. Diversity of species and complex interrelationships that maintain them are encompassed by the word biodiversity. In habitats, typically affected by humans, many species are being ambitious to destruction. Plants and animal throng for together earthly and marine fossil records expose perseverance of crowd for extensive periods of geologic time, sometimes millions of years. Nature comes into view to be paying the price for economic upgrading of numerous societies. India is one of the 17 mega-diverse (richest biodiversity) countries of the world. India has diverse climate as well as topography in dissimilar parts in addition to for this reason is termed seeing that a mega diversity country. India occupies 10th place amongst plant rich countries of the world. Present emphasis on preventive measures quite than restorative measures on environmental problems can contribute an immense deal of prevention technology and ecosystem health as

reported somewhere else. It is essential to get hold of knowledge concerning the distribution and environmental interface of flora and fauna in India. Biogeographers contain classified India into ten biogeographic zones (Figure 1) by means of each zone having characteristic [2] climate, soil and biodiversity. Biodiversity provides all source needs for our healthy endurance-oxygen, food, medicines, fiber, fuel, power, fertilizers, silage [3] in addition to waste-disposal, etc. Fast evaporation honey bees, dragonflies, bats, frogs, house sparrows, filter-feeder oysters as well as all foundation species are causing immense economic loss as well as posing an about to happen threat to human peace along with endurance. large number of migration to urban areas leading to habitat destruction, in excess of exploitation and preface of exotic species eventually every one of culminating keen on biodiversity loss. Biodiversity conservation is attractive a cornerstone to go forward livelihood options in addition to comprehensive [4] fiscal in addition to development aspirations. Growth or destruction is based on a thermodynamic progression. According to study ground level ozone pollution has damaged six million tones of crops in India in 2005. Biodiversity has increased radically in the past decade to the degree that is at risk of becoming a great deal misunderstood catchphrase. In the middle of the main problems relating to human contest today, apart from wars, famines, floods, diseases, global trade in addition to political crises, are those relating to the environment. Dams submerge vast forests areas cutting rather a few wildlife corridors which are very important for nourishment of wildlife populations. Dams the length of with mining activities also bring in new human declaration for project upholding, such as roads in addition to additional that charade a serious threat to wildlife. The function of within society selected ecologically important species contained by natural ecosystems in conserving as well as enhancing biodiversity could be of vast consequence. Loss of habitats, global warming, appearance of ozone holes, and steady depletion of natural resources are the most important matters of instantaneous anxiety in our present day in addition to age. The planet Earth is merely habitable body within our solar system.

basis for growth along with maintenance of human civilizations, as well as the components of these ecosystems to a great extent pressure the prosperity, or be short of it, of the human communities occupying them. Man has always depended on top of plants and animals for his patience in adding together to nutrition. Forests as well as their denizens provided food, protection in addition to clothing to early on man as well as, within additional recent times, have provided the resources for his growth. Clearance of forests [5] in addition to domestication a number of wild animals changed an itinerant way of life to a developed from of life. India has ten biogeography zones and twenty six provinces and has four global biodiversity hotspots (Eastern Himalaya, Indi-Burma, Western Ghats and Sundaland). Mangrove in India account for 3% of the global total by means of well-off species diversity. Sundarbans is the largest congregation of mangrove forest in the world. Wetland ecosystem ranges from high altitude cold wasteland to hot as well as moist wetlands in coastal zones by means of rich flora and fauna. Presently 125 wetlands and 50 lakes identified under national program and 25 wetlands of international consequence beneath Ramsar Convention. Within the last three decades, the human race has recognized the ensnare that it is scenery for itself. In conclusion, it has been realized that the present method of life is not sustainable, in addition to that incredible needs to be done concerning it. India one of the eight recognized Vavilovian centers of derivation as well as assortment of crop plants, having in excess of 300 wild ancestors in addition to close relatives of cultivated plants. Estimates of the definite number of life forms existing on top of our planet range as of 10 million to 50 million, while the number of plant as well as animal species in fact recorded is only concerning 1.4 million. The Himalayan region plays a noteworthy purpose in shaping the climate along with life supports systems of the Indian sub-continent in addition to it represents [6] an important biodiversity hotspot. The regions for its richness in biodiversity are an enormous variety of landforms in addition to varied altitudinal as well as eco-climatic zones, coupled by means of merger of taxa from Indo-Malayan, Pala arctic along with Mediterranean regions. Human societies have always relied biological resources intended for physical as well as spiritual nourishment. Biodiversity eventually provides us by means of a source of food, medicines, material [7] as well as opportunities. The earth's biological resources are imperative to humanity's economic in addition to community development. As a result, there is a growing gratitude that biological diversity is a comprehensive asset of tremendous worth to present and future generations.

Biodiversity and its Conservation

The conservation of Biodiversity is a basic apprehension of mankind to facilitate a sustainable outlook. Forests are in the middle of the most imperative repositories of earth diversity. Consequently, by means of the oceans in addition to seas in marine as well as costal biodiversity. Forest is not only a prized entity on our land mass but also make up the soul and life blood [8] of our culture. Based on the analysis of the changes observed across the country, a change matrix has been generated indicating the change in forest cover classes in between 2009-2015 in (Figure 2). The biodiversity we have today is a result of concerning 3.5 billion years of evolution. Due to over-exploitation of natural resources and unsustainable expansion we are undergoing the sixth extinction crisis. Forests are a living ecosystem. India is the seventh largest country in the world. Forest loss and adaptation is a major issue in decline along with predicted extinction of forest birds in South-East Asia, as well as studies on the [9] collision of deforestation

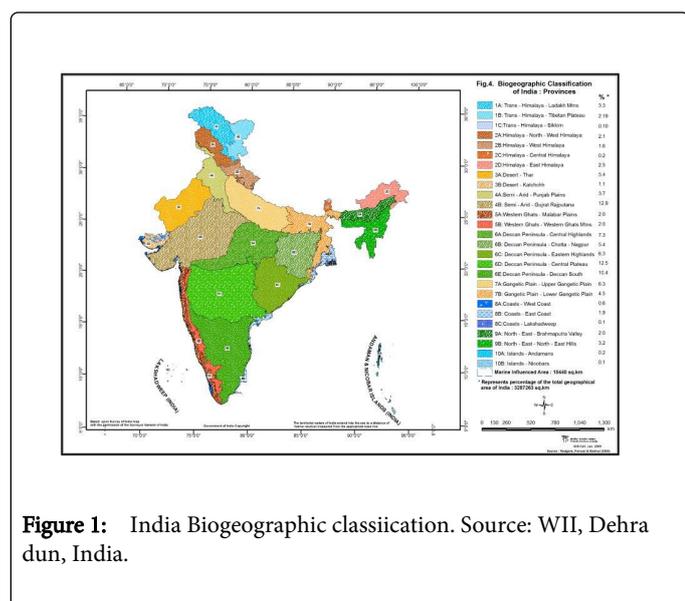


Figure 1: India Biogeographic classification. Source: WII, Dehra dun, India.

Above all, since the constructive conditions have shaped, thereon through the living as well as non-living components of the biosphere. The energy of the sun in addition to the ability of living organisms on this planet to make use of that energy in adding up to convert it, unite to create life probable on earth. The various ecosystems provide the

and connected disturbances on the tropical wildlife are desirable to settle on the conservation worth of remaining disrobed and inaccessible forests. Thus the natural ecosystem is tainted at an unprecedented rate. According to expert the approximation of current species extinction rate is between 1,000 and 10,000 times higher than it would as expected be alive. Thus, there is a threat to the life of each and every one species together with humans and the require to conserve biodiversity is vital to continue the planet earth. Quantifying loss of genetic diversity is easier said than done, but it is understandable that the extinction of species along with declines of population lead to a loss of genetic diversity. The convention on Biological Diversity, 1992, in its Article 2 stresses biological diversity as the going on variety of living [10] organism moreover it includes terrestrial, marine and all further resources as well as assortment between species and ecosystems. An ecosystem in this regards means dynamic complex of plants, animal in addition to microorganism communities as well as their nonliving surroundings interacting as a purposeful component. The economic and social growth of humanity is depended on the Earth's biological diversity and consequently the biological diversity is a global advantage for the present and future generations.

akin to the Ramsar Convention on wetlands in 1971 followed by the Convention on International Trade in Endangered Species in 1973 and Convention on the Conservation of Migratory Species of Wild Animals 1979. On the other hand , it was merely in 1988 the United Nations Environment Programme (UNEP) convened the Ad Hoc Working group of Experts on Biological Diversity to explore the require for an international convention on top of biological diversity. Desertification is a main environmental crisis akin to climate change. At present about two million populace around the world are affected [11] through desertification as well as degradation of land, which is caused by means of deforestation, over-grazing over- cultivation, logging, industrialization along with poor land make use of practices. Land in India suffers as of varying degrees along with types of degradation stemming for the most part from unsustainable make use of in addition to unfortunate management practices. About 70% population of India is rural as well as 80% of farmers are underneath the scarcity procession. The economic loss owing to [12] land degradation is estimated to Rs 285.51 billion yearly in addition to Rs 89.38 billion throughout 1979-1982 which is worked elsewhere to be around 12% of the total worth of agricultural productivity of the country. The use of energy is indispensable to human life in modern times. However, the use of energy has a lot of threats to the existence of the planet Earth. The most serious among them are the global warming and extinction of non-renewable sources of energy. The primary cause of global warming is fossil fuel consumption, which accounts for 80% of worldwide energy consumption. Thus, the use of such non-renewable sources of energy poses a serious threat to biodiversity with the existence of our planet. Illegal wildlife trade, at the present recognized as an organized trans-national crime, is backed through an increasing demand for elephant ivory in addition to rhino horn, in particular (Table 1) from East Asia and China. The worth of illegal wildlife trade has been estimated by means of diverse sources at \$ 7-23 billion per year, creation it the fourth nearly every one of lucrative trade subsequent to drugs, counterfeit goods and human trafficking in that order.

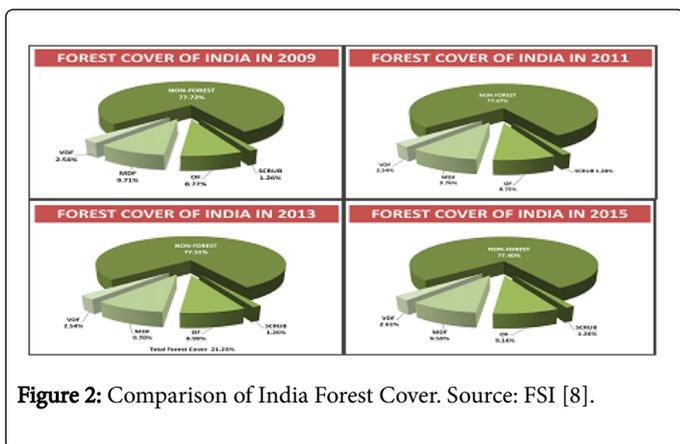


Figure 2: Comparison of India Forest Cover. Source: FSI [8].

Numerous Conventions and Agreements have been concluded to address global along with regional issues on top of loss of biodiversity

S. No	Species	Poaching cases	No. of animals poached	Seizure cases reported	Quantity of Seized items
1.	Black buck	3	3	6	10 skins and 5 antlers
2.	Blue bull	14	16	3	20 kg meat
3.	Chinkara	7	81	-	8 kg meat and one skin
4.	Otter	-	-	1	One skin
5.	Deer	34	48	32	16 skins, 169 kg meat, 8 antlers, 5 heads and 3 legs
6.	Elephant	18	18	20	39 tusks, 5 tushes, 31 kg Ivory and 2 Ivory pieces
7.	Freshwater Turtles & Tortoises	-	-	30	9,625 live turtles
8.	Monitor lizard	-	-	5	170 skins, 7 live, cooked meat
9.	Pangolin	-	-	8	36 kg scales, 1 live animals
10.	Peacock	30	116	2	Paws and feathers
11.	Red sand boa	1	1	6	11 live

12.	Rhinoceros	22	22	1	One horn
13.	Sea cucumber	-	-	3	3,200 kg
14.	Sea horse	-	-	1	15 kg
15.	Sea tortoises	-	-	6	510 live
16.	Wild boar	10	11	10	126 kg meat, 1 skull and 1 bone

Source: Down to Earth [13]

Table 1: Poaching and seizure of wild animals in India, 2014.

The information that species are disappearing still before we have documented or named them and settle on their role in ecosystem processes deserves serious concentration. The climate deniers who are major stake holders and beneficiaries from there economic structures negate any interrelationships between climate change and biodiversity loss. The simple argument they put forward is that climate change, being a natural phenomenon is operating from infinite times. Loss of tropical rain forest and hill forest through selective harvesting, and additional development purposes has been widespread [14] and is still continuous which seriously affected the distribution of biodiversity fauna and flora [15]. Thus when forest system is disturbed or destroyed, these wildlife species are as well disturbed, resulting in detrimental effects not only to plant and animal life within the forest ecosystems, other than also to man's survival [16]. The diversity of amphibians and reptiles of India represents almost 6% of global herpetofauna biodiversity [17] with 865 extant species (340 species of amphibians and 525 species of reptiles). The Western Ghats of India has maximum amphibian diversity (160 species, 85% endemics), followed by the North East India (125 species, 42% of the diversity as endemics). Biodiversity Conservation will ultimately achieve something or fail at population phase [18]. If all species populations persist and obtain scope of wider dispersal, fruition, or even natural extinction, then biodiversity would have been successfully protected. Priority areas should maintain populations every one of taxa According to study current level of deforestation, by year 2100 only about 10% of the land area of the Indian Himalaya [19] will be covered by dense forest (>40% canopy cover) a scenario in which almost a quarter of the endemic species could be wiped out, including 366 endemic vascular plant taxa and 35 endemic vertebrate taxa. The country has lost about 40% of its mangroves and some [20] crucial part of its wetlands. Around 19 lakh hectares forest land under encroachment in India [21] which is approximately 2.47% of the total recorded forest area of the country. India is facing a high rate of loss of biodiversity due to human settlements, mining, industry and associated infrastructure. Biodiversity is a resource that has to be preserved for meeting our future needs.

Threats to Biodiversity

Most important threats to the biodiversity are deforestation, mining activities, defective farming systems, foreword of aliens, grazing, illegal trade on commercially imperative elements, constructional of large-scale hydroelectric projects, land clearance for settlement as well as agriculture in addition to environment degradation caused by water pollution from pesticides along with fertilizers, has resulted in the

speedy decline of otters in Cambodia. Biodiversity is life form destroyed all the way through world [22]. There are five quantitative criteria to conclude whether a taxon is threatened. A taxon is critically endangered while the finest [23] accessible evidence indicates that it meets a few of the following criteria. (a) Populations encompass declined or will decrease, through greater than 80% in excess of the preceding 10 years or three generations. (b) Have a constrained geographical assortment. (c) Small population size of less than 250 individuals in addition to continuing to decline at 25% in three years or one generation. (d) Very small or restricted population of fewer than 50 grown-up individuals. (e) High likelihood of extinction in wild. It was estimated by means of the IUCN [24] that there has been a 50% augment in the Figure 3 of threatened species in India in excess of past seven years. The endangered yellow-cheeked crested gibbon has suffered as of accelerating declines all through their range. India has 988 species on IUCN 'Red List'. India has additional 15 more species to the 'Red list' of threatened species published through IUCN in 2014, other than climbed downward a spot to the seventh position. Invasion of weeds- mutually the exotics (Lantana, Eupatorium, Tithonia, etc.), as well as the indigenous (Polygonums, Strobilanthes, Aechmanthera etc.), in addition to version of forests keen on [25] monoculture plantations. Loss of biodiversity is a much better threat to human survival than even climate change. Both could act, synergistically too, to escalate human extermination more rapidly. Biodiversity is so vital for human survival that the United Nations General Assembly has designated the decade 2011-2020 as the "Biodiversity Decade" by means of the chief purpose of enabling humans to live peaceably or harmoniously through nature in addition to its biodiversity. Grazing by livestock has already endangered our wildlife as well as their habitats in a variety of ways. The nearly all noticeable effect is the decline of wild herbivore populations seeing that they have to fight with livestock for their food starting place. Measuring the trends in biodiversity deterioration is vital to right of entry the anthropogenic threats to biodiversity as well as monitoring conservation programmes. Biodiversity loss originates from community, economic, political, cultural and historical features of culture. Many driving forces of such [26] depend powerfully on international policies in addition to activities. Resources of Non Wood Forest Products (NEFP), mainly orchids, medicinal plants as well as canes are in addition becoming inadequate. The national animal of India, the tiger, is the most threatened species in the country, According to National Tiger Conservation authority (NTCA) Present tiger (*Panthera Tigris*) population 2226 Nos. in India. With current rate of deforestation, 50% to 90% of earth's forest inhabiting species is projected to [27] be lost by the mid-21st century.

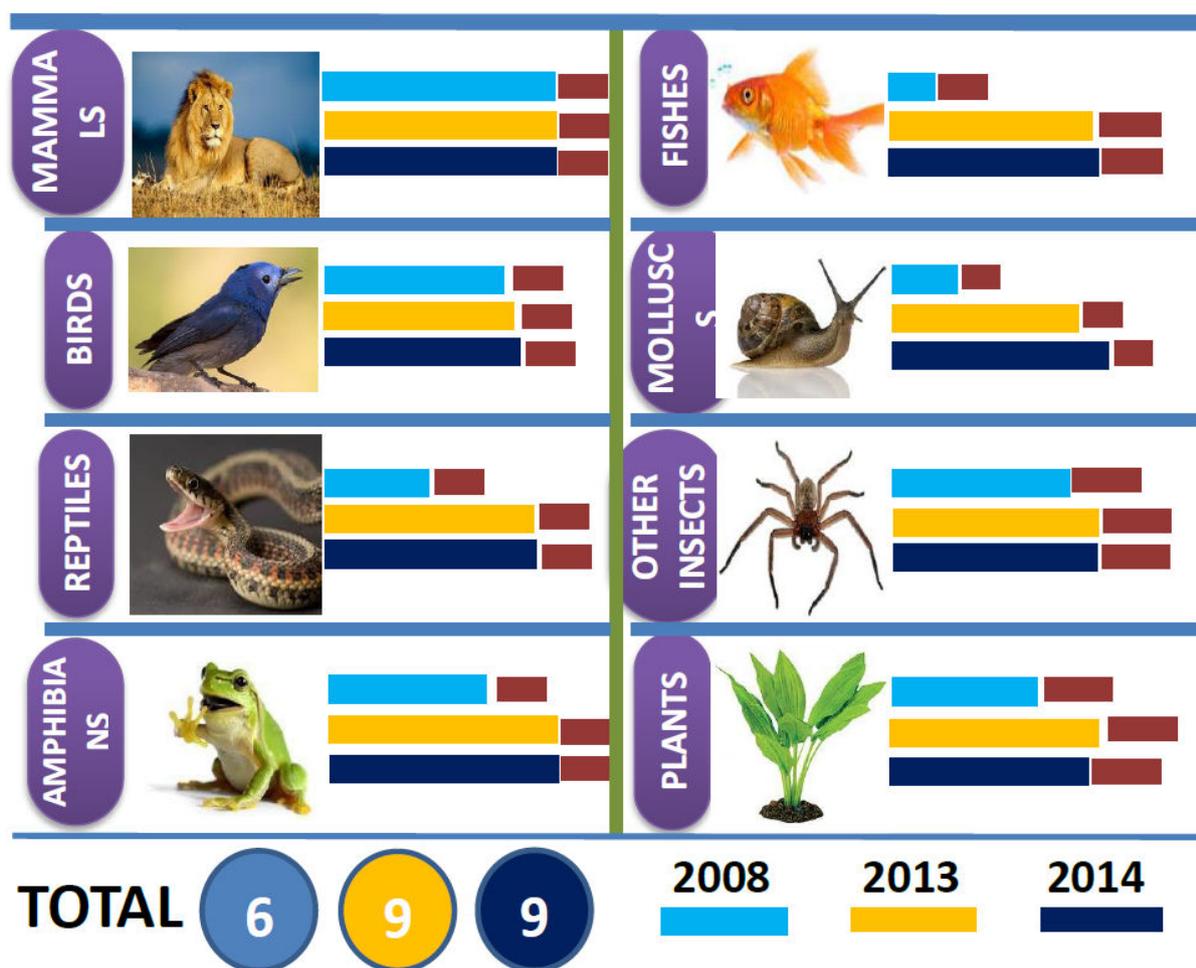


Figure 3: Threatened species of India. Source: IUCN Red List.

Wildlife Protection Society of India (WPSI, 2015) as well has records of a large number tigers found dead owing (Figure 4) to magnitude of the poaching in India. A lot of factors, including over-exploitation, have been recognized that are causing denudation of forest areas in the Eastern Himalayas. According to ZSI 29 mammals such as Chinese Pangolin, Fishing cat, Genetic dolphin, golden langur, hispid hare, etc., in the country come beneath the critically "endangered" category. In the process of extinction, the species populations are usually vulnerable to a modify in environmental circumstances in addition to there by population [28] is deduced to a small figure in addition to then become threatened. In the recent decades, on the other hand, the biodiversity has been reduced to a great extent by destruction national habitats, owing to human meddling. This extinction crisis is frequently owing to the loss of tropical forests as well as increase of settlements. Wildlife crimes are also ever-increasing, not only in India, but internationally. The United Nations has declared [13] wildlife crimes seeing that a Trans - national crime. The fact that a rhino is worth more than gold in addition to platinum, for which thousands of rhinos are killed each year, the greed of man is destroying the planet's ecology as well as biodiversity. Poaching is the principal threat to wildlife subsequent to habitat fragmentation. It prevails owing to restricted venison consumption as well as use of organs along with other body

parts for traditional medicine. Tigers as well as Leopards are hunted to get together insist of high value wildlife products such as skin, nails, bone and tusk to cater to the international trade market. High meat yielding large bodied ungulates as well as primates are the principal targets of restricted poaching. Spotted deer, sambar, barking deer, wild pig, and gaur along with smaller mammals such as massive squirrel, porcupine, pangolin and civet are usual targets of confined poachers.

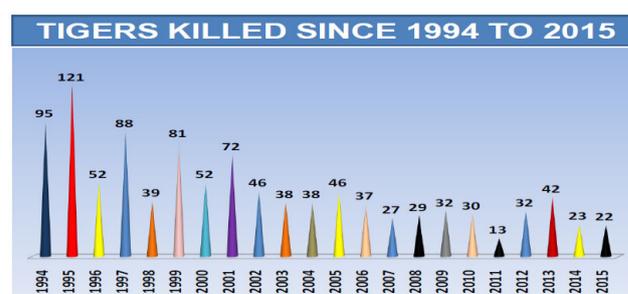


Figure 4: Existence of tigers at stake. Source: WPSI, 2015.

Conflict with carnivores Leopard (*Panthera pardus*) is one of the imperative conflict-prone species killed (Figure 5) persistently for together trade as well as owing to divergence. Fragmentation of forests has been scientifically confirmed to be one of the biggest threats to wildlife. Particularly to habitat specialist in addition to great vertebrates that necessitate enormous stretches of undisturbed forests for nutritional habitat in addition to home ranges, two key determinants intended for their survival. According to study India has lost an estimated 9.4 million hectares of natural forests in the past 14 years. Birds similar to pigeons, hornbills as well as peafowl are as well not increase. The impacts poaching are ruinous. It is a threat that in a straight line reduces the numeral of animals in an area and quite a few species possibly will be locally stamped out due to poaching. Hunting of herbivores has a direct effect on carnivore numbers as they are directly needy on them for food. Nearly 250 out of 1240 Indian bird species are water birds or water dependent. Unfortunately, a lot of water birds are beneath stern threat of extinction owing to habitat destruction, pollution, in addition to hunting. The Pink-headed Duck, a denizen of reed-filled water birds, was [29] hunted in the direction of extinction, at the same time as the Spoon-billed Sandpiper is at this time Critically Endangered. Dam in addition to mines reason large scale habitat loss. Dams immerse enormous forest areas cutting several wildlife corridors which are crucial for sustenance of wildlife populations. Dam and mining activities as well bring in new human settlements for project maintenance, such as roads and further infrastructural facilities that pretense a serious threat to wildlife. An estimated 2,500 individuals left in the wild, endangered species, as well called the Asian Wild Dog, is on top of the brink of extinction owing to habitat loss, loss of prey, competition by means of extra species, persecution and disease transfer from domestic. Biodiversity is being [30] destroyed rapidly throughout world. Measuring the trends in biodiversity deterioration is important to access the anthropogenic threats to biodiversity as well as monitoring conservation programmes.

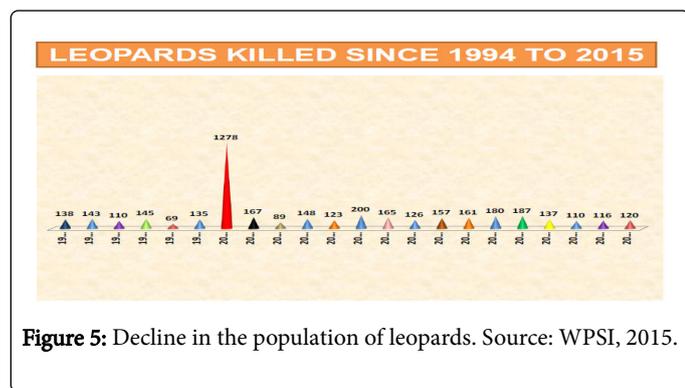


Figure 5: Decline in the population of leopards. Source: WPSI, 2015.

According to Scientist it is estimated that only 35,000 Asian elephants remain, making in the largest endangered animals on the planet. With the escalation of habitat destruction, human -elephant conflict and sustained poaching, the future of the Asian elephant in uncertain, declining by a least 50% over the last 30 years. During the period 2009 and 2013 has been worst in terms of illegal ivory trade. In 2013, over 50 tonnes of ivory was seized globally; a record and nearly 45 tonnes of the total were seized in large consignments that bear the hallmark off an organized crime.

Biodiversity for Attaining Sustainable Development

Ecological problems, connected to assorted issues varying from local ways of life to global warming, trait a growing attention on top of

sustainable development. Rhetorical conceptualization worn as a label to place in excess of modes of continuation that are neither sustainable nor development, is one more reality which gains force to growth [31] of sustainable development by embedding concerns within the theory. The sustainable development attaining strain to take on such developmental measures such that our requires doesn't become our voracity. Since human beings belong to the biological planet additional than are frequently in a position to decide its future, they have a particular obligation to pledge that a proper balance is maintained flanked through environmental health (especially biodiversity) as well as even handed development. Nature can look subsequent to itself (Figure 6). If we don't interfere in its activities. We need to focus on is to conserve enormous repository of biodiversity, the basis of human continuation. We have to budge from old ways of negotiating to a totally new-fangled paradigm towards biodiversity conservation attractive into account our economic in addition to development purpose. Unsustainable land management practices, in particular deforestation as well as overgrazing, have been together cause in addition to effect of the livelihoods crisis in the midst of tribal and rural communities living in and about forest areas.

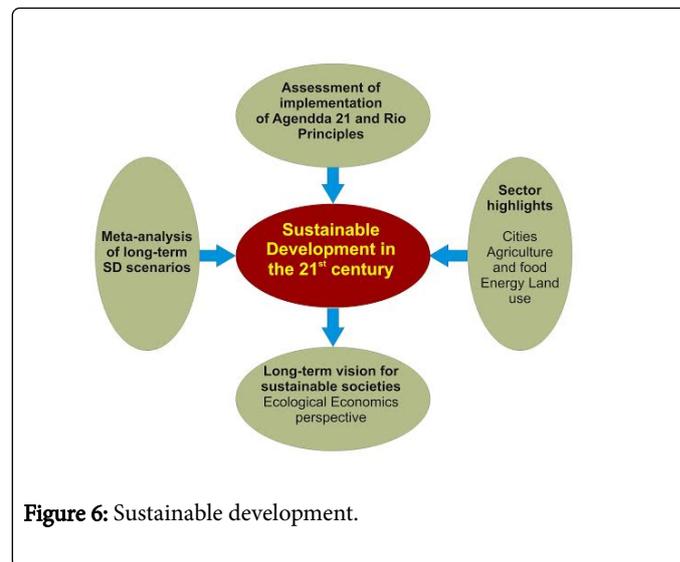


Figure 6: Sustainable development.

As per article 51 A (g) of our creation it has been complete binding on fraction of Indian citizens to defend as well as get better the national environment including forests ,lakes as well as wildlife, and to have with compassion for living creature. Human survival, nutrition as well as economic well-being are largely needy on biodiversity, in cooperation directly along with indirectly. The social feature of sustainable development is still insufficient [32] because it can be seen from the main approaches which lesser the social to the ecological. Four of the 34 globally recognized biodiversity hotspots are represented in India. Biodiversity represents enormous repository of wealth in the form of new-fangled crops, drugs, bio pesticides in addition to additional products. Therefore biodiversity conservation owing in the direction of its significance is basic to ecosystem structure as well as functioning. India's enormous population depends on climate receptive areas similar to agriculture along with forestry for livelihood. It may be helpful to recall the most cited description of sustainable development initially completed through Brundtland's statement [33]. Species as well as ecosystem are being tainted and lost at an alarming rate. In total ecological adversity is to be prevented, there is evidently an urgent require of sustainable conservation of this

only one of its kind non-man made speculate which was being degraded at a very prompt rate. Since 1600, 113 species of birds and 83 species of mammals are known to have been wholly disappeared in addition to there are almost hundreds of categories of life those of which are labeled as endangered species and this is the time when we take a head straight come up to of conserving this enormous biological diversity in a incredibly sustainable way. The rapid augment in the human population has additional intensified the reliance on the forest resources for fuel, food, fiber, timber as well as fodder. The rapid deforestation has augmented the dash for documenting the genetic variability of the afforestation programmes and in shrewd in addition to sustainable make use of forest resources. The hardly any that are left are not so sparse that they no longer persist to provide sustainable survival. Cultural diversity as well as biodiversity as one holds the key to the sustainability of our ecosystem - a precondition for every one of sustainable development. Policies for sustainable development have to be based on evaluation of all obtainable evidences. Climate exhibits inter-annual, multi-decadal in addition to millennial variations. In the meadow of environmental ethics, justifications intended for the preservation of usual diversity have usually proceeded ahead one of the two differing lines of consideration. On the one hand natural diversity has been valued since of the benefits it brings, or be able to be predictable to bring, to human beings or equally, because of human misery that the preservation of biodiversity can be predictable to prevent. We need to build up a knowledge pedestal on biodiversity is an imperative as the conservation of biodiversity itself from the angle of its technological consequence as well as utilization. The emphasis of biosphere reserves research in addition to programmes is awfully important for the incidence, upholding as well as development of such precious biodiversity. Biosphere reserves are those precise areas which are very rich in biodiversity as well as are protected. There are additional training programmes as well as institutions which are creature set up for training people settling in the close by areas for such preserving such varied scenery of flora and fauna. Changeover to sustainable development benefits today's society as well as builds an extra sheltered prospect for our children. Sustainable living depends on top of agreement by means of additional people as well as by means of nature. It means that people have to share through each other and care for earth. Humanity has to obtain no more from nature that nature can refill. It necessities adopting such life styles in addition to development paths, which admiration nature in addition to its carrying ability. The conservation of biological diversity is more than an aesthetic or ethical matter; it is integral to our health as well as economy. The diversity of life is the base ahead which sustainable development depends. The livelihood of the poorest 1.2 million people on earth depends either entirely or at least partly on wild resources. Biodiversity loss can in many cases be attributed to human exploitation of land and resources, human intervention can also alter this trend. It is, therefore, necessary to influence people for changing their life-styles by means of the aim to attain sustainable development. This calls for attitudinal modify of people.

Conclusion

All natural ecosystem on the planet has been distorted through humanity, thus to the point of collapse. Species have gone ahead of time extinct, natural hydrologic as well as chemical cycles have been disrupted, billions tons of tops soils have been gone astray, genetic diversity has eroded, in addition to the enormous climate of the planet may have been disrupted. The problem of biodiversity conservation has turn into a global issue, it is being realized that the forest existing

within a country is not a resource just for the country, but whole of the world. Our cultural uniqueness is intensely rooted in our biological environment. Plants as well as animals are symbols of our planet, preserved in flags, sculptures, along with additional images that define us along with our societies. We illustrate inspiration just from looking in nature's beauty in addition to power. Sustainable development implies the accomplishment of quite a few conditions: preserving the on the whole balance, respect for the environment, as well as preventing the fatigue of natural resources. Sustainable development is presented as a more or less clean break from other modes of growth, which have led and are still leading to worrying social and ecological damage on top of both a worldwide in addition to a local scale. In order to be sustainable, developments have to unite three main elements: fairness, protection of the environment along with economic efficiency. The rate of deforestation is several times higher in the developing countries than the developed countries, as the forests are being felled to generate funds in addition to space for development. The extensive term perspective for sustainable development requires the broad-based participation of a variety of stakeholders in strategy formulation, decision making as well as execution at all levels in scrupulous of issues of biological diversity along with this be obliged to be encouraged. Conservation in addition to sustainable use of biodiversity is one of the thrust areas for public education as well as awareness. India's forest cover in addition to support forest based livelihoods of about 3 million households. Biodiversity is vital for human continued existence as well as economic well-being and for the ecosystem purpose along with stability. Healthy human environment depends wholly on biodiversity. Everything we eat, wear in addition to create on this planet earth is ultimately dependent on its biodiversity. Sustainable land management as well as enhances agricultural productivity while minimizing environmental impacts. India has affluent traditional knowledge linked through biological resources as well as by means of growing contribution from the experts, ought to make available leadership within upward suitable methodologies as well as strategies for biodiversity evaluation along with conservation.

References

1. Soule ME (1986) Conservation biology: The science of scarcity and diversity. Sinauer Associates, Sunderland, Massachusetts, pp: 584.
2. Rodgers WA, Panwar HS (1988) Planning a Wildlife protected area network in India II, WII, Dehradun, pp: 1-267.
3. Sanjeeva Raj PJ (2012) The Hindu, beware the loss of biodiversity, September, 23.
4. Curtis JT, Macintosh RP (1950) The interrelations of certain analytic and synthetic phytosociological characters. Ecology 31: 430-452.
5. Jha MN (2005) Soli Biodiversity-A Potential area of research for sustainable forestry, conservation of biodiversity in India -Status, Challenges and efforts. Proceedings of the Workshop ICFRE, India, pp: 161-165.
6. Mani MS (1974) Ecology and biogeography in India. The Hague, W. Junk Publishers.
7. Jain SK (1986) Ethno botany: Interdisciplinary. Sci Rev 11: 280-290.
8. FSI (2015) India state of forest report. Forest Survey of India.
9. Ghasemi S, Zakaria MHB (2008) Estimation changes in diversity and density of bird's species at a logged forest area in Malaysia. Biocom International conference on biodiversity conservation and management, pp: 154-160.
10. Mukherji P, Vishal V (2010) Sustainable biodiversity conservation in India: A vision biodiversity and sustainable development, pp: 446-457.
11. Dasgupta S, Tajinder Pal S (2014) Sustainable land and ecosystem management some best practices from India, pp: 10-150.

12. Vasisht AK, Singh RP, Mathur VC (2003) Economic implications of land degradation on sustainability and food security in India. *Agropedology* 13: 15-18.
13. Down to Earth (2015) Annual state of india's environmental, pp: 7-200.
14. Wong M (1985) Understory birds as indicators of regeneration in a patch of selectively logged west Malaysian forest. In: *Conservation of Tropical Forest birds*. ICBP Technical Publication, Cambridge 4: 240:265.
15. Soh MCK, Sodhi NS, Lim SLH (2005) High sensitivity of montane bird communities to habitat disturbance in peninsular Malaysia. *Biol Conserv* 85: 190-200.
16. Ralph CJ, Sauer John R, Droege S (1995) Monitoring bird populations by point counts. General Technical report PSW-GTR-149. Forest service, pacific southwest research station, Albany, California, USA.
17. Quamar MF (2013) Conservation biodiversity for Sustainable Development. *Current Science* 105: 1659.
18. Hughes JB, Daily GC, Ehrlich PR (1997) Population diversity: its extent and extinction. *Science* 278: 685-690.
19. Anil MNV, Kumari K, Wate SR (2014) Loss of Biodiversity and Conservation Strategies : An Outlook of Indian Scenario. *Asian J Conserv Biol* 3: 105-114.
20. Jain SK (1991) *Dictionary of Indian Folk Medicine and Ethno botany*. Deep Publication, New Delhi, India.
21. MOEF (2015) *The Economic Times*, December 22, 2015.
22. Balmiford A, Green RE, Enkins MD (2003) Measuring the changing state of nature. *Trends Ecol Evol*. Many species of flora and fauna are on the verge of extinction due to extensive degradation and denudation of forests *Ecol Evol* 18: 323-330.
23. Mathew M (2016) *Manorama Year Book*.
24. The Hindu (2015) On the Brink, Latest News, IUCN Red List.
25. Biswas S (2005) Developing a Floristic Model for Restoration of Threatened Biodiversity of North-Western and Central Himalaya, *Conservation of Biodiversity in India, Status, Challenges and Efforts*, ICFRE, Shiva Offset Press, Dehradun, India, pp: 120-150.
26. Mandal FB, Nandi NC (2009) *Biodiversity: Concept, Conservation and Biofuture*, pp: 220-415.
27. Mondal FB (2006) The change that deteriorates. *Environ* 9: 52-57.
28. Mahata MC, Mohanta K (2008) *Biodiversity An Overview*, Proceeding International Conference on Biodiversity Conservation and Management, Index Printer, Cochin, India, pp: 600-625.
29. ENVIS (2015) *Water birds of India, Wildlife and Protected Areas in India* 16: 10-131.
30. Balmford A, Green RE, Jenkins MD (2003) Measuring the changing state of nature. *Trends Ecol Evol* 18: 324-330.
31. Luke T (2005) Neither sustainable nor development reconsidering sustainability in development. *Sustainable Development* 13: 228-238.
32. Foladori G (2005) Advances and Limits of Social Sustainability as an Evolving Concept. *Canadian Journal of Development Studies* 26: 501-508.
33. UNWCED (1987) *Our Common Future: The World Commission on Environment and Development (Brundtland Commission Report)*, Oxford University Press, USA.

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