ECOSYSTEM

MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE

INCREASE IN DIFFERENT ECO SYSTEM SERVICES

19th March 2015

RSQ 2428

SHRI A.U. SINGH DEO

a) whether the eco-system services provided by forests are of critical importance to the well being of the nation, particularly tribals;
b) if so, the specific steps taken by Government to augment production of eco-system services from the forests, forest-type-wise; and
c) the estimated quantitative increase in different eco-system services over the next five years as a result of those steps?

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR)

(a)The ecosystem services are benefits which people derive from forests. These include provisioning services such as food, water, fodder, fuel, timber, medicinal plants; regulating services such as climate and water purification, pollination and seed dispersal; cultural services such as recreation and spiritual benefits; and supporting services such as nutrient cycling etc. These services are essential for ecological balance and environmental security of the country in addition to providing livelihood support to the people living in and around forest areas including tribals.

(b)The Government of India has taken various steps to improve and increase the forest and tree cover, which will contribute to enhanced production of ecosystem services from forests. These include schemes such as National Afforestation Programme, National Mission for Green India, Intensification of Forest Management and Integrated Development of Wildlife Habitat etc., in addition to the schemes and programmes of the States/ Union Territories, creation of network of Protected Areas, adoption of community based practices such as Joint Forest Management/ Van Panchayats, awareness campaigns, capacity building of stakeholders etc.

(c)Most of the Ecosystem services cannot be given a monetary connotation and countrywide assessment of ecosystem services has not been made by the Ministry.

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PROTECTION OF ECO SYSTEM IN SUNDARBAN

18th December 2014

RSQ 2852

SHRI BALWINDER SINGH BHUNDER

(a)whether according to a study by Jadavpur University's School of Oceanographic Studies and IIT Roorkee the present flow of fresh water in Sundarban is insufficient to maintain its unique ecosystem; and
(b)if so, the details of reaction of Government and the immediate plans of Government to sustain the eco-system of Sundarban?

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FORESTS AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR)

(a)The State has informed that it is not in possession of any such report / study.
(b)The steps being taken by the State as part of initiatives for the Sundarban Biosphere Reserve to maintain its ecosystem are as below:

(i) Large scale plantation in the accreted mud flats.
(ii) Formation of Joint Forest Management Committees and trust building activities among villagers.
(iii) Creating alternative livelihood options for fringe dwellers towards reducing biotic pressure on mangrove forests.
(iv) Creating awareness among fringe dwellers about the importance of mangroves for their survival.
(v) Intensive patrolling and creation of protection camps.
(vi) Mangrove monitoring by using the GIS.
(vii) Monitoring of tiger using camera traps as per the protocol of

National Tiger Conservation Authority

Further, under the ongoing Centrally Sponsored Scheme of Project Tiger, central assistance is provided to the Sundarban Tiger Reserve for tiger conservation, which, interalia, includes support for habitat management. The said tiger reserve forms part of the Sundarban landscape.

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ECO SYSTEM OF WESTERN GHATS

17th February 2014

RSQ 919

SHRI HUSAIN DALWAI

(a) whether the Western Ghats region is facing pressure of increasing population on land and vegetation, if so, magnitude of this pressure;
(b) whether factors generated by the pressure have contributed to the ecological and environmental problems in the region, if so, the details thereof;
(c) the findings of Gadgil Committee and Kasturirangan Committee on these issues;
(d) in what manner Government propose to deal with the situation so as to protect fragile eco-system of the Western Ghats; and
(e) the present position regarding Jaitapur Nuclear Power Plant in Maharashtra?

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FORESTS AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR)

(a) & (b) The Western Ghats is not only home to the rich biodiversity, but also supports a population of approximately fifty million people and also include areas of high human population density. The transformation of the landscape may have affected the ecosystems of the Western Ghats.

(c) The Ministry of Environment, Forests and Climate Change had constituted the Western Ghats Ecology Expert Panel (WGEEP) under the Chairmanship of Prof. Madhav Gadgil on 4th March 2010. The major recommendations of WGEEP report, submitted to this Ministry in August 2011, inter alia relate to demarcation of ecologically sensitive zones in Western Ghats and measures for management of these ecologically sensitive zones.

Subsequently, this Ministry constituted a High Level Working Group (HLWG) under the Chairmanship of Dr. K. Kasturirangan, the then Member (Science), Planning Commission on 17th August, 2012 to inter alia examine the WGEEP Report in a holistic and multidisciplinary fashion keeping in view the comments received from the concerned State Governments / Central Ministries / Stakeholders. The HLWG submitted its report on 15th April 2013.

Major recommendations of the HLWG inter alia relate to (i) identification of eco-sensitive areas in the Western Ghats region, (ii) regulation / prohibition of certain activities in the eco-sensitive areas, and (iii) measures for incentivizing green growth in Western Ghats region.

(d)To protect the fragile eco-system of the Western Ghats, the Government has taken the following measures:

(i) In order to provide immediate protection to the Western Ghats and to maintain its environmental integrity, the Ministry issued Directions under Section 5 of the Environment (Protection) Act, 1986 on 13th November 2013. As per the Directions, five categories of new and/or expansion projects/activities which have maximum interventionist and damaging impacts on ecosystems shall not be considered for granting Environmental Clearance in the Ecologically Sensitive Area (ESA), as identified by the High Level Working Group, in the Western Ghats.

(ii) The Ministry has issued a draft notification declaring Ecologically Sensitive Area in Western Ghats under the provisions of the Environment (Protection) Act, 1986 in the Gazette of India vide S.O. No 733 (E) dated 10th March 2014 inviting suggestions and objections from stakeholders on the proposals contained in the draft notification.

(iii) The Ministry has notified the following six ecologically sensitive zones in the Western Ghats to regulate certain identified developmental activities unless specifically prohibited in the respective notifications:

a) Eco-sensitive Zone around Purna Wildlife Sanctuary, Gujarat
b) Eco-sensitive Zone around Vansda Wildlife Sanctuary, Gujarat
c) Mahabaleshwar-Panchgani, Maharashtra
d) Matheran, Maharashtra,
e) Dahanu Taluka, Maharashtra,
f) Eco-sensitive Zone around Bandipur National Park, Karnataka

(e) The Ministry of Environment, Forests and Climate Change has accorded Environmental Clearance to Jaitapur Nuclear Power Plant on 26.11.2010.

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STEPS TAKEN FOR CONSERVATION OF HIMALAYAN ECOLOGY

17th July 2014

RSQ 148

DR. T. SUBBARAMI REDDY

(a) the steps that have been taken for the conservation of Himalayan Ecology on priority;
(b) whether a National Mission on Himalayas has been launched, if so , the details thereof, and if not, by what time it would be launched; and
(c) the short-term and long term proposals for conservation of Himalayan Ecology?

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FORESTS AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR)

(a) to (c): A Statement is laid on the Table of the House.

Statement referred to in reply to parts (a), (b)and (c) of Rajya Sabha Starred Question No: 148 due for reply on 17-07-2014 raised by Dr. T. Subbarami Reddy regarding steps taken for conservation of Himalayan Ecology

(a) The Ministry of Environment, Forests and Climate Change accords very high priority to conservation of Himalayan Ecology. Several initiatives have been taken for conservation and sustainable development of Indian Himalayan Region (IHR). These include, i) inventorization and characterization of floral and faunal wealth of the Himalaya (Annexure-I); ii) establishment of a Protected Area Network under Wildlife Protection Act (1972) for protection of biodiversity rich habitats (Annexure-II); iii) policy framework with focus on mountainous region including National Forest Policy 1988, National Environment Policy (NEP) 2006, iv) setting up of a dedicated institute viz., G.B. Pant Institute of Himalayan Environment & Development (GBPIHED) with a mandate of environment conservation & sustainable development of Indian Himalayan Region, as well as, establishment of Mountain Division at MoEF &CC to address specific issues of the mountain ecosystem in an integrated manner ; launching of National mission for Sustaining Himalayan Ecosystem under Department of Science & Technology iv) afforestation of 6 lakh ha of degraded forest lands in 10 Indian Himalayan States under National Afforestation Program (details at Annex III) ; release of Rs 1515 lakhs for preparatory activities under Mission for Green India (Annex IV); v) release of Rs 1111 crores to Himalayan States for protection of forest under 13th Finance Commission (Annex V) and release of Rs 5085 lakhs for protection and conservation of wildlife and its habitats under Integrated Development of Wildlife Habitats Scheme. (Annex VI).

(b) National Mission on Sustaining Himalayan Ecosystem (NMSHE) as part of the National Action Plan on Climate Change (NAPCC), under Department of Science and Technology, has been launched with an outlay of 550 crores during 12th plan period (Details at Annexure-VII).
Further, Rs 100 crores have been provided in the Union budget 2014-15 for setting up a National Centre for Himalayan Studies in Uttarakhand.

(c) The short term and long terms proposals for conservation of Himalayan ecology include eco-restoration and afforestation under National Afforestation Program, implementation of Mission for Green India using landscape approach , implementation of world bank assisted Bio-diversity Conservation and Rural Livelihood Initiative in Uttarakhand district , in-depth R&D activities on key issues of Himalayan Ecology through GBPIHED and other institutions , Strengthening Protected Area net work, conservation of critically endangered species like snow leopard; support to trans-boundary landscape conservation programs, and mainstreaming of best practices and guidelines on Governance for Sustaining Himalayan Ecosystem.

Annexure-I

Annexure referred to in answer to parts (a) of the Rajya Sabha Starred Question No.148 on “steps taken for conservation of Himalayan ecology” asked by Dr. T. Subbarami Reddy due for reply on 17.07.2014.

Details of floral and faunal wealth of the Himalaya

Floristic studies in the region have revealed over 18,500 taxa, belonging to various groups of plants. The Himalayan region with only 16% of India’s land area, houses 81% of the country’s stock of gymnosperms, 47% of angiosperms, 59.5% of lichens, 59% of pteridophytes, 44% of bryophytes and 53% of fungi found in India Orchidaceae with over 750 genera represents the largest angiosperm family in the Himalaya. The Himalayan ?ora represents 71 endemic genera and 32% endemic species. Also, ?ve families are endemic to the region (i.e., Tetracentraceae, Hamamelidaceae, Circaeasteraceae, Butomaceae, and Stachyuraceae), while over 90% of the species in Berberidaceae and Saxifragaceae are endemic to the Himalaya. A large number of orchids, many representing neo- endemic taxa, have been reported from Sikkim and Arunachal Pradesh. Of the total 622 endangered plants listed so far in the Red Data Book, 137 occur in the Himalayan region. Of the 137 species, 71 are from the Eastern Himalaya, 56 from the Western Himalaya, and ten species are common to both these regions. There are over 800 tree species, nearly 700 species of edible and 1700 of medicinal value in the region.

The IHR nurtures amazing faunal assemblages in the Indian subcontinent. The vertebrate faunal elements in the Himalaya provide a high degree of diversity at species level. Of the 372 mammalian species recorded in the country so far, as many as 241 species are recorded in the Himalaya; and of the 1,228 bird species as many as 528 species and subspecies occur in the region. Likewise 149 species of reptiles, 74 species of amphibians and 218 species of ?shes have been documented from the Himalaya which amount to 35%, 36% and 17% of known species in the country, respectively.

The mammalian diversity in the IHR is one of the richest in the country. Foothills of the IHR are habitats for three major terrestrial ?agship species (tiger, elephant, rhino,) out of ?ve across the globe, and aquatic ?agship species (river dolphin) also occur in the region. High altitude habitats nurture some of the charismatic and unique faunal species viz., snow leopard, red panda, hangul, chiru, musk deer, serow, Ibex and Himalayan tahr and bearded vulture. New discoveries are still being made from the region.

Several animal species are con?ned to the mountains only. Among other endemic animals, yak and mountain quail have been placed in the “critical” category (Red Data Book, IUCN 1994). Among plants,

rhododendrons are highly valued and endangered. Out of 36 species of rhododendron that occur in Sikkim, eight have been assessed as endangered.

Annexure-II

Annexure referred to in answer to parts (a) of the Rajya Sabha Starred Question No.148 on "steps taken for conservation of Himalayan ecology" asked by Dr.T. Subbarami Reddy due for reply on 17.07.2014.

Protected Area Network in Indian Himalayan Region

By the year 2009, 25 % of the total national parks were established all across the IHR. Further, additional protection by creating Wildlife Sanctuaries (98 in the IHR) and Conservation Reserves have been added to the area under the Protected Area Network (PAN). Approximately 8.3% of the total geographical area of the IHR is under PAN (4.8% in the country). Five Biosphere Reserves and three Tiger Reserves are also located in this region covering 4.1% of total geographical area and 0.7% area, respectively. Besides the tiger conservation programme, some of the designated Elephant Reserves are also located in the region, viz., Kameng in Arunachal Pradesh, Garo Hills in Meghalaya, and the Siwalik in Uttarakhand. Several other proposals for Elephant Reserves in the IHR are in the pipeline. More than one third of the declared internationally important wetlands of India are located in the IHR.

A few PAs in the IHR have been recognized for their Outstanding Universal Values and have been inscribed as 'World Heritage Site' by the UNESCO. These include the Nanda Devi and Valley of Flowers National Parks in Uttarakhand and the Great Himalayan National Park in Himachal Pradesh.

Protected Area Network established in different Biogeographic Zones of the IHR

Biogeographic Zone	Number of PAs (National Parks and Wildlife Sanctuaries	Area (km2)	Area of Biogeographic zone covered (%)
Himalaya	77	23433	11
Trans-Himalaya	7	16248	9
North-East	49	6093	3.5

Biosphere and Tiger Reserves in the Indian Himalayan Region

State	Biosphere Reserve		Tiger Reserve		
	Name	Area (km2)	Name	Area (Km2)	
Uttarakhand	Nanda Devi	5861	Corbett	1318	
Himachal	Cold Desert	7770			
Sikkim	Khangchendzonga	2620			
Meghalaya	Nokrek	820			
Mizoram	-	-	Dampa	500	
Arunachal	Dehang-Debang	5111	Namdapha&Pakhui-Nameri	1985 &1206	

Annex-IV

Annexure referred to in answer to parts (a) of the Rajya Sabha Starred Question No.148 on "steps taken for conservation of Himalayan ecology" asked by Dr.T. Subbarami Reddy due for reply on 17.07.2014.

Details of funds released to States Governments for preparatory activities in year 11-12 &13-14 under Green India Mission

(Amount in lakhs)

Sl. No.	State	Amount
1.	Arunachal Pradesh	127

2.	Himachal Pradesh	126.50
3.	Jammu & Kashmir	64.00
4.	Manipur	40.50
5.	Meghalaya	90
6.	Mizoram	224
7.	Nagaland	141.50
8.	Sikkim	300
9.	Tripura	350.50
10.	Uttarakhand	51.00
TOTAL	1515.00	

Annexure-VI

Annexure referred to in answer to parts (a) of the Rajya Sabha Starred Question No.148 on "steps taken for conservation of Himalayan ecology" asked by Dr.T. Subbarami Reddy due for reply on 17.07.2014.

Wildlife Division of the Ministry has provided financial and technical assistance to these Himalayan States for protection and conservation of wildlife and its habitats in Protected Areas and outside Protected Areas under the Centrally Sponsored Scheme of 'Integrated Development of Wildlife Habitats'.

The details of funds released to Himalayan States under the scheme during last three years are as follows:-
(Rs. in lakh)

Sl. No.	Name of the States	2011-12	2012-13	2013-14
1.	Arunachal Pradesh	168.11	162.3755	220.439
2.	Himachal Pradesh	242.1104	318.9168	475.282
3.	Jammu & Kashmir	445.0855	15.957	485.747
4.	Sikkim	131.793	177.719	129.27836
5.	Uttarakhand	201.144	220.27	326.282
6.	Manipur	86.65	73.925	80.80
7.	Meghalaya	43.80	22.08	25.56
8.	Mizoram	153.445	96.392	210.334
9.	Tripura	0	0	0
10.	Nagaland	30.333	25.855	15.375
TOTAL	1502.4704			
1613.4903				
1969.09736				

Annexure-VII

Annexure referred to in answer to parts (b) of the Rajya Sabha Starred Question No.148 on "steps taken for conservation of Himalayan ecology" asked by Dr.T. Subbarami Reddy due for reply on 17.07.2014.

National Mission on Sustaining Himalayan Ecosystem (NMSHE)

- India has also released its National Action Plan on Climate Change (NAPCC; 2008) which addresses the urgent and critical concerns of the country through a directional shift in the development pathway. NAPCC envisages, in addition to 07 other missions, a National Mission for Sustaining the Himalayan Ecosystem (NMSHE), the only location specific mission, to evolve management measures for sustaining and safeguarding the Himalayan glaciers and mountain ecosystems. This Mission, among others, aims to: (i) understand, whether and extent to which, the Himalayan glaciers are under recession and how the problem could be addressed, (ii) establish an observational and monitoring network for the Himalayan environment including strengthening regional cooperation for data and information sharing with countries that share the same ecology, (iii) promote community based management of the ecosystem through incentives to community organizations and panchayats for the protection of forested lands. DST has been given the responsibility of anchoring NMSHE with a total outlay of Rs 550 Crore.The Mission Document is already in public domain.

- Towards achieving the goals of the mission, Ministry of Environment and Forests& Climate Change (MoEF&CC) has brought out a Working Document "Governance for sustaining Himalayan Ecosystem (G-SHE): Guidelines & Best Practices" to suggest operational guidelines along with case studies from various regions of IHR which should help restrict (and reduce) adverse effects on the sensitive ecosystem of the IHR, and maintain a critical dynamic equilibrium among key resources of the region. The guidelines in this document cover a wide range of issues – including urbanization, tourism, water security, energy, forest management and infrastructure – all of which are highly pertinent as the Himalayan region faces new and increased challenges and pressures. Of the total outlay of Rs 550 Crore of the NMSHE, Rs 150 crore has been allocated for the implementation& up- scaling of G-SHE guidelines and best practices.

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NEW PANEL TO STUDY WESTERN GHATS

13th February 2014

RSQ 2340

DR. K.P. RAMALINGAM

(a) whether Government is considering to appoint a new panel to study Western Ghats, if so, the details thereof; and
(b) whether it is also a fact that Government has made it clear that the States concerned should appoint Committees respectively to assess the kind of activities that could be allowed in the tract, if so, the details thereof?

MINISTER OF ENVIRONMENT AND FORESTS (Dr. M. VEERAPPA MOILY)

(a) There is no such proposal by the Government to appoint a new panel to study Western Ghats.

(b) The Ministry has not asked the concerned State Governments to appoint Committees to assess the kind of activities that could be allowed in the Ecologically Sensitive Area of Western Ghats as identified by the High Level Working Group (HLWG). However, the Ministry of Environment and Forests has written on 16th January 2014 to the Chief Ministers of all six states in the Western Ghats region seeking their views on the HLWG recommendations.

In order to provide immediate protection to the Western Ghats and to maintain its environmental integrity, the Ministry had issued Directions under Section 5 of the Environment (Protection) Act, 1986 dated 13th November 2013. As per the Directions, the following five categories of new and/or expansion projects/activities which have maximum interventionist and damaging impacts on ecosystems would not be considered for granting Environmental Clearance in the Ecologically Sensitive Area (ESA), as identified by the High Level Working Group, in the Western Ghats from 17th April 2013:

- Mining, quarrying and sand mining
- Thermal Power Plants
- Building and construction projects of 20,000 sq. m. area and above
- Township and area development projects with an area of 50 ha and above and /or with built up area of 1,50,000 sq. m. and above
- Red category of industries