Annexure-5.01
Item No. 5-1/
EC dated 08.12.2020

Proposal
for the establishment of

CENTRE FOR HIMALAYAN STUDIES

UNIVERSITY OF DELHI
DELHI 110007
INDIA

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CONTENTS

INTRODUCTION

The Himalaya is one of the youngest mountain ranges on the planet Earth. It has many of Earth's highest peaks including Mount Everest. The Himalaya is one of the 34 global hotspots of biodiversity. The enormous size, various altitude range and intricate topography of the Himalaya experience a broad range of climate. It ranges from the tropical at the base of the mountains to permanent ice and snow at the highest elevations and subtropical, temperate and alpine in between.

The flora and fauna of the Himalaya differ with climate, altitude, rainfall, soil and many other factors.

The Himalaya is inhabited by 52.7 million people and is spread over five countries namely India, China, Nepal, Pakistan, and Bhutan. Several Indian states like Himachal Pradesh, Uttarakhand, Union territories of Jammu & Kashmir and Ladakh, and the eight North-eastern states of India - Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, Sikkim and parts of West Bengal are integral part of the great Himalayan ecosystem. The Himalaya with its diverse climatic conditions is home to many endemic and unique plants and animals species. There are large number of microorganisms which played a key role in the Himalayan ecosystem. There are 25000 plant species in the Himalaya which is 10% of the world's known species. This includes 7020 species of fungi, 1159 species of lichen, and 2000 species of bryophytes (including moses and worts), with the remainder ferns, angiosperms (flowering plants) and other species. Amongst the fauna is 218 species of fish, 74 species of amphibians, 149 species of reptile, 528 species of bird, and 241 species of mammal. The life in the Himalaya is distinctively different from that of plains. Millions of people directly depend on the Himalaya for their livelihood, and several other millions from across the world benefit from the resources of the Himalaya directly or indirectly. The ecosystem also forms the basis of the religious and cultural aspiration of the population. Poverty, loss of biodiversity, over exploitation of resources are some of the major concerns. At the moment the Himalayan ecosystem is under threat due to climate change and various anthropogenic activities. Because of this, there is an urgent need to set up a Centre for Himalayan Studies at the University of Delhi, which can become the epicentre of research, advocacy and policy.

OVERVIEW OF THE HIMALAYAN RESOURCES

Natural resources

Glaciers: The region that encompasses the Himalaya-Hindu Kush mountain range and the Tibetan Plateau is widely known as the Third Pole because its glaciers contain the largest reserve of fresh water outside the polar regions. It is also called the tallest water tower of the world. This region is the source of the 10 major river systems that provide irrigation, power and drinking water for over 1.3 billion people in Asia – nearly 20% of the world's population. The Himalayan region of India is home to some of the most notable glaciers in the world. Most glaciers are located in the territory of Ladakh and the states of Sikkim, Himachal Pradesh and Uttarakhand. Few glaciers are also found in Arunachal Pradesh. The Himalaya can be divided into four distinct areas based on precipitation patterns: (a) dominant monsoon precipitation (the Mount Everest region and Sikkim), (b) dominant winter (westerly) precipitation (Ladākh and Spiti areas), (c) equal/sub-equal monsoon and winter precipitation (the Ganga basin (equal) and the Beas basin (subequal)), and (d) rain-shadow areas (Vohra, 1981). The amount of meltwater produced and mass-balance characteristics of each glacier vary according to the area in which the glacier is found. The principal glaciers of the Indian Himalaya are Siachan (70 km), Gangotri (30 km), Zemu (28 km), Mīlam (19 km) and Kedārnāth (Gangotri-Chaukhamba area). These glaciers contribute to the three major drainage basins in the Indian subcontinent; Indus, Ganga and Brahmaputra basins.

Rivers: Precipitation pattern over river basins dictates the flow pattern of rivers. This vital link based on the provisioning ecosystem services of the atmosphere is hardly recognized. India's new water policy has to recognize the need for deep scientific knowledge of the climate process in the Indian Himalayan Region (IHR). The larger Himalayan region is known as the water tower of Asia. The IHR is a part of it, and also includes most parts of the north-eastern states and hill areas of West Bengal. The large rivers emerging from the IHR are the Ganga, the Brahmaputra, the Barak (in the Meghna basin) and Indus. These rivers are joined by many tributaries from the Himalayan region, especially from Bhutan and Nepal. The Himalayan arc stands as a very tall (about 6,000 metres high) obstruction to the flows of the moisture-bearing atmospheric circulations, mainly the summer monsoon from June to September and the westerlies from November to February. This makes the Himalaya the climate maker of Asia and dictates the water endowment of these rivers. The monsoon results in very high precipitation as rain; and the westerlies generate precipitation that comes from Central Asia,

largely as snow. This makes the rivers emerging from the IHR perennial and their flows account for about two-thirds of the total river flows of India.

Flora: Himalayan region falls in one of the biodiversity hotspot areas because of the variety of habitats available. The vegetation richness of the Himalayan region is being manifested by the presence of 21 vegetation types, 10 forest types and 11 forest formations, as reviewed by Dhar (2002). A total number of endemics reported for Himalaya in India account to 46%. The total availability of about 8000 species of angiosperms (40% endemic), 44 species of gymnosperms (15.91% endemic), 600 species of pteriodophytes (ferns) (25% endemic), 1737 species of Bryophytes (32.53% endemic), 1159 species of lichens (11.22% endemic) and 6900 species of fungi (27.39% endemic) Singh and Hajra (1996). Of a total of 111 monotypic genera in India, 68 are confined to the Himalayan region.

The northwestern and western Himalaya exhibit dense tropical forests in the warm, lowland Bhabhar and Siwalik hills, deciduous mixed forests in the middle mountains, and scattered arctic-type and alpine vegetation at higher altitudes. The Lesser Himalaya (lower altitudes) supports luxuriant trees of *Pinus roxburghii* and *Alnus nitida* on the slopes devoid of good soil while the moist rich slopes are occupied by *Alnus nepalensis, Quercus leucotrichophora, Rhododendron arboreum,* etc. The forests of *Q. semecarpifolia, Q. floribunda*, and *Pinus wallichiana* are characteristic of the higher altitude zones of the Lesser Himalaya. The dominant species *Abies* sp., *Betula utilis*, *R. campanulatum*, and *Juniperus communis* represent the forests of the Great Himalayan range. The higher altitude beyond the tree line (3000 m asl) have alpine meadow and grassland. However, forest in the eastern Himalayan ranges are known of broad-leaved vegetation and are comparable to typical tropical rainforests. *Shorea* sp. is the dominant component of tropical low altitude deciduous forests (below 800 m). The sub-tropical zone (800-1800 m) is dominated by *Schima-Castanopsis* and *Pinus* sp. forests in association with *Alnus nepalensis* and *Rhus javanica*. The higher ranges (1800-3000 m) provide broad-leaved forest combinations of *Quercus Mechelia*-Acer, *Rhododendron-Quercus-Magnolia* and *Tsuga dumosa-Quercus* sp (Badola & Aitken, 2012).

Fauna: The Himalayan region in India is represented with the uniqueness of biodiversity elements and over the last three decades this unique biodiversity is now under the in-situ biodiversity conservation management. The Protected Area Network in the Himalayan region is now, 15 national parks and 59 sanctuaries covering 9.6% of the geographical area within the Protected Area (PA) network of India. PA of the Himalayan ranges has been marked out either

as biosphere reserves, national parks, or wildlife sanctuaries. Gradually, with the advent of modern conservation management, the focus has switched to wildlife conservation. For the past several years faunal conservation and habitat conservation have become vital components in protected area management planning. Mammals and aves have been given major attention in conservation management. The Manas Biosphere Reserve in Assam alone harbours 59 mammal species, 380 species of birds and 50 species of reptiles.

The Great Himalayan National Park and Kanawar Wildlife Sanctuary in Himachal Pradesh harbour 31 species of mammals, including carnivores (eg. Black Bears & Leopards), small mammals (eg. Yellow-Throated Marten), ungulates (Musk Deer, Himalayan Thar and Goral), primates (Rhesus and Langur), and large rodents such as the giant Indian Flying Squirrel. Most of the Himalayan fauna has been given protection under the high priority protection category of Schedule I of the Indian Wildlife (Protection) Act, 1972. Many of the protected areas are known for their key taxa such as the great Indian One-Horned Rhinoceros (Rhinoceros unicornis) in the Manas and Bibru Saikhowa Biosphere Reserves in Assam, the Snow Leopard (Panthera uncia) in Hemis National Park, Ladakh UT and Nanda Devi Biosphere Reserve (Uttaranchal), and the Himalayan Thar (*Hemitragus jemlahicus*) in Great Himalaya National Park. Several mammals are listed in CITES and/or Schedule I of the Indian Wildlife Protection Act (1972), such as the Himalayan Black Bear (*Selenarctos tibethanus*), Brown Bear (*Ursus arctos*), Musk Deer (*Moschus moschiferus*), and the Red Panda (*Ailurus fulgens*). The Western Tragopan (*Tragopan melanocephalus*), known locally as "Jijurana", according to popular folk-lore contains the entire spectrum of colours on earth. Endangered reptiles include the common Indian monitor (*Varanus bengalensis)* and the Indian Rock Python (*Python molurus*).

Human resources

The Himalaya separates the Indo-Gangetic Plain from the Tibetan Plateau and is a rich genetic resource of Ethnic Diversity. There is great cultural diversity within the population of the Himalayan regions. Buddhism, Hinduism and Islam are three dominant religions in the mountains. In general, the inhabitants of the northern slopes and the higher altitudes on the southern side of the Himalaya are Mongoloids and have remained ethnically pure because of relatively lower contact with outsiders. The Central Himalayan region is inhabited by people commonly known as 'Paharis'. The Paharis can be further subdivided into subgroups which share basic cultural similarities, however, on closer look, each subgroup has a different dialect, ceremonies, deities, architecture, dress and ornaments, marriage rules and range of castes too.

The Changpas of the Western Himalaya are mostly nomads engaged in trans-human activities while other ethnic groups like Laddakhis, Dardi and Balti are engaged in agricultural activities mostly concentrated in river valleys. Kashmiris, Gujjars and Bakkerwals inhabit the Pirpanjal and Kashmir valley mountains areas; they speak Kashmiri and Pahari languages. Menfolk in remote Himalayan regions are into a variety of professions. Some travel for herding, while many others travel out of their valleys for selling their wares at lowland markets. At the same time, they also buy goods that they cannot access the closed high-altitude valleys. The main source of trading is the wool of Sheep, Goat and Yak. The greater Himalayan region is the most complex in terms of its diversity of peoples and languages. There are hundreds of different languages spoken in the Himalaya. Himalayan women usually participate with the men in agricultural practices and cultural activities. Mahila Mandals are actively involved in the protection of trees and environment. Mountain regions usually have a rich base of indigenous traditional knowledge, but it is rapidly eroding due to forces of modernization, as new methods make inroads thus leading to decline of local value and promotion of indigenous knowledge (Sharma and Sood, 2018).

The North-eastern part of the Himalaya has many ethnic groups, distinct from one another. The state of Arunachal Pradesh is home to 26 scheduled tribes and more than 100 subtribes. Most of the people are of Mongoloid origin but the geographical seclusion from each other certain distinctive features in languages, dress and customs (Sahoo and Chowdhury 2018). In the state of Assam, there are many castes and ethnic groups with different dialects and culture. The people of Manipur comprised various indigenous communities such as Meitei, Naga, Kuki, Mizo etc. Despite each community having its distinct language, Manipuri is commonly spoken. The Manipuris are deeply rooted in their culture and traditions that include dances, mythology, folklore, indigenous games, sports and crafts. The state of Nagaland is inhabited by more than 16 indigenous scheduled tribes, each with a distinct dialect and traditional knowledge (Zhimo 2019). The state of Meghalaya is inhabited by three major matrilineal ethnic groups- Khasi, Jaintia and Garo. They are considered to be the earliest ethnic group of settlers in the Indian sub-continent. The Lepchas are considered to be the original inhabitants of Sikkim. Bhutias, Gorkhas or Nepalese are also inhabitants of Sikkim (Sahoo and Chowdhury 2018).

Ecosystem Services

The Eastern Himalayan rivers and landscapes provide valuable ecosystem services in the form of climate regulation, soil retention, carbon sequestration, etc. The welfare of millions of people

downstream is intricately linked to the natural resources of the Himalaya. The indigenous communities in the Himalayan region have a rich amalgamation of religious, cultural and local traditions. These societies procure various ecosystem services from the forest resources which include provisioning (finding food and fodder), cultural (aesthetic, religious), supporting (soil formation and water cycle), and regulatory (erosion, climate) services (Chettri *et al.*, 2007). However, the main challenge is how to use natural resources sustainably. What is needed is a clear understanding of resource that flows to and from mountain areas. This will help increase the income of mountain communities thereby facilitating a rational distribution of earnings from natural resource services. Markets which channel local products and the establishment of distribution systems with strong communication could uplift local village economies (Bhattacharya 2019).

Benefits of the Himalayan ecosystem

The Himalaya has always played a significant role in the climatic and physiographic features of the country. The glaciers of the Himalaya are important sources of several rivers in Asia, including the Yangtze, the Indus, and the Ganga. People across the continent depend on the Himalayan water sources for drinking, irrigation, industry, and power generation (WWF, 2018).

The *Dooars* are alluvial floodplains in the foothills of the Eastern Himalaya in North-East India. The *Dooars* valley is home to many wildlife sanctuaries such as *Gorumara* National Park, *Chapramari* wildlife sanctuary, *Buxa* Tiger Reserve, and *Jaldapara* Sanctuary, which together represent the ecological wealth of the region (Bhattacharya *et al.*, 2016). The forest and mountain regions of the Himalaya have become attractive tourist destinations for pleasure trips, trekking, camping, biological and geographical excursions, geoheritage and geotourism and medical research projects. The Himalayan regions support adventure, biological diversity and recreation.

Threats to the Himalaya

Despite the beginnings of consolidated conservation efforts, there are considerable gaps in managing and conserving forest resources and biodiversity. There is an urgent need for sustainable management planning in these areas to ensure holistic socio-ecological conservation.

The effects of climate change are more severe in the Himalaya than compared to other regions. Glacier melt in the Himalaya is projected to increase flooding and avalanches from the destabilized slopes and to affect water resources within the next two or three decades. This will be followed by decreased river flows as the glacier receded. It is projected that crop yields could decrease up to 30 per cent in South Asia by the mid 21st century according to the Intergovernmental Panel on Climate Change (IPCC, 2007). The annual and seasonal temperature trends in the Kanchenjunga landscape indicate an increase at the rate of 0.01 – 0.015o C/year, with higher altitudes experiencing greater warming (Singh *et al.,* 2011). The forest areas of the Eastern Himalaya suffer from anthropogenic threats such as illegal cattle grazing, firewood collection, and poaching. Poaching wild animals, livestock grazing, overexploitation of forest resources, and pollution in the Eastern Himalaya are major threats to biodiversity and natural resources (Bhattacharya and Ghosh, 2014).

Medicinal plant diversity in the Eastern Himalaya is getting depleted. The factors responsible for depletion include the shrinking of natural habitat due to population pressure and developmental activities, overexploitation of natural resources, forest fires, illegal trading, livestock overgrazing, cutting of trees for fuel and timber, and changes in climate and weather patterns.

The Eastern Himalaya are prone to landslides due to natural and anthropogenic factors. Roads and infrastructure are development priorities, but they also pose major threats to biodiversity, and animal movement corridors in particular. Road networks would enable easier access to the area but would also open the site to commercial development and tourist inflow, which can damage ecological assets. Wild animal deaths due to accidents are also on the rise (Chaudhury, 2015). Unplanned developmental activities like hydro-electrical projects, road construction, the establishment of tea gardens, and mining activities lead to calamities such as landslides, forest fires, etc. These factors have an incremental effect on the fragility of the Himalayan ecosystems. The construction of roads and infrastructure activities also pose major threats to the biodiversity and ecological corridors of the forests. Well-built roads naturally attract tourist inflow, as they enable easier access to the area, but also open up the possibility of commercial developments like hotels, guest houses, and other permanent establishments that lead to severe pollution in the area, which would ultimately endanger the ecology of the region.

Many of the dams built in the region are located in high-seismic zones, which are prone to landslides, flash floods, and earthquakes. The construction of several dams has been undertaken and/or proposed without a proper environmental impact assessment. This may lead to arable lands in a biodiversity hotspot being submerged in water. The Himalaya are highly prone to erosion and the rivers carry heavy silt loads. The accumulation of sediment behind these dams also deprives downstream plains of nutrients and silt deposits that are a source of their fertility. Unsustainable developmental activities like these are destroying the Himalayan ecosystem and can force-displace the indigenous population who have been the traditional drivers of conservation.

Challenges and Opportunities

There is a lack of awareness among stakeholders about the advantages of having rich biodiversity in the hill areas. Specific training and awareness campaigns from the government have to be undertaken to educate people in this regard.

The number of automobile vehicles has been increasing significantly in the ecotourism destinations of the Eastern Himalaya. Should these vehicles go unmonitored, it may enhance pollution in the forest areas.

Separate waste collection and disposal system needs to be operated by the government in all the villages of the Himalaya, especially those near forests. Effective management practices are necessary for plastic waste and hazardous waste. Proper management of solid waste through the collection, storage, transportation, recycling, and disposal should be implemented to promote sustainable development.

Incidences of cattle grazing in the villages of Eastern Himalayan foothills have rapidly increased and so is the number of households. Reduction in cattle grazing in the forest areas can increase soil stability, reduce erosion, and balance the ecosystems. However, a management strategy like rotational grazing might be preferable instead of sticking to the strategy of reduction and curtailing villagers' rights to forests, especially within protected areas.

It is a challenge to ensure that modernization of the native cultural values in the Himalaya happens through a careful, step-by-step transformation. The aim should be to provide lasting

benefits for the local population and their economy and culture in rural and semi-urban landscapes.

Urgent need for conservation and preservation

There are different kinds of narratives in nature conservation depending on who provides the definition. Conservationists, sociologists, corporations, philosophers, animal and human rights activists, have different approaches to what nature is and why nature should be conserved. According to Tsing *et al.* (2005), all conservation programmes are necessary projects in politics and governance. Key questions have always been what kind of politics and what forms of governance should legitimately prevail. Whatever the narratives, nature conservation is seldom without disagreements. In the present day, there is a conflict between groups who aim to protect natural resources and those who suffer from their protection. The former tends towards consideration of nature as a vast landscape of wilderness, filled with endangered species and charismatic animals. Such understandings, promoted by the urban middle class in India, often fuel what has been called 'bourgeois environmentalism' (Baviskar 2011). For this group, causes of the disaster are attributed to the poor, but for many nature is a source of livelihood. It may also be viewed culturally through the notions of the sacred (Gadgil and Vartak 1985; Knight 2004). Some imagine nature as a commodity to be traded, as a religion to be believed and as a 'dying' entity that needs to be saved (Luke 1997). Through the lens of space and place, West (2006) explains that local communities know their environment through hunting, working, living, singing and telling stories, whereas conservationists know space through investigation, questioning and production of written texts, which reveals a serious mismatch in the way nature is perceived and utilised.

Nature conservation involving local communities has been criticized for being top-down and non-inclusive. However, the significance of scale and place is now increasingly acknowledged in conservation (Stewart et al. 2013). A growing literature highlights the importance of multi-scaled understanding of the socio-ecological approach and polycentric governance of natural resources (Wessells 2010, Young et al. 2007).

Enhancing ecosystem services can lead to the improvement of food and nutrition security in the Himalayan landscape. This can be achieved by implementing sustainable methods such as crop rotation with legumes to fix atmospheric nitrogen in soil instead of nitrogenous fertilizers (Wratten *et al.*, 2013).

Promoting organic farming in Eastern Himalayan villages can stabilize both ecology and economy. The establishment of community seed banks and the preservation of the germplasm of indigenous crop varieties can ensure the availability of food resources in the future. Use of available food technology for processing together with marketing facilities will improve the income of farmers. However, the impacts of climate change on these varieties must be identified.

The sustainable conservation of medicinal plants is necessary, considering the factors responsible for their depletion. Extensive genetic databases need to be prepared and local centres for the conservation of medicinal plants need to be established. Biopiracy is a major problem in the Eastern Himalaya which can affect endemic plant diversity. *Neora valley* national park and *Senchal* Wildlife Sanctuary are considered among the richest medicinal plant diversity zones in the Eastern Himalayas. Initiatives should be taken to promote medicinal resources and to provide economic support to build up private nurseries, where several varieties of important plant species may be preserved.

Extensive investigations in the hill areas need to be carried out so that necessary measures can be undertaken for their conservation. Bringing local communities into protected area management will also have a significantly positive impact on long-term biodiversity conservation in the trans-boundary Himalayan landscapes.

JUSTIFICATION FOR CENTRE FOR HIMALAYAN STUDIES

The Himalaya is considered to be highly sensitive to climate change and is one of the youngest mountain ranges on earth. It is characterized by a high energy environment due to high relief, steep slopes, complex geological structures with active tectonic processes and continued seismic activities and weak folded structure. Climate variability in this region is a very prominent phenomenon due to its topography and monsoon climate together with increasing population pressure, overgrazing, deforestation, road construction, dam construction and agriculture/horticulture in high slope regions. The mountain regions are prone to multiple hazards viz. earthquakes, landslides, flash floods, etc.

In recent time, the problems have accentuated due to increased tourism, urbanization and climate change. The recent flood furies at Leh (2010), Uttarakhand (2013), Jammu and Kashmir (2014) and Nepal/ India earthquake have shown the significant vulnerability of Himalaya. The nature and mechanism of all the three events were different due to varying geographical factors but all three caused huge loss of life and property. Both the Leh and Kedarnath floods were induced by cloud burst, but the spatial impact varied. The impact varies between flat land topography and high hill region. Leh being a flat land the impact was confined to local areas only but in the case of Kedarnath, due to ridge and valley topography, the impact was carried to the downstream area that caused massive devastation. The number of occurrences and the trend of these cloud burst event have been continuously increasing. In 1908 one cloud burst was reported. After a span of 62 years, another cloudburst occurred in July 1970 at Uttarakhand. Since the 1990s, 17 cloudbursts have caused massive damage to lives and properties of which at least 11 cloudbursts occurred only in the three hilly states of Uttarakhand, Himachal Pradesh and Jammu and Kashmir. Now, this phenomenon seems to be highly frequent: 11 out of the 17 cloud bursts occurred only during 2010-2013. One can say that the increase in the frequency of such incidences is because of changing climate.

In the recent Jammu and Kashmir flood, the event was not triggered by a cloud burst. But it was due to the intense rainfall for more than 450 mm in 3 days (Annual average rainfall of Jammu and Kashmir is 100mm). The huge amount of rainwater was beyond the Jhelum's catchment capacity added by choking of the drainage system due to extensive soil erosion

during the event. Soil erosion increases due to the bareness of surfaces caused by human activities. As per the records Jammu region has experienced such huge rainfall in 1903, 1908, 1926, 1942 and 1988, whereas in the Kashmir valley such intensity rainfall was observed in 1903, 1911, 1917, 1928 and 1992.

India's 12% of the land is vulnerable to floods. Floods in the Indo-Gangetic-Brahmaputra plains are an annual feature, on an average hundreds of lives are lost every year. The warming in the past decades is progressively higher at the higher elevations and the warming in this region is having profound impacts on glacial melting. It has been observed that in the high mountains (4,500 to 5,500 m) the frequency and occurrence of Glacial Lake Outburst (GLOF) events have been increasing in the second half of the 20th century. There is an urgent need to monitor high altitude glaciated regions to understand the natural processes and to reduce the magnitude of flood hazards downstream. Awareness of glacial lake outburst floods in the Himalayan region is derived from the memories of local people and from incidentally documented evidence. There are more than eight thousand glacial lakes in the greater Himalaya and about two hundred lakes are potentially dangerous. Most of the glacial lakes in the Himalayan region are identified to have formed within the last five decades, and escalation of GLOF events have been reported in this region. On an average, in every 3 to 10 years one GLOF event was recorded in the Himalayan region. These events have resulted in the loss of many lives, as well as the destruction of houses, bridges, fields, forests roads and livelihoods not only in the Himalaya but downstream Indus-Ganga-Brahmaputra Plains.

While several studies have been conducted in the western part of Himalaya yet the study of the far eastern corner that comprises eight North-Eastern states has been minuscule.

A strong feature of the Centre for Himalayan Studies is the integration of research across its major challenges. This will facilitate the linking of Himalayan issues with immediate resource management problems and policy issues.

OBJECTIVES OF THE CENTRE

1. A multi-disciplinary research centre devoted to study the Himalayan history, geography, society, economy, polity, culture, traditional knowledge, bioresources, environment, sustainable development and related fields.
2. To carry out primary research on the above areas and collect data from all available resources both primary and secondary.
3. Development of transdisciplinary and an integrated Himalayan Data Centre. To have a database on people or organizations working on various aspects of the Himalaya and associate them with the centre. Establishing a Network of Scientists, Social Scientists, individuals, organizations etc., working on Himalaya by coordinating with several regional, national, and international organizations.
4. To strongly advocate conservation of the Himalayan resources and sustainable utilization for the benefit of people and create awareness using new media and visual aids. Develop community usable warning tools that will facilitate participation at the local level towards Himalayan emergency events. Recommendation to the Government and Communities identifying major challenges facing diverse local actors together with future challenges.
5. It will organize workshops, seminars, conferences, symposia, training etc, at both national and international level.
6. The centre will contribute towards Science-Policy and Social Science-Communities interfaces to the Government of India in the context of global agreements i.e. Sendai Framework of Disaster Risk Reduction, Sustainable Development Goals, Paris Climate Action and Biodiversity Conservation.
7. To secure funding from all national and international organizations in the areas of Himalayan studies.
8. Providing a platform for communication and education by offering certificate and diploma courses initially and PhD degree eventually.

STRUCTURE OF THE CENTRE

- A professor of eminence having sufficient knowledge about the Himalaya to head the Centre as Honorary Director or Director.
- There shall be Secretariat with secretarial assistance
- Interdisciplinary faculty members who are already permanently employed in various departments at the University of Delhi can be co-opted. If necessary, fresh faculty appointments may be done.
- Provision to appoint adjunct faculty, distinguished or honorary faculty, retired faculty preferably with vast knowledge on the Himalaya.
- The University of Delhi will provide the necessary office space, infra structure and funds for the operation.
- Faculty members should raise funds by applying for projects funded by national and international funding agencies.
- Centre of Himalayan Studies shall be located at North Campus, University of Delhi.
- The Centre will function as per rules and regulations of University of Delhi.
- An Advisory Committee can be formed with eminent people as the members .The Chairman of the Committee should be an eminent person with vast knowledge on Himalayas and should have experience in physically working in Himalayas.
- The Institute should be headed by a Professor of Eminence at the Senior level as the Honorary Director or Director having sufficient knowledge on Himalayas and must have worked in Himalayas. Honorary Director can be from the University of Delhi or from any other University or Institution.

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