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The SDG event titled, 'SDGs for Human Settlements in Himalayan Region', was organized for the 8 North East States and West Bengal on 14-15 December 2016 at the Administrative Staff College, Guwahati[1] by NITI Aayog, RIS, Vijnan Bharti and UNDP. Earlier NITI Aayog, States and Vijnana Bharati had organized a Regional event on SDGs, Climate Change and Coastal Habitats on 29-30 August 2016, at Hyderabad, while NITI Aayog in collaboration with other partners including MoSPI, RIS and UNDP had organized a series of National Consultations.

Shri R. M. Dubey, Centre for SDGs, Assam welcomed all the delegates. He added that SDGs need participation of people at district and village levels. He also spoke about the need of technology, mobilization of resources, and community participation approach for the effective implementation of SDGs.

In the inaugural session Shri V. K. Pipersenia, Chief Secretary, Assam informed the important initiatives taken by the State on SDGs. For instance, one can't apply solutions valid for plains to Himalayan region. Moreover, an Indian State is not a homogenous entity, but has many diverse regions within it. He added that Himalayas are quite fragile, and that we should remember what

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[1] List of participants is at **Annexure 1**.

Mahatma Gandhi had said, 'We should live for a world which we would not see'. Therefore, we need to apply sustainability filter in our development policies, which is so enshrined in our ethos.

Member NITI Aayog, Dr. V.K. Saraswat said that we need to have responsible consumption patterns to reduce our carbon footprint. He stressed that such customized events can be of immense value. For Himalayas, complete ecology, shifting demography, jobs need to be kept in mind to avoid haphazard concrete towns. Appropriate technologies need to be evolved and utilized to attain sustainable development. Transport needs a little more investment to make it sustainable and it is worth it. Homi Bhabha had aptly said, 'No power is costlier than no power'. Dr. Saraswat added to it, 'No water is costlier than no water'

Dr. P.K. Anand, Sr. Consultant, NITI Aayog, pointed out that it is found that the States that made good progress on MDGs, *ceteris paribus* also had better Human Development Index. Though the causality may be running both ways, faster progress on SDGs with better standards of quality in achievement would help States in betterment of their people. He added to internalize sustainability as an ingredient of policy to push growth, rather than to see it as an act of benevolence.

Shri K.V. Eapen Additional Chief Secretary, Planning & Development Department, Assam said that States and its various departments need to work in close collaboration for effective implementation of the SDGs. He also mentioned that State specific indicators to suit state specific requirements need to be developed for the SDGs.

**The deliberations were held to take forward the task of implementation of SDGs and related targets and to expedite evolution of National Indicators. Besides the organizers; experts from MoSPI; States; Union Ministries; Academia; ICIMOD; WWF; Indian Mountaineering Foundation; JSSCP, Ooty; Indian Institute of Bank Management; other organisations and a large number of delegates actively deliberated and provided valuable inputs. Below are provided names of the esteemed panelists:**

**The take away points crystallized from the deliberations are covered in the ensuing <u>Section II</u> of this Report.**

Names of Panelists:

- Padam Shri Harbhajan Singh (Hony. Secretary, Indian Mountaineering Foundation, Member NDMA)
- Shri K.K.Mittal (Addl CS& APC, Govt. of Assam)
- Dr. Shiladitya Chatterjee (IAS Retd. Adviser to Centre for SDGs Assam)
- Jyotsana Sitling (Joint Secretary, Ministry of Skill Development and Entrepreneurship)
- Dr. Joram Beda (IAS, Dept. of Planning, Govt. of Arunachal Pradesh)
- Himadri Shandilya (IT Department, Govt. of Assam)
- Shri. P K Tiwari (Pr Secy, Revenue & DM Department, Govt of Assam)
- Dr. Jain (Regional Director, NIRD Guwahati)
- Mr. Kalyan M. Chanda (Regional Chief, HUDCO, Guwahati)
- Sayanti Roy (Deputy Director, Govt. Of Planning, West Bengal)
- Shri J.C. Phukan (SDG Center, Assam)
- Shri Ashok Jain (Adv. NITI Aayog)
- Sh. Jitendra Kumar (Adv. NITI Aayog)
- Shri Krishan Kumar (DDG MOSPI)
- Dr. K.M Bujarbaruah (VC, Assam Agricultural University)
- Prof Kalyan Das (OKD Institute for Social Change & Development)
- Dr N C Talukdar (Director, Institute of Advanced Study in Science and Technology, Guwahati)
- Dr. S.P. Dhanabal (Principal, JSSCP, Ooty)
- Shri Brij Rathore (Chief Policy Advisor, Natural Resource Management, ICIMOD)
- Dr. Dhrupad Choudhary (ICIMOD)
- Dr. Mandira Shrestha (ICIMOD)
- Dr. Aditi Mukherjee (ICIMOD)
- Melville Pereira (Director, North Eastern Social Research Centre, Guwahati)
- Dr. Sejal Worah (WWF India)

Names of Participants:

- Dr Abhijit Sarma (Indian Institute of Bank Management)
- Representatives from Assam, Meghalaya, Manipur, Tripura, Mizoram, Nagaland, Arunachal Pradesh, Sikkim and West Bengal.
- Representatives from NITI Aayog
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## Section II - Way Forward and Takeaways

**Growth Path:**

The growth model required for Himalayas can't be built on the 'business as usual' approach, but necessitates internalizing the sustainability aspect in three dimensions namely, social, economic and environmental. Development in Himalayas must be fully embedded in these dimensions that have been the hall mark of Himalayas since time immemorial. Keeping this in mind, following recommendations are important while deciding the roadmap for growth in the region:

- Life cycle and system approach is key to finding solutions. It should be duly covered in Himalayan perspective planning.
- Maintenance of infrastructure in a sustainable manner should be an inbuilt feature of any project.
- People in Himalayan region be provided sustainable electricity (based on small hydel, solar sources, efficient cook stoves), roads (using local material and with least adverse impacts) etc. on priority basis.
- 'Circular' economy with the underpinning of 6 Rs namely, rethink, reuse, recycle, repair, reduce and refuse is the dire need to achieve SDGs.
- Social and environmental pillars should be recognized as foundational pillar of the Development Model.

- 3P model, i.e. People, Partnership & Projects for development of Hydel Power and other Infrastructure projects can be an effective strategy in the North East Region. These projects can be customized as per the need and requirement of the state. For instance, in the case of Arunachal Pradesh, balance is required between development of hydro power potential projects besides other infrastructure development projects.

- Village/Community based approach of development taking into account literacy, health, income

- Supply of demand responsive clean, efficient, reliable and affordable energy options, should be the priority agenda for the region.



**Learning: State of Assam**

States need to link their plans and schemes to SDGs to get achievements. State of Assam is a good example in this context. It is mainstreaming SDGs in the state planning and budgeting, with each department preparing SDG road map. To elaborate the same, in order to bring convergence in the thinking and working process, all the departments of Government of Assam was divided into ten working groups under the chairmanship of Senior most Secretary of the Group and Goal wise Strategy and Action plans were framed and presented before the CS and other officers and in this process there were huge learning of the subject matter and deliverables. Through this process everybody understood the necessity of interdependence to achieve the target goals.

The process of finalisation and convergences are being taken care through extensive consultation process initiated by P&D Department in association with the Centre for SDGs. This will enable us to finalise the 7 year Strategic Plan and 3- year Annual Action Plan as per requirement of NITI Aayog. As an illustration, in the case of Assam, social

indices are poor due to prevalence of some specific pockets like Tea Garden area, Riverine etc. Accordingly to address it, State's SDG vision is also "**No One be Left Behind**".



**Green Assets**:

Policy changes be made so that, attainment of carbon negativity be the pillar of development under SDGs. States can harness their green assets rather than these becoming liabilities. All departments of each State/ UT should strive to achieve SDGs, because if a department feels that it has nothing to contribute its very requirement for continuation should be revisited.

**Ecosystems and Nationally Determined Contributions (NDCs):**

- Action to decarbonize Himalaya's needs to be attended to; high fidelity scenarios be evolved to aid in decision making
- There is a need to promote responsible consumption patterns to reduce carbon footprint.
- Use of green production and consumption choices should be encouraged.
- Policies be align to sustainable management and use of forest ecosystems in favor of creating employment, entrepreneurship while ensuring supporting /regulating services like water, agriculture and animal husbandry.

- Scientific Assessment of these ecosystems be carried out.
- Services and technology for sustainable management therefore needs to be accorded high priority.

**Water Management:**

Water Management is very crucial to development of the region, and following measures to be taken to ensure the same:

- Appropriate policies for People, Projects and Partnerships should be evolved in water sector, keeping sustainability at the centre stage.

- Excessive harnessing of ground water be avoided.

- Harnessing of potential of rivers like Brahmaputra, Siang with sustainable models can help in a long way.

- In the cases of proposed new dams, sharing of royalty with local governments and affected people may be inbuilt in the model. Free electricity quotas for affected people can also be considered.

- Water related international disputes need to be resolved in a time-bound manner.

- Problems like Iron, Fluoride and Arsenic be tackled on war footing through interventions.

**Land Management:**

To ensure sustainability, each category of land should be put to the best sustainable use.

- Participative land use policy should be put in place.
- Higher slopes should remain untouched and earmarked for forestry. Next slopes may be earmarked for horticulture and so on.
- Need to give high priority to participatory perspective land use planning at village level using land use maps (of existing and planned interventions), which will then facilitate conservation and management of forests, biodiversity and ecosystem services. Village councils and concerned line agencies can be engaged in preparation of such maps.



**Sustainable Agriculture:**

The aim for Sustainable Agriculture is linked to several SDGs like 1, 2, 8, 12 and 13. Agriculture in mountain regions needs a transformational approach in order to ensure ecological, and food and nutritional security all-round the year. Such transformation calls for landscape approach – linking agriculture, animal husbandry and forests. Following measures are suggested:

- Awareness of adverse impacts of shifting cultivation, like soil erosion, needs to be propagated.

- Israel has invested in agriculture by using only right amount of water at the right place. To push better utilization of available water comprehensive schemes like PMKSY can help a long way.

- To cut down wastage and save time nutrients can also be given using nano technologies.

- Agriculture needs to be supported through technologies like GIS, and even pest detection can be carried out through unmanned vehicles.

- Further, period of processing for making compost can be shortened through use of inoculums.

- Products like methanol from maize etc. can also help in raising income of farmers and meeting fuel needs in sustainable manner. Production of spices, organic crops be encouraged.

- Promotion of home gardens as well as native species like spices, local fruits in horticulture can be another crucial effort to assist communities in averting shifting cultivation.

- Organic farming, use of soil health cards for each field of inorganic farming, watershed management based approach are some useful ways to handle agriculture in the region.

- Special focus on mountain agriculture in agricultural University syllabi and research need to be ensured.

- Crop diversification is the need of the hour rather than present sole focus on paddy cultivation.

- Government of Assam is making efforts to achieve the SDG centric project of doubling farmer income by 2022.This will be achieved through the flagship program of Government, i.e. CMSGUY (Chief Minister's Samagra Gramya Unnayan Yojana) in line with the SDGs. Efforts are also being made to connect farm with market through an Externally Aided project.

**Forest Management:**

- Community Joint Forest Management be encouraged to restore degraded forests. While taking steps to increase area under tree cover, quality aspect including better density of the area should also be undertaken. Notably, siltation in Himalayan region can be diminished through better tree cover.

- Living Gene banks and genetic building blocks should be maintained.

- Hubs for production and export of spices, lac, bamboos should be created in Himalayan region.

- Eco-restoration of the fast degrading Unclassed State Forests need to be taken up in Mission mode under Joint Forest Management. Agro-forestry system that show promising results for generating returns in terms of employment and producing much needed timber and bamboo and the value added products while maintain sustainability, be encouraged.

- All USF/wastelands to be transferred to communities as developed and managed as "Community Forest Lands" under sole ownership of communities

**Forest Produce:**

- Cultivation of bamboos should be promoted as it helps in carbon sequestration.
- Similarly, minor forest produce like lac can help generate sustainable jobs.
- Sustainable Agro forestry can also assist in reducing the wood products imported by India.

**Education, Skilling and Creation of jobs:**

Various suggestions emerged during the course of consultation which can be very helpful to attain the SDG vision for the region.

- In the education system awareness about SDGs needs to be built up.
- Credit availability to Self Help Groups (SHGs) be encouraged to help SHG member create livelihoods.
- Entrepreneurship development be focused to enhance employability.
- Incubation centres, tinkering labs and e-hubs can help a lot in skill development.
- Expenditure on education as a per cent of National GDP and State GSDP be significantly increased.
- Adequacy of teaching staff and infrastructure need to be ensured.

- Handloom sector, with better facilities, can help in retention and creation of large number of jobs in the region.
- There is a need for IT based services to create jobs. One such option is cloud computing, which allows for setting up of small units in the remote areas and transferring of the data on the large servers in lowland areas where large servers can help.
- Non-traditional skills practiced by mountain people to be seen as an important area to further develop for employability of mountain people.



**Sustainable Tourism:**

We need to suggest a roadmap of sustainable tourism, by sharing examples of good practices and policy reforms across the Himalayan states and also other countries. Some steps which can be taken:

- There are examples, though on small scale, of doing the things differently, otherwise in the dominant paradigm the mass tourism takes over in the name of tourism. Nature based tourism can be a huge draw and so also is wellness and spiritual tourism.
- Huge potential of Adventure tourism with proper safety standards needs to be tapped.
- Village tourism can be promoted but as the way villages are changing in mountains, this needs to maintain traditional villages with a splash of some modern facilities.
- Agriculture tourism; new way of agriculture; without change of land use is another untapped potential.
- Many of the aforesaid avenues build on the USP of Himalayas. This USP must be maintained to discourage mass tourism paradigm.
- There is need to create conditions for local entrepreneurship to take charge of tourism with regulation and standards. For example Sikkim has come out with Sustainable

Tourism policy ending dichotomy of tourism and eco-tourism is something worth emulating. Smart city concept needs to accord high priority to decongestion plan of destinations like Darjeeling, Shimla, Musoorie etc.

- By and large, a mass tourism concept has been promoted in the Himalayas, leading today to tremendous problems of solid waste management, water stress, pollution, erosion, deforestation and overdevelopment of unsafe and inappropriate infrastructure.

**Appropriate technologies**:

Artificial world created by human beings is expected to be limited within Biological world and not outgrow it. This is to ensure equilibrium in all the cycles like nitrogen, phosphorus, water etc. There is need to say 'no' for such technologies which have a high adverse impact, given the fragility of the Himalayan ecosystem. SDGs can hugely contribute in addressing the imbalance. Such technologies need to be evolved and utilized that assist in attaining sustainable development, to enumerate:

- Use of ICT, IT enabled Services (ITeS) be encouraged in all sectors, broadband be provided for larger regions.
- Research on microbes beneficial to plants should be carried out on continuous basis.
- INSPIRE programme run by Dept. of Science and Technology, for school children be further strengthened.
- Before introducing any artificial intervention its likely impact be kept in mind. For instance, fisheries have a cycle of phytoplanktons and zooplanktons, which should not be broken.
- Some of the successful experiences of other Himalayan countries and even Nordic countries may be considered.
- A promising area of research is use of agricultural residue, without need for burning it.
- To improve service delivery mechanism, there is a need to provide cent percent mobile connectivity through internet to all Households of the state. Assam Government has also proposed the same. Road and internet connectivity is also very important.

**Habitat Planning:**

- For Himalayas, complete ecology, shifting demography, jobs need to be kept in mind to avoid haphazard concrete towns, to select a proper urbanisation growth model.
- Too many civic bodies should not be handling land in an urban area.
- Community institutions need to be fully enabled and awareness about long term impacts need to be spread to make planning more practical, covering next generation issues to make it more acceptable.
- Habitat planning be comprehensive covering all aspects like energy, transport, housing, roads, IT connectivity, solid waste management, drinking water, solar roof-tops, rain water harvesting.
- Similarly, urban planning is a *sine qua non* for proper urbanisation.
- Compliance of rules should be a norm not exception.
- Use of local building material should be encouraged.
- Local population can be trained for using natural resources in a productive way. For instance, cluster groups among the tribal population can be set up to develop herbal formulations for curing diseases. Workshops and exhibitions on medical plants and their nutritional values can be conducted to create awareness

**Disaster Management:** Himalayas are prone to landslides, earthquakes, floods, avalanche etc

Thus, focus should be on preparedness and prediction wherever possible. In view of this, following are some of the measures which must be taken:

Observation networks to share real time data are critical for preparedness.

- Its comprehensive data recording and easy accessibility be developed.
- In addition to state of the art flooding forecast, flood management works, flood zoning, flood moderation would also be essential to achieve the desired disaster mitigation being caused due to floods. For flood moderation, storage projects on rivers are required. These storage projects are also capable of transforming the area through navigation, tourism, pisciculture and employment opportunities.
- Rescue teams should be stationed with satellite phones, choppers, medicines, rations, water, torches etc. High Altitude Rescue teams (HART) be ready in shifts on 24x7 basis.
- Response time should be minimal and duly monitored.
- Mechanisms should be evolved to monitor ecosystems.
  g. Sendai Framework for Disaster Risk Reduction, and under it expected Outcome and Goal, Priorities, Targets and Guiding principles be profusely utilized in policy and implementation.

**SDG Indicators:** It is well known that to achieve a specified absolute improvement, more efforts are needed for a State having baseline level of an indicator already closer to target. For instance to reduce  MMR (Maternal Mortality Ratio), a State with the baseline level of 150 (deaths per lac live births) needs to make more efforts to reduce it by 50, than another having an MMR baseline level of 200. Such factors need to be kept in mind during monitoring. The SDGs need to be developed as single Synergised Initiative through People – Partnership – Project approach

- MoSPI needs to evolve such SDG indicators which ensure the balancing act internalizing sustainability.
- National indicators for Disaster Risk Reduction (DRR) can draw upon SDGs, related targets as well as Sendai framework.
- Disaggregated data is a pre requisite to develop SDG indicators. One strategy be that NSSO survey brings on board unrepresented indicators which are required to report for SDGs.

- Government of Assam has identified a set of 52 state specific core indicators. They have also started the initiative for maintaining updated database of all indicators for timely monitoring purpose. The Government has also decided to incorporate a chapter on SDGs with core indicators, targets and benchmarks in the Economic Survey (Assam) report for the year 2016-17.

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