

WAYS FORWARD FOR GREEN GROWTH AND DEVELOPMENT IN HIMACHAL PRADESH

17 November 2015

Shimla

Implemented by
THE ENERGY AND RESOURCES INSTITUTE (TERI)

in collaboration with
GLOBAL GREEN GROWTH INSTITUTE (GGGI)

State nodal agency
DEPARTMENT OF ENVIRONMENT SCIENCE & TECHNOLOGY, HIMACHAL PRADESH

Ways Forward for Green Growth and Development in Himachal Pradesh

**November 17, 2015 | 3:30 p.m. to 5:30 p.m.
Hotel Marina, Mall Road – Shimla**

About the Workshop

The Ministry of Environment, Forests and Climate Change recognizes 'Poverty eradication along with green growth' central to India's sustainable development narrative. Thirteenth Finance Commission in its narrative also recognizes green growth as rethinking strategies with regard to their impact on environmental sustainability and inclusiveness.

This workshop marked the end of more than two years of extensive research and analysis providing insights on green growth in the state of Himachal Pradesh. The Energy and Resources Institute in collaboration with the Global Green Growth Institute and with support of the Department of Environment, Science and Technology, Himachal Pradesh were involved in the project apart from other relevant government departments.

The workshop aimed at disseminating the work in form of a report titled 'Climate Resilient Green Growth Strategies for Himachal Pradesh: Towards an Inclusive Growth Agenda' and discuss the prospects and future policy implications for green growth in the state.

Workshop Agenda

3:30 PM to 3:35 PM	Welcome Address <ul style="list-style-type: none">Mr. Ajay Kumar Lal, Director, Department of Environment, Science & Technology
3:35 PM to 3:40 PM	Preliminary Remarks <ul style="list-style-type: none">Mr. S Vijay Kumar, Distinguished Fellow, The Energy & Resources Institute
3:40 PM to 3:45 PM	Inaugural Remarks <ul style="list-style-type: none">Mr. Deepak Sanan, Additional Chief Secretary, Forest, Environment, Science & Technology, Himachal Pradesh
3:45 PM to 3:55 PM	Report Launch
3:55 PM to 4:00 PM	Presentation by study team <ul style="list-style-type: none">Mr. Anandajit Goswami, Fellow, TERIMr. Ankit Singhvi, Advisor, GGGI
4:00 PM to 4:40 PM	Panel Discussion on Ways Forward <ul style="list-style-type: none">Mr. Deepak Sanan, Additional Chief Secretary, Forest, Environment, Science & Technology, Himachal Pradesh (Chair)Mr. Shrikant Baldi, Additional Chief Secretary, Finance, Planning, Economics & Statistics, Twenty Point Programme, Excise & TaxationMr. Ajay Kumar Lal, Director, Department of Environment, Science & TechnologyMr. Siddharthan Balasubramanian, Country Director, Global Green Growth InstituteMr. Vijay Kumar, Distinguished Fellow, The Energy and Resources Institute
4:40 PM to 4:55 PM	Open Discussion
4:55 PM to 5:00 PM	Summary and Vote of thanks <ul style="list-style-type: none">Mr. Ajith Radhakrishnan, Senior Technical Advisor – India Country Program, GGGI
5:00 PM to 5:30 PM	Refreshments

Format

Workshop began with a welcome address, followed by preliminary and inaugural remarks. Thereafter, the project report was launched. Findings of the report were shared through brief project presentations by The Energy and Resources Institute (TERI) and Global Green Growth Institute (GGGI). This was followed by the panel discussion on prospects of green growth in Himachal Pradesh followed by an open discussion moderated by the Chair. The workshop culminated with a vote of thanks and refreshments for the attendees.

1. Setting the Stage

Mr. Kanwal Nayan Singh, Research Associate, TERI

On behalf of The Energy & Resources Institute and Department of Environment, Science and Technology, Himachal Pradesh, Mr. Kanwal Nayan Singh welcomed all those who had assembled. He set the stage by mentioning the agenda for the workshop. Dr. Prakashkiran Pawar, Fellow, TERI, then presented saplings to the panelists as a token of gratitude.



2. Welcome Address

Mr. Ajay Kumar Lal, Director, Department of Environment, Science & Technology

Mr. A.K. Lal welcomed his fellow panelists and those present at the workshop on the occasion to share the findings of the study conducted by TERI & GGGI with support from Department of Environment, Science and Technology, Himachal Pradesh (HP). In his view, the study was commissioned at the right time and that green growth was the need of the hour.

He took pride in the efforts HP is making to achieve green growth. The State has revisited existing policies and issued new directives and updated clauses in existing legislations. The State has formulated new policies such as Payment of Ecosystem Services and the Organic Farming Policy. It has also undertaken collaborative studies involving modeling for climate, energy, water and soil conservation. He mentioned that findings of such reports do not just contain information but also analysis of the gathered information and are crucial for providing guidance for path of green growth in the state in future.

He welcomed everyone present on the occasion and invited suggestions from panelists and other attendees.



3. Preliminary Remarks

Mr. S Vijay Kumar, Distinguished Fellow, TERI

Mr. Vijay Kumar put into focus the ecological fragility of the hill state of HP and emphasized that pursuing green growth is a necessity and environmental sustainability has to be integrated in the policies and mind-sets of individuals and policymakers. He thanked GGGI for supporting the project.

He stressed that while it is important to have a national policy framework for achieving green growth, it may not successfully cover state level needs. Thus developing state specific policy solutions are equally important and reports prepared under this project should achieve this objective.

Mr. Vijay Kumar mentioned that in light of the recently adopted Sustainable Development Goals by the United Nations and the member countries, it becomes even more critical that our policies are in tune with the SDGs. According to him, this work is in line with the global SDGs. He felt that there is need to further such work and deepen our understanding of the issues related to environmental degradation.



4. Inaugural Remarks

Mr. Deepak Sanan, Additional Chief Secretary, Forest, Environment, Science & Technology, Himachal Pradesh

Mr. Sanan opined that paucity of evidence obstructs making proper policies and hoped that this report fills such a gap. He also hoped that the discourse dispels the false dichotomy between environment and development and brings out the true picture. He expressed concern over the rigid stance environmentalists take. He believed that the stance has to be taken with a rational thought in mind and not be affected with sentiments. A rigid stance by one does not let others to freely air their views.

Talking about paucity of evidence, he said that even many journals don't have proper evidences to support the claims they make. He shared one of his experiences of a conference wherein a presentation stated that they lacked data to substantiate the claims they were making about climate change. He implored the audience to engage in a healthy discourse on science and research.



5. Report Launch

The panel members including Mr. S Vijay Kumar, Mr. Deepak Sanan, Mr. Shrikant Baldi, Mr. Ajay Kumar Lal and Mr. Siddarthan Balasubramanian launched the report titled Climate Resilient Green Growth Strategies for Himachal Pradesh: Towards an Inclusive Growth Agenda and a Summary for Policymakers.



6. Presentations by Study Team

(a) *Mr. Anandajit Goswami, Fellow, TERI*

He began by thanking all the departments and people of the government of Himachal Pradesh who consulted during the project. He then shared the basic findings from the report. The study constitutes modeling – climate, biophysical, energy – supplemented by case studies based on field-work to hydropower sites.

He then explained the analytical framework used for the work. Climate model is done at 25*25 km resolution using Predicting Regional Climate for Impact Studies (PRECIS) model using two kinds of scenarios. Soil and water assessment using ARCSWAT tool takes output from climate model as input. A macro energy model to predict future scenario for energy parameters for the state was also run.

Key findings from the report include:

- Annual mean temperature projected to increase by 1.3-1.9 degree C for 2021-2050 relative to 1971-2000.
- Percentage precipitation change for monsoon months between the range -8% to over 12%.
- Extreme rain events will also increase (both frequency and intensity) in the near future.
- Based on Soil and Water Assessment Tool, it is projected that as a result of climate variability, Lahaul & Spiti, Kinnaur, Shimla and Sirmour will be affected due to medium to high decrease in total annual surface runoff. Thus hydroelectric projects located in these regions will need to be prepared for variability in run-off.
- As a result of climate variability in future, and variability in soil parameters, it is seen that 11.61% area of the state will have catastrophic soil erosion (more than 320 tons/ha/year).
- Apple productivity in Himachal Pradesh will decrease by 4 % by 2030 due to climate variability.
- The loss from forestry sector and tourism sector for addition of every 1 GW hydro capacity is estimated to be INR 123 crore excluding aspects related to riparian rights and entities with 'incomparable value'.
- Independent social audits of the LADA funds should be taken up with results being communicated via different mediums. The state government along with project developers can include skill training and livelihood development opportunities as part of the project plan.



(b) Mr. Ankit Singhvi, Advisor, GGGI

He pointed out that financing is taken as enabler for implementation for green growth. Himachal Pradesh is a special category state getting larger share from centrally sponsored schemes and external development assistance.

HP has limited availability of raising debt. Private players have to be brought in or securitize future cash flows among other tools so that upfront investment from the state can be minimized. GGGI developed a 'filtering' tool which suggests which opportunities to prioritize and work on further. It is important to understand how the opportunities can be funded. It considered 'filters' such as availability of central government assistance, securitization of future cash flows through specific projects, bringing in private players for making projects economically viable. With these filters in place, they identified opportunities where work can be furthered.

Mr. Ankit shared the implementation support exercise that GGGI did with the transport department for the GoHP and Himachal Road Transport Corporation (HRTC). GoHP has submitted a proposal to the Department of Heavy Industries for plying 25 electric buses for financing under the central government's FAME (Faster Adoption and Manufacture of Electric Vehicles in India) initiative.



7. Panel Discussion: Ways Forward for Green Growth in Himachal Pradesh

Chair: Mr. Deepak Sanan, Additional Chief Secretary, Forests, Environment, Science & Technology, Himachal Pradesh

Panelists:

- *Mr. Shrikant Baldi, Additional Chief Secretary, Finance, Planning, Economics & Statistics, Twenty Point Programme, Excise & Taxation*
- *Mr. Ajay Kumar Lal, Director, Department of Environment, Science & Technology*
- *Mr. Siddharthan Balasubramanian, Country Director, Global Green Growth Institute*
- *Mr. Vijay Kumar, Distinguished Fellow, The Energy and Resources Institute*

The chair, Mr. Deepak Sanan, set the task before the panel to discuss on prospects of green growth in HP.

Mr. Siddharthan Balasubramanian explained GGGI's role in funding and implementation as an intergovernmental institute with 24 member countries and rising. He pointed out that GGGI works for and with the governments. It finds work in short term and long term opportunities. Implementation of projects is also one of its objectives.

He opined that while economic growth is paramount, it could still be achieved keeping it in tune with environmental sustainability. He was happy with the detail of the work in the 25*25

km resolution of the climate model and sharper projections. It presents already existing scientific knowledge in a much more robust way.



Mr. Shrikant Baldi stressed on the need to create awareness among the public towards changes in climate. Changes in health and income because of climate change could be drastic and should be made known to them.

He pointed out that financing pattern at the national level has changed. Devolution of central taxes to the states has increased from 32% to 42% and the centrally sponsored scheme continues. The State of HP is in special category states along with Jammu and Kashmir and North-Eastern states. State's contribution for capital formation is getting squeezed and thus there is need to look at different options for funding initiatives and growth. State has to judiciously make policy interventions to do so.



Mr. A.K. Lal posited that wholesome environment of HP is strong but to preserve the environment is also a challenge that state will face. Costs are incurred when we forgo development for environmental benefits. There is need to strengthen national green accounting system.

He felt that this report is timely and important for creating a sense of responsibility and urgency regarding the environment. Going for environmental sustainability will surely cost money. For example, increasing minimum environmental flow from existing 15% to say 25% will cause burden on state's revenue. Such costs need to be internalized in the existing system of accounting and the overall cost and benefits need to be explicitly put forward. He looked forward to future work and suggested that a study could help HP in evaluating the state's environmental benefits in monetary terms.



Mr. S Vijay Kumar indicated that greening existing processes is equally important as going for incremental green processes and scarcity of funds shouldn't deter one from pursuing green practices. Funding from the centre in form of centrally sponsored schemes failed to build the desired level of capacity – including technical, knowledge acquisition, data management, planning – in the states. The way to go now would be to link it to green growth, sustainable development goals, and climate change.

He emphasized over the need to build knowledge outside governments. Central government have technical & policy institutions or think-tanks but states lack such institutions. According to him, green growth will come more from local contexts and thus robust institutes need to be built at local level. He opined the need to look at all sectors in an integrated approach in state policies.

He said that climate change should be looked as part of green growth. He pointed out that availability of funds is not a major issue as we have not even been able to access the available funds because of lack of capacity. In Himachal Pradesh, the green growth strategy should focus more on capacity building to access the funds available.



Mr. Deepak Sanan concluded the discussion by sharing his views on prospects of green growth for HP. He underscored that the inadequacy of measures such as imposing green tax on vehicles when there are several diesel guzzling vehicles itself. He raised pertinent questions as to why is the price of diesel not at par with price of petrol or the other way round.

He highlighted the need for a collective mind-set change. Citing an example of toilets in HP, he said that even though the State decided to stop subsidies for buildings household toilets, the State still achieved the objective of building toilets. For that, he said, changing mind-sets of people played a very crucial role. Such a collective behavior change is needed.



Mr. Vijay Kumar then added that there is need to move beyond conventional wisdom as it is impeding change. The conventional wisdom was one will be less poor if one has less children was proved wrong. People were having more children because they were poor. Thus poverty needs to be tackled first to promote lesser population. What is visible on surface may not be the fundamental truth but may only be a symptom of the issue.

8. Summary and Vote of Thanks

Mr. Ajith Radhakrishnan, Senior Technical Advisor – India Country Program, GGGI

Mr. Radhakrishnan aptly summarized what earlier speakers had stated for the future of green growth in HP. He broadly stated that it is important to bridge the gap between policy & science and between financing & implementation through better data, studies and capacity building. He also mentioned that for success of projects capacity building along with better collaboration in government departments are necessary. States should focus not just on securing finance but also on planning, regulation and building capacities for its institutions.

He thanked the government of Himachal Pradesh for their support during the execution of the project. Their advice was important to condense large research into desirable

components. He also thanked all the government departments that helped in materializing the work and those associated with the project.



Project coordinator

Shailly Kedia (Fellow, The Energy and Resources Institute)

Project Associate

M K Bineesan (Project Associate, The Energy and Resources Institute)



List of Workshop Participants

No	Sal	Name	Surname	Designation	Organization
1	Er.	Rajesh	Mahajan	Dy Chief Engineer	Directorate of Energy
2	Er.	B. R	Lucktoo	AAE(Allotment & Policy)	Directorate of Energy
3	Er.	Rajneesh	Sharma	Sr. XEN (Safety & Authority)	Directorate of Energy
4	Mr.	Pradeep Chauhan	Chauhan	Economic Advisor	Department of Economics and Statistics
5	Mr.	Anupam	Sharma	Deputy Director	Department of Economics and Statistics
6	Mr.	Surender	Paul	Deputy Director(Planning)	Department of Planning
7	Shri	Anil	Vaidya	Conservator of Forests - CF (CAT PLAN)	Department of Forest
8	Shri	A. K.	Lal	Director	Department of Environment, Science and Technology
9	Shri	P C	Saklani	Joint Director of Horticulture	Directorate of Horticulture
10	Shri	Manmohan	Singh	Director	Indian Meteorological Department
11	Sh.	H.R.	Sharma	Project Director (MIDH)	Directorate of Horticulture
12	Dr.	Bhanu	Neopaney	Principal Scientific Officer (Biotechnology)	Department of Environment, Science and Technology
13	Shri	Deepak	Sanan	Addl. Chief Secy. (Forests, Environment, Science & Technology)	Department of Environment, Science and Technology
14	Shri	Rajesh	Sharma	Special Secretary (Finance)	Department of Finance
15	Ms.	Radhika	Batta		Department of Biotechnology - RKMV
16	Dr.	A. K.	Gupta	Joint Director Health	Department of Health and Family Welfare H.P.
17	Dr.	Ranbir Singh	Rana	Scientist	CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur
18	Dr.	Suresh C	Attri	Principal Scientific Officer (Environment)	Department of Environment, Science and Technology
19	Ms.	Arti	Gupta	State Project Coordinator	WWF-India, Shimla Office
20	Shri	Umesh	Pathania	Office Incharge AGISAC cum Estate Officer	Aryabhata Geo-informatics & Space Application Centre
21	Dr.	Krishan C.	Thakur	Sr. Scientific Professional	Aryabhata Geo-informatics & Space

No	Sal	Name	Surname	Designation	Organization
					Application Centre
22	Ms.	Poonam	Verma	Scientific Professional	Aryabhata Geo-informatics & Space Application Centre
23	Dr.	Brijesh	Saklani	Sr.Scientific Professional	Aryabhata Geo-informatics & Space Application Centre
24	Er.	Purnima	Verma	Scientific Professional	Aryabhata Geo-informatics & Space Application Centre
25	Er.	Meena	Devi	Scientific Professional	Aryabhata Geo-informatics & Space Application Centre
26	Ms.	Meena	Kumari	Scientific Professional	Aryabhata Geo-informatics & Space Application Centre
27	Ms.	Namrata	Sharma	Human Habitat Officer	Department of Environment, Science & Technology
28	Dr.	M. L.	Thakur	SPC, State Biodiversity Board	Department of Environment, Science & Technology
29	Mr.	Vineet	Negi	Scientist	Himachal Pradesh State Biodiversity Board
30	Mr.	B. L.	Shukla	Faculty Memb	HP Istitute of Public Administration
31	Shri	Shrikant	Baldi	Addl. Chief Secy. (Finance, Planning, Economics & Statistics, Twenty Point Programme, Excise & Taxation)	Department of Finance
32	Mr.	Farhad	Vania	Portfolio Management Advisor	GIZ India
33	Shri	Surinder	Kumar	APCCF(F&P)	Himachal Pradesh Forest Department
34	Dr.	Hemant	Gupta	Chief Scientific Officer	Department of Environment, Science and Technology
35	Shri	S.P	Vasudeva	PCCF (HoFF)	Department of Forest
36	Mr.	Siddarthan	Balasubramania	Country Head / India Programme, GGGI	Global Green Growth Institute
37	Mr.	Ajith	Radhakrishnan	Senior Technical Advisor	Global Green Growth Institute
38	Mr.	Ankit	Singhvi	Consultant	Global Green Growth Institute
39	Mr.	Ram	Prakash	Consultant	Global Green Growth Institute
40	Mr.	S Vijay	Kumar	Distinguished Fellow	The Energy and

No	Sal	Name	Surname	Designation	Organization
					Resources Institute
41	Mr.	Anandajit	Goswami	Fellow	The Energy and Resources Institute
42	Dr.	Prakashkiran S	Pawar	Fellow	The Energy and Resources Institute
43	Mr.	Saurabh	Bharadwaj	Fellow	The Energy and Resources Institute
44	Mr.	Jonathan Donald	Syiemlieh	Associate Fellow	The Energy and Resources Institute
45	Mr	Nishant	Jain	Research Associate	The Energy and Resources Institute
46	Mr.	Kanwal Nayan	Singh	Research Associate	The Energy and Resources Institute
47	Mr.	M K	Bineesan	Project Associate	The Energy and Resources Institute