



सन्गजू

S A N G J U

Sacred Attempt for Natural Growth and Joyful Union

“सन्गजू”, जिसका उत्तराखण्ड की क्षेत्रीय भाग में अभिप्राय “सहयोगी” या “मित्र” से है, भारतीय हिमालय में चयनित सीमापारीय भू-क्षेत्रों के संरक्षण एवं विकास पहल के तहत कार्यरत सभी संस्थाओं द्वारा किये जा रहे कार्यकलापों से सभी सरोकारों को अवगत कराने का एक प्रयास है।
पत्रिका का प्रकाशन निरंतर होना है, जिसमें परियोजना से जुड़े सहयोगियों के अतिरिक्त, भू-क्षेत्र में कार्यरत अन्य संस्थाओं के कार्यकलापों को भी उचित स्थान दिया जाना है।

'SANGJU'- The Newsletter is so named as the term in local dialect in Uttarakhand signifies the holy association or friendship. This is an attempt to make all concerned aware about activities and efforts contributed by various partners of Transboundary Landscape Conservation and Development Initiatives within Indian part of the Himalayan landscape.

The Newsletter is scheduled to be published regularly in which happenings within the landscapes, other than activities of project partners, will get suitable place.



संगजू

SANGJU

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KSLCDI NEWSLETTER (India)
Vol. 4 (II) 2017, December & 5 (I), June 2018

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आर.एस. रावल
निदेशक

गोविन्द बल्लभ पन्त
राष्ट्रीय हिमालयी पर्यावरण
एवं सतत विकास संस्थान

Coordinator

R.S. Rawal

Director,

G.B. Pant

National Institute of
Himalayan
Environment
and Sustainable
Development

मुख्य संपादक

जी.सी.एस. नेगी

Chief Editor

G.C.S. Negi

संपादक मंडल

के.एस.एल.सी.डी.आई.

बी.एस. अधिकारी

पंकज तिवारी

गजेन्द्र रावत

Team of Editors

KSLCDI

B.S. Adhikari

Pankaj Tiwari

Gajendra Rawat

के.एल.सी.डी.आई.

कैलाश गौड़ा

घनश्याम शर्मा

KLCDI

Kailash Gaira

Ghanshyam Sharma

हार्ड लाइफ

एस.सी. आर्या

हुई नांग

HI LIFE

S C Arya

Hui Tag

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G.B. Pant National Institute of
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Development, Kosi-Katarmal, Almora
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Web: <http://gbpihed.gov.in>

इस समाचार पत्र की सामग्री विभिन्न संस्थाओं से मिली सूचना पर आधारित है।
अतः किसी भी त्रुटि या भूल हेतु गो.ब.प.रा.हि.प.स.वि. संस्थान या संपादक गण
निम्मेदार नहीं होंगे, समाचारों की विस्तृत जानकारी हेतु सम्बन्धित आयोगक
संस्थान से संपर्क करें-

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Cover Photo: An agricultural Landscape
of KSL -Ravi Pathak (GBPNIHESD)

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OBITUARY



समन्वयक की कलम से

FROM COORDINATOR'S PEN

विगत वर्षों में हिमालय में सीमापारीय सहयोग के पथ पर चलते हुए परियोजना की सहयोगी संस्थाओं के भारतीय दल ने तीनों चिन्हित भू-क्षेत्र संरक्षण व विकास पहलों (हाई-लाइफ, कंचनजंगा, कैलाश) में महत्वपूर्ण योगदान दिया है। यद्यपि इस विचार में सन्नहित व्यापक दर्शन तक पहुँचने में हमें अभी काफी रास्ता तय करना है। परियोजना दल इस यात्रा की सभी परिस्थितियों का सामना करने को तैयार हैं। विभिन्न भू-क्षेत्रों के मध्य अनुभवों की साझेदारी व एक दूसरे से सीखने की प्रभावी प्रक्रिया सफलता हेतु एक महत्वपूर्ण पहलू बनने जा रही है। अतः इस प्रक्रिया को कारगर बनाने हेतु प्रविधियाँ स्थापित करनी होंगी। इस हेतु अपनी बात रखने के पर्याप्त व उचित मार्ग भी खोजने होंगे। अतः विविध विधियाँ व साधन परियोजना की सूचना प्रसारण रणनीति के मुख्य अवयव होंगे। अपनी व्यापक प्रसार रणनीति के तहत कैलाश परियोजना के भारतीय दल द्वारा 'सन्गजू' के माध्यम से निरन्तर सूचनाएँ प्रसारित की जा रही है। यह सूचना पत्रिका विभिन्न हितधारकों को कार्यक्रम की प्रगति की सूचनाएँ देने में महत्वपूर्ण भूमिका निभा रही है। 'सन्गजू' की इन सम्भावनाओं को समझते हुए भारतीय हिमालय में सीमा पारीय भू-क्षेत्रों हेतु बनी राष्ट्रीय समन्वयन समिति (नेशनल कोऑर्डिनेशन कमेटी) द्वारा इस पत्रिका को व्यापकता देने के प्रस्ताव को मानते हुये इसमें तीनों भू-क्षेत्रों को सम्मिलित करने की स्वीकृति दे दी गयी। 'सन्गजू' की सीमा के इस विस्तार से सम्भव होगा: (i) हिमालय क्षेत्र के सभी हिताधारकों/पाठकों को तीनों पहलों की प्रगति की सूचना का प्रसारण। (ii) इन तीनों पहलों के कार्यक्रमों पर समन्वित चिन्तन। यह अन्य संस्थाओं द्वारा क्षेत्र में किये जा रहे इस प्रकार के प्रयासों तक सूचना प्रवाह हेतु वाहन का भी कार्य करेगा। मुझे पूर्ण विश्वास है कि 'सन्गजू' के इस एकीकृत रूप को विभिन्न हितधारक और अधिक रोचक पायेंगे। सम्पादक मण्डल ने सूचनाओं को एकत्र कर प्रभावी ढंग से प्रस्तुत करने का अच्छा प्रयास किया गया है। फिर भी सुधार की गुंजाइश सदैव रहती है। अतः इस पत्रिका की उपयोगिता बढ़ाने हेतु पाठकों से मेरा अनुरोध है कि इसकी विषय वस्तु व कलेवर में सुधार हेतु अपनी प्रतिक्रिया देंगे।

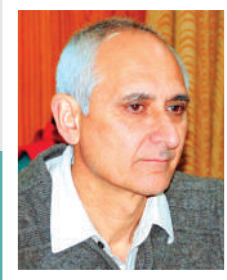
डा. आर. एस. रावल
निदेशक

जी. बी. पी. एन. आई. एच. ई. एस. डी.
मुख्य समन्वयक, टी.बी.एल. पहल-भारत

Over the years, while moving on path of transboundary cooperation in the Himalaya, Indian team of partner organizations have made significant contributions in all three identified landscape initiatives [i.e., Landscape Initiative for Far Eastern Himalayas (HI-LIFE), Kangchenjunga Landscape (KL) Conservation and Development Initiative (KLCDI), and Kailash Sacred Landscape (KSL) Conservation and Development Initiative (KSLCDI)]. However, considering the overarching philosophy enshrined in this concept, still we have to cover a long way. The project teams are well set to face the music that comes along this journey. Effective learning from each other and sharing experiences across landscapes is going to be the major success factor. Therefore, mechanisms need to be in place to ensure this process. This calls for adequate and appropriate ways of articulation. Thus, diverse approaches and tools can become part of programme's communication strategy.

As part of broad communication strategy, Indian team of KSLCDI is regularly disseminating information through its newsletter 'Sangju'. This newsletter has proved extremely beneficial in keeping the diverse stakeholders well informed on programme progression. Realizing this potential of 'Sangju', the National Coordination Committee on Transboundary Landscapes in Indian Himalayan region has agreed to the proposal of expanding the scope to cover all three landscapes. This expansion in scope of 'Sangju' provides opportunity to: (i) keep readers/stakeholders across region informed on progression of all three initiatives, and (ii) reflect on happenings of these initiatives in a more coordinated manner. This will also serve as a vehicle of information flow for other similar efforts being taken up in the region by other agencies. I am sure, stakeholders will find this unified issue of 'Sangju' more engaging. The team of editors has done a good job in bringing information together and presenting it effectively. Yet, the scope of improvement is always there. May I, therefore request the audience to reflect on contents and get-up of this issue for improvement in future.

Dr. R.S. Rawal
Director, GBPNIHESD &
Lead Coordinator, TBL initiatives-India



HKH-TBL REGIONAL
COORDINATORS

हिन्दू-कुश हिमालय क्षेत्र
समन्वयक की

NOTE

टिप्पणी

At the outset, transboundary landscapes concept based on a “Landscape Approach” is being tested by few key operational initiatives in the region of Hindu Kush Himalaya (HKH) since 2013 embedding also the Indian Himalayan Region (IHR). Kailash Sacred Landscape Conservation and Development Initiative implemented on the ground can be pegged at the top as it has seen a successful 5 Years implementation between India, China and Nepal. Following it up are the two other initiatives of Kangchenjunga and the Far East Himalayan Landscapes that are gaining momentum in their implementation at transboundary scale amongst participating countries. Common to the conceptual phases of all such initiatives have been to triggering of an inter-country, commonly agreed scoping phase of developing feasibility studies, country conservation and development strategies and long term joint action plans, dominated by biodiversity conservation tenets (Link to CBD, Aichi Targets, Nagoya Protocol). Therefore, the carving out of transboundary landscapes concept in the context of HKH, the entry point has been conservation and the science around it. Further, since the ground level stakeholder interaction while conceptualizing the 5 year plan is often limited, the science was planned and tended to be supply driven. This reality emerges once scientists, researchers and implementers move to landscape and learn that all aspects of conservation or natural development of ecosystems at scale are intensively interfaced with human needs and thus associated impacts. Landscape journeys only consolidated the preliminary knowledge on how strongly numerous stakeholders and their activities and interests are intertwined with the landscape, and how policies and strategies are unfolding on the ground. Most of the feasibility studies did not touch the cross-border aspects of conservation and development pertaining to cultural links,

विगत पाँच वर्षों से सम्पूर्ण हिन्दू-कुश हिमालय में सीमापारीय भू-क्षेत्र के संरक्षण एवं सतत् विकास की अवधारणा को चुनिंदा गतिविधियों के जरिये मूर्त रूप देने का प्रयास चल रहा था। सर्वप्रथम कैलाश पवित्र भू-क्षेत्र में इस विचार को उक्त परियोजना के तीन सहयोगी देशों नेपाल, भारत एवं चीन की मदद से विगत 5 वर्षों में क्रियाविन्त किया गया। इसके उपरान्त क्रमशः कंचनजंगा एवं सूदूर पूर्वी हिमालय हेतु हाई-लाईफ के माध्यम से इस प्रयास को मजबूती प्रदान की जा रही है। इन प्रयासों में स्थानीय हितधारकों का परंपरागत ज्ञान, क्षेत्रीय, राष्ट्रीय एवं अंतरराष्ट्रीय स्तर पर जैव-विविधता संरक्षण एवं सतत् विकास संबंधी दिशा निर्देशों, संधियों आदि का ध्यान रखा गया है। इस बात पर विशेष जोर दिया गया है कि स्थानीय प्राकृतिक संसाधनों की वहन क्षमता के अंतर्गत रहते हुए किस प्रकार वैज्ञानिक व परंपरागत तकनीकों के समन्वय से हितधारकों की आजीविका वृद्धि एवं आय अर्जन हो सके ताकि वह भू-क्षेत्र के सर्वांगीण संरक्षण में अपनी भूमिका का निर्वहन कर सकें।

informal trade, conflicts etc., and hence not much got planned on how to make best out of existing institutional mechanisms to take us to integrated landscape management at transnational scale.

As piloting process progressed and a stronger interface developed with the local communities and other stakeholders who all are pursuing sustainable development it needed a top-up on the vision and connect to realities on the ground. Poverty, inequity, cultural degradation, climate change and vulnerable livelihoods emerged as persisting primary environmental and social challenges faced by the local community. As

such, there was a growing acknowledgement that conventional sectorial or science-based approaches to address often inter connected social, environmental, economic and political challenges are insufficient. Though focus on integrated solutions at landscape scales or 'landscape approaches' was the paradigm, in reality working in smaller pilots and often not in a real transboundary context did not do full justice to the overarching concept of integrated landscape management. This is the reason that all above landscape initiatives have set up a 20 Year goal, accepting that transboundary concepts will evolve organically and will need to demonstrate "Transboundaryness" that is bridged at the ground rather than interfaces only at national and transnational levels.

Over the past years the participating country teams and institutions have—based on the common vision- identified the key stakeholders of landscapes; are adopting practices that achieve multiple objectives; devising integrated strategies to manage spatial and seasonal interactions across different land uses and users; linking institutions and establishing transdisciplinary mechanisms for stakeholder dialogue and networking, negotiation and actions, and shaping of value chain markets, planning frameworks and policies to support outcomes envisaged in the initiatives. There has been remarkable growth toward the integratedness of landscape management activities on the ground and increased support by policymakers, political leaders and businesses that see the potential of working at scale leading to sustainable development as well as sustained business.

On the downside of it, the focus of landscapes initiatives on livelihoods, ecosystem management for sustaining services, biodiversity conservation, establishment of environment and socio-ecological monitoring and finally regional

cooperation on enabling policies and knowledge management does still need to converge for common outcomes in a given pilot. Such a convergence cannot be transcended right from the onset of implementation due to several reasons. However, it is concluded that the Regional Cooperation Frameworks as formal agreement between inter-country participating institutions are the right "Instrument of Cooperation" that sets the pace for an organic growth of a transboundary concept. As pioneers, the above transboundary landscapes initiatives are ongoing and are poised to deliver on future tenets of regional cooperation that requires testing and learning thereof on: common management of shared ecosystems within a particular landscape; enhancing understanding on upstream-downstream linkages and therefore on required common actions; and finally mainstreaming standardized frameworks, protocols, capacity building packages, thus casting the frame for future effective and accepted transboundary cooperation arenas (Yak Management, Tourism, Product branding).

The potential of the concept lies not only in local community development but also in bringing sub-national learning that can be articulated for a strong connect to policy and practice influencing forums at national levels and in global forums (UNFCCC, GLF, CBD CoP, IPBES) having better chances of ownership at the higher levels of decision-making. In return that promises more realistic interface of these decision-making to local level conservation and development needs. In conclusion, this promises also a direct link to achieving of lofty sustainable development goals (SDGs) our country has set as we are able to link communities, conservation and commerce at scale.

Rajan Kotru

International Centre for Integrated Mountain Development, Kathmandu Nepal (ICIMOD)

कैलाश संरक्षण पहल-बढ़ते कदम

Kailash Initiative – Scaling up through Phase II

कैलाश परियोजना के विगत पांच वर्षों के प्रथम दौर में भारतीय सहयोगियों ने विभिन्न तरीके से योगदान दिया, जिनमें इस भू-क्षेत्र के प्राकृतिक एवं सांस्कृतिक संसाधनों की समझ विकसित करना, प्राकृतिक संसाधनों के संरक्षण व सतत विकास के मॉडलों को हितधारकों के मध्य स्थापित करना, हितधारकों का परियोजना उद्देश्यों की प्राप्ति हेतु क्षमता विकास करना, सरकारी विभागों के मध्य समन्वय स्थापित करके परियोजना क्रियान्वयन हेतु सहयोग प्राप्त करना एवं आजीविका व आय अर्जन के संसाधनों को बाजार से जोड़कर स्थायित्व प्रदान करना आदि सम्मिलित रहे। परियोजना के प्रथम चरण की उपलब्धियों के मध्यनजर पर्यावरण एवं वन मंत्रालय, भारत सरकार की 'हिमालय हेतु राष्ट्रीय मिशन' के अंतर्गत परियोजना के उद्देश्यों को गतिशील रखने हेतु एक अलग परियोजना के माध्यम से भी उत्तराखण्ड जैव-विविधता बोर्ड को धनराशि प्रदान की गई। यहाँ यह दोहराना आवश्यक है कि कैलाश परियोजना का आगामी 20 वर्षों का निर्धारित लक्ष्य सीमापारीय देशों से इस क्षेत्र के संरक्षण एवं सतत विकास हेतु सहयोग प्राप्त करना है। परियोजना गतिविधियों के क्रियान्वयन में समुचित मागदर्शन हेतु राष्ट्रीय समन्वयन समिति की बैठक भी पर्यावरण मंत्रालय, भारत सरकार के अतिरिक्त सचिव श्री ए. के. जैन की अध्यक्षता में की गई जिसमें इस परियोजना के प्रथम चरण की उपलब्धियों को भारत सरकार के अन्य मंत्रालयों द्वारा भी वृहद स्तर पर क्रियान्वित करने की आवश्यकता जताई गई। इसके साथ ही 'सन्गजू' पत्रिका के सम्पूर्ण हिमालयी क्षेत्र में विस्तार की संस्तुति की गई।



The Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) has completed its first phase of implementation (2013-2017). During this phase, Indian partners were able to: (i) generate comprehensive information on biophysical and socio-cultural diversity; (ii) demonstrate participatory planning and implementation w.r.t. natural resource management; (iii) promote awareness and build capacity of stakeholders on access and benefit sharing (ABS) mechanisms; (iv) establish sites for long-term monitoring following standard protocols; (v) develop and test various mechanisms of convergence with ongoing programmes of Government; and (vi) establish value chains for livelihoods improvement in Indian part of KSL. More importantly, Indian team could gain the confidence of diverse stakeholders ranging from local to landscape to Province and National level. The policy forums, organized at State capital Dehradun (August 23-24, 2017), enabled heads of relevant departments to understand the wider implications of successful pilots of KSLCDI (Phase I) for achieving targets of conservation and development at scale. Articulation of

evidence based outcomes convinced the Chief Secretary, Uttarakhand on possibilities of up-scaling and out-scaling the pilot level success. As a follow-up, the Chief Secretary Uttarakhand wrote to the Secretary, Ministry of Environment, Forest and Climate Change (MoEF&CC), GoI expressing support of Uttarakhand State for Phase II of KSLCDI. Recognizing the value of work undertaken



by Indian Partners during Phase I of implementation, MoEF&CC extended full support for Phase II of the initiative during 6th Programme Steering Committee (PSC) meeting in Beijing (April 20, 2018). More importantly, GoI has leveraged funds for activities in KSL part of India. Through the National Mission for Himalayan Studies (NMHS), one project of Rs 2.95 crores has been awarded to Uttarakhand Biodiversity Board (UBB). This project builds on work of KSLCDI successfully demonstrated through pilots.

The 5-year regional programme implementation plan for KSLCDI Phase II (2018-2022), presented and agreed during 6th PSC has three focus areas: (i) Transboundary cooperation, (ii) Ecosystem services, and (iii) Resilient livelihoods. Programme implementation will pursue the principles of transboundary cooperation, transdisciplinarity, science to solution, integrated landscape management, gender and social inclusion, and up-scaling research and practice to influence policy. The 20 year goal of KSLCDI remains to “Improve transboundary cooperation among countries through strategic partnerships and regional policies.”

Coordination for Larger Impact

Towards smooth steering of TBL initiatives, the National Coordination Committee

(NCC), for each programme, provides necessary guidance and supervision. However, considering that India is part of three landscape initiatives facilitated by International Centre for Integrated Mountain Development (ICIMOD), MoEF&CC, GoI, has established a common NCC for all three landscapes [i.e., Landscape Initiative for Far Eastern Himalayas (HI-LIFE), Kangchenjunga Landscape (KL) Conservation and Development Initiative (KLCDI), and Kailash Sacred Landscape (KSL) Conservation and Development Initiative (KSLCDI)]. While this unified committee can look after the overall progress of all three TBL Initiatives in Indian Himalayan Region (IHR), it can better facilitate cross learning and experience sharing among these initiatives. The effective supervision thus provided by unified NCC is expected to bring larger impact on ground across IHR.

During the first meeting of Indian NCC for TBL, organized on June 19, 2018 at MoEF&CC, Chairman, Shri Anil K. Jain (Addl. Secretary, GoI, MoEF&CC) opined that the TBL Initiatives in the Himalaya can contribute towards achieving National/ International Conservation and Development goals and therefore the role of the National Coordination Committee (NCC) for Transboundary Landscape Initiatives in the IHR is very crucial. Chairman appreciated the progress and advised the following to ensure larger impact and wider engagement: (i) the pilots/ success of these initiatives must be showcased on regular basis, (ii) various ministries can approach Indian coordinating agency (i.e., GBPNIHESD) to get benefit of available knowledge, and (iii) collaboration with different agencies working in these landscapes need to be further strengthened. Among others, the need for scientific knowledge sharing platform to provide cross learning opportunities for the Himalayan States was expressed. In this context, it was agreed that the NCC would strengthen partnership with its strategic partners, including Himalayan States. As one of the immediate actions to integrate and communicate findings of three TBL initiatives, NCC agreed on the proposal of expanding scope of KSLCDI News Letter 'SANGJU' to cover other two landscapes as well.



वर्ष 2017-18 के दौरान भारतीय सहयोगियों ने कैलाश, कंचनजंगा एवं सुदूर-पूर्वी हिमालय में सीमा-पारीय भू-क्षेत्र संरक्षण (हाई-लाईफ) के प्रयासों को विभिन्न क्रियाकलापों के माध्यम से सुदृढीकरण की प्रक्रिया जारी रखी। इस कड़ी में कैलाश भू-क्षेत्र परियोजना के दौरान विकसित परितंत्र प्रबंधन योजना को सरकार के रेखीय विभागों एवं जैव-विविधता प्रबंधन समितियों के माध्यम से संचालित करने हेतु गोष्ठियों का आयोजन किया गया। जिसमें परियोजना कर्मियों ने विभिन्न भू-क्षेत्र संरक्षण, आजीविका व आय-अर्जन हेतु विकसित तकनीकों को भी साझा किया। उपरोक्त गतिविधियों में उत्तराखंड सरकार के वित्त मंत्री एवं जिला प्रशासन के अधिकारियों ने भी मार्गदर्शन व उत्साहवर्धन किया। भारत-नेपाल सीमावर्ती विद्यार्थियों के मध्य भू-क्षेत्र संरक्षण व सतत् विकास पर तकनीकी ज्ञान व जागरूकता वृद्धि हेतु विषय-विशेषज्ञों ने प्रशिक्षण व्याख्यान दिये। इसी प्रकार कंचनजंगा भू-क्षेत्र में ईको पर्यटन से सम्बन्धित गतिविधियों को महत्ता दी गई, जिस हेतु कृषि एवं वन मन्त्रालय, भूटान सरकार व ईसीमोड, नेपाल के सहयोग से कई तकनीकी बिन्दुओं पर विचार-विमर्श व दूरगामी सहयोग की रणनीति बनाई गई। इसी प्रकार सुदूर-पूर्वी हिमालय में संचालित हाई-लाईफ परियोजना के अन्तर्गत भारत, चीन एवं म्यांमार के चुनिन्दा विभागों के प्रमुखों के साथ हाई बैटक में म्यांमार के वन विभाग के साथ विभिन्न स्तरों पर मिल सकने वाले सहयोग की चर्चा की गई।

सीमा-पारीय भू-क्षेत्र संरक्षण प्रयासों का सुदृढीकरण

Kailash Sacred Landscape (KSL)

Engaging BMCs for Regulation of ESM Plan



Participatory approaches have been considered crucial for resource conservation. In this context, involvement of Biodiversity Management Committee (BMC) and village community members for regulation of Ecosystem Management (ESM) Plan has been observed as an important step to achieve biodiversity conservation. To seek this engagement Central Himalayan Environment Association (CHEA), Nainital organized a meeting with the technical support of Wildlife Institute of India (WII), Dehradun (29 September, 2017) at Bans-Maitoli pilot site. During the meeting responsibilities and future strategies were discussed to carry forward identified activities of ESM Plan, such as (i) ensuring water availability during lean period, cleanliness and maintenance of the water resources, (ii) activities for eco-restoration of degraded habitats particularly through removal of *Eupatorium* weed and promote its use for vermi-composting, etc.

Livelihood Improvement Through Mushroom Cultivation

To diversify the options of livelihoods and to promote off-farm activities, demonstration of mushroom cultivation was made in a KSL pilot village Jajurali. Three days training (14-16 December 2017) was organized followed by demonstration in collaboration with Krishi Vigyan Kendra (KVK), Pantnagar. After analyzing the environmental conditions, The





KVK found Oyster mushroom (*Pleurotus* spp.) variety suitable for cultivation in this village. A total of 5 demonstrations were made among women groups. An initial production of 50 kg of fresh Oyster mushroom is an indication that it can be promoted in the landscape. Although the produce was used for self consumption but it has encouraged and motivated 50 women members to initiate the activity for further expansion as an additional source of income with access to nearby market in Pithoragarh.

Dovetailing with Govt. Line Agencies

Realizing the need for convergence with government departmental programmes for achieving the scale, a district level consultative meeting of KSL partners was organized with line departments of Pithoragarh District, and other stakeholders (24-25 November, 2017) in Zila Panchayat Bhawan, Pithoragarh. Various possibilities of convergence were discussed and potential areas identified. During the event, Honourable Finance Minister, Uttarakhand, Sh. Prakash Pant, released the Ecosystem Management Plan (ESM) for Bans-Maitoli pilot site and two Participatory



Natural Resource Management (PNRM) Plans for Himkhola micro-watershed, Pithoragarh. These plans have been prepared under the coordination of Wildlife Institute of India following a thorough consultative process. The event was attended by the District Magistrate, Pithoragarh and representatives of the line departments. While releasing the plans, the Honourable Minister underlined the need for dovetailing various district and state-level programmes and activities to implement the ESM.

Transboundary Awareness Generation

As part of wider awareness generation strategy, a three days workshop (24-26 November, 2017) was organized for



students and teachers of the landscape. Most interesting and significant part of the event was its transboundary nature. For the first time under KSLCDI Indian team could manage accommodating students and teachers from KSL Nepal as integral part of the event. Therefore, the event provided a platform for cross-border knowledge and

cultural sharing. The participants were exposed to various aspects of biodiversity, its conservation and sustainable use. While the Indian partners shared their success stories on natural resource management and livelihoods promotion, special sessions were also organized to provide them in depth understanding on various features of landscape through expert deliberations. For instance, Dr. G.S. Rawat, from WII, Dehradun delivered a lecture on "Forest and Wildlife of KSL-India", Mr. Ajaz Hussain, Project Biologist of WII deliberated on 'Faunal Diversity and Human Wildlife Conflict'. Dr. I.D. Bhatt of GBPNIHESD gave a talk on 'Diversity and Prospects of Medicinal and wild Edible Plants of KSL India'. Similarly, Dr. C.S. Negi, of Govt. Post Graduate College, Pithoragarh gave an exposure on value of sacred sites and spaces in the landscape. The other resource persons, including researchers of GBPNIHESD, WII and CHEA provided basic learnings on direct and indirect methods of identification of flora and fauna. During these events students were provided space and time for interaction with each other so as to share their cultural and social values which can help in safeguarding the biodiversity of KSL. On this occasion a documentary prepared by WII on KSL-India was also released.

Mainstreaming Landscape Approach for Biodiversity Conservation in KSL

As an outcome of the completion of 1st phase of KSLCDI, a project entitled, "Mainstreaming Landscape Approach for Biodiversity Conservation, Improved Livelihoods and Ecosystem Health in Kailash Sacred Landscape Part of India" has been funded under NMHS programme of MOEF&CC. This project attempts to mainstream the 'Landscape Approach' so as to achieve broader targets KSLCDI (i.e., Biodiversity Conservation, Improved Livelihoods and Ecosystem Health) in KSL part of India. The project is coordinated by State Biodiversity Board (SBB) along with other implementing partners like GBPNIHESD, WII, CHEA, Uttarakhand Space Center (USAC) and Forest Department (UKFD) in the target



landscape (i.e., Pithoragarh District) in Uttarakhand. ICIMOD, Nepal the facilitating agency for KSLCDI, will act as technical advisory agency for this project.

FLR for KSL Using ROAM

In 2017, IUCN India sponsored an assignment to GBPNIHESD for rapid assessment of Forest Landscape Restoration (FLR) in Uttarakhand using the Restoration Opportunities Assessment Methodology (ROAM) framework. ROAM presents a flexible and cost-effective analytic framework for identifying restoration opportunities at national or sub-national levels. Through its participatory processes, the assessment provides a framework for a common setting of restoration goals at a landscape level that address immediate priorities, such as livelihoods. ROAM is being applied across more than thirty countries in the world. Through this process, while broad restoration opportunities and appropriate interventions were identified at State (Uttarakhand) level, districts of Pithoragarh (KSL) and Garhwal (Pauri) were taken up for more intensive investigation. To make this process participatory and representative, several consultations were held among stakeholders such as Van Panchayats, Gram Sabha, NGOs, state line departments, etc. across Block and District HQs in Pithoragarh district. On 8th March, 2018, a State Validation Workshop was organised at Dehradun, the state capital, to present and validate the key findings of the ROAM study to stakeholders and experts.

During the consultation processes following drivers of land degradation (both natural and anthropogenic) were identified in order of priority: (i) Increasing frequency of forest fire,

(ii) Invasion of alien plants (e.g. *Lantana*), (iii) Livestock grazing, (iv) Landslides and soil erosion, (v) Pressure on forests for fodder/fuel wood, and (vi) Increasing apathy of people towards agriculture and forest management. The ecological and socio-economic consequences of the land degradation were found as: (i) Drying up of springs/ streams, (ii) Soil erosion and downstream flooding, (iii) Human-wildlife conflict, (iv) Declining natural resources and livelihood options, and (v) Increasing out-migration. Thus a vicious cycle between land degradation, diminishing natural resource based livelihood options and out-

migration is discernible as a consequence of land degradation.

On June 15, 2018, IUCN and GBPNIHESD presented the findings of the study and the ROAM methodology to key stakeholders in the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi to explore future strategies on how FLR can be further mainstreamed. The roundtable was organised under the Chairmanship of the Director General of Forests and Special Secretary (DGF&SS), MoEF&CC, Shri Siddhanta Das.

Khangchendzonga Landscape (KL)

Linking Livelihoods with Nature Conservation



Community based tourism in the natural landscapes has emerged as a potential option for livelihood to the local people. However, how to conserve biodiversity with the pace of growing tourism sector is a major challenge. During the regional policy dialogue, 'Shared Natural and Cultural Heritage for Sustainable Tourism in the Kanchenjunga Transboundary Landscape', co-organized by the Department of Forest and Park Services, Ministry of Agriculture and Forest, Royal Government

of Bhutan and the International Centre for Integrated Mountain Development (ICIMOD) from 1–4 May 2017 in Bhutan, development of short, medium, and long-term strategies that focus on nature and culture based tourism at the transboundary level were agreed as a potential way forward for the Khangchenjunga Landscape Conservation and Development Initiative (KLCDI). During the event, MoEF&CC, GoI expressed willingness to support promotion of such activities within Indian part of landscape. As

a follow-up, the Sikkim Regional Centre of GBPNIHESD has been awarded a project "Promotion of Sustainable Community Based Tourism in the Khangchendzonga Landscape: Linking Livelihoods with Nature Conservation" under the National Mission on Himalayan Studies (NMHS). The major objectives include: (i) Assessment and promotion of community-based ecotourism and equitable benefit sharing, (ii) Strengthening community based tourism by integrating traditional knowledge, (iii) Promotion of sustainable tourism through integration of livestock and horticulture, handicraft products and knowledge management, and (iv) Building critical mass of informed and skilled youth for harnessing tourism potential and working for conservation of nature through sensitization and capacity building. Many activities are being pursued under this project at two pilot sites i.e., Barsey-Singalila and Dzongu of Khangchendzonga Landscape those include: (i) Consultations with the stakeholders (NGOs, SHGs, locals and collaborative partners) for promotion of community based tourism during the year where, 16 SHGs and 50 local

people including village Panchayat members participated, and (ii) Socio-economic surveys in Barsey-Singalila site the adjoining places like Ribdi, Okhrey, Bharang, and Gorkhey, and Dzongu site and the adjoining places like Lingthem, Lingdem and Tingvong were conducted and tourist destinations and nature trails in adjoining areas (Sokpa Dhunga and Samanden) have been identified.

Addressing Human-Wildlife Conflict in KL

Regional cooperation among India, Nepal and Bhutan under KL is very important to address common conservation and development challenges in KL especially man-wildlife conflict. Therefore a meeting at the Directorate of Forests (DoFs), Government of West Bengal was held (23 April 2018) with the Head of Forest Force, Kolkata in which the process and plan for regional meeting on man-wildlife conflict were proposed and the DoFs ensured cooperation for project activities.



Photo: Kumar Sambhav

Landscape Development Initiative for Far-Eastern Himalaya (Hi-LIFE)

Planning Transboundary Technical Collaboration for Landscape Management



Realizing that the technical collaboration on a transboundary scale is essential for landscape management, International Centre for Integrated Mountain Development (ICIMOD), Nepal organized a Regional Workshop on Planning Transboundary Technical Collaboration in Landscape Management in collaboration with the Forest Department (FD), MONREC, Myanmar, in Nay Pyi Taw, Myanmar (8-9 February 2018).

His Excellency U. KhinMaung Yi, Permanent Secretary of MONREC, Myanmar, Naing Zaw Htun from Nature and Wildlife Conservation Division (NWCD), FD, MONREC, Naw May Lay Thant from the Wildlife Conservation Society Myanmar Program, Koen Johan Mayers from UNESCO, Yang Xuefei from Kunming Institute of Botany (KIB), Chinese Academy of Sciences (CAS), Dr. Eklabya Sharma, Deputy Director General of ICIMOD, Dr. Rajan Kotru, Regional

Programme Manager of the Transboundary Landscapes Programme at ICIMOD, Bandana Shakya, Hi-LIFE, Myanmar Coordinator at ICIMOD, M.S. Lodhi from NE Regional Centre of GBPNIHESD, India and other government officials, protected area managers, scientists and practitioners (43 participants) from across the region made valuable contributions. The overall objective of the workshop was to strengthen regional technical and bilateral collaborations between the three countries in light of the existing Regional Cooperation Framework, taking into account the changing context and priorities of Hi-LIFE over the next five years.

State-level Coordination Committee Meeting

Under the Landscape Development Initiative for Far-Eastern Himalaya (Hi-LIFE) - Arunachal Pradesh the 1st State Level



Coordination Committee (SLCC) meeting was organized by GBPNIHESD, North East Regional Centre, Itanagar in collaboration with Department of Environment and Forest, Govt. of Arunachal Pradesh and ICIMOD, Nepal at Itanagar, Arunachal Pradesh (April 18, 2018) to review the progress, discuss and prioritize future activities of Hi-LIFE program. The lead person of the project, Er. M.S. Lodhi from GBPNIHESD, presented an overview of the project objectives and envisaged deliverables. Chairman of SLCC Shri Omkar Singh, PCCF&PS (E&F), Arunachal Pradesh appreciated the efforts of the GBPNIHESD and ICIMOD for this proposed trans-boundary conservation initiative and highlighted the biodiversity significance of Hi-LIFE project area (i.e., Namdapha National Park cum

Tiger reserve). Among others, the meeting was attended by Mr. B.M.S. Rathore, Chief Policy Advisor, ICIMOD, Dr. R.M. Pant, Director, National Institute of Rural Development & Panchayati Raj, Guwahati, Dr. R. Kemp, PCCF (WL), Dr. Rabindra Kumar, PCCF, DoEF, Arunachal Pradesh, Mr. Nawraj Pradhan, ICIMOD, GBPNIHESD staff etc. Director Planning, Director, Agriculture, representatives from other line departments of Govt. of Arunachal Pradesh, subject experts from Rain Forest Research Institute, Jorhat, Zoological Survey of India, Botanical Survey of India, Rajeev Gandhi University, Civil Societies members, WWF-India, SEACOW were among the special invitees in this meeting.



सामायिक लेख

Promoting Cultivation of Medicinal Plants-
A Participatory Approach

I.D. Bhatt & Kuldeep Joshi

GBPNIHESD, Kosi-Katarmal, Almora



Conservation and sustainable utilization of high value medicinal plants (MPs) is one of the priority agenda across the globe.

This is particularly important for IHR, which is considered one of the 36 biodiversity hotspots of the world. The region harbours over 1748 plant species of medicinal value, which is around 22% of the total flowering plants of IHR. Among different biogeographic provinces nearly 643 species of MPs are known from trans- and northwest Himalayan region (J&K and HP), 701 species from west Himalayan region (Uttarakhand), 707 species from central Himalayan region (Sikkim and Darjeeling hills), and nearly 650 species from east Himalaya (Arunachal Pradesh). However, the demand of MPs, both for domestic consumption by local inhabitants and for preparing drugs by pharmaceutical industries is largely met from wild populations, which has resulted into rapid depletion of the stock in natural habitats. This situation is widening the gap between demand and supply and also affecting the quality of raw materials and consequently the quality of final product. As per record, 17 species of MPs have been recorded in the Red Data Book of Indian Plants and 120 species have been assessed

and placed under various threat categories of the IUCN.

Considering this situation, and the leads obtained under the Phase-I of KSLCDI project efforts under the National Mission on Himalayan Studies, MoEF&CC sponsored project for conservation of threatened and high value MPs at the landscape level were made by developing a germplasm repository involving 14 villages in Chaudas valley (District Pithoragarh) with the aim to develop a strategy for large scale multiplication and sustainable utilization of high value MPs. In addition, the project would help in (i) developing species-specific protocols for recovery/reintroduction of threatened species; (ii) establishing demonstrations of threatened Himalayan MPs at different altitudes; (iii) promoting cultivation of threatened MPs in farmers field; (iv) developing market linkages for sale of produce; and (v) sensitizing diverse stakeholders group towards promoting conservation of threatened MPs.

The project activities were initiated with on site consultative meetings in the target villages of Chaudas. Initially, 7 consultative

हिमालय पर्वत यों तो जीवन-दायिनी जड़ी-बूटियों हेतु पौराणिक काल से ही विश्व विख्यात रहा है तथापि इन पर्वत श्रृंखलाओं में कैलाश भू-क्षेत्र का उच्च शिखरीय भाग पुरातन काल से ही अपना विशेष महत्व रखता है। इस भू-क्षेत्र में वैद्यों द्वारा जड़ी-बूटियों का प्राकृतिक उपचार हेतु प्रयोग की एक समृद्ध परंपरा रही है। हाल के वर्षों में प्राकृतिक रूप से जड़ी-बूटियों की विविधता एवं प्रचुरता में गिरावट आने से जड़ी-बूटी संरक्षण के प्रयास विभिन्न स्तर पर किये जा रहे हैं जिनमें स्थानीय लोगों के पारंपरिक ज्ञान का समावेश करने एवं जड़ी-बूटी के संरक्षण हेतु कृषिकरण की दिशा में किये गये प्रयास उपयोगी साबित हो रहे हैं। कैलाश परियोजना के माध्यम से ग्रामीणों एवं स्वयंसेवी संस्थानों के सहयोग से इसी तरह के प्रयास वर्तमान में किये जा रहे हैं।

हिमालय के रमणीक पर्यटन क्षेत्रों में बढ़ते हुए पर्यटन व्यवसाय ने जहाँ एक ओर स्थानीय लोगों हेतु रोजगार का सृजन किया है वहीं दूसरी ओर कूड़े-कचरे की समस्या भी दिन-प्रतिदिन बढ़ रही है। मुख्य रूप से प्लास्टिक एवं अन्य अजैविक अपशिष्ट व अत्यन्त धीमी रफ्तार से विघटित होने वाले कूड़े ने अधिकांश पर्यटन स्थलों में एक गंभीर पर्यावरणीय चुनौती पेश की है जिसके दुष्परिणाम वायु प्रदूषण, जैव-विविधता एवं मानव स्वास्थ्य हेतु खतरा इत्यादि के रूप में देखे जा रहे हैं। कूड़े-कचरे के निपटान हेतु कंचनजंगा भू-क्षेत्र के एक प्रसिद्ध पर्यटन स्थल सिंगालिला नेशनल पार्क के (गोरखे) ग्राम में परियोजना द्वारा पर्यावरण संरक्षण एवं कूड़ा-कचरा प्रबंधन हेतु समन्वित प्रयास किये जा रहे हैं जिसके फलस्वरूप यह ग्राम भविष्य में एक आदर्श ग्राम के रूप में विकसित हो रहा है।



meetings were organized in 9 villages of the region, in which 287 farmers participated. Considering the ecological suitability and possibilities of cultivation *Hedychium spicatum*, *Saussurea costus*, *Valeriana jatamansi* were initiated. Simultaneously planting material of other MPs like *Allium stracheyi*, *Angelica glauca*, *Cinnamomum tamala* and *Picrorhiza kurroo* is proposed to be produced in nursery for large scale

cultivation. Cultivation of MPs has been identified as a potential activity in the KSL that not only ensure income generation by rural inhabitants but also addresses the larger goal of conservation of biodiversity and sustainable development. GBPNHESD is pursuing this activity in the KSI through a multiple convergence mechanisms such as convergence with District Line agencies, externally funded projects etc.

Gorkhey- Forest Village: On its way to Become a Cleanest Village

Sheila Sinha, K.S. Gaira & Mithilesh Singh

GBPNHESD, Sikkim Regional Centre, Pangthang



Gorkhey, a forest village in Singalila National Park (SNP), West Bengal has been selected as one of the pilot sites of KLCDI- India activities. This is the only village located on the trekking trail

from Phalut to Rimbik (the nearest town area to the National Park). The area is also known for its transboundary location of the two states, Sikkim and West Bengal. The village has relatively higher number of tourist visit per year



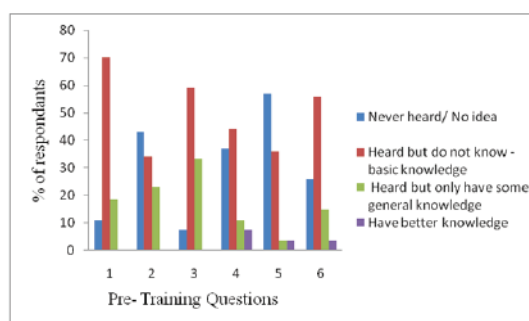
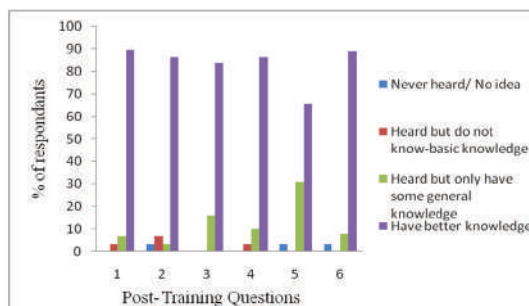
in comparison to other villages in vicinity to the park. Hence to meet the challenges of the increasing waste production with the growing tourism in the region, the area was selected for the campaign for the World Environment Day 2018 theme – “Beat Plastic Pollution” so as to aware more locals with the ill-effects caused by the increasing use and improper disposal of plastics and also demonstrate waste management practices.

It is to be noted that Gorkhey village being less populated and located far from the urban areas and being surrounded by the dense forest of the Park, is comparatively cleaner than the other pilot areas of KLCDI- India programme. Various initiatives taken under solid waste management are intended to maintain the cleanliness of the village and to build the capacity of the locals to cope up with the probable chances of the increased waste production with the increasing tourist flow. Apart from cleaning the trekking trail in the village periphery inside the National Park, training was imparted on separation of wastes, bio-composting of degradable waste and reuse of the plastic wastes for making various useful items.

The organizing team propagated the “zero waste management” practices as adopted by Khangchendzonga Conservation Committee (KCC) of Yuksam, West Sikkim as a model initiative to maintain cleanliness in the villages surrounding the Yuksam-Dzongri trekking trail of Khangchendzonga National Park (KNP). The entire process of how KCC members collect, segregate and reuse the waste materials generated with the heavy tourist flow in the region was demonstrated to the community people of Gorkhey both through exposure visits and also through trainings in their village itself. The concept and the learning of the participants in the programme was evaluated on the basis of pre-and-post questionnaires that included questions: Have you heard? (1) About the waste management practices; (2) About the



reuse or recycling of the plastic wastes; (3) About the waste segregation (dry/wet waste or degradable/ non- degradable wastes); (4) About the ill-effects of the plastic wastes to our health and environment; (5) About the ways we can use plastic wastes in handicrafts; and (6) About the cleanliness drives in India. A graphical representation of the participants’ understanding on this issue pre-and-post the programme clearly demonstrates the upgradation of participants’ knowledge on the wastes and its management practices.



Participants acknowledged that the main issue in their locality is the plastic wastes thrown by the porters *en-route* from Nepal to the nearest town of Sikkim *via* Gorkhey. The issue being transboundary in nature requires due attention. The other issue is the management of wastes that can no longer be reused as in absence of road network the wastes could not be given to the recycling companies. The challenges are accepted by the village people and initiatives are being taken to make Gorkhey, the cleanest village of KL- India. The community members of Gorkhey have shown enthusiasm and accepted the responsibilities for the cause.

परियोजना के लक्ष्यों की प्राप्ति हेतु सभी भारतीय सहयोगियों ने वर्ष 2018 के दौरान समय-समय पर कई गतिविधियाँ जारी रखी। इन गतिविधियों में सीमा-पारीय भू-क्षेत्र के विभिन्न प्राकृतिक संसाधनों के वैज्ञानिक उपयोग (कीड़ा-जड़ी, च्युरा आदि), विभिन्न राष्ट्रीय एवं अंतरराष्ट्रीय महत्व के दिवसों का जन-सहभागिता द्वारा आयोजन (अंतरराष्ट्रीय जैव विविधता दिवस, विश्व पर्यावरण दिवस आदि) उल्लेखनीय रहे। इन क्रियाकलापों के अतिरिक्त प्लास्टिक कूड़े के उन्मूलन, स्थानीय हितधारकों के परम्परागत ज्ञान का प्राकृतिक संसाधन संरक्षण में समावेश, कंचनजंगा भू-क्षेत्र की वेबसाईट निर्माण, ईको पर्यटन पर पुस्तिका का लेखन, विगत वर्षों में किये गये क्रिया-कलापों का विभिन्न हितधारकों के साथ मिलकर आकलन करना सम्मिलित रहा।

वृत्तांत एवं गतिविधियां

Kailash Landscape

Awareness Events on Good Practices of Yarsagumba Management

Yarsagumba (*Ophiocordyceps sinensis*) trade has become an important economic activity in KSL India and Nepal with its major market in China. Consequently, overharvesting, environmental degradation and its illegal trade have become pertinent transboundary issues. Based on learning's from previous meetings and the learning material developed, a series of awareness programmes were organized in KSL-India landscape villages (22 October to 26 November, 2017). In all 619 community members belonging to 13 villages of Darma (4), Vyas (2) and Chaudas (7) participated in different events and took the benefit of this programme for initiating good practices of Yarsagumba management in the area.

Diversity- our Identity our Heritage Events

A series of experience sharing and showcasing events on "Diversity- our Identity our Heritage" theme were organized (23-



26 November, 2017) in Pithoragarh for diverse stakeholders including Biodiversity

Events & Activities

Management Committee (BMC)/Gram Panchayats (GPs), People's representatives, and students & teachers. The events were organized in collaboration with Indian partner organizations of KSLCDI and ICIMOD. During this event an exposure visit was organized by WII, GBPNIHESD & CHEA for representative stakeholders (i.e., BMC members, VP & GP members, progressive farmers, etc.) of Himkhola, Hat-Kalika and Munakot pilot sites to Bans-Maitoli and Jajurauli villages. During the visit participants interacted with villagers and shared their thoughts on landscape conservation and livelihood improvement. Village people of Bans-Maitoli and Jajurauli, respectively demonstrated the activities of ESM Plan implementation and off- season vegetable cultivation under KSLCDI project.

Potential of ABS in Chyura Cluster

One day workshop was organized on 4th October, 2017 at Kathgaon village to have in depth information and knowledge sharing with villagers about the supply chain of Chyura (*Diploknema butyracea*). The programme was



supported by GIZ, Delhi for Bio Resource Assessment and Value Chain Analysis of access and benefit sharing (ABS). Potential species/products were discussed as Chyura has been identified one of the potential bio-resource. The members of Pancheshwar Ghati Cooperative and JLGs from 6 villages participated in the workshop. The representative from GIZ Delhi and Dehradun were also present in the meeting.

Open Defecation Free (ODF) Event

Efforts were made in Van Raji villages for making them ODF following the concept of Community Led Total Sanitation (CLTS) and flagship programme of Clean India Mission. The event was organized at Jeoljibi where the Van Raji from all villages participated and shared their experiences that lead towards ODF process. In all 64 Van Rajis were present in the programme. For their excellent contribution in making the village ODF, 3 leading groups from Jamtari, Aultari and Gainagaon villages were awarded. In the programme Block Development Officer and Block Pramukh, Dharchula were the special guests. Gram Pradhan of villages and members of groups were also present in the event.

Transboundary Trade Fair, Jeoljibi

To showcase the KSLCDI outputs in Jeoljibi fair (Dharchula), GBPNIHESD and other Indian partners made an exhibition (14-25 November, 2017). Various value added products (farm produce and NTFPs) along



with knowledge products were displayed during the fair. The detailed information of project was shared with the district level officials, MLA, Dharchula and other local representatives.

Access and Benefit Sharing Potential of Bio-resources in KSL

Based on continuous efforts made under KSLCDI with partners, a study supported by GIZ, Delhi was conducted for the identification of the ABS potential of bio-resources in

three selected districts of Kumaun region including Pithoragarh. The overall purpose of the study was to identify the gaps in existing



supply chain focusing on bio-resources and identification of various stakeholders involved in the supply chain. Based on these gaps, mechanisms were developed for bringing the existing supply chain under the ambit of Biodiversity Act (2002) and ABS framework.

Celebration of IDB 2018 in KSL

The Centre for Biodiversity Conservation and Management (CBCM) of GBPNIHESD





celebrated IDB (22-23 May, 2018) at the Institute's HQs Kosi, Almora and at Chaudas Valley, Pithoragarh District with the objectives: (i) Make students sensitive towards issues related to biodiversity conservation and plastic pollution, and (ii) Generate awareness among the village communities regarding medicinal plant conservation and cultivation. In these two-days' events 116 participants from 8 schools at Institute HQs, and 159 students, teachers and village people of Chuadas valley (Distt. Pithoragarh) participated.

In Chaudans valley the IDB was celebrated with 93 farmers of 11 villages at Sri Narayan Ashram Trust, Dharchula, Pithoragarh. Participants were explained about the importance of biodiversity, different life-forms and threats to biodiversity, including habitat loss, over-exploration, deforestation, pollution and climate change by the Institute scientists. Also, various *ex-situ* and *in-situ* conservation

methods and approaches were explained to the participants. Sri Shailesh Mahadeviya (Chairmen, Sri Narayan Ashram Trust) welcomed the participants and indicated that certain medicinal plants of the region, such as *Allium stracheyi*, *Paris polyphylla*, *Picrorhiza kurroa*, etc. were abundant in the past but unregulated harvesting have reduced their wild population. He emphasized that cultivation and marketing of the medicinal plants for income generation is helpful to conserve the biodiversity. Sri Ramesh Paithani (Co-Chairmen, Sri Narayan Ashram Trust) suggested that sustainable use of bio-resources and medicinal plant cultivation, value addition and marketing will reduce outmigration from this region.

The second day IDB programme was organized at Govt. Inter College, Pangu (Distt. Pithoragarh) for school children and teachers (66 nos.). The young minds were ignited with the knowledge on biodiversity and its importance for sustenance of life by the Institute faculty. The students were encouraged to express their views on biodiversity and its conservation through poems, drawings and essay writing.

Khangchendzonga Landscape (KL) Stakeholders' Consultation Meeting

A stakeholders' consultation meet was organized under Khangchendzonga Landscape Conservation and Development Initiative (KL)-India programme to share the progress achieved during the 1st year



of implementation phase, and to discuss the upcoming activities amongst the nodal persons and the stakeholders. In this meeting activities under the broad thematic groups (a) Livelihood improvement; (b) Ecosystem management; and (c) Long-term environment and socio-ecological database development

were discussed and various inputs thus emerged were considered for improving the project activities in future. A total of 40 stakeholders from different organizations attended this meeting.

Development of KL- India Website (www.tourismklindia.com)

A website was designed for the promotion of tourism in the pilot site of KL- India programme, which was launched by Mr. Ujjal Ghosh, CCF Wildlife, North West Bengal, during stakeholders' consultation in Gangtok. In this website brief information on nature and natural resources and livelihood prospective of the pilot sites including brief description of activities undertaken under the project with pictures and details on various ecotourism sites that are likely to attract more tourists to this area have been given.

Booklet on Tourism

A booklet "Training and Exposure Visit Programme on Skill and Capacity Building for Improved Tourism Services: Process and Outcome" based on the capacity building



training given to the community people of the KL project pilot sites was published and released by the Additional Principal of Chief Conservator of Forest (PCCF), Sikkim Mr. C.S. Rao and Mr. Ujjal Ghosh, CCF (West Bengal). The booklet is the compilation of the activities undertaken during a training given for ecotourism development in a 5 day long exposure visit to Yuksam and management in three pilot sites of KL-India.

Stakeholders' Meet on LTESM

Feasibility and approaches for LTESM in KL-India were standardized by the participants from different organizations (13 February 2018) wherein the need to study forest and



agro-ecosystem in KL-India was stressed.

Synergy Building Meeting at Gorkhey

For the effective implementation of KL-India programme and for capitalizing on the contribution of multi-stakeholders, a need was felt to reinforce synergy among the stakeholders. Therefore, a synergy meeting was organized at Gorkhey-Samanden Forest Village (Barsey-Singalila pilot site) (15 April



2018). In this meeting Mr. Ujjal Ghosh IFS, CCF Wildlife North (West Bengal) cum Nodal Person KL-India participated and assured continuous support to project activities.

Cleanliness Drive in Gorkhey

On the occasion of World Environment Day (WED-2018) a two-days programme on waste management was organized in Gorkhey- a forest village in SNP, West Bengal. Following the WED theme of "Beat Plastic pollution",



the programme was focused to make locals aware of the ill-effects caused by improper use and disposal of plastic wastes and to

adopt the culture of reusing the wastes generated in the village. The programme was directed to build capacity of the locals to reuse the plastic wastes in order to establish proper management of the increasing waste with the increasing tourist flow and to promote Gorkhey village for becoming the cleanest village of KL.

Documentation of Natural Resources

Household surveys to document the traditional knowledge related to agri-diversity, local food beverage and forest resources were carried out in some villages under Lingdem - Lingthem GPU using semi-structured questionnaires and interviews with the community people and resource persons. Integration of such data will help in building



data base on biodiversity / genetic resources in the region for developing People's Biodiversity Register (PBRs).

Review and Interaction Meet of KL-India

In order to carry out monitoring/review of work conducted under KLCDI-India, a team from ICIMOD, GBPNIHESD and TMI-India visited the beneficiaries of Barsey-Singalila site of KL-India (15-18 February 2018) and monitored the project activities. Team members



provided suggestions on integration of technology transfer for off-season vegetable cultivation, connecting Yacon farmers with the market, and strengthening networking among local groups etc.

उत्तराखंड में एक अत्यंत पिछड़ी जनजाति 'वन राजि' निवास करती है जिनकी कुल जनसंख्या 688 है। यह जनजाति कैलाश भू-क्षेत्र में नौ ग्रामों एवं चम्पावत जिले के एक ग्राम में निवास करती है। यह जन-जाति विकास की मुख्य धारा में विभिन्न कठिनाईयों एवं पुरातन परंपराओं के कारण पूर्णतया शामिल नहीं हो सकी है। कैलाश परियोजना के माध्यम से कैलाश भू-क्षेत्र के 169 वन-राजि सदस्यों के मध्य कृषि-औद्योगिकी, फल वृक्षों के रोपण, जल प्रबन्धन, सौर उर्जा, सब्जियों व दालों का उत्पादन, रिगाल बांस से हस्तशिल्प व कुटीर उद्योग इत्यादि गतिविधियाँ की गई जिससे उनकी वार्षिक आय में काफी वृद्धि हुई इसके साथ ही वन राजि महिलाओं के मध्य विभिन्न कार्यक्रमों से उनका क्षमता विकास एवं आत्मविश्वास में वृद्धि देखी गई। यह जनजाति अब समाज की मुख्यधारा से जुड़ने के लिए मजबूत कदम उठाने लगी है।

सफलता की कहानी

Strengthening Capacity of Van Rajis in the Context of Changing Climate and Globalization

Pankaj Tewari & P.S. Nagarkoti

Central Himalayan Environment Association, Nainital

Van Raji, a forest dwelling primitive tribe, resides in KSL part of central Himalayan region in Uttarakhand. Among tribes, it is the smallest group with a population ratio of only 0.02% in Uttarakhand. Till recently, Van Rajis were totally dependent on forests for their livelihoods. Even today, limited livelihood options, poor educational status and lack of medical facilities are some of the hardships faced by them. In KSL Pithoragarh, Van Rajis are distributed in 9 villages. Also, 18-

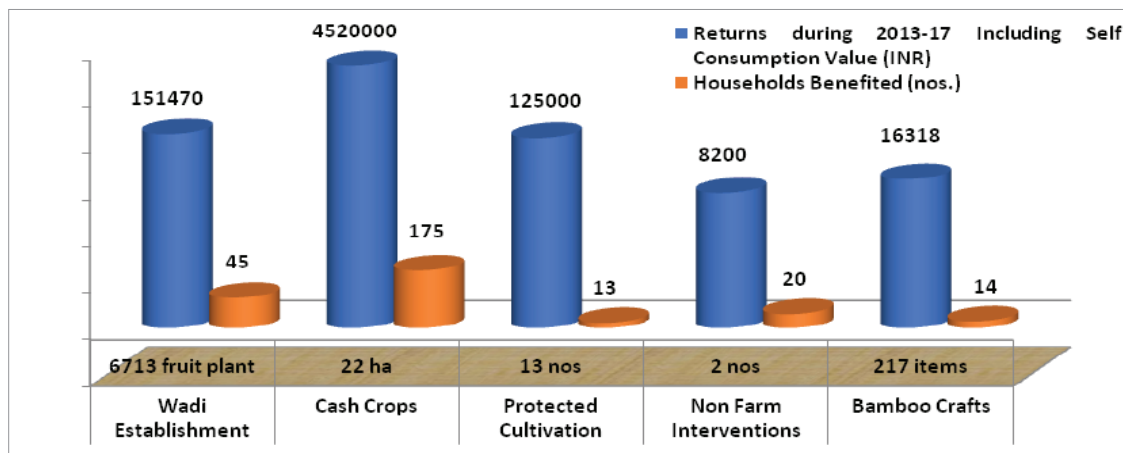
20 households of Van Rajis live in a village located in Champawat district of Uttarakhand. The major problem for bringing them in mainstream is landownership. Largely being forest dwellers they still don't have land ownership and even today only 40-45% households are having land titles as per Schedule Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006. Realizing the felt need for mainstreaming of Van Rajis, specific programme were implemented under KSLCDI, NABARD and

Success Story

other groups for their livelihood upliftment. During last 4-6 years interventions that facilitate access to water, solar electricity, nutritional security, linking with banks, packages of agriculture and horticulture, etc. have made a positive change in terms of attitude, livelihood practices and life style of these people. They are now willing to adopt new technologies to get along with better skills and knowledge. Under these programmes Agri-horti-silvi system (*Wadi*) introduced among 120 Van Rajis with fruit plantations of Lemon, Mango, Indian Gooseberry (*Amla*), Pomegranate etc., which have begun to produce fruits. Plantation of bamboo in the boundaries to have additional source of raw material along with reducing dependency on forests for domestic needs has also worked. Now each household has an average 20 fruiting trees along with rain water harvesting tank, irrigation accessories, poly line tanks and solar *lantern* (lights). Cultivation of pulses, vegetables and spices i.e. kidney bean, turmeric, ginger, tomato, brinjal, chilly under *wadi* for maximizing land use was well adopted and turning to success by ensuring food security. Also, 70-80 households are selling the surplus produce for income. In all 22.2 ha area has been converted into cultivation from fallow land to produce around 28 ton in their land in last 4-5 years. In all they have earned a total profit of INR 2.5 million and have used farm produce worth INR 1.9

million for self consumption. This happened only after project intervention since 2012-13. The kidney bean produced by them is sold in different fairs, exhibition, niche markets, etc., and branded as "Kailash". During 2016-17 a total of 1200 Kg kidney bean was produced and a sale of 800 kg worth INR 0.11 million. Now many Van Raji households have started selling vegetables, pulses and bamboo crafts in the markets, which fetches them money in addition to daily wage labour work.

Training and skill building on use of bamboo for making handicraft resulted in motivation of 65 Van Raji women and made them self reliant. Tailoring workshops were organized for 20 Van Raji families with support from NABARD. Sewing machines were provided and now they are able to repair their old clothes and also making new dresses for other community members, which has now become a means of livelihood for them. To achieve open defecation free (ODF), in 9 villages, around 90% households are using either permanent or temporary toilets and keeping their surroundings clean. Also, alternative water resources have been created in all 9 Van Raji villages. Overall 141 roof water harvesting and Poly line tanks are being used for fulfilling water needs ensuring water availability of 2115 KL (thrice in a year) that is helping them in time saving of 1650 hours annually.



A positive change in attitude is visible and they have started visiting line departments more frequently to discuss their needs and understand Govt. welfare schemes for them. Van Rajis now frequently visit health centres for check-up in case of medical problems. Most of the households are having bank accounts, Aadhar card, ration card and Voter ID. A big change is seen in Van Raji women groups as they have started to participate in meetings

of line departments and raising their voice. They have also begun to exercise voting right, which was earlier not a common practice. These evidences clearly exhibit that Van Rajis are now more open and aware about their rights and social system which is needed for resilience and to compete in present world. In all the holistic approach applied by us under KSLCDI during last 4 years has definitely brought a positive change among the Van Rajis.

हिन्दी अनुभाग

पवित्र कैलाश भू-क्षेत्र, भारत के परिसम्पत्तियों का मानचित्रण

शंशाक लिंगवाल, गजेन्द्र सिंह व विनीत पाल

उत्तराखण्ड अंतरिक्ष उपयोग केन्द्र, देहरादून

एकीकृत योजना नियोजन किसी भी कार्य के क्रियान्वयन का एक अभिन्न अंग होता है। स्थानीय स्तर पर, यह सामाजिक भागीदारी द्वारा लिया गया निर्णय होता है, जिसकी समाज के भविष्य पर सार्थक बदलाव में महत्वपूर्ण भूमिका होती है। जमीनी स्तर पर एक प्रभावी योजना को तैयार करने, क्रियान्वयन व क्षेत्र विकास के लिए उस क्षेत्र में उपलब्ध परिसम्पत्तियों/संसाधनों की सम्पूर्ण जानकारी होना एक महत्वपूर्ण आवश्यकता है। यहां परिसम्पत्तियों का आशय सरकारी, गैरसरकारी व निजी संसाधनों (जैसे-स्कूल, होटल, नौले-धारे, पंचायत भवन, राशन की दुकान आदि) से है, जो मानव जीवन के दैनिक उपयोग के लिए ग्राम पंचायत स्तर पर विद्यमान है। इन समस्त परिसम्पत्तियों का मानचित्रण कैलाश भू-क्षेत्र, भारत में पंचायती राज संस्थानों का स्थानिक सशक्तिकरण परियोजना ई0पी0आर0आई0एस0 के तहत किया जा रहा है।

पंचायती राज संस्थानों का स्थानिक सशक्तिकरण भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो), भारत सरकार द्वारा चलाया जा रहा एक व्यापक आउटरीच कार्यक्रम है, जिसे अंतरिक्ष आधारित सूचनाओं का उपयोग कर, उपयोगकर्ता के अनुकूल, संसाधन आधारित एवं एकीकृत विकास के लिए पंचायती राज संस्थानों (ग्राम, विकास खण्ड एवं जनपद स्तर) को सशक्त बनाने के लक्ष्य से प्रारम्भ किया गया है। यह कार्यक्रम सम्पूर्ण भारत में चलाया जा रहा है, जिसके पहले चरण में प्रत्येक राज्य के एक या दो जनपदों के परिसम्पत्तियों (देश का 10 प्रतिशत भू-भाग) का मानचित्रिकरण किया जा रहा है। जिसमें उत्तराखण्ड राज्य के पिथौरागढ़ जनपद की समस्त परिसम्पत्तियों का मानचित्रिकरण निम्न उद्देश्यों के साथ किया जा रहा है।

- पंचायती राज संस्थानों (ग्राम, विकासखण्ड एवं जनपद), रेखीय विभाग, स्कूल, कॉलेज, एन0जी0ओ0,

का सशक्तिकरण: भुवन पंचायत पोर्टल के माध्यम से संसाधनों का मानचित्रिकरण, गतिविधि नियोजन, क्रियान्वयन व निगरानी की जानकारी प्रदान करना।

- परिसम्पत्तियों का आंकलन करना: भुवन पंचायत मोबाइल एप के माध्यम से ग्राम पंचायतों में स्थित समस्त सार्वजनिक परिसम्पत्तियों का मानचित्रिकरण करना।
- योजनाओं का क्रियान्वयन: भुवन पंचायत प्लेटफार्म पर पंचायती राज संस्थानों (ग्राम, विकासखण्ड एवं जनपद) द्वारा परियोजनाएं बनाना, क्रियान्वयन करना व उनकी देख-रेख करना की जानकारी प्रदान कराना है।

परिसम्पत्तियों का आंकलन:
भुवन पंचायत पोर्टल

समस्त मानचित्रित परिसम्पत्तियों को भुवन पंचायत पोर्टल (www.bhuvan-panchayat.gov.in) पर देखा जा सकता है।

- भुवन पंचायत पोर्टल जमीनी स्तर पर "विकेन्द्रीकरण नियोजन" की सुविधा के लिए एक वेब आधारित पोर्टल है।
- ग्रामीण और शहरी क्षेत्रों में स्थानीय निकायों के विकास गतिविधियों की सहायता के लिए स्थानिक और गैर स्थानिक स्वरूपों में जानकारी प्रदान करने के लिए बनाया गया है।
- पृष्ठभूमि में उच्चविभेदन (1:10,000 पैमाने पर) उपग्रहीय छवियों के साथ विभिन्न विषयों पर जानकारी प्रदान करता है।
- भौगोलिक मानसदर्शन के अतिरिक्त भुवन पंचायत पोर्टल परिसम्पत्तियों का अवलोकन, गतिविधि नियोजन, क्रियान्वयन, क्रियाकलापों की निगरानी, चयनित पंचायत क्षेत्र की प्रोफाइल रिपोर्ट तैयार करने आदि में सक्षम है।



परिसम्पत्तियों का आंकलन

भू-स्थानिक परिसम्पत्तियों का मानचित्रण करने के लिए, पंचायत/ग्राम स्तर पर एक परिसम्पत्ति निर्देशिका तैयार की गयी है। परिसम्पत्ति निर्देशिका विभिन्न प्रकार की परिसम्पत्तियों/संस्थानों का संकलन है जिसे स्थानीय आबादी की सुविधा के लिए भारत सरकार, राज्यों और समुदायों की विभिन्न योजनाओं के तहत बनाई जा रही हैं। भुवन पंचायत मोबाइल ऐप का उपयोग करते हुए किसी भी नागरिक या पंचायत राज संस्थान (पी0आर0आई0) प्रतिनिधि द्वारा परिसम्पत्तियों का मानचित्रण किया जा सकता है। कुल परिसम्पत्तियों को 5 प्रमुख श्रेणियों, 25 उपवर्ग, 73 सम्पत्ति समूहों और 281 परिसम्पत्तियों में वर्गीकृत किया गया है।

क्र 0सं0 / S.No.	प्रमुख श्रेणियाँ/ Major Categories	परिसम्पत्तियाँ/ Assets
1.	नगरिक सुविधाओं/आधार भूत संरचना/ Civic amenities/ infrastructure	226
2.	शासन परिसम्पत्तियाँ/ Government assets	3
3.	मानव और पशु संसाधन/ Human and livestock resources	2
4.	प्राकृतिक संसाधन/ Natural resources	8
5.	उत्पादन परिसम्पत्तियाँ/ Productive assets	10
	योग / Total	281

मोबाइल अनुप्रयोग के माध्यम से परिसम्पत्तियों का मानचित्रण

जनपद पिथौरागढ़ के समस्त 08 विकास खण्डों (बेरीनाग, बिण, धारचुला, डीडीहाट, गंगोलीहाट, कनालीछीना, मुनाकोट, मुनस्यारी) में लगभग 690 ग्राम पंचायतें स्थित हैं। जिनमें परिसम्पत्तियों के मानचित्रण का कार्य प्रगति पर है। मानचित्रण कार्य प्रत्येक ग्रामपंचायत का भ्रमण कर भुवन पंचायत मोबाइल ऐप द्वारा स्थानीय लोगों द्वारा किया जा रहा है। जिसके लिए विभिन्न विकास खण्डों में 80 से अधिक लोगों को मानचित्रण कार्य के लिए प्रशिक्षण दिया गया है।



इस जनपद में वर्तमान में 500 ग्राम पंचायतों में स्थित 18000 से अधिक परिसम्पत्तियों का मानचित्रण किया जा चुका है। यहां उल्लेखनीय यह है कि परिसम्पत्तियों का मात्र भौगोलिक निर्देशांक (अक्षांश-देशांतर) की ही गणना नहीं की जा रही है अपितु परिसम्पत्ति से सम्बन्धित अन्य महत्वपूर्ण विवरणों (जैसे-फोटोग्राफ, संसाधनों की उपलब्धता, संख्या) की सूचनाएं भी एकत्रित की जा रही हैं। परिसम्पत्तियों के आंकलन के उपरान्त पंचायती राज संस्थानों के सशक्तिकरण के लिए विकासखण्ड व जिलास्तरीय कार्यशालाओं का आयोजन किया जा रहा है, जिसमें अभी तक एक जिलास्तरीय व 3 विकासखण्ड स्तरीय (बिण, मुनाकोट व बेरीनाग) कार्यशालाओं का आयोजन कर लगभग 600 से अधिक ग्रामपंचायतों, रेखीय विभागों, शैक्षणिक संस्थानों, गैर सरकारी संस्थानों के प्रतिनिधियों का क्षमता विकास किया गया है। स्थानिक सूचनातंत्र होने से यह सभी आंकड़े योजना के सफल नियोजन, क्रियान्वयन व निगरानी हेतु प्रयोग में लाए जा सकते हैं।

कैलाश भू-क्षेत्र में कालाबासा खर-पतवार के फैलाव का आंकलन व उन्मूलन के उपाय

आरती काला एवं अलका चौधरी

भारतीय वन्यजीव संस्थान, देहरादून

हिमालयी भू-क्षेत्रों में विगत कुछ वर्षों से जैविक खर-पतवारों की बढ़ती आक्रामकता से कृषि, जंगल व घास के मैदानों के परितंत्रों में नकारात्मक बदलाव के कारण प्रत्यक्ष व अप्रत्यक्ष रूप से आर्थिक व पर्यावरणीय क्षति एक विचारणीय मुद्दा बनकर उभरा है। उत्तराखण्ड राज्य के अंतर्गत सीमान्त पिथौरागढ़ जिला जो कि पवित्र कैलाश भू-क्षेत्र के अंतर्गत आता है यह क्षेत्र भी खर-पतवारों के बढ़ते प्रकोप से अछूता नहीं रहा है। जलवायु परिवर्तन भी बढ़ते खर-पतवारों की एक मुख्य वजह माना जा रहा है। प्राकृतिक वनों एवं वनस्पतियों हुए खाली स्थानों में खरपतवारों ने जगह ले ली हैं। हालांकि पहले खरपतवार निचले क्षेत्रों तक ही सामान्यतः मिलते थे, किन्तु अब उच्चशिखरीय क्षेत्रों में भी इनकी घुसपैठ बढ़ चुकी है। माना जा रहा है कि लगभग 50% खरपतवारों की प्रजातियाँ हिमालयी क्षेत्रों में मिलती हैं, जो कि प्राकृतिक जैव-विविधता पर प्रतिकूल प्रभाव डालती हैं एवं कृषि की पैदावार को भी कम कर रही हैं। जंगल तथा घास के परितंत्रों में खरपतवारों का ज्यादा प्रचुरता में होना, इन परितंत्रों के विघटन का मुख्य कारण बन रहा है।

उपरोक्त समस्याओं को ध्यान में रखते हुये भारतीय वन्य जीव संस्थान, देहरादून द्वारा कैलाश परियोजना के तहत पिथौरागढ़ जिले के बांस मैतौली ग्राम, जो कि पिथौरागढ़ शहर से लगभग 24 कि०मी० की दूरी पर स्थित है, व विण ब्लाक के अन्तर्गत, चडाँक ऑवलाघाट के सूक्ष्म जलागम गाकेर्णेश्वर गाड का भाग है, को स्थानीय ग्रामीणों के साथ विचार विमर्श कर परीक्षण स्थल के रूप में चयनित किया गया। जिसमें मुख्य रूप से कालाबासा (*Ageratina adenophora*) जो कि पूरे भू-क्षेत्र के लिये गम्भीर समस्या के रूप में उभरा है, को विस्तृत अध्ययन के लिये चुना गया है। हालांकि भू-क्षेत्र की भौगोलिक विषमता व विभिन्न पर्यावरणीय चुनौतियों के कारण इसका सटीक आंकलन कर पाना मुश्किल है। परन्तु ग्रामीणों की भागीदारी सुनिश्चित कर प्रमुख पर्यावरण प्रणालियाँ जैसे—कालाबासा की उपस्थिति/ अनुपस्थिति, बहुतायत में या सामान्य रूप से इसका फैलाव (सीमा व आकार), इसका वितरण मुख्यतः कृषि, जंगल व घास के परितंत्रों में भौगोलिक स्थैतिक प्रणाली (GPS) की मदद से काला बासा द्वारा प्रभावित भूभाग को चिन्हित कर इनका वैज्ञानिक विधि द्वारा गहन सर्वेक्षण व अध्ययन किया गया। जिसके आधार पर पूरे भू-क्षेत्र में इसके सम्भावित फैलाव का आंकलन व अवलोकन किया जा रहा है। इसके साथ-साथ भारतीय वन्यजीव संस्थान के तकनीकी सहयोग से इस समस्या के निस्तारण हेतु बांस मैतौली ग्राम के ग्रामीणों द्वारा जैवविविधता प्रबन्धन समिति (BMC) के साथ मिलकर समूह बनाये गये हैं, जिनके द्वारा सन 2015 से लगातार निम्नलिखित क्रियाकलाप किये जा रहे हैं।

- गांव में पिछले कुछ वर्षों से पीने व सिंचाई के पानी में लगातार कमी आ रही थी, जो कि ग्रीष्मकाल में और भी कम हो जाती है, जिसका मुख्य कारण पानी के प्राकृतिक स्रोतों का सूखना और प्राकृतिक आपदाओं (जैसे भूस्खलन) की बजह से स्रोतों का दब जाना है, इन जल स्रोतों के आस पास नमी के कारण काला बासा का अत्यधिक मात्रा में उग आना है, जिससे पानी की निरन्तरता व बहाव बाधित होता है। इसके लिये ग्रामीणों ने सहभागिता प्रक्रिया के अनुरूप धारों व नौलों की मरम्मत व इनको पुर्नजीवित करने का कार्य किया जिससे जल स्रोतों में निरन्तर पानी का बहाव बना रहे।
- घटते वनों व चारागाहों के पुनर्स्थापना के लिये भी ग्रामीणों, स्थानीय स्कूल के विद्यार्थियों व अध्यापकों की सहायता से राष्ट्रीय सेवा योजना (NSS) के तहत कैम्पों का समय समय पर आयोजन कर वनों व चारागाहों में चयनित स्थानों से काला बासा को समूल नष्ट किया व BMC द्वारा गठित समूह यह कार्य लगभग हर वर्ष कर रहा है।
- कैलाश परियोजना के अन्तर्गत सन 2016 में एक नर्सरी भी बनायी गयी, जिसमें चारा, ईंधन व घास के उत्तम प्रजाति की पौध भी तैयार की जा रही है। जिसे चयनित स्थानों पर ग्रामीणों व BMC की सहायता से रोपित कर परितंत्रों के पुनरुत्थान की दिशा में कार्य किया जा रहा है।
- काला बासा को घास के मैदानों से उखाड़ कर इसकी जैविक खाद बनाने का वैज्ञानिक विधि से प्रयोग व साथ ही साथ शोधार्थियों द्वारा इसी तर्ज पर पूरे कैलाश भू-क्षेत्र में इस के विस्तार को जानने के लिये वैज्ञानिक विधि से गहन अध्ययन का कार्य चल रहा है।
- कैलाश परियोजना के अन्तर्गत ही इस समस्या के निवारण हेतु भारतीय वन्य जीव संस्थान व अन्य सहयोगी संस्थाओं के द्वारा विद्यार्थियों, स्थानीय भागीदारों, प्रशासकीय भागीदारों व ग्रामीणों के लिये जागरूकता अभियान व क्षमता विकास के कार्यक्रम निरन्तर किये गये व किये जा रहे हैं, ताकि भविष्य के लिये इन परितंत्रों व प्राकृतिक संसाधनों का संरक्षण सुनिश्चित किया जा सके।

OBITUARY

**Professor Pangtey:
A dedicated botanist from the mountains**

**Greatness is not found in possessions, power, position or prestige.
It is discovered in goodness, humility, service and character...**

- William Ward

It is hard to believe that my teacher (Guru ji) and mentor Professor Y.P.S. Pangtey is no more in this mundane world. He breathed his last on 28th August, 2018 in a hospital in Delhi. Unfortunately, none of his students knew about seriousness of his illness. Somehow, he had been avoiding meeting the people since past few months and whenever called, he would give a short reply, "I am doing fine". We were aware that he was busy finishing his new book "Flora of Kumaon Himalaya" He was recipient of senior fellowship from the National Academy of Sciences, India to consolidate his life-long research on the flora of Kumaon region.

Born at village Milam (3400 m asl) in the year 1944 in a modest family, Guru ji rose to a towering figure in the field of Botany. I met him for the first time in May 1980 when I was in the final year of M. Sc. Botany at P.G. College Pithoragarh. He had come there to conduct practical examination. He closely examined our practical records and herbarium collections. Probing my knowledge about common plants of Munyari area, he asked me several questions. Though I could not answer all his questions to my satisfaction, he was very kind. He then encouraged me to visit a few botanically interesting places in Munyari and find out interesting plants. Soon after my examination, I set off to remote Ralam valley along with a few shepherds and collected plant specimens from the alpine area. By September, our results were out and without wasting much time I packed my bag, plant specimens and essential documents and boarded the bus to Nainital. On reaching the Botany Department at DSB College, I was given a very hearty welcome by Guru ji. Instantly, he began to examine the plant specimens which I had brought from Ralam; and this was the beginning of my research.

When I recall my days of research in Nainital, I am amazed how simple and dedicated was Prof. Pangtey to his discipline. He helped a large number of researchers working on ecology and floristics in various parts of Kumaon selflessly. His contributions to the Botany of Kumaon Himalaya are immense. He supervised over 15 Ph. D. students and published several books, monographs and more than 200 research papers. He earned his D. Sc. degree based on taxonomy of flowering plants of Kumaon. Despite a very modest facility, he maintained an extremely rich Herbarium in the Department. Some of the taxa of ferns and flowering plants named in his honour include: *Elaphoglossum pangteyii* Khullar, Samant & Chaudhary; *Athyrium pangteyi* Fraser-Jenkins; *Nervilia pangteyana* Jalal, Kumar & Rawat. One stream course nearly half a km east of Pangot behind Cheena peak, Nainital is named in his honour as "Pangtey Gorge" (name given by Dr. Fraser-Jenkins).

Sudden demise of Professor Pangtey is indeed an irreparable loss to the botanical fraternity in the region and Department of Botany in Kumaon Himalaya. However, the path of sincerity and dedication to the discipline shown by him will always inspire many more generations of botanists in the region. Guru ji will always remain alive in our hearts...

Gopal S. Rawat
WII, Dehradun

Prof. Y. P. S Pangtey, Department of Botany, Kumaun University, Nainital, a premier Himalayan Plant Taxonomist passed away on 28, August, 2018. Though not a member of CHEA, Pangtey Ji was connected with CHEA in more than one way. He used to help us when we had our office in Botany Department of Kumaun University and provided free service of identifying plants whenever a worker of CHEA approached him.

DSB's Botany Department of 1980s and 1990s was a very vibrant place, a hub of all kinds of academic activities and University's nerve centre in some ways. Prof. Pangtey was one of the major contributors to the vitality that the Department sustained over several decades. Almost all in the region got identified their plant specimens by Dr. Pangtey. He used to gladly do that, as he remembered almost all plants, seldom using a flora or other sources to identify them. He would stay until 6 or 7 in the evening almost every day. So stable was the setup that it gave an impression that it would stay, even when everything else is gone. I think a university is around a teachers and students, who continuously interact academically. This was quiet prominent in DSB's Botany of these years. Dr. Pangtey was known for his modesty, simplicity and the knowledge he had about plants. He created a major herbarium at Botany Department, and is known for his famous students, like Dr. G. S. Rawat of WII, Dehradun, Dr. Samant and Dr. Rawal of G. B. Pant National Institute of Himalayan Environment and Sustainable Development, Almora.

He was older than I was, but throughout his life he treated me as his teacher as I happened to teach him at M.Sc. level briefly. Such was his modesty.

This generation cannot produce a Pangtey, stable and reliable like an oak tree in serving people, he would be known for many years to come for his contribution to plants of Kumaon Himalaya.

May his soul rest in peace!

S. P. Singh,
Chairman
Central Himalayan Environment Association (CHEA), Nainital



Prof. Yash Pal Singh Pangtey
7 July, 1944 - 28 August, 2018
D.Sc., FNAsc.

NASI-Senior Scientist, Department
of Botany, D.S.B. Campus, Kumaun
University, Nainital

My Guru ji was different

In research community, better articulation and showcasing of research is often considered best path to gain popularity and command respect. Hence, most of the senior people keep on exploring ways and means for best possible exposition in different forums. Guru ji, Prof. Y.P. S. Pangtey, however, was amongst very few researchers who ever remain averse to this thinking. Yet, he commanded a good respect both as teacher and a dedicated researcher. He was popular as well. I believe, simplicity, kind heartedness and ready to help attitude, and more importantly dedication and devotion for plant research, placed Guru ji at different level of respect for all those who came to his contact or knew him otherwise. As for most of his students, the friendly advises at very critical phases of life helped me to sustain even in very intense competitive sphere of plant research and reach a destination. Guru ji is no more physically present with us but he will stay live in our memories and deeds.

R.S. Rawal
GBPNIHESD, Almora

संयोजक संस्थान

गोविन्द बल्लभ पन्त राष्ट्रीय हिमालयी पर्यावरण एवं सतत विकास संस्थान की स्थापना सन 1988-99 में पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के स्वायत्तशासी संस्थान के रूप में की गई। यह संस्थान संपूर्ण भारतीय हिमालय क्षेत्र में वैज्ञानिक ज्ञान को बढ़ावा देने, एकीकृत प्रबंधन रणनीति बनाने व उनके प्राकृतिक संसाधनों के संरक्षण में प्रभाविता के प्रदर्शन और पर्यावरणीय दृष्टि से मजबूत प्रबंधन हेतु मुख्य संस्थान के रूप में चिन्हित है।

Coordinating Institute

G.B. Pant National Institute of Himalayan Environment and Sustainable Development was established in 1988–89 as an Autonomous Institute of the Ministry of Environment Forest & Climate Change (MoEF&CC), Government of India. The Institute has been identified as focal agency to advance scientific knowledge, evolve integrated management strategies, demonstrate their efficacy or conservation of natural resources, and ensure environmentally sound management in the entire Indian Himalayan Region (IHR).



गोविन्द बल्लभ पन्त राष्ट्रीय हिमालयी पर्यावरण एवं सतत विकास संस्थान

G B Pant National Institute of Himalayan Environment & Sustainable Development

An Autonomous Institute of Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India
Kosi-Katarmal, Almora 263 643, Uttarakhand, INDIA
Web: <http://gbpihed.gov.in> | Phone: +91-5962-241015

For further details, please contact:

Dr. Ranbeer S. Rawal, Director, Lead Project Coordinator – KSLCDI, India (psdir@gbpihed.nic.in)
Dr. G.C. S. Negi, Scientist F, Nodal Person, KSLCDI, India (negigcs@gmail.com)
Er. M.S. Lodhi, Scientist D, Nodal Person, Hi-LIFE, India (mahen29.mail@gmail.com)
Dr. Mithilesh Singh, Scientist C, Nodal Person-KL, India (singmithilesh@gmail.com)

मार्गदर्शन - GUIDANCE



Ministry of Environment, Forest and Climate Change
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सहयोग एवं वित्तपोषण - FACILITATION AND FUNDING



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