

Natural Heritage Bulletin

Information and Updates from World Natural Heritage Sites in Asia and the Pacific Region

Monsoon, 2019 | July-September
Volume 5, Issue 3



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



UNESCO Category 2 Centre for World Natural Heritage
Management and Training for Asia and the Pacific Region,
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Cover: Jayaram's Bush Frog, *Raorchestes jayarami* (Biju & Bossuyt, 2009). This frog is endemic to the Western Ghats and was first discovered from Tamil Nadu. In the monsoon, the misty hill forests of the southern Western Ghats echo with the calls of the males of this frog along with the orchestra of many other endemic frogs of this biodiversity hotspot. Image: Vivek Sarkar.

Published by UNESCO Category 2 Centre for World Natural Heritage Management and Training for Asia and the Pacific Region, Wildlife Institute of India (WII), Chandrabani, Dehradun – 248001, Uttarakhand, India.

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From The Editor's Desk

As the monsoon brings much needed relief from the excesses of summer, this issue of UNESCO Category 2 Centre's Natural Heritage Bulletin carries stories of recovery and promise. From the city of Baku in Azerbaijan, read of the resolve made by young World Heritage Professionals to take on the multi-faceted challenges facing conservation with sustainable development and socio-economic vitality as cornerstones of their solutions. As part of the World Heritage Committee Session in the same city, find out which new names have been added to the World Heritage list, thereby securing their heritage for all of humankind to appreciate for generations to come. Also in this issue, the details of UNESCO C2C's own efforts to help fill the growing need for heritage managers equipped with the right mix of interdis-

-ciplinary skills who also started their journey as heritage professionals through a live screening of the Baku Conference. The newly launched Masters in Heritage Conservation and Management course at our Centre aims to develop the interlinkages between natural and cultural conservation producing post-graduates with the ability to draw on the best learnings from both domains.

Even as the bush frog on our cover continued its orchestral symphonies in the forests of the Western Ghats, C2C staff ventured out to various venues to spread the World Heritage Convention and to learn from fellow professionals in the field. From the mangroves of the Andamans to the ashy slopes of Mount Fuji in Japan, the conferences and trainings which C2C participated in covered a wide spectrum of objectives and venues. Whether by emphasizing the importance of conservation of small patches of grassland with its resident but little seen hispid hare or meeting the Chief Minister of the state of Uttarakhand about the nomination of the ancient Kailash pilgrimage route in India, as a World Heritage Site, the Centre continues to further its agenda of raising awareness and capacity building. Reading through this issue and its discussion of places precious, it is appropriate to end with the 2nd prize winner from the Nature Writing Competition organized by UNESCO-C2C in 2017. After all, as Kadambari Devarajan says in her evocatively written entry "Stories in the sand", these are places of "singularly remarkable beauty, the dynamic and vivacious".

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Climate education and heritage awareness

On the occasion of the 74th session of the United Nations General Assembly in September, 2019, UNESCO participated in several events of the Climate Summit and highlighted the role of education, science and culture in providing sustainable responses. The Director-General supported the call of six South American countries to conserve and protect the Amazon, the world's first tropical forest, at a high-level meeting on tropical forests. The Director-General has therefore called for a massive emergency and investment plan for areas such as the Amazon, the Great Barrier Reef, the African tropical forests and the marine heritage, which are in the most critical situations, all over the world, by calling for the introduction of global education into school curricula from kindergarten to university.

<http://whc.unesco.org/en/news/2038>



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Acknowledgement for Tubbataha Reefs Natural Park conservation

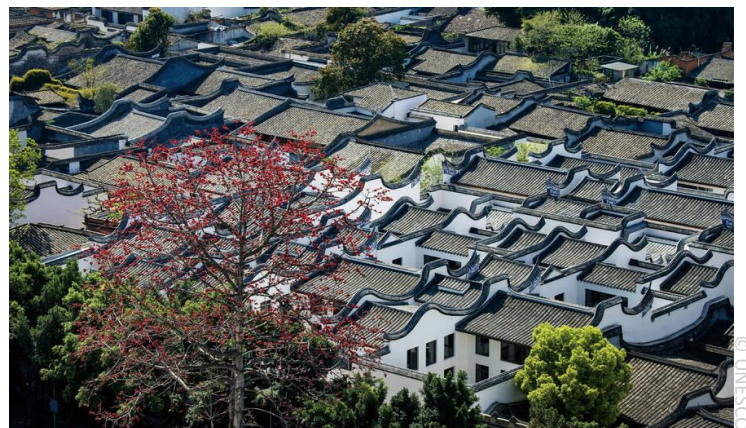
On 18 September 2019, Ms Angelique Songco, Superintendent of Tubbataha Reefs Natural Park World Heritage area was honored with the esteemed 2019 KfW-Bernhard-Grzimek-Preis for her outstanding leadership in conserving the World Heritage marine site. The award is a tribute to individuals and organizations for their commitment to the preservation of the world's most precious biodiversity and related environmental processes. Located in the Sulu Sea, Philippines, Tubbataha Reefs Natural Park hosts one of the world's most exceptional coral atolls and is home to the Napoleon wrasse or *Cheilinus undulatus*, one of the most iconic internationally threatened and endangered marine species.

<http://whc.unesco.org/en/news/2036>

Indigenous peoples highlight the importance of native languages in conserving World Heritage

In a special event at the World Heritage Committee session at Baku in July, 2019, supported by the Government of Canada, the indigenous peoples of Morocco, Solomon Islands, Japan, Greenland – Denmark, Canada, Mexico and Australia gathered and discussed 12 case studies, focussing on the need to include, protect, and raise awareness about the local people and their languages in order to conserve and manage the World Heritage properties. It is estimated that 40% of the 6700 languages spoken around the world are on the brink of getting lost. Indigenous languages embody complex systems of knowledge and serve as a vital resource for development, peace building and reconciliation. UNESCO has been working to preserve the intangible heritage of traditional skills and know-how, as well as to raise awareness of their importance, through programmes such as Local and Indigenous Knowledge Systems (LINKS) which supports governments to create crucial interfaces between scientific and indigenous communities. This year, two sites that feature indigenous languages in their name were inscribed in the World Heritage List: “Budj Bim Cultural Landscape” (Australia), located within the Country of the Gunditjmarra, an Aboriginal nation in the southwest of Australia, and “Writing-on-Stone / Áísínai’pi” (Canada), a landscape considered sacred to the Blackfoot (Siksikáíłsitapi) people. Following the event on “Indigenous Languages for the Conservation of World Heritage”, a session on “Indigenous Engagement in World Heritage Processes” was held, hosted by the International Indigenous Peoples Forum for World Heritage (IIPFWH).

<https://whc.unesco.org/en/news/2013>



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New World Heritage Sites in Asia-Pacific Region

Natural Sites	Cultural Sites
Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I) (China)	Budj Bim Cultural Landscape (Australia)
Hyrceanian Forests (Islamic Republic of Iran)	Archaeological Ruins of Liangzhu City (China)
	Ombilin Coal Mining Heritage of Sawahlunto (Indonesia)
	Mozu-Furuichi Kofun Group: Mounded Tombs of Ancient Japan (Japan)
	Bagan (Myanmar)
	Megalithic Jar Sites in Xiengkhuang – Plain of Jars (Lao People's Democratic Republic)
	Seowon, Korean Neo-Confucian Academies (Republic of Korea)

29 new sites inscribed at World Heritage Committee Session 2019

The World Heritage List features 1,121 sites in 167 countries after the close of the 43rd Session of the World Heritage Committee held in Baku, Azerbaijan during July 2019. The next session of the World Heritage Committee in 2020 will be held in the city of Fuzhou, China. The Baku meeting inscribed a total of 29 new sites on the World Heritage List (one in Africa, two in the Arab States, ten in the Asia Pacific region, 15 in Europe and North America and one in Latin America), which included 5 natural, 1 mixed and 24 cultural sites. Table alongside shows the new sites from the Asia-Pacific Region.

<http://whc.unesco.org/en/news/2007>



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World Heritage Young Professionals Forum 2019

This year's World Heritage Young Professionals Forum was held in the Republic of Azerbaijan from 23rd June to 2nd July, 2019, where 30 participants from 30 countries met to address the global challenge of heritage protection and conservation in the 21st century. The theme for this year's Forum was "World Heritage: Local Insights for Global Challenges". The participants discussed their ideas and concerns regarding the conservation of World Heritage and through a series of lectures, workshops and site visits came up with a Declaration which was presented in the 43rd session of the World Heritage Committee. The Declaration said, "on-going uncontrolled development in urban centres worldwide is completely unacceptable, leading to the erosion of distinct character and identity of the place. Sustainable development and the improvement of cities' socio-economic vitality and liveability are needed for robust place-based, integrated strategies, to help reinforce rural-urban linkages. By involving local stakeholders through a participatory and multi-stakeholder partnership approach, we can achieve the UN SDGs and the New Urban Agenda and realise the Paris Agreement on Climate Change".

<https://whc.unesco.org/en/news/2008>



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Sites in List of World Heritage in Danger

At the 43rd Session of the World Heritage Committee, Baku, Uzbekistan, July 2019, the Committee approved the removal from the List of World Heritage in Danger of the sites of Humberstone and Santa Laura Saltpeter Works (Chile) and Birthplace of Jesus: the Church of the Nativity and Pilgrimage Route, Bethlehem (Palestine). One property has been added to the List of World Heritage in Danger: the Islands and Protected Areas of the Gulf of California (Mexico).

<http://whc.unesco.org/en/news/2007>

International Day for the Conservation of the Mangrove Ecosystem

The International Day for the Conservation of the Mangrove Ecosystem, adopted by the General Conference of UNESCO in 2015 and celebrated each year on 26 July, aims to raise awareness of the importance of mangrove ecosystems as “a unique, special and vulnerable ecosystem” and to promote solutions for their sustainable management, conservation and uses. Mangroves are extraordinary ecosystems that act as natural coastal defence against storm surges, tsunamis, rising sea levels and erosion. Their soils are highly effective carbon sinks, sequestering vast amounts of carbon. However, there are rising threats to mangroves and they are vanishing three to five times faster than global forests. UNESCO has dedicated itself to the conservation of these wonderful ecosystems by including mangroves in Biosphere Reserves, World Heritage Sites and UNESCO Geo-parks.



©Getty Images / MoreISO

<https://whc.unesco.org/en/news/2011>

Salalah Guidelines for Public Archaeological Sites

The International Workshop on the Practical Application of the Salalah Guidelines for the Management of Public Archaeological Sites was inaugurated in Oman by the Sultanate of Oman (Office of the Advisor to His Majesty the Sultan for Cultural Affairs), with the Director of the World Heritage Centre, ICOMOS and the Director General of ICCROM. The workshop was based on the application of the Salalah Guidelines by studying different case studies around the world and holding panel discussions on tourism, community participation, new technologies and challenges prevalent. International and national experts, universities, representatives from governments, World Heritage Committee members, Advisory Bodies as well as NGOs participated in the workshop.



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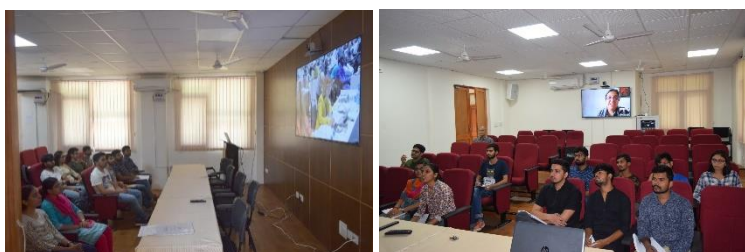
<https://whc.unesco.org/en/news/2032>

UNESCO C2C India: Current Activities

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1st M.Sc. Course on Heritage Conservation and Management

Responding to the critical need for advancing heritage education, the UNESCO Category 2 Centre at the Wildlife Institute of India has introduced a 2-year residential Master's Course in Heritage Conservation and Management beginning July, 2019. Affiliated to Saurashtra University, Gujarat, the course is interdisciplinary in nature and advances sustainability studies through the prism of heritage. The first batch of the Course includes 08 students from diverse academic fields, viz., History, English, Electronics and Communication Engineering, Social Work, Zoology and Agriculture. The first three months of the course i.e., from July – September, 2019, saw a culmination of classroom study, self-study and two orientation trips. In the beginning of July, the students were introduced to the various concepts and definitions of Heritage and the UNESCO World Heritage Convention. To learn more and get a first-hand experience of the periodic meetings of the World Heritage Committee, they watched the live telecast of the 43rd session of the Committee from Baku, Azerbaijan, from 2nd – 8th July, 2019.



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Visits to Mohand area of Rajaji Tiger Reserve, Forest Research Institute, Wadia Institute of Himalayan Geology were conducted for the students which gave a perspective on wildlife science, forestry and geological heritage. An orientation Tour was conducted in two parts, comprising of Mussoorie – Hanifl Centre – Landour – Benog Wildlife Sanctuary – Jaberghet Nature Reserve – Everest House – Kalsi-Yamuna Landscape – Colonial and Afghan Heritage of Dehradun (Part I) and Humayun's Tomb – Sunder Nursey – Red Fort – Old Delhi – Qutab Minar – National Museum – UNESCO Delhi Office – Archaeological Survey of India – WWF-India Secretariat – INTACH office (Part II). Eminent resource persons interacted with the students and shared their perspectives on natural and cultural heritage conservation and management.



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Classroom sessions were facilitated by faculty from Wildlife Institute of India, along with Dr. Neelkamal Chapagain of Ahmedabad University, Dr. Harini Nagendra of Azim Premji University, Dr. Sanjay Gubbi of Nature Conservation Foundation, Shri Vinaysheel Oberoi, former permanent representative of India to UNESCO. Ms. Nupur Prothi Khanna, conservation architect, Dr. M.R. Singh of National Museum Institute, Dr. Shalini Sharma, former faculty of Tata Institute of Social Sciences, scientists from Wadia Institute of Himalayan Geology, Indian Institute of Remote Sensing, faculty from Jawaharlal University and University of Missouri also taught module topics to the students. Dr. Erach Bharucha, Principal of the Bharati Vidyapeeth Institute of Environment Education & Research (Pune), Dr. Anuradha Chaturvedi, Professor at School of Planning and Architecture (Delhi), Shri V.K. Uniyal and Dr. A.K. Gupta and Dr. A.K. Bhardwaj, three former Principal Chief Conservators of Forest interacted with the class.



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Meeting with Chief Minister of Uttarakhand on Kailash Landscape on 04 July, 2019

Director, Wildlife Institute of India, Dr. V.B. Mathur and UNESCO C2C faculty had a meeting with the Hon'ble Chief Minister, Government of Uttarakhand, Dr. Trivendra Singh Rawat at the State Secretariat, Dehradun on 04 July, 2019 to brief about the Kailash landscape's nomination as a proposed World Heritage Site. Also present were Shri Amit Negi, Finance Secretary, Shri Dilip Javalkar, Tourism Secretary and Shri Mahendra Singh Kunwar, Secretary, Himalaya Action Research Centre. The Hon'ble Chief Minister was informed that the Kailash landscape in India is located within the Pithoragarh District of Uttarakhand and has been proposed on the Tentative List of Indian World Heritage Sites owing to its significant cultural and natural values. The subsequent detailed nomination of the site on UNESCO's World Heritage List would require extensive documentation and consultations with all relevant stakeholders. The Chief Minister assured the support of the Government of Uttarakhand in this process, in particular, the Departments of Culture, Tourism and Forest.

Capacity-Building Workshop for Stakeholders of Majuli Cultural Landscape, Assam- 19 August, 2019

The Cultural Affairs Department, Government of Assam invited Wildlife Institute of India to conduct a Capacity-Building Workshop for Stakeholders of Majuli Cultural Landscape, Assam, a Tentative World Heritage Site, in Guwahati, Assam on 19 August, 2019. UNESCO C2C-WII was represented by Niraj Kakati, Technical Officer and Anuranjan Roy, World Heritage Assistant, to conduct the programme. Nearly 30 members representing major departments of the Government of Assam including Culture, Tourism, Water Resources, Forest and Geology participated. As part of the agenda, presentations were made on nomination and evaluation process, protection and management requirements, and comparative analysis for Majuli with similar heritage sites. The team also conducted a participatory exercise for identifying threats and its analysis with specific reference to Majuli. Key outcomes were related to better understanding of the World Heritage system processes and procedures by the stakeholders, and additional inputs were received from the stakeholders for incorporation into the nomination dossier.



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Stakeholder Dialogue on Exploring Options for Transboundary Cooperation towards Resilience Building in the Eastern Himalayas, Thimphu, Bhutan, 29-30 August, 2019

The International Centre for Integrated Mountain Development (ICIMOD) and UN Environment, in close collaboration with Governments of Bhutan, India and Nepal and other partners are currently developing a proposal for a project, focused on the promotion of transboundary cooperation for resilience building in the Eastern Himalayas, with specific focus on the improved management of transboundary landscapes, particularly the Kangchenjunga and Manas landscapes and connectivity between these landscapes. Towards this end, a regional stakeholder dialogue was organised in Thimphu, Bhutan on 29-30 August, 2019, attended by 30 participants from Bhutan, Nepal and Bhutan. UNESCO C2C-WII was represented by Shri Niraj Kakati, Technical Officer and presented on 'Manas and Kangchenjunga Landscapes: A World Heritage Perspective for Transboundary Cooperation'. The next steps include further consultations at the site to national levels in the respective countries.



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Brain Storming Session on Conservation of Geoheritage in India on 06 August, 2019



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The Society of Earth Scientists (SES) jointly with Indian National Science Academy, Delhi organised a Brain Storming Session on 'Conservation of Geoheritage: Current Scenario and Future Action Plan' on 6 August 2019 at INSA, Delh. Various Lawmakers, Technocrats, Government officials and senior geoscientists were invited to discuss the issue and to provide their support. Dr. Chitiz Joshi, Assistant Technical Officer, represented UNESCO Category 2 Centre, WII. SES constituted a committee of experts who prepared and presented a Status paper comparing Indian geoheritage with the International sites and draft legislation. The overall objective of the session was to draft legislation for their conservation which intend to submit to Central Government with the request to consider for saving our natural heritage. Since there are definite laws for conservation of our rich cultural heritage, but unfortunately, there are no laws exist for the conservation of our rich natural heritage in India. The urbanization and development are causing destruction of our unique geoheritage which is of concern to earth scientists. Whereas countries like Iran, Ireland, Chile, Portugal, etc. are developing their natural Heritages as 'UNESCO Global Geoparks', India needs to be more active in designating its geological monuments of international standard.

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Nature Based Solutions for Climate Resilience and Future of Indian Mangroves: National Consultative Workshop, YMCA, Delhi, 05 August, 2019

The “Nature Based Solutions for Climate Resilience” Future of Indian Mangroves: National Consultative Workshop was held on 5th August 2019 at YMCA, Delhi. The objective of the workshop was to create a platform for collaboration between the stake-holders for a resilient future of Indian and Asian Mangroves. The event was organized by National Institute of Disaster Management in collaboration with Institute of Global Environmental Strategies, Japan; WII, Dehradun; CSIR-National Environmental Engineering Research Institute, Nagpur and IUCN Commission on Ecosystem Management, South Asia.

Plausible alternative futures of Island mangroves in the Asia-Pacific: Scenario-based analysis and quantification of mangrove ecosystem services in coastal hazard mitigation and climate change adaptation in Andaman Island, India

The research study is being carried out on the mangroves of Andaman Islands in India to combat the possible adverse impacts of climate change. Particularly, ecosystem services of mangroves remain at the centre of discussion considering their exceptional ability to survive in the fragile coastal environment, while providing tremendous services such as storm surge control, sediment retention, arresting carbon, etc. Yet, despite such services, mangroves are still among the fastest declining tropical forests, especially in Asia-Pacific, owing to the large-scale alternation of their natural habitats. The study was started in March, 2019 and Dr Anukul Nath from UNESCO C2C, WII and IGES team (Dr Shizuka Hashimoto, Dr Rajarshi Dasgupta and Dr Pankaj Kumar) visited the island from 6th to 8th August 2019.



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Fourth Capacity Building Workshop On Nature-Culture Linkages In Heritage Conservation In Asia And The Pacific - Mixed Cultural And Natural Heritage (4 September – 04 October, 2019)

CBWNCL 2019 was organized at the University of Tsukuba from the 24th of September to October 4th on the Theme of "Mixed Cultural and Natural Heritage". UNESCO-C2C was represented by Anuranjan Roy who participated by delivering a presentation on the Sacred Mountain Landscape and Heritage Routes of India, which is the Indian portion of the transnational Kailash Sacred Landscape. The two week workshop, attended by participants from the protected areas around the Asia Pacific and also from Tanzania & Albania, discussed mixed sites as defined by the World Heritage Convention looking at the evolving techniques of strengthening nature-culture linkages for the same. The participants visited Mt. Fuji as a study site to look at its potential as a mixed site. The faculty for the workshop included stalwarts in the field from the University of Tsukuba and the Symposium on the final day was attended by Dr. Mechtild Rossler (Director, WHC), Dr. Webber Ndoro (Director-General, ICCROM), and Tim Badman (Director, IUCN Nature Culture Linkage Initiative).

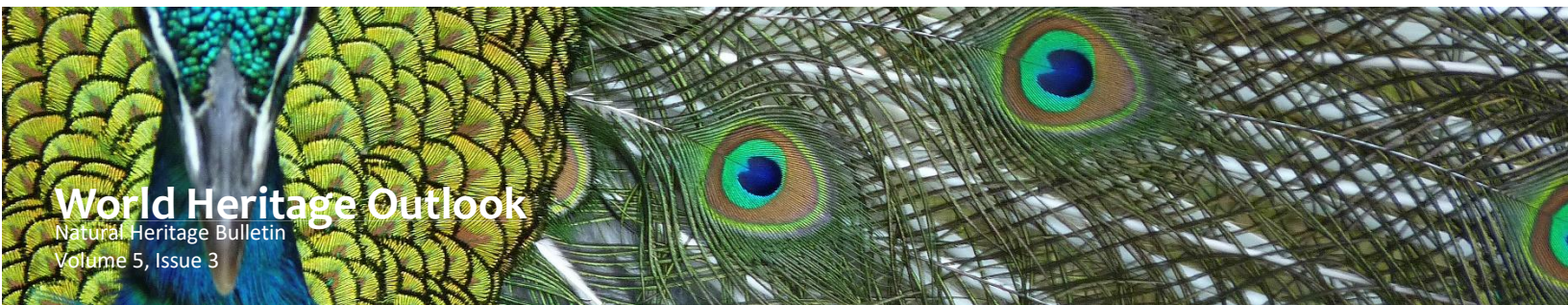


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Monitoring outstanding universal value of Manas WHS with special emphasis on grassland obligatory species, Hispid Hare.

World Heritage Sites are essential for both conservation of biodiversity and provisioning of dynamic ecosystem services. Manas World Heritage Site (WHS) is unique compared to other sites in the world having grassland habitat which also includes highly threatened groups of mammalian fauna. The loss of grasslands is reflected in the global decline of grassland adapted species that are uniquely adapted to the system dynamism. The present work is proposed to monitor the OUV of Manas WHS, and the grassland obligatory species Hispid Hare (*Caprolagus hispidus*) selected as a model species. The hispid hare is an Endangered (IUCN, 2008) lagomorph which is listed in Schedule-I of Indian Wildlife (Protection) Act, 1972 and in Appendix 1 of CITES. A study was designed to assess the current status of hispid hare, along with creation of grassland patch in highly invasive invaded areas of southern boundary of World Heritage Site through multiagency collaboration (Duleep Matthai Nature Conservation Fellowship, Prakriti Research Fellowship and Aaranyak). Furthermore, community outreach programs were conducted to strengthen public support and participation towards its conservation. The following activities undertaken under the project are as follows: more than 40 teachers and 300 students were made aware of the importance of Endangered Hispid Hare and its grassland habitat. In addition to that Capacity-building activities were carried out in each forest camp of Bansbari Range. Field method for monitoring areas for Hispid Hare using pellet identification was taught to the local staff. This will aid the current and future monitoring of the species by the forest department staff. Community mapping activities were carried out with different stakeholders (e.g., researchers, tourist guides, NGO workers, vehicle association, and forest guards) which gave an insight of current threats to the hispid hare in the study area.





World Heritage Outlook

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Site: Chitwan National Park, Nepal

Inscribed in: 1984

Criteria: (vii), (ix), (x)

Conservation Outlook: Significant Concern

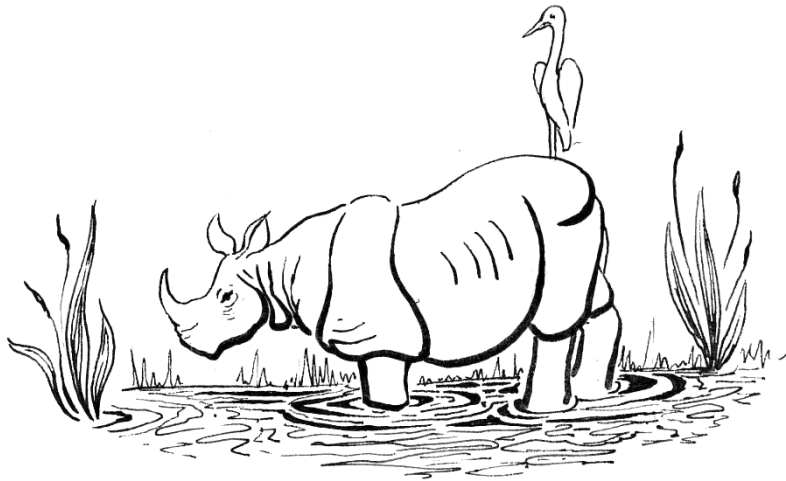


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At the foot of the Himalayas, Chitwan is one of the few remaining undisturbed vestiges of the 'Terai' region, which formerly extended over the foothills of India and Nepal. It has a particularly rich flora and fauna. One of the last populations of single-horned Asiatic rhinoceros lives in the park, which is also one of the last refuges of the Bengal tiger.

The management at Chitwan National Park has been successful in ensuring effective conservation over the last few years; as shown in the rapid increase in tiger and rhino numbers. Nevertheless, the site remains vulnerable to current threats such as pollution, invasive species and negative impacts of mass tourism, and to potential threats such as proposed road developments (including the Tarai Hulaki Highway), increasing human-wildlife conflicts, the impacts of climate change or earthquake, sudden and unexpected increases in poaching or the resurgence of political instability. As such, Chitwan should remain on the radar of conservationists worldwide as an area of high concern as well as an exemplar of effective management.

IUCN's World Heritage Outlook provides the first global assessment of the conservation prospects for natural World Heritage.



Art depicting rhino in its natural habitat in Chitwan National Park .
Illustration: Vivek Sarkar

Source: <https://www.worldheritageoutlook.iucn.org/explore-sites/wdpaid/10905>

Celebrating Natural Heritage: In Literature, Arts and Culture

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Background

The UNESCO Category 2 Centre for World Natural Heritage Management and Training (UNESCO C2C), at the Wildlife Institute of India, Dehradun, organised a two-venue festival in February 2017: Celebrating Natural Heritage: In Literature, Arts & Culture. The Natural Heritage Festival, the first of its kind in India, aimed to celebrate India's spectacular natural heritage through creative arts. Several panel discussions and workshops on nature and conservation were organised, including nature writing, Hindi poetry, wildlife photography, film-making and discussions on cultural heritage of the mountains and environmental journalism. In the spirit of celebrating India's long history of nature writing, and encouraging a continuance of the tradition, a nation-wide nature writing competition was organised by the UNESCO C2C. The competition was open to individuals in the age group 18-40, and participants were asked to focus their writings on the themes of nature, wildlife and conservation. The 12 winning entries have been published in a souvenir that was released on 8th February 2017 by pre-eminent wildlife biologist and conservationist Dr George Schaller, at Wildlife Institute of India, Dehradun. Natural Heritage Bulletin is happy to announce that it will feature one of these 12 entries in every issue starting from this current issue.

Stories in the Sand

By Kadambari Devarajan

In the arid salt flats that extend seemingly endlessly in all directions, all is not what meets the eye. There exists a landscape so unique and unusual that but for some security outposts, one will be hardpressed to figure out where India ends and Pakistan begins. These desolate badlands are what I would like to refer to as 'India's Wild West'. The range of responses, when I mention that this is the location of my latest ecological study, cover the spectrum from polite incredulity ("Do you actually find any wildlife there?") to smirks and sniggers ("Smart choice, easy way out of working hard, eh?"). Wisecracks notwithstanding, any person who actually visits Kutch cannot but be overwhelmed by the stark beauty and vastness of the place. Allow me to introduce to you that singularly remarkable beauty, the dynamic and vivacious - Kutch. (And yes, I did indeed personify the place. Hopefully, you will see why!)

When you think of Kutch, or any desert for that matter, in all likelihood you are probably envisioning a flat, desolate, seemingly never-ending splotch on the map, with some sand dunes thrown in. To paint an even more vivid picture, let us play the game where you have to say what comes to mind when the game's host (me, in this case) gives you a word. Desert, go! Hmmm, let's see – oasis, dune, camel, no water, no vegetation, sweltering heat ...Right? Sorry, wrong! Just suffice to say that Kutch will help rid you of these stereotypes. While many of these descriptions will be valid for the region at some point of the almanac, it is so much more.

It struck me full force, on my very first trip to the region, that my 'blinkers on' view of deserts is akin to the story of the blind men and the elephant. And as this realization dawned on me, Kutch started sucking me into the heaving, whirling sandstorm that represents the 'it's complicated' relationship between an ecologist and her beloved, if possessive, field site.

It was a sweltering, dry heat, unlike anything one has experienced before. I had landed in Kutch, in the peak of summer, with a couple of suitcases full of camera traps, sincerely hoping I am not accosted by the Security folks, bracing myself for a long enquiry in the midday heat. On hindsight, this should have been the least of my worries. As it turned out, nothing could prepare me for the heat. The daytime temperatures soared and touched 55°C.

That summer in Kutch caught me off guard and sent me headlong into the deep end of the pool. My stay at in the village of Hodka, closer to the Pakistan border than the nearest Indian city of Bhuj, was a culture shock for all parties involved. It was exciting, frustrating, and maddeningly chaotic, and resulted in field stories and friendships that could fill an entire book. The stories are brought to life with a clutch of characters and situations straight out of a Wodehousian novel – eccentric, engaging, and witty. Character building, a wise person would call it.

Let me introduce to you my field assistants for that summer – the brash but charming prankster who goes by the name of Rasool, and the poised but ever-ready-with-a-question teenager Mutthalib. Things got interesting right from the get go. Both of them, like most people in Kutch, are pastoralists – some nomadic, some seasonally nomadic, and some (for lack of a better word) settled. While fairly well traveled, intelligent, and quick to grasp things, they were totally stumped by why someone will spend more money ("... than is worth several heads of good cattle") on cameras. Who on earth spends good money on studying pesky jackals and foxes and dogs? And who can blame them?! That they were amused would be an understatement, but they attributed the cameras to the idiosyncracies of some city folk, who for some strange reason cannot appreciate livestock ("Are you sure you do not want to study the grazing patterns of cattle?") and tagged along to help me.

Celebrating Natural Heritage: In Literature, Arts and Culture

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Armed with shiny new trail cameras, we set out trying to identify the different mammals found in the area. While nearly all bird life pretty much disappears from Kutch during summer, the mammals become easier to spot. Yay, lucky me! Not wanting to waste this sizzling opportunity (pardon the poor pun), I shortlisted a few locations to set up the cameras and off we went in a brand new four-wheel drive Mahindra Bolero (pristine white in color and perfect for dealing with the heat in summer), a recent acquisition that was to be an integral part of the field station that was just being set up.

Since Kutch is by and large bereft of woody vegetation or trees, I had come to the Banni grasslands armed with a custom stand designed for such a situation and graciously built for me on short notice by a magician when it comes to metal (an alchemist with iron, if you will) in Bhuj who typically works with the likes of Bollywood royalty and builds fancy gizmos for movie cameras. He considered this nearly broke conservationist his charity of the year and generously did not charge me Bollywood rates, something I am still grateful for. Hail Bharat bhai and his nerves of steel!

These camera trap stands naturally had pros and cons – while they took care of the problem of no tree to tie the cameras to, they could easily be removed, stolen, or damaged. They stood out like a sore thumb in the terrain, not to mention the perils of setting up cameras in Border Security Force area, a veritable no man's land. I was to find out exactly how interesting things could get in these parts about a year after this innocuous recce.

I had to set camera traps at hundreds of locations all across the Banni grasslands. Some days were business as usual, while other days would throw up more adventure than I had bargained for. Like most people working with expensive equipment, I was privy to the mortal fear of damaging or losing said equipment. Would you like to hazard a guess as to what happens when the protagonist faces her fears? Yes, indeed, she is surprised by the weapons that surface – skills she never knew she had!

One glorious winter's day in the field, I was crushed to find a camera trap I had set four days ago to be missing. My field assistant for this season was the softspoken Megha bhai, who asked me to check my GPS coordinates. I insisted it was this location. And didn't we land up here using our never fail shortcut of following the tyre tracks of my trusted steed, an eye-popping blue Maruti Gypsy? We stood there, scratching our heads, like two characters in a comic strip. It was time to solve the Mystery of the Missing Camera.

We were too shocked and worried to talk, and ended up circling the area a couple of times, just to be sure. Maybe a wild boar or nilgai used it as a scratching post, and ended up moving it a few metres away or something? No such luck. The area was flat, and the visibility was very high, several kilometres in fact. The camera had been set in a small patch with some Capparis decidua bushes (the berries are edible and make for fantastic pickles!) in a sea of Suaeda fruticosa (the salty leaves make for an excellent snack, methinks!) shrubs. There was the odd Prosopis juliflora as well, but thankfully the scratchy, thorny invasive that was the bane of every botanist and cattle herder in the region had not yet spread much here.

Hannibal famously said, "I shall either find a way or make one." Turns out, the mystery was about to be solved and quickly too. Our culprits had made the way for us. The area is covered with a fine, powdery soil which gives more information than any eye-witness can. We found motorcycle tracks leading from the GPS location of my camera trap and the tracks were heading east. We also found the footprints of three individuals. With our imagination running wild, we could picture the blokes parking the motorbike, two of them getting off and walking to get the camera trap (stand and all), and laughing gleefully as they made their wicked way back home. What was infuriating was that there seemed to have been a lot of activity – there were the usual jackal and Indian fox pugmarks, but this time there also seemed to be a larger canid's pugmark in the fine sand. I dared dream – a wolf? Could it really, finally be?

We followed the motorcycle track through bushes and boulevards (well, a Banni equivalent), and finally stopping with the tracks at a field. We managed to meet a couple of villagers nearby who pointed us to the headman's house. We bared all to the gentleman, after waiting several hours to see him. While he refused to divulge any details, he seemed moved by my plea, "Please just ensure that the camera is returned to me, and I will not escalate it and involve the police!" Giving up on the camera, but secretly pleased with our sleuthing skills, we ambled back to the field station. There was pin drop silence for the duration of the drive back home, a solid two hours.

A couple of weeks later, while I was traveling, I got a call from a colleague at the field station. She said the village headman had sent the camera to me. Before I could rejoice, she quietly added, "The lock has been broken, the memory card removed, and the piece seems damaged beyond repair. It does not seem to be working. Sorry."

Celebrating Natural Heritage: In Literature, Arts and Culture

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Many months after I first started working there, by which time I had earned the trust and confidence of many of the locals, I finally solved the missing piece of the puzzle. I had been wondering why they damaged the camera before returning it. I could tell you what happened, but one cannot break the confidentiality clause of village gossip. Moreover, I'll be sabotaging the sanctity of stories in the sand, would I not?

Salim mama (uncle, in many Indian languages) is the respected and wise headman of the small village of Sargu in the Banni grasslands of Kutch. His love and knowledge for all creatures, but especially livestock is legendary. Cattle herders from far and wide will flock to him for any problems their cattle may have. Salim mama is their very own James Herriot, albeit without formal veterinary training. No school or degree can compete with practical training, and a life spent immersed in caring for creatures. He is also a treasure trove of legends from long ago, and stories from everywhere.

I used to look forward to working in the vicinity of the hamlet of Sargu, and not without reason. Protocol demanded that while working near a village (and there were more than 50 villages in the Banni grasslands of Kutch alone), one has to respectfully meet the headman (I am not being gender-biased, women's rights has a long way to go here) and inform him of the plan. This could be done over the telephone since they are busy people, and like all busy people, hard to reach. In the case of Sargu, there was no question about a telephone call – there was no way I was missing a conversation with Salim mama, beloved by all who know him. I would suddenly transform into this little girl badgering her grandfather for stories. And he will kindly, patiently oblige, belting out tales, amused at the starry-eyed wonder of this overgrown kid.



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One of the first stories I heard from the master storyteller, along the lines of Aesop's Fables, was about the fox and the dog. The locals state that when a dog chases a fox, the fox is so clever that it will sprint away with its tail horizontal to the ground. After a while the dog will be focused only on the distinctly colored tip of the tail, almost hypnotized by the white fluff. At this opportune moment, the wily fox will point the tail in a different direction in a sudden movement and sprint in the opposite direction while the dog will end up following the direction of the tail. And, that is how the clever fox will outsmart the dog.

A winter in Kutch is incomplete without some music and merrymaking around a bonfire. Stories of djinns in the Dargah in Sarada village or politics from Bhirandiyara and the mysterious ghost lights or chir batti of the Banni grasslands will make the rounds. Huddled in a shawl around a bonfire under the starry skies of Kutch, reminiscing about stories in the sands, is one of my happy places.

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Collaboration:

Department of Forest, Assam: Monitoring Outstanding Universal Values of Manas WHS with special emphasis on grassland obligatory species, Hispid Hare. (August-September, 2019).

The Society of Earth Scientists (SES) jointly with Indian National Science Academy and Geological Survey of India: Brain Storming Session on Conservation of Geoheritage in India. (06 August, 2019).

Forest Department, Andaman Nicobar Islands: Plausible alternative futures of Island mangroves in the Asia-Pacific: Scenario-based analysis and quantification of mangrove ecosystem services in coastal hazard mitigation and climate change adaptation in Andaman Island, India. (06-08 August, 2019).

National Institute of Disaster Management jointly with Institute of Global Environmental Strategies: Nature Based Solutions for Climate Resilience and Future of Indian Mangroves: National Consultative Workshop, YMCA, Delhi. (05 August, 2019)



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