

# PANORAMA

IRALE NEWS # 15 · DECEMBER 2022

## In Focus: Landscape Planning Process and Tools

BASED ON WEBINAR BY RAMESH KRISHNAMURTHY | WILDLIFE INSTITUTE OF INDIA  
SUMMARISED BY VAISHALI VASUDEVA | IRALE

Landscape ecology has existed for a long time in practice and as a scientific discipline since 1930s. Investigating problems and developing understanding about several important issues today can be better achieved at a landscape scale than regional or local scales e.g., Human Wildlife Conflict, Biodiversity Conservation, and Wildlife Population Management are some such issues. Research and planning at landscape scale allow us to move beyond Protected Areas (PAs) and cater for species and ecosystems outside PAs, while also ensuring connectivity between habitats. Landscape science with support from remote sensing abilities has helped in providing information fairly quickly and easily in terrains that are complex and landscapes that are difficult to navigate.

When it comes to planning at landscape scale, managing space for multiple objectives is the key aspect as landscapes often have multiple, diverse stakeholders, multiple land uses and human needs. And since each landscape can have unique characteristics and problems, it is important to describe the thematic context which can vary from tiger conservation, prey augmentation to wetland conservation or invasive species management. Identifying a thematic context allows for landscape boundary delineation within which further investigations can be carried out. At this stage it is also important to consider both natural boundaries and administrative boundaries to facilitate on-ground implementation. The next step involves identification and mapping of stakeholders which can be local communities, land managers, policy makers, farmers and labourers, NGOs, researchers etc. Consultation with the stakeholders at this stage allows to better understand the objectives, their individual aspirations and future acceptance and ownership of the management plan.

This is usually followed by review of existing data and collection of new data needed to answer relevant questions. Some of the important data sources can be camera traps, drones, satellite images, long-term field datasets from existing repositories, systematic baseline surveys. Diverse tools exist that enable us to model population densities, occupancy, connectivity, habitat suitability and spatially prioritize habitats or land parcels for effective management. Some commonly used tools are PRESENCE, MaxENT, Marxan, Circuitscape etc. Spatial prioritization has been successfully used in Himalayan states under project NMSHE by taking into account habitat, biological and anthropogenic indicators, and similar approach has been used for Integrated Landscape Management Plan for Greater Panna Landscape in Central India. Researchers can often choose between simpler and complex tools depending upon cost, logistics, and research questions. Many of the tools and concepts have evolved and advanced over the years, for example

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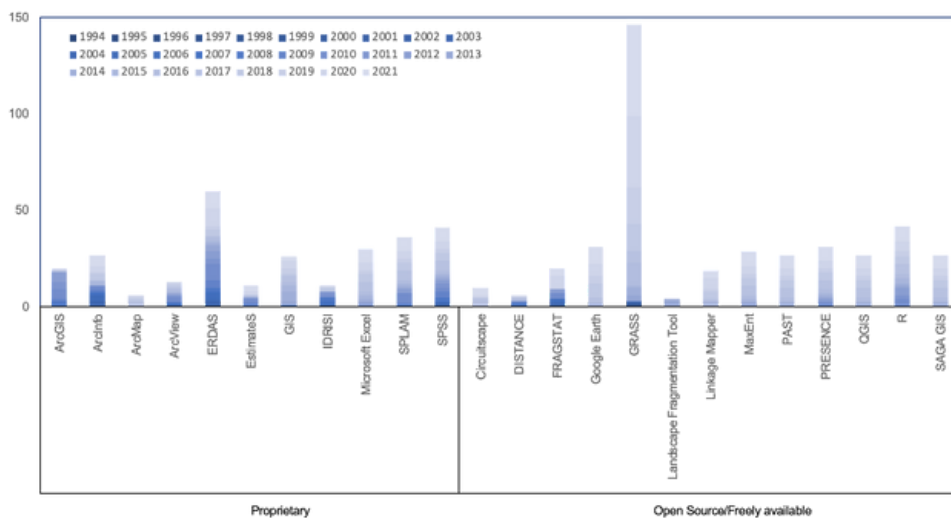
### Members' Page

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Photo: Vaishali Vasudeva



**Year-wise trend for the most used open-source and freely available software and proprietary software in studies that used Landscape Ecology principles in forest and wildlife conservation/management. Dominance of light blue colour in the gradient indicates most studies that used these software were recent and dark blue colour indicates they were old.**

Figure contributed by: Vaishali Vasudeva, Meera Makwana, Kamna Pokhariya, Orvill Jude Nazareth, Shah Nawaz Jelil, Meghna Bandyopadhyay, Deepti Gupta, Satyam Verma, Ramesh Krishnamurthy

in Connectivity science, simple tools like least cost path are still seen as important in informing land managers about the potential corridors in the landscapes (with careful training and validation of model) and links that are crucial for conservation. After necessary modelling and generation of maps, management recommendations and “prescriptions” can be suggested in the plan following a Now-Soon-Later framework. This essentially breaks the actions into a timeline of events according to urgency of actions.

A mid-term review is carried out and draft plan can be shared with the stakeholders. This stage of consultation and feedbacks allow for building a shared vision in the management plan. Following the incorporation of suggestions and feedbacks from stakeholders, an independent review can be done before the plan is finally released for action. The final and most important element in planning is also to incorporate a structure for its implementation in the plan itself. In the case of Panna Landscape this was done through formulation of a District development plan, organisations like Greater Panna Landscape Council, Integrated Research and Learning Centre, Greater Panna Technical Advisory Committee and District Landscape Committee. Having such an organizational structure ensures smooth implementation and bringing together of different departments, agencies, technical teams and stakeholders.



Photo: Vaishali Vasudeva

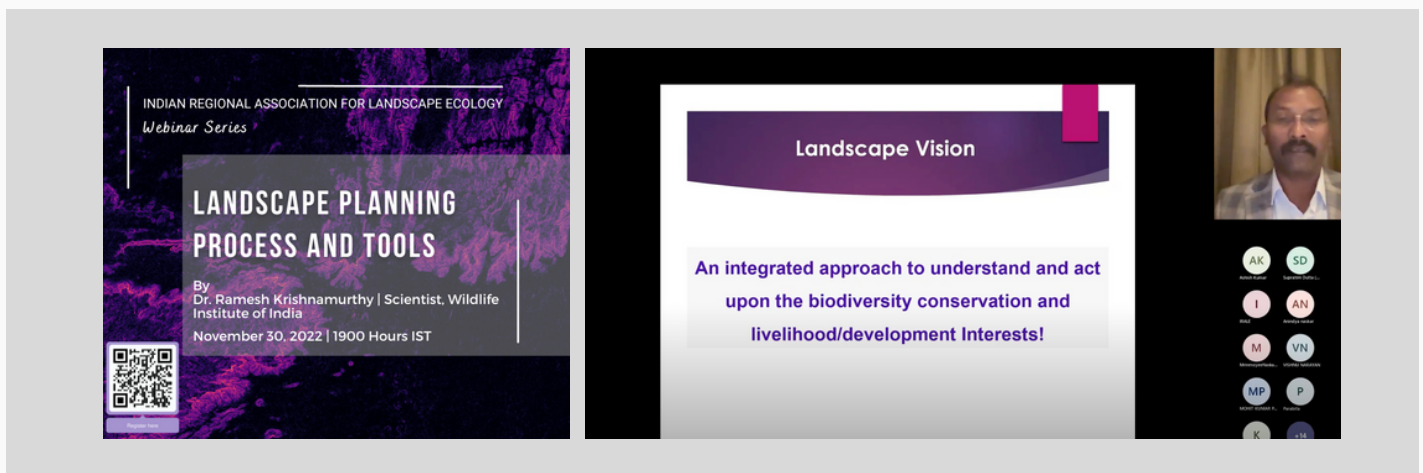




Photo: Vaishnati Vasudeva

## IRALE EVENTS

Continuing with the webinar series, IRALE organized its third webinar on Landscape Planning Process and Tools, delivered by Dr. Ramesh Krishnamurthy and moderated by Dr. Amrita Neelakantan. The webinar was open to members and non-members and was held virtually on 30th November, 1900 hours IST. In addition to an interesting and engaging talk, the webinar ended with an equally interesting Q&A, some of them described below:



**Deven: There are different research groups working on connectivity assessment of different taxa groups. But currently there is a lack of connectivity between these sub-groups.**

Response: It is true but it also takes time to build the connections. While making an integrated management plan, it becomes the responsibility of the plan lead to bring together different sub-groups and elements. The silos might be more apparent from an academic perspective, but from a management point of view, it is not the case everywhere. An example is the Greater Panna Landscape Integrated Landscape Management Plan where it was attempted to bring different taxa together in a plan.

**Amrita: How do we use the tools for spatial prioritization that involve subjectivity at various levels e.g., with thresholds, parameters, categories etc. for planning?**

Response: There is definitely subjectivity in using some approaches in connectivity and prioritization assessment, and one of the reasons why results are often not used for on-the-ground action. A probable solution is to develop these models in spaces where we have very good field knowledge and knowledge from the local stakeholders, land managers, who also have a clear understanding of objectives.

**Nimisha: Buffer zones of PAs are seeing a lot of Linear Infrastructure development which is definitely needed to connect villages, but harms intactness of the PAs by bringing in invasive species and causing habitat fragmentation. And many of this data (for small roads) is not available on planning portals for line departments like PARIVESH. What is your opinion?**

Response: Road Ecology is fundamental to Landscape Ecology. From a scientific point of view, linear infrastructure is an important landscape variable and we need to understand it. This should get us zones of influence, connectivity etc. For applicability, use the Gatishakti portal for proposed linear infrastructure and plans. One should then incorporate into Landscape Plans, District Development Plan and Village Development Plans (ensure incorporation at various scales).





Photo: Vaishali Vasudeva

**Karunakaran: In India, Landscape approach is being largely discussed in tiger landscapes and is somewhat Tiger-centric; there are many regions in India that do not hold a good tiger population. In such a case, what landscape policy works for those areas? Do you know of any landscape policies in NE biodiversity hotspots, for example?**

Response: Unfortunately, Tiger has been driving the agenda so far, perhaps because it is easier to grasp the core-buffer-matrix concepts and work with connectivity assessments in landscape but there are policy foundations in the "National Wildlife Action Plan" that explicitly mentions landscape approach. This plan can work as reference for any new landscape approach based conservation projects. It is now up to us, how we use this and how far we push. As effort from our lab, we are trying to look at landscape maps for the country and perhaps IRALE can also play a role in this in future.

**Amrita: Medium-scale studies are having a moment and rightly so to allow for nature provisions for humans as well as biodiversity conservation - is it time for a science-policy district-level/landscape-level bridge or institution to be formed? Where are these housed and recognised officially? (admin strategy slide)**

Response: Here, I would take a civil administration route more than the forest administration route. Forest Administration route is seen as an exclusive agenda, while landscape plan must be an integrated and inclusive (or shared) agenda. As proposed in the plan, when the Council is formed, it will constitute the Learning Centre which is a technical body aimed to guide the council. Rather, each state can have a landscape council. The lead of such a council is expected to bring all the line agencies together.

**Amrita - There are groups of people who are still connected to and dependent on forests socially, culturally, economically, their lives intertwined with forests and another group of people who are desperately using forests to generate income. Some of the connection with nature have eroded with time too. In stakeholder mapping, is there a way to get into the graininess of this; can we change livelihood portfolio of people or FRA has to be really employed due to such strengths of nature-people relationships?**

Response - Social value assessment is key. Make this explicit and code it with biodiversity values. In terms of planning process, social values must not be excluded, rather recognized and create space for it. Cultural values also have scope for cultural tourism, allowing engagement for multiple options for multiple people. This creates employment options for people with different skill sets.



Photo: Vaishali Vasudeva



**59<sup>th</sup> Annual Meeting of the  
Association for Tropical Biology and Conservation**



July 2<sup>nd</sup>-6<sup>th</sup>, 2023  
Coimbatore, India

**Balancing Science, Conservation, and Society**



## IRALE to host ATBC 2023!

The **Association for Tropical Biology and Conservation (ATBC)**, **Indian Regional Association for Landscape Ecology (IRALE)** and **Kumaraguru Institutions (KI)**, take pleasure in extending warm welcome to all delegates and participants of the **59<sup>th</sup> Meeting of the ATBC**. Located in the lap of Western Ghats, one of the oldest mountain range, known for its high biodiversity, the venue **Coimbatore in Tamil Nadu, India** is a multicultural vibrant city. Conservation has always been an integral part of societal value in the country. From the high mountains of the Himalaya, through the Gangetic flood plains, north-eastern hills, central Indian highlands, vast deserts, the eastern ghats, the western ghats and large coastal and marine system are symbolic of unique species assemblages. The leadership in science, conservation and societal development can be seen across diverse biogeographic zone of India. Together with the researchers and leaders of tropical biodiversity and conservation, ATBC 2023 aims to explore and illustrate the options and opportunities for balancing science, conservation and society around the world of tropical biodiversity!

### MEETING THEME

**Balancing Science, Conservation, and Society!**

### IMPORTANT DATES

- Deadline for submission of symposia proposals: **January 15<sup>th</sup>, 2023**
- Opening of the call for abstracts (symposia, open presentation, speed talks, posters): **February 1<sup>st</sup>, 2023**
- Deadline for abstracts submission (symposia, open presentation, speed talks, posters): **March 15<sup>th</sup>, 2023**
- Deadline for submission of workshops and field courses proposals: **March 15<sup>th</sup>, 2023**
- Open meeting registration: **May 1<sup>st</sup>, 2023**
- Deadline for early bird registration: **May 20<sup>th</sup>, 2023**
- ATBC 2023 Meeting: **July 2<sup>nd</sup> - 6<sup>th</sup>, 2023**





## ATBC 2023 Host Institutions

**Kumaraguru** Institutions: Kumaraguru College of Technology , KCT Business School , Kumaraguru Institute of Agriculture , Kumaraguru College of Liberal Arts and Science are part of Kumaraguru Institutions which has exemplified the inter-disciplinary approach. As an institution dedicated to learning, we invest in intellectual vitality and engage with stakeholders to make a difference locally and nationally. Our contribution to this shared effort is the unique knowledge, transformative approach and skills generated by our core activities of education and research.

**Indian Regional Association for Landscape Ecology (IRALE)** is established as a new Regional Chapter of International Association for Landscape Ecology (IALE) to nurture the science of landscape ecology in India and the neighbouring countries towards sustainable management of natural resources and human wellbeing.

## ATBC 2023 Organizing Committee



**Dr. Ramesh Krishnamurthy**

CHAIR

Wildlife Institute of India  
India



**Mr. C. Saravanan**

CO-CHAIR

Kumaraguru Institutions, India



**Dr. Vinita Gowda**

CO-CHAIR

Indian Institute of Science Education and  
Research Bhopal (IISER Bhopal)



**Dr. P.V. Karunakaran**

Sálim Ali Centre for Ornithology and  
Natural History  
India



**Mr. K. Kalidasan**

Osai  
India



**Dr. B. Ramakrishnan**

Ooty College  
India



**Dr. Parabita Basu**

IRALE  
India



# 2023 IALE WORLD CONGRESS NAIROBI, KENYA

## IALE EVENTS

### 2023 IALE World Congress – Nairobi, Kenya

*Website is now open!*

The International Association for Landscape Ecology (IALE) is excited to announce the 2023 IALE World Congress will take place in **Nairobi, Kenya**, from **10th – 15th, July 2023**. The IALE World Congress occurs every four years and is the premier event for landscape ecologists worldwide to address topics in landscape ecology that range from local to global in scale. During the World Congress, landscape ecologists from public, private, and non-profit sectors will address a broad spectrum of environmental challenges and their potential solutions. The 2023 World Congress will be a hybrid (online/in person) event and it is for the first time being hosted in the Global South.

The World Congress theme is **'Transboundary Resource Management, Climate Change and Environmental Resilience'**.

The World Congress will include plenaries, symposium, oral sessions, posters sessions, a social dinner, and field trips. It is jointly hosted by Kenyatta University (KU), Regional Center for Mapping of Resources for Development (RCMRD), National Museum of Kenya (NMK), Institute of Climate Change and Adaptation Institute, University of Nairobi (UON), the United Nations Environment Programme (UNEP) and in collaboration with the African-Chapter of IALE (Africa-IALE).

Nairobi is an exceptionally beautiful and exceptional city (see Magical Nairobi). The planned post conference excursions include: Nairobi National Park, Karura Forest Nature trails, The National Museums, Kakamega forest ('Time has stood still for the Kakamega Forest, a remnant of the rain forest that stretched all across Central Africa') and Watamu Marine National Park and Reserve (a complex of marine and tidal habitats along the Kenya's north coast with rich and diverse bird life, fish, turtles and dugongs). Furthermore, Kenya is well known for the Great Rift Valley (Great Rift Valley). July is an excellent time to visit Kenya because it is the dry season and wildlife will be easier to see.

- Deadline for Symposium/Panel/Workshop abstract submission: **31st October 2022**
- Latest Notification of abstract acceptance: **1st December 2022**
- Paper/Poster Abstracts submission portal open: **1st January 2023**
- Deadline for Paper and Poster abstract submission: **15th February 2023**
- Latest Notification on abstract acceptance: **31st March 2023**

**Watch here for more information soon: [www.landscape-ecology.org](http://www.landscape-ecology.org)**

Content and photo credits: IALE



# 2023 IALE WORLD CONGRESS NAIROBI, KENYA

The theme of the 2023 IALE World Congress is '**Transboundary Resource Management, Climate Change and Environmental Resilience**'. The theme comprises of nine sub-themes as follows:

1. Transboundary ecosystems in the Anthropocene: The shared ecosystems and natural resources across country boundaries and the anthropogenic effects. How human activities are altering these transboundary ecosystems
2. Managing climate risk in transboundary ecosystems: Climate change and global warming in the transboundary ecosystems; mitigation, adaptation, geoengineering,
3. Borderlands, cross-border resources, and environmental resilience: Strengthening resilience in borderlands ecosystems, disturbance of ecosystems
4. Building resilience and security: Food security, water security, and livelihoods
5. Climate resilient livelihoods: Climate resilient agricultural practices, adaptive agriculture, agroecology
6. Data science and geospatial technology for sustainable landscape management:
7. Drivers of landscape change and sustainability at multiple scales:
8. Ecological sustainability in urban landscapes and smart cities
9. Water-Energy-Food nexus



Photo: <https://www.landscape-ecology.org/World-Congress>





Photo: Vaishali Vasudeva

## IN THE NEWS

**India's conservation efforts for tortoises, fresh water turtles earn support at CITES CoP19** [Read more here](#)

**India's 'Namami Gange' among world's 10 most groundbreaking conservation efforts** [Read more here](#)

**Adivasi honey harvesters demand forest control and criticise 'unfriendly' conservation measures** [Read more here](#)

**Resurrecting Climate-Resilient Rice in India** [Read more here](#)

**Fisherfolk are key supporters for conservation of the endangered Guitarfish in Goa** [Read more here](#)

**India's Purnima Devi Barman honoured with U.N.'s highest environmental award** [Read more here](#)

**India Finalizes INR 160 Billion Sovereign Green Bonds Framework to Fund Green Projects** [Read more here](#)

**Three Himalayan medicinal plants enter IUCN Red List** [Read more here](#)

**[Commentary] India needs community centred conservation governance, not '30 by 30' gatekeeping** [Read more here](#)



Photo: Vaishali Vasudeva





## MEMBERS IN ACTION

### Assessing well-being of forest dependent communities: Not all is well for those who live near protected areas

SAKSHI RANA | WILDLIFE INSTITUTE OF INDIA

For a long time, conservation has remained focused on species and habitat, which is fair. But I believe, and this is what global assessments like MA and IPBES also say, that a significant reason for the current nature and climate crisis is the weakening of people-nature relationship. In a densely populated country like India, where nature and people are heavily intertwined, it is not wise to see them as separate elements. There are examples of sacred groves, community forests and community reserves that are already functioning on a similar principle, but they are yet to be mainstreamed. Hence, public policies and management plans should also focus on strengthening people-nature relationships instead of focusing solely on particular species and habitat. Exploring the link between ecosystem services and human well-being is one of the many ways to elicit the type of people-nature relationship and the values people attach with nature. This knowledge can help managers and conservationists in better decision-making. Driven by this thought, I assessed how ecosystem services and human well-being are linked in Kalesar National Park and Wildlife Sanctuary (KNPWLS) for my PhD.

KNPWLS, a tropical dry-deciduous forest, is situated in the Shivalik region of Haryana. The area is an ecologically rich yet one of the underdeveloped areas in the state. Agriculture, daily wage labour and livestock rearing are the main sources of livelihood for local communities surrounding the PA. As a result, many are still dependent on the forest ecosystem of KNPWLS for their sustenance, mainly fuelwood and fodder. However, the extraction of fuelwood and fodder is also the principle cause of disturbance in the PA. In the past few years, people who own land have shifted to agroforestry and are more dependent on their land for firewood and fodder. But poor, marginalized and landless continue to depend on these forests in the absence of any affordable and accessible alternative. In fact, I found that post COVID their dependence had increased on firewood in the area. Many families who were pushed into poverty or were financially struggling due to the pandemic were unable to afford LPG gas cylinders after a series of steep increase in gas prices. Living near the forest also meant that these local communities frequently faced crop raiding and loss of livestock due to depredation. Macaques caught from cities were released in the forest of KNPWLS to “rehabilitate” them, but they have emerged as a menace to the local communities.

Despite these conflicts, I found that most people value these forests instrumentally as a source of fuelwood and fodder, some value them relationally for the sense of place and identity, while very few value it intrinsically i.e. for existing. I also found that people recognize the forest's contribution to their well-being, especially physical. However, I noted that the younger generation lacks a sense of ownership and stewardship. The majority of them consider that the state forest department is responsible for managing and conserving these forests as the forest land belongs to the government. As people's aspirations and lifestyle are changing, their connection with these forests is also getting weaker. I am hopeful that this study will help informing the forest department and other major stakeholders about the type of ecosystem services and values to focus on while developing management plans and policies. This, in turn, will aid in strengthening people-nature connection to ensure community participation for an inclusive conservation of the PA.



*Sakshi is pursuing PhD from the Wildlife Institute of India. She is also working as a Project Fellow in the Community-based Conservation component of NMCG-WII Ganga Biodiversity Conservation Initiative Ph-II. As a budding social-ecologist, Sakshi is interested in understanding the role of diverse values of nature and governance in nature-people relationships to foster stewardship and collective action for conservation.*





## Members' Page

### Membership Renewal

Requesting members whose membership ended last year or before but was extended until 2021 to kindly visit the page to renew it at the earliest. Those who became member last year (2021) will have their membership until one year from the date of registration. Members can now choose between annual and term membership based on their interest.

| Membership type | Tenure         | Membership Fee (INR) |
|-----------------|----------------|----------------------|
| Student         | Annual         | 1000                 |
|                 | Term (3 Years) | 2500                 |
| Regular         | Annual         | 2000                 |
|                 | Term (3 Years) | 5000                 |
| Institutional   | Annual         | 10000                |
|                 | Term (3 Years) | 25000                |

### Opportunities

#### XXVI IUFRO World Congress 2024 | Forests and Society towards 2050

Stockholm, Sweden | 23-29 June 2024

#### NITI Aayog | Global Call for Ideas and Papers for Academics, Universities, Institutions

Deadline: 31 December 2022 | Find more [here](#)

#### The Environmental Fellows Program | Harvard University

Deadline: 11 January 2023 at 5:00pm EST | Find more [here](#).

### To explore

#### FREE Specialized Course | Red List of Ecosystems for Assessors | IUCN

Start date: Anytime | Duration : 3-4 days | Find more [here](#)

#### FREE Course | Natural World Heritage | IUCN Academy

Start date: Anytime | Self-paced | Find more [here](#)

#### FREE MOOC | Conservation related multiple courses | IUCN

Find more at [mooc-conservation.org](http://mooc-conservation.org)

#### REPORT | IUCN Restoration Barometer Report 2022

Report documents extensive ecosystem restoration across 18 countries. Read [here](#).

#### TOOL | Contributions for Nature platform | IUCN

Online tool provides governments and civil society organisations a simple way to measure specific contributions to global biodiversity and climate goals. Explore [here](#).