**Expression of Interest**

**(HCLF/EOI/Harit/BioDiv-App/30112024)**

HCL Foundation invites proposals from agencies to develop a ‘Mobile application for species inventory listing, data collection and developing web portal on Biodiversity and Ecosystem’, under its flagship programme Harit by HCLFoundation

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| **EOI released by** | HCLFoundation |
| **EOI Code** | HCLF/EOI/Harit/BioDiv-App/30112024 |
| **Program Name** | Harit by HCLFoundation |
| **Date of Posting** | 15 November 2024 |
| **Last Date for submission of Proposal** | 30 November 2024 |
| **Location** | PAN India |

**About HCLFoundation:**

HCLFoundation delivers the corporate social responsibility agenda of HCLTech in India through its flagship programmes and special initiatives. As a not-for-profit organization, it strives to contribute towards national and international development goals, bringing about positive impact in the lives of people through long-term sustainable programmes. HCLFoundation aims to alleviate poverty and achieve inclusive growth and development through life cycle-based, integrated community development approach that focuses on Education, Health, Skill Development and Livelihood, Environment, and Disaster Risk Reduction and Response. At present, it is implementing five flagship programmes, Samuday and HCLTech Grant (Rural Development); Uday and My Clean City (Urban Development); Harit - (Environment Action) and four special initiatives of Power of One, Sports for Change, Academy and My E-Haat. For more details, please visit our website – <https://www.hclfoundation.org/>

**Vision**

To be the source code for sustainable socio-economic and environmental development.

**Mission**

Nurture clean, green and healthy communities where everyone is empowered and equipped to reach their full potential in partnership with its employees, communities and stakeholders, while promoting volunteerism and establishing international standards of strategic planning, implementation and measuring impact.

HCLFoundation Video – <https://youtu.be/DK1wtWG_zJQ>

Harit Video – <https://youtu.be/O8YPCjdGayU>

### **Harit by HCLFoundation**

HCLFoundation launched Harit – The Green Initiative a distinct flagship programme for Environment Action; with the vision ‘to conserve, restore and enhance indigenous environmental systems and respond to climate change in a sustainable manner through community engagement’. Throughout the process, HCL Harit ensures at building scalable and replicable models that are economically viable, socially acceptable, environmentally sustainable, holistic, and inclusive. All these interventions follow ‘Participatory and Convergent Approach’ in attaining the desired results towards UN SDG goals aligned to the National Indicator Framework for SDG. Operational in eleven States - Uttar Pradesh, Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh, Odisha, West Bengal, Uttarakhand, Telangana, Rajasthan, Madhya Pradesh, Harit is building sustainable and inclusive models towards:

* A flourishing biodiversity, green cover and building climate resilience through afforestation.
* An abundance of water resources through rejuvenating vanishing waterbodies.
* A thriving coastal and marine by habitat restoration initiatives.
* A better life for animals by improving human animal relationships and addressing animal welfare inside community areas.
* Cleaner air through reducing and neutralizing CO2 emissions.
* Protecting and preserving the environment through education, community stewardship and participation.

Till now, HCLFoundation has planted 822,000+ saplings on 233+ acres area across India. Around 124+ waterbodies are being rejuvenated with an increased water holding capacity of 6,000+ Mn Liters. Through the afforestation and carbon reduction initiatives, we have been able to sequester/ reduce emission to 6500+ tons of CO2e. We worked towards improvement of coastal habitats planting more than 8,20,000+ Mangrove and Shelter belt saplings and around 1,20,000+ Kgs of ghost nets were retrieved from coastal waters. We have been able to treat 79,000+ domestic animals and around 7,500+ wild animals through our Animal Welfare vertical. Through our outreach and environment education programme we have been able to reach out to 17,900+ people pan India.

**Description of EOI**

HCL Foundation invites the ‘EOI’ (HCLF/EOI/Harit/BioDiv-App/25102024) from experienced agencies/organizations for collaborating to develop a ‘Mobile application for species identification, data collection and developing web portal on biodiversity’ for FY 2024-25, under its flagship programme Harit by HCLFoundation

**Scope of Work (SOW)**

Urban green spaces are critical ecosystems to support biodiversity, but we still have a limited understanding of their ecology and how they function to conserve biodiversity at local and landscape scales across multiple taxa. Limited information about urban habitats and a lack of professionally collected species occurrence data are often cited as major impediments to completing bio-assessments in urban landscapes. As indicated above, currently operational across six sectors, the overall aspiration of Harit is towards the larger socio-environmental good; with special emphasis to mitigate climate change impact and to enhance native biodiversity, restore ecosystem services and improve human-nature coexistence. Harit’s vision is to conserve, restore and enhance indigenous environmental systems and respond to climate change in a sustainable manner through community engagement. Additionally, Harit sites especially, the afforestation and waterbody sites are becoming paradise for several urban biodiversity. So far, we have recorded multiple species of seasonal taxa like reptiles, amphibians, insects, and smaller mammals including several residential and migratory birds.

To develop a ‘**Mobile application for species inventory listing, data collection and Developing web portal on Biodiversity**’ the proposed scope of work, but not limited to, is as below:

1. **Mobile Application and development of data collection**
	1. **Species inventory for listing**: The listing should have major taxas- Plants, Birds, Butterfly, Mammals, etc. List should be in English and the regional languages (Hindi, Tamil, Telugu, Marathi, Kannada) of the respective site. Provide users with accurate and easy to use tools for identifying species based on images, geographical locations, morphology etc.
	2. **Plant Identification tool**- A separate tab, which help in identification of plant, based on the images (leaves, bark, flower and habitat, etc.)
	3. **Biodiversity Monitoring on site**: Enable users to log in data of sightings on site with an unique ID with each entry. A form can be generated for the entries with fields like Name of the species sighted, Date on which recorded, Morphological details, Taxa, No of individual recorded, Site name and name of the observer.
	4. **Content Management system:** Design a robust structure of the species listsprovided from each location to amplify the identification process for staff.
	5. **Front end Development:** Design a user-friendly front end with thumbnails of taxa for user friendly experience. Each thumbnails will take the user to a consolidated list of species from that respective taxa site wise.
	6. **User Flow mapping:** Design the user flow from species identification to data logging and sharing.
	7. **Prototyping:** Develop clickable prototypes to test the app’s functionality and design before development.
	8. **Offline uploading:** There should be a mechanism to upload entries offline as most of the sites are not in good network.
2. **Biodiversity Information Portal – Web portal**
	1. Above-mentioned app should be aligned to the web portal.
	2. **Centralized Information Repository**: Develop a platform that aggregates and presents biodiversity data from Harit sites including species information, mapping of the hotspots, site information PAN India
	3. **User interface design**: Develop a logical structure for portal including categories, sub categories and navigation paths to ensure ease of use. Also, Creating an intuitive and user-friendly interface that caters to various groups, including experts and general public.
	4. **Database Design**: Design a robust and scalable database that can handle large volumes of biodiversity data, including species records, geographic data, taxa information, site information.
	5. **Analytical tools**: These tools should offer species hotspot, occurrence and diversity map including both Flora and Fauna. Along with calculating species richness based on statistics given.
	6. **Live feed**: The site wise highlights of the species should be visible with the live data and feed.
	7. **Content Management system**: Implement a CMS that allows for easy content updates, management of contributions and integration with external sources.
	8. **Back-end Development**: Develop the server-side logic, including database management and user authentication/authorization.
	9. **GIS and Mapping tools**: Integrate GIS tools to allow user to visualize biodiversity data on maps, analyze spatial patterns with different filters according to requirements. A multi-variable hotspot maps on taxa or species level along with other ground information like green cover in terms of shrubs and trees to name a few
	10. **Public access**: Access can be provided to users after registration and validation of the user by back-end.
	11. **Dynamic Updates**: Ensure the portal is regularly updated with the latest data and research to maintain its relevance and accuracy.
	12. **Need Assessment**: Perform a detailed needs assessment to identify the type of data, functionalities and tools that should be included in portal.

In addition, a web portal for data visualization (in the form of both spatial and temporal dashboards) and management should be also developed where all this information is stored and can be accessed. The access to this data can be regulated based on permissions such as admin, user, viewer, etc. An additional requirement is to have multi-variable hotspot maps on taxa or species level along with other ground information like green cover in terms of shrubs and trees to name a few. While initial test and real-time data may come from only one or two locations (1-2) the system should be fully capable of scalability to include other locations as well. Since the application will be co-developed with HCL Foundation, technical inputs specifically for risk and vulnerability audits, will be taken time to time from senior technical staff of HCL technologies.

Preference will be given to agencies who have prior experience, especially on the app and portal developer in same field of forest or biodiversity. The agency should also be able to deliver quantifiable and clearly identified outputs periodically which will be mutually decided along with the technical team. The detailed parameters to be included in the data collection and web portal will be shared with the shortlisted team after finalization of the contract.

**Assessment:**

* All the applicants are expected to submit details of similar activities done in the last three years, an illustration of the proposed plan in accordance with the above EOI, which will be used for the assessment.
* Please note that only the shortlisted agencies will be contacted for the submission of a detailed proposal.

**Eligibility criteria:**

* Agencies with experience in the following parameters are invited to submit their EOI:
* Demonstrable experience in working on similar kind of projects

**Selection Parameter:**

Please note that only the shortlisted agencies will be contacted for the submission of a detailed proposal

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|  Proposed Methodology  | 40  |
|  Past Experience (carrying out similar projects in the last 3 years)  | 30  |
|  Team composition  | 20  |
|  Timeline  | 10  |
| Total  | 100  |

**How to apply:**

Applications should have the following attachments

* All EOI must be submitted with a short narrative indicating the objectives, features, etc.; proposed methodologies including strategies, past experiences, proposed team and timeline/Gantt chart; and clearly defined milestones along with a set of deliverables.
* Send your application with subject line HCLF/EOI/Harit/BioDiv-App/30112024/<Name of Agency> To ravikumar.sharma@hcltech.com marking varsha.tevetia@hcltech.com in cc, latest by November 30, 2024.
* Please send your queries regarding EOI to varsha.tevetia@hcltech.com

**Terms & Conditions**

* **Deadline:** EOI received after the designated deadline may be subject to rejection by HCLFoundation.
* **Validity:** Your proposal must remain valid for a minimum of six (6) months from the date of expiry of the EOI deadline by HCLFoundation
* **Rejection of proposal:** This document is an expression of interest only, and in no way binds HCLFoundation to make an award. HCLFoundation reserves the right to reject any and all responses received and/or to cancel the EOI. HCLFoundation will not be obliged to either inform or provide a justification for the rejection of proposals.
* **Incurring costs:** HCLFoundation will not be liable for any cost incurred during the preparation or submission of this EOI.