

from barren to bountiful

reimagining desert ecology



Gujarat Institute
Of Desert Ecology

MISSION

To catalyze the process of ameliorating hardships to human beings in desert ecosystems of Gujarat, following sound ecological principles and carefully using scientific knowledge, imaginative technology and capital.



Registered as an autonomous body, the Gujarat Institute of Desert Ecology (GUIDE) began its journey in 1995 as a collaborative effort of the Gujarat government and the Jacob Blaustein Institute for Desert Research, Israel. It occurred as a result of the MoU, then spearheaded by the Gujarat Ecology Commission on behalf of the government. The collaboration then intended to find solutions for rehabilitation of degraded soils to increase production of bio-mass; through preparing a plan for restoration of degraded ecosystem and by setting up a Centre of Desert Ecology in Kachchh.

GOALS

- Focus on drylands of Gujarat, with special emphasis on Kachchh
- Develop benchmark database for ecosystems of Kachchh, Gujarat and thereafter undertake continuous monitoring and trend-analysis through specific research activities
- Identify problem areas and evolve appropriate solutions and management strategies through basic and applied research;
- Formulate and implement relevant projects that would provide models for emulation;
- Disseminate ecological information and communicate action plans that suit to local conditions, through extension and other programmes; and
- Provide consultancy and training to NGO's, Government, corporate sectors and other natural resources managers, in the principles of ecology, integrated management and sustainable development.

Lab To LAND TRANSFER

The concept of working for dryland ecosystems has been deeply rooted in the belief that science and its functionalities are to be percolated among the community, who were long affected. This has built a strong base for GUIDE and have inscribed a niche through its services. Ecological issues of the drylands in Gujarat have remained the key focus area for GUIDE for the last 29 years which has made tremendous positive impact on the environment. Anthropocentric scientific solutions have reaped benefits for scores of stakeholders and have brought out exemplary scientific documents, which have been advantageous for many researchers and institutions.



Actions ON THE GROUND

GUIDE's activity on the ecology of the Environments can be encapsulated as follows:

- Terrestrial Ecology
- Coastal and Marine Ecology
- Environmental Monitoring and Assessment
- Natural Resource Management
- Training and Extension activities
- Remote Sensing and GIS

Major projects and consultancies taken up by GUIDE includes

- Desertification and land degradation process along with climate change.
- Biodiversity assessment and preparation of management plan
- Regional environmental assessment and planning
- Restoration of degraded ecosystems including grassland, forests, wetlands, mangroves, etc.
- Ecological restoration of mining and industrial areas.

- Impact of Coastal development (Port/Jetty etc.) on migratory birds and their conservation
- Development and conservation options for Rann of Kachchh
- Watershed development and management
- Natural resource management in arid and semi-arid zones
- Impact of invasion by exotic and introduced species
- Remote sensing & GIS applications for biodiversity conservation and environmental planning
- Monitoring coastal biodiversity and ecological assessment of marine habitats
- Cultivation of seaweeds and fishes
- Socio-ecological studies for development options, management and sustainable development.
- Training on edible and medicinal mushroom cultivation, Azolla cultivation & hydroponics techniques

Core COMPETENCIES

The performance oriented scientific team of GUIDE provide a series of services for clients in the environment and ecology sector. Core competencies of GUIDE includes; research, capacity building and knowledge management, community outreach and implementation activities, teaching and mentoring.

RESEARCH: It entails ecological assessments, conservation studies, EIA, SIA, Remote sensing and GIS based studies and planning, feasibility studies and environmental monitoring. These are also published as scientific articles in several journals and publications.

CAPACITY BUILDING AND KNOWLEDGE MANAGEMENT: Developing knowledge products for different stakeholders, designing of training materials on environmental and ecological aspects and imparting trainings, workshops and seminars; are some of the key services. Through different IEC materials, newsletter (GUIDE NET) and journal club - it reaches different readers and engage them in action.

COMMUNITY OUTREACH AND IMPLEMENTATION ACTIVITIES: Community based social and environmental activities, especially for the upgradation of diverse and endangered coastal natural resources particularly mangrove plantation, green belt and similar climate resilient technologies.

TEACHING AND MENTORING: Scientific team of GUIDE is associated with several academic and research institutions, imparting knowledge and expertise to PhD and Master's students. Several seminars are also conducted for the undergraduate students to help them understand the subject with demonstrative inputs.



INFRASTRUCTURE *and facilities*



Spread across 4 acres of land, the GUIDE campus houses several sections and has an impressive collection of trees, birds and medicinal plants. It has over 252 species of plants, 75 avian species and about 125 species of medicinal plants. Apart from these features, the campus has the following facilities, which help the team in conducting studies and also are accessed by students in their studies and researches:

- State-of-the-art Environmental and Analytical Research Laboratory. Also GPCB has recognized GUIDE as State Air Laboratory and State Water Laboratory and also as Schedule-I Environmental Auditor of the State.
- Herbarium
- Library



COLLABORATIONS

Since 1995

International

1. Blaustein Institute for Desert Research (BIDR), Israel
2. Institute of Development Studies, University of Sussex, Brighton, UK
3. Massey University, North Palmerston, New Zealand
4. Norwegian University of Life Sciences, Norway
5. The University of Greenwich, London, UK
6. Le Centre National De La Recherche Scientifique (CNRS) and Centre d'Ecologie Fonctionnelle et Evolutive (CEFE), Montpellier

National & Regional

1. Institute of Trans-Disciplinary Health Sciences and Technology (ITDHST), Trans Disciplinary University (TDU), Bengaluru
2. S. P. University, Anand, Gujarat
3. Indomer Coastal Hydraulics Private Limited., Chennai
4. ICAR-Central Institute for Brackish Water Aquaculture (CIBA), Chennai
5. The Centre of Advanced Study in Marine Biology, Annamalai University, Tamil Nadu
6. C. C. Shroff Research Institute, Mandvi - Kachchh, Gujarat
7. Central Arid Zone Research Institute (CAZRI), Jodhpur, Rajasthan
8. Central University of Rajasthan (CURAJ), Ajmer, Rajasthan
9. Centre for Advanced Study in India (CASII), Bhuj, Gujarat
10. CSIR - National Environmental Engineering Research Institute (NEERI), Nagpur, Maharashtra
11. CSIR - National Geophysical Research Institute (NGRI), Hyderabad
12. Gujarat Environmental Management Institute (GEMI), Gandhinagar
13. Gujarat National Law University, Gandhinagar, Gujarat
14. Institute of Science and Technology for Advanced Study and Research (ISTAR), S.P. University, Vallabh Vidyanagar, Gujarat
15. K.S.K.V. Kachchh University, Bhuj-Kachchh, Gujarat
16. Knowledge Consortium of Gujarat (KCG), Gandhinagar, Gujarat
17. Pandit Deendayal Petroleum University (PDP), Gandhinagar, Gujarat
18. SANDHAN, Gandhinagar, Gujarat
19. Network for Certification and Conservation of Forests (NCCF)
20. GSFC University, Vadodara
21. Nirma University, Ahmedabad
22. Gujarat Industries Power Company Ltd., Vadodara

RECOGNITIONS & ACCREDITATIONS

Since 1995

Membership

1. Global Network of Dryland Research Institutes (GNDRI), Israel
2. International Society of Zoological Sciences (ISZS), China
3. International Union for Conservation of Nature (IUCN), Switzerland
4. Ocean Expert, Intergovernmental Oceanographic Commission of UNESCO
5. International Hydrological Programme (IHP)
6. Eco sensitive International Hydrological Programme (IHP)

Committee

1. District Environment Impact Assessment Authority (DEIAA), Kachchh
2. Eco-sensitive zone committee of Girnar Wildlife Sanctuary, Junagadh
3. Eco-sensitive zone committee of Marine National Park and Sanctuary, Jamnagar
4. Eco-sensitive zone committee of Kachchh Bustard Sanctuary
5. Eco-sensitive zone committee of Narayan Sarovar Sanctuary
6. District Expert Appraisal Committee (DEAC), Kachchh
7. Chhari-Dhand Conservation Reserve Management Committee, Kachchh
8. Daman and Diu Coastal Zone Management Authority

Recognition

1. GUIDE is an Expert Organization on 'Combating Desertification' recognized by the ENVIS, MoEF & CC, Govt. of India, New Delhi
2. Recognized as Environmental Auditor for Schedule - I Industries of Gujarat by the Gujarat Pollution Control Board (GPCB), Gandhinagar
3. GUIDE is recognized as Scientific and Industrial Research Organization (SIRO)
4. Department of Science and Technology (DST), Govt. of India, New Delhi
5. Recognized as State Air & Water Laboratory by the Gujarat Pollution Control Board (GPCB), Gandhinagar (2010-2017).
6. Education and Research Institute by the K.S.K.V. Kachchh University, Bhuj.

Accreditation

1. National Accreditation Board for Education and Training (NABET), Quality council of India (2014-2019)
2. National Accreditation Board for Testing and Calibration Laboratories (NABL), Quality council of India in the field of chemical testing as per ISO/IEC 17025:2005 (Feb'2019- Feb'2022).

Awards

1. Kutch Ratna Award for Environment by K.S.K.V. Kachchh University, Bhuj, Gujarat
2. National Education Leadership Award by Dainik Bhaskar, Mumbai

EXPLORING *Further*

Since its inception, GUIDE has collaborated with several government institutions, international and national organizations to further its work on desert ecology. In the coming years, GUIDE is poised to extend its services to other states, crossing various boundaries of physical, biological and social sciences to provide sustainable ecological solutions of arid and semi-arid areas in India. With the evidence of the scaling up of the impacts of climate change in the recent times, GUIDE is looking forward to expand its knowledge and expertise for the benefit of the environment and its dwellers.



Gujarat Institute Of Desert Ecology

TO KNOW MORE ABOUT OUR WORK
CONNECT WITH US

Dr. V. Vijay Kumar, Director

www.gujaratdesertecology.com visit us 

 /GujaratDesert

Email | vijay196129@gmail.com
desert_ecology@yahoo.com