

»» QUARTERLY E-NEWSLETTER ««

# GUIDE.NET

GUJARAT INSTITUTE OF DESERT ECOLOGY



## EDITOR'S NOTE.....

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We are happy to release the 13<sup>th</sup> volume, issue 1 of the Newsletter 2023, this month. The issue was delayed due to the busy schedule before the onset of the monsoon, yet we could include some of the important events and activities that happened during the last six months. In this issue there are articles on an exotic plant and a nutritionally rich but common herb along with the activities done by our staff members and their experience. We had organized a few activities under the MISSION LIFE which is given in this issue. We acknowledge the enthusiasm shown by the contributors to make the volume more informative and enjoyable which gives us more interest in bringing up our future issues on time and anticipating more participation and suggestions for improvement as well.



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# *Adansonia digitata* L. (AFRICAN BAOBAB) AN ENDANGERED PLANT

PLANT INTRODUCTION AND MEDICINAL USES

By: Rakesh A. Poptani (Project Fellow), Email: [rakeshax78@gmail.com](mailto:rakeshax78@gmail.com)

## ➤➤➤ MORPHOLOGY

*Adansonia digitata* L. is a deciduous tree that grows up to 65 ft (~20 m) of height, with a massive trunk that can be cylindrical, tapering, bottle-shaped or irregular, with a bare lower part. The leaves come out before the arrival of the first rain in the tropical environment. The tip of the cylindrical main stem divides into stiff upward-pointing branches, giving the impression of a bottle full of twigs. Leaves are simple (especially juvenile) or palmately compound, with 5-9 leaflets, elliptic to ovate, dark glossy green and petiole length is about 16 cm. Flowers often open before the leaves; they are white and large, emerging from a long, hanging stalk, 20-90 cm long. Fruits form up to six months after flowering, during the late dry season or early wet season. The size varies from spherical to oblong and slender to ovoid, measuring 12-40 cm in length and 7-17 cm in diameter. They become woody and gourd-like when ripen and contain a powdery pulp and many kidney-shaped, brownish black or purple seeds.

### SCIENTIFIC NAME:

*Adansonia digitata* L.  
(BAOBAB)

LOCAL NAME: BAOBAB,  
KALPVRUKSH, RUKHADO

### TAXONOMY

Kingdom	: Plantae
Subkingdom	: Tracheobionta
Division	: Magnoliophyta
Class	: Magnoliopsida
Order	: Malvales
Family	: Malvaceae
Genus	: <i>Adansonia</i>
Species	: <i>A. digitata</i>



## ➤➤➤ HABIT & HABITAT:

The baobab tree is found in areas of South Africa, Botswana, Namibia, Mozambique and other tropical African countries where suitable habitats occur. It is restricted to hot, dry woodland on stony, well drained soils and in frost-free areas that receive low rainfall.

## ➤➤➤ STATUS:

The magnificent African baobab (known locally as ranula) is the best-known species but is also classified as 'Endangered'.

## ➤➤➤ DISTRIBUTION:

The African Baobab is associated with tropical Savannas. It is found in drier climates and is sensitive to water logging frost, and sandy soil. It is native to Africa, between the latitudes 16° N and 26° S. The tree has also been introduced to many other regions including Australia and Asia. In India this tree is found in the states of Maharashtra, Tamil Nadu Hyderabad, Bihar, Madhya Pradesh and Kachchh region in Gujarat.





## ➤➤➤ MEDICINAL USE:

- Traditionally, baobab leaves, bark, and seeds have been used to treat “almost any disease,” including malaria, tuberculosis, fever, microbial infections, diarrhoea, anaemia, toothache, and dysentery.
- The leaves and fruit pulp have been used to reduce fever and stimulate the immune system.
- Baobab powder provides 4 times the potassium of a banana, making it an excellent source of this crucial nutrient. Along with sodium, potassium plays a role in maintaining the body's fluid balance, muscle and kidney function.
- Baobab is rich in fiber which can slow down the rise in blood glucose and polyphenols and controls the release of sugars from carbohydrates into the blood stream, reducing their conversion into glucose.
- The mineral content of baobab powder has been known to lower blood pressure and improve circulation which helps to prevent heart disease, another benefit of baobab powder.
- The high omega-3 fatty acids in baobab oil is also good for hair. When used as a hair mask or a leave-in conditioner, baobab oil may help moisturize dry hair and strengthen weak, brittle hair. The oil may not repair damaged hair like other protein-rich hair products can.
- Baobab is highly nutritious and different parts of the plant supply varying amounts of protein, vitamin C, antioxidants, potassium, magnesium, iron, zinc, calcium and vitamin B complex.

## ➤➤➤ REFERENCES:

- Emmy, C., Kateřina, H., & Patrick. V. D. (2010). *Adansonia digitata* L. – A review of traditional uses, phytochemistry and pharmacology. *Afrika Focus*. 23. 10.21825/af.v23i1.5037.
- Rahul, J., Jain, M. K., Singh, S. P., Kamal, R. K., Anuradha, Naz, A., Gupta, A. K., & Mrityunjay, S. K. (2015). *Adansonia digitata* L. (baobab): A review of traditional information and taxonomic description. *Asian Pacific Journal of Tropical Biomedicine*, 5(1), 79–84. [https://doi.org/10.1016/S2221-1691\(15\)30174-X](https://doi.org/10.1016/S2221-1691(15)30174-X)
- Singh, S., Varsha, P., & Rai. S., (2013). Medicinal uses of *Adansonia digitata* L.: An endangered tree species. *Journal of Pharmaceutical and Scientific Innovation*. 2. 10.7897/2277-4572.02324.

# THE LESS KNOWN ECONOMICALLY IMPORTANT PLANT *Physalis spp.* IN THE CULTURE FIELDS

## PLANT INTRODUCTION AND ITS ECONOMIC VALUE

By: Dr. Prabhadevi L. (Advisor), Email: [drlpraba@gmail.com](mailto:drlpraba@gmail.com)

### ➤➤➤ INTRODUCTION:

The plant genus *Physalis* is still not popular among farmers and cash crop growers in India, although its potential are known to traditional medical practitioners and village cuisine. Several species of this herbaceous plant are commonly found in the agricultural plots and on the waste heaps along the road sides where moisture is available. The bushy plant grows to a maximum of 1 meter and is noticed by children who are fascinated to collect wild fruits while playing. In the southern states of India and it is popular among rural people and children play with the green fruits and sometimes eat as it has a sour taste. The rural women cook the fruits and tender leaves. The livestock also prefer to feed on it. It is called Wild Cape gooseberry in the western countries. Wild Cape gooseberry is commonly found on the bunds of the fields, wastelands, around the houses, on roadsides, etc., where the soil is porous and rich in organic matter. It is an annual herbaceous plant having a very delicate stem and leaves.

There are many species of *Physalis* distributed in tropical and subtropical countries like Afghanistan, Baluchistan, tropical Africa, Australia, Sri Lanka and even in the lower- Himalayas up to an altitude of 1,650 meters. The genus *Physalis* comprises about 120 species (Zhang and Tong, 2016) belonging to the family Solanaceae. The different species are *Physalis angulata* L. var. *angulata*; *Physalis ciliata* Sieber; *Physalis minima* L. var. *indica* (Lam); *Physalis parviflora*. In India the plant has got local names such as kupanti, budda, budamma (Andhra Pradesh); ban tipariya (Bengal); parpoti, popti (Gujrat); rasbhary (Himachal Pradesh); tulati pati (Hindi); gudde hannu (Karnataka); njodi njotta (Kerala); chirboti, dhan mori (Maharashtra); tholtakalli (Tamilnadu).

Several species of the genus have been widely introduced for cultivation in various parts of the world (Silva and Agra, 2005). About six species of the genus have been reported from India and all are of exogenous origin (Deb, 1979; Ganapathi *et al.*, 1991). Some of the species reported from India are *P. alkekengi* L.; *P. angulata* L.; *P. ixocarpa* Brot. Ex. DC.; *P. longifolia* Nutt.; *P. minima* L.; *P. peruviana* L. (Sharma *et al.*, 2015). The species commonly found are *Physalis angulata* L. (*P. angulata*), native to Brazil and spontaneously growing in all countries, and *Physalis peruviana* (*P. peruviana*), commercially cultivated in the South of Brazil (Rufato *et al.*, 2008; Leite *et al.*, 2018). *Physalis spp.* have aroused the interest of consumers due to the long list of chemical constituents of nutritional and pharmacological interest, such as phenolic acids or flavonoids, glycosides (kaempferol, quercetin, rutin), ascorbic acid, carotenoids, alkaloids and steroids (Silva and Agra, 2005; Silva *et al.*, 2016; 2018; Moreira and Dias, 2018).

**BOTANICAL CLASSIFICATION**

KINGDOM:PLANTAE

ORDER:SOLANALES

FAMILY:SOLANACEAE

SUBFAMILY:SOLANOIDEAE

TRIBE:PHYSALEAE

SUBTRIBE:PHYSALINAE

GENUS: *PHYSALIS* (L.)

The stem is delicate and the whole plant is pubescent and more prevalent on the fruits. Flowers are single and yellowish with a round ovary. The fruit, a berry, enclosed within the enlarged, 10-ribbed, reticulately veined calyx. The green fruit turns primrose yellow to red and contains very small seeds which are contained in a juice. The fruit juice is mildly astringent and sweet with a pleasant blend of acid. The fruit is widely used by people as a healthy snack and also used as a topping for desserts or in puddings. It is a good source of vitamin C, antioxidants and immune modulators. The raw fruit can also be used as a vegetable. This plant is highly resistant to insect pests and diseases. Its cultivation should be developed and the techniques for making squash and fruit jam from its fruits should be standardized.

**VERNACULAR NAME**

BEN.:BAN TIPARIYA

GUJ.:PARPOTI, POPTI, MOTI POPTI

HIN.:RASSBHARY, 'THLATI PATI, TIPARI

KAR.: GUDDE HANNU

MAL.:NJODI NJOTTA

MAR.:CHIRBOTI, DHAN MORI

ORI.:PHUTKA

TAM.:THOLTAKKALI

TEL.:KUPANTI, BUDDA BUDAMA, BUDDA BASARA



## ➤➤➤ CHEMICAL COMPOSITION OF THE FRUIT

They contain a good amount of vitamin C which is 24.45 mg per 100 ml of juice. The mineral content of the fruit, as represented by its ash, is 1.216 per cent. The protein content of the fruit is 2.75 per cent. The content of some of the important minerals of the fruits, viz. phosphorus, potassium, calcium, magnesium and iron is 0.108, 0.613, 0.024, 0.056 and 0.006 per cent respectively. Golden color berries also have high amounts of beta-carotene and vitamin K along with a little calcium.



## ➤➤➤ MEDICINAL PROPERTIES

The plants of *Physalis minima* Linn. are reported in Ayurveda to be bitter, appetizing, tonic, diuretic, laxative, useful in inflammations, enlargement of the spleen and abdominal troubles. The fruit is considered to be a tonic, diuretic and purgative, in Punjab. The fruit of *Physalis* has a potential agricultural alternative with better projections for commercialization due to the high nutritional contents and the possibility to cultivate as an organic crop. It has immense economic significance in respect of its valuable chemical compounds (Tropane and Physalins) like the other species of the family Solanaceae. Numerous medicinal properties such as anti-bacterial, anti-inflammatory and anti-cancer have been reported from the genus (Hong *et al.*, 2015; Ji *et al.*, 2012). The *Physalis* is now available in the supermarkets as well as in the local markets in many countries.



## ➤➤➤ BIO-CHEMICAL COMPOSITION

A 1-cup (140-gram) serving of golden berries contains 74 Calories of energy

- **Carbs:** 15.7 grams
- **Fiber:** 6 grams
- **Protein:** 2.7 grams
- **Fat:** 1 gram
- **Vitamin C:** 21% of the RDI for women and 17% for men
- **Thiamine:** 14% of the RDI for women and 13% for men
- **Riboflavin:** 5% of the RDI
- **Niacin:** 28% of the RDI for women and 25% for men
- **Vitamin A:** 7% of the RDI for women and 6% for men
- **Iron:** 8% of the RDI for women and 18% for men
- **Phosphorus:** 8% of the RDI



## ➤➤➤ REFERENCES

- Hong, J. M., Kwon, O. K., Shin, I. S., Song, H. H., Shin, N. R., Jeon, C. M., Oh, C. R., Han, S. B. & Ahn, K. S. (2015). Anti-inflammatory activities of *Physalis alkekengi* var. *franchetii* extract through the inhibition of MMP-9 and AP-1 activation. *Immunobiology*, 220, (1), 1-9.
- Ji, L., Yuan, Y. L., Luo, L. P., Chen, Z., Ma, X. Q., Ma, Z. J., et al. (2012). Physalins with anti-inflammatory activity are present in *Physalis alkekengi* var. *franchetii* and can function as Michael reaction acceptors. *Steroids*, 77, 441–447. 10.1016/j.steroids.2011.11.016
- Moreira, G. C. & Dias, F. S. (2018). Mixture design and Doehlert matrix for optimization of the ultrasonic assisted extraction of caffeic acid, rutin, catechin and trans-cinnamic acid in *Physalis angulata* L. and determination by HPLC DAD. *Microchem. J*, 141, 247-252.
- Navdeep, S., Anisha, B., Harcharan, D. & Vivek. S. (2015). Perspectives And Possibilities of Indian Species of Genus *Physalis* (L.) – A Comprehensive Review. *European Journal of Pharmaceutical and Medical Research*, 2(2), 326-353.
- Nazir, A. B., Licha, J., Puranjoy, M., and Kumar, Y. (2018). Systematic Studies (Micro-Morphological, Leaf Architectural, Anatomical and Palynological) Of Genus *Physalis* L. (Solanaceae) In Northeast India. *Plant Archives*, 18 (2), 2229- 2238.
- Silva, K. N. & Agra, M. F. (2005). Estudo farmacobotânico comparativo entre *Nicandra physalodes* e *Physalis angulata* (Solanaceae) Revista Brasileira de Farmacognosia, 15, 344-351
- Silva, D. F., Pio, R., Soares, J. D. R., Elias, H. H. D. S., Villa, F. & Boas, E. V. B. V. (2016). Light spectrum on the quality of fruits of *Physalis* species in subtropical area. *Bragantia*, 75, 371-376,
- Silva, B. J. M., Pereira, S. W. G., Rodrigues, A. P. D., Nascimento, J. L. M. & Silva, E. O. (2018). In vitro antileishmanial effects of *Physalis angulata* root extract on *Leishmania infantum*. *J. Integr. Med.*, 16, 404-410

# ENVIRONMENTAL AUDIT- A TOOL FOR SUSTAINABLE DEVELOPMENT

## LEARNINGS FROM A SEMINAR

**By:** Mr. Ratansi Chaudhary (Senior Scientific Assistant), Email: [ratansi1104@gmail.com](mailto:ratansi1104@gmail.com)

### ➤➤➤ INTRODUCTION:

The environmental audit is one of the most important factors in sustainable development and is a conscious and planned effort, that integrate the environment, including resource into development process in order to guarantee the ability, welfare, and quality of current and future generations (Irwansyah *et al.*, 2017). The environmental audit is a new element in corporate strategy. It is the natural outcome of a growing environmental awareness which began in the 1960s and culminated in the 1990s with the understanding that the responsibility of every firm and individual to contribute towards the solution of global environmental issues (Grant Ledgerwood *et al.*, 1992). The definition of the term Environmental Audit (EA) varies widely among authors, leading to readers' confusion. In terms of ISO standards, auditing is defined as a systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.

**“ENVIRONMENTAL AUDITING IS A MANAGEMENT TOOL COMPRISING A SYSTEMATIC, DOCUMENTED, PERIODIC AND OBJECTIVE EVALUATION OF HOW WELL ENVIRONMENTAL ORGANIZATION, MANAGEMENT AND EQUIPMENT ARE PERFORMING WITH THE AIM OF HELPING TO SAFEGUARD THE ENVIRONMENT BY:**

- (I) FACILITATING MANAGEMENT CONTROL OF ENVIRONMENTAL PRACTICES;**
- (II) ASSESSING COMPLIANCE WITH COMPANY POLICIES, WHICH WOULD INCLUDE MEETING REGULATORY REQUIREMENTS”.**

**INTERNATIONAL CHAMBER OF COMMERCE (ICC)**

### ➤➤➤ ENVIRONMENTAL AUDITING AS A MANAGEMENT TOOL:

The principal Areas of Environmental Auditing include Material, Vitality, Water, Well being and safety, Natural quality, Waste management, Designing, and Consistency. The Auditing procedure represents the evaluation of utilization of raw materials, products and utilities as well as adequate maintenance of the Environmental Management System and its efficient operation towards implementing of environmental laws in an independent, transparent and systematic order. Environmental audit if designed and implemented conscientiously, can enhance an industry's environmental performance. If an industry sets up its system in compliance with existing laws, then conducting audits would be a normal and considerably easier procedure.

It will expose problems that require action. It improves the material and energy efficiency of production processes, conserves resources, minimizes wastes, provides direct economic benefits to the industry and stimulates the growth of the industry as well as the national economy. India is the principal nation on the planet to make natural reviews compulsory. The legislature of India, by its newspaper notice, made it compulsory for all ventures to give yearly natural review reports of their tasks, starting with 1992-93. Accordingly, review reports have to be submitted to the concerned State/Central Pollution Control Boards. Environmental Auditing is the executive's instrument including methodical reports, occasional and target assessment of how well the administrative framework is performing with the point of resource utilization, waste management, public health and climate change issues and the corrective actions on the potential impacts. The management procedures and tools to combat the negative impacts ought to be consolidated with other successful natural instruments like Environmental Impact Assessment (EIA) and Environmental Management System (EMS) for better results.



## ➤➤➤ WAY OF SUSTAINABILITY

Environmental auditing could help as a monitoring system for governments to monitor if firms are accomplishing environmental guidelines as a benchmark for obtaining a better urban environment. EAs depend on the sector of the audited entity. While in the public sector, the standards and guidelines on conducting environmental auditing are provided commonly by the International Organization of Supreme Audit Institutions (INTOSAI) community, in the private sector, the commonly used international standards are provided by ISO (Brunelli *et al.*, 2022). The terms, such as EMS, environmental performance, environmental auditing, environmental labelling, and Life Cycle Assessments (LCAs) are all covered by the ISO 14000 family of standards, which gives specifications and guidance for several environmental management disciplines (Brunelli *et al.*, 2022). ISO 14001—Environmental Management Systems—is the most frequently used out of the ISO 14000 series, which can be applied to any organization, regardless of whether it is private or public. Here are three main ways of conducting EAs with reference to the audit performer:

An Environmental audit has been mandatory in all sectors to achieve sustainable development goals, especially in the context of the public sector where environmental accountability has been emphasized by the World Commission on Environment and Development (WCED) as one of the prerequisites to achieve the goal (Yosuff *et al.*, 2016). The common tools are

1. Self-audits.
2. Hiring and training internal staff.
3. Audit conducted by a third party, external to the entity.

In future, it will be part of any enterprise or venture or activity that is likely to be part of habitat or environment, the atmosphere, land or water. For example, environmental auditing is a technique which monitors the environmental impacts throughout the tourism life cycle of a site, while safeguarding and sustainably managing the resources (Dimitrios, 1998).



## ➤➤➤ ABOUT THE SEMINAR

The Gujarat pollution control board (GPCB) on 7<sup>th</sup> March 2023 organized a seminar on the topic “Environmental Audit- A Tool for Sustainable Development” at Tent City -2, Statue of Unity, Narmada district as part of the discussions of G20 initiatives of the state. I participated in the seminar in which the Chief Guest was Hon. Justice. Adarsh Kumar Goel, Chairperson, National Green Tribunal (NGT). Other eminent personalities like Dr. Ajay Deshpande, Dr. Mayuri Pandya and Hon. Justice. B. C. Patel and Shri. Ranjitsing B. Barad present and graced the function. In the event, Justice Adarsh Kumar pointed out the relevance of Environmental Audit, wherein, he highlighted the actual meaning of audit which is nothing but the Official Examination of the present state of any industry or private or public sector organization. An audit can find gaps against a static reference and once the gap is closed, the compliance is done. During the session, the speakers explained various aspects of Environmental Audit such as Preamble, Background, Salient features of Audit and its Objectives. In addition, it was informed that Gujarat is the first state in India to adopt an Environment audit scheme to ensure that the industries comply with regulations to reduce pollution. The scheme has provision to check the auditor’s work through evaluation leading to better reporting and simultaneous corrective actions from the industries to reduce pollution.



## ➤➤➤ REFERENCES

- Choudhary, R. P. (2015). Environmental Audit: A Need for Sustainable Development of Mining Industry. *International Journal of Innovative Research in Engineering & Management (IJIREM)* ISSN: 2350-0557, 2, 4,
- Diamantis, D. (1998). Environmental Auditing: A Tool In Ecotourism development. *Eco-Management and Auditing Eco-Mgmt. Aud.* 5, 15–21
- Irwansyah., Hakim, W. and Yunus A., (2017). The Business and Management Review, 2017 Conference proceedings of the Academy of Business and Retail Management (ABRM) Environmental audit as instrument for environmental protection and management, 9: (2) 228-232.
- Ledgerwood, G. (1992). The Environmental Audits and Business Strategy: A Total Quality Approach. Pitman Publishing.
- Ledgerwood, G., Street E. and Therivel, R., (1992). The Environmental Audits and Business Strategy: A Total Quality Approach. Pitman Publishing
- Sandro, B., Murzakhmetova, A., and Falivena, C. (2022). "Environmental Auditing in Rural Areas: Current Patterns and Future Challenges in Central Asia" *Sustainability*, 14, 22: 15163. <https://doi.org/10.3390/su142215163>
- Yusoff, H. N., Ahmad, M. and Hadi, A.S., (2016). Sustainable development: What is the role of audit? *Journal of Sustainability Science and Management* 11: 1, 99-112

# PRESENTATION ON “MEDICINAL PLANTS OF GUJARAT AND COLLECTION PROCESS”

## A TALK ON MEDICINAL PLANTS

By: Dr. Jayesh B. Bhatt (Scientist), Email: [jb13bhatt@gmail.com](mailto:jb13bhatt@gmail.com)

A workshop entitled, "Voluntary Certification of Medicinal Plants Produce- One Day Workshop on GAP for Collectors and Consultants" has been organized by the Quality Council of India, New Delhi with support from GES, Vadodara held at Hampton by Hilton Hotel, Vadodara on 20<sup>th</sup> January 2023. Dr. Jayesh Bhatt, Scientist, GUIDE has been invited as one of the resource persons for the workshop. The site was selected to address the event to a group of Women involved in the cultivation of medicinal plants in Vadodara, Gujarat. The aim of the workshop was to motivate and encourage the women of SHG to medicinal plant cultivation, and good field collection practices of VCSMPP. There were 61 participants from seven villages of Padra Taluka of Baroda District in the workshop. Dr. Jayendra Lakhanpurkar, Director-Gujarat Ecology Society was the Chief Guest of the Workshop. Mr. Jangaiah M, Associate Manager, QCI and Dr. P. L. Saran, Senior Scientist, DMAPR participated as resource persons in the workshop. Dr. Deepa Gavali, GES and Ms. Zankhnaben Purohit, Team leader-SHG assisted in conducting the workshop. The workshop ended by feedback and certificate distribution.



Dr. Jayesh B. Bhatt, Scientist, Gujarat Institute of Desert Ecology (GUIDE), Bhuj gave opening remarks during the session and during the post-lunch session delivered an audio-visual presentation on “Medicinal plants of Gujarat and its collection process”. The following aspects have been covered during the presentation at the workshop.

- Quality Considerations
- Botanical authenticity of species
- Collection of Healthy plants
- Harvesting time & weather condition
- Sorting of the produce, Removal of foreign matter and Toxic weeds
- Environmental Consideration & Social Consideration
- Post Harvest Management (Cleaning, sorting, Drying, Packing & Storage)



# TRAINING PROGRAMMES ORGANIZED AT GUIDE

## MUSHROOM TRAINING ACTIVITIES AT GUIDE

By: Dr. G. Jayanthi (Scientist), Email: [jayanthiguide@gmail.com](mailto:jayanthiguide@gmail.com)

A total of 8 Oyster Mushroom training programmes and 4 *Cordyceps militaris* (Himalayan Gold mushroom) cultivation training programmes have been conducted by Dr. G. Jayanthi and her team so far. In these training programmes, a total of 45 participants were trained in *C. militaris* cultivation techniques and 1250+ participants were trained in Oyster mushroom cultivation techniques.



# ACTIVITY AND AWARENESS AS PART OF MISSION LIFE

## VARIOUS PROGRAMESS ORGANIZED BY GUIDE

**By:** Dr. Soumya Dasgupta (Scientist), Email: [dgsoumya84@gmail.com](mailto:dgsoumya84@gmail.com)

The Government of India Initiated the Life Mission to create awareness about traditional lifestyle which are sustainable and also for reduce human foot print on earth. Earth is the only planet where air, water and other life supporting systems are in a perfect form to sustain organismal unit of life. Although, under anthropogenic and planetary stress of climate change and loss of different life form, the sustainable lifestyle can only reduce the human footprint on earth. As part of the life mission Gujarat Institute of Desert Ecology (GUIDE), Bhuj, also organized and participated in various activities from 21<sup>st</sup> May to 5th June.

## ➤➤➤ BEACH CLEAN-UP

In accordance with the Beach Clean-up Programme under India's G20 Presidency "One Earth, One Future". Gujarat Institute of Desert Ecology (GUIDE) Bhuj, Kachchh has conducted an awareness and beach clean-up program at Mandvi Beach, Kachchh, Gujarat on 21<sup>st</sup> May 2023 from 7 to 9 am. This program is part of an awareness campaign to bring attention to the problem of marine litter and the need to work together towards sustainable development of the oceans and their environs. Dr. Durga Prasad Behera (Scientist, GUIDE) coordinated the program along with the other employees of GUIDE. The program was actively participated by the volunteers of Secure Nature, Students of the KSKV Kachchh University, Scientists and Faculty members of GUIDE. During the event 600 kg of marine litter was collected and it was handed over to the Mandvi Municipality for its safe disposal. A total of 50 participants engaged in the beach clean-up program and a certificate of participation was also handed over to the participants.





## ➤➤➤ THE INTERNATIONAL DAY OF BIOLOGICAL DIVERSITY

The International Day of Biological Diversity with the theme “From Agreement to Action: Build Back Biodiversity” was celebrated at Gujarat Institute of Desert Ecology (GUIDE) on 22<sup>nd</sup> May 2023, through a webinar. Three eminent Resource persons gave presentations. Dr. Sudipto Chatterjee, Associate Professor, TERI School of Advanced Studies, New Delhi has delivered a talk on "The State of Biodiversity in the Face of Global Change" and How the Lesser-Known Taxa also have the Significance in the Global Biodiversity Adherence. Dr. Indra R. Gadhvi, Professor and Head, Department of Marine Science, M. K. Bhavnagar University, Bhavnagar has presented the “Biodiversity of the Coastal Areas of Gujarat” and is followed by Dr. S. Balachandran, Deputy Director (Retd.) Bombay Natural History Society (BNHS), Mumbai, who has enlightened on the “Long-Term Monitoring of Shore Birds in East and West Coast of India”. The event was attended by scientists, researchers, students and naturalists along with experts from IUCN-India. A total of 65 personnel, including both academicians and industrialists participated in the webinar.

10:28 | International Day for Biological Diversity- 2...

Participants: Mukesh Koladiya / GUIDE, Dr. K. Karthikeyan, Kapilkumar Ingle, Sudipto Chatterjee, Soumya Dasgupta, Vijay Kumar, Indra R Gadhvi, 34 others, You.

People sidebar: Mute all, Add people, In call: Viral Vadodariya (You) Meeting host, ajay gohel, AM/NS India- Harapriya R..., AMNS India Suvendu Dash, Avanti Mehta, Bhagirath ahir.

Sudipto Chatterjee is presenting

**Biodiversity Conservation in face of Global Change**  
**International Day for Biological Diversity**  
 22nd May 2023  
 From Agreement to Action: Build back Biodiversity

Sudipto Chatterjee, Associate Professor and Head, Dept of Regional Water Studies, TERI School of Advanced Studies

10:30 | International Day for Biological Diversity- 2...

Participants: Vijay Kumar, Sudipto Chatterjee, 40 others, You.

People sidebar: Kannan Vaithianathan, Kapilkumar Ingle, Karan Thakkar, Krushnakant Baxi, Meenal Pahuja, monika sharma, Mukesh Koladiya / GUIDE.

Sudipto Chatterjee is presenting

**THE GROWTH OF PROTECTED AREAS 1872 TO 2003**

**ECOLOGICAL FOOTPRINT BY COMPONENT, 1961-2003**

**THE LIVING PLANET INDEX**

Population Index = 100 in 1970

Atmospheric CO<sub>2</sub> at Mauna Loa Observatory

10:57 | International Day for Biological Diversity- 2...

Participants: Bhargav Makwana, Sudipto Chatterjee, 40 others, You.

People sidebar: Bhargav Makwana, chaudhary Ratansi ratansi, Chauhan sneha, Deepa Gavali, Dhara Dixit, Dipti Parmar, Dr. K. Karthikeyan.



## ➤➤➤ THE WORLD ENVIRONMENT DAY

The World Environment Day with the theme of “Beat Plastic Pollution” was celebrated at Gujarat Institute of Desert Ecology (GUIDE) on 5<sup>th</sup> June 2023, through a Plantation and Cleanliness drive followed by a webinar. Three eminent resource persons along with two Scientists from GUIDE had given talk in the webinar. Dr. A. Biju Kumar, Professor and Head of the Department of Aquatic Biology and Fisheries, University of Kerala had enlightened the participants about Marine Debris Management, its challenges and the way ahead. Dr Mrugesh Trivedi, Assistant Professor, at Department of Earth and Environmental Science, Krantiguru, Shyamji Krishna Verma Kachchh University, gave a talk on “Plastic Pollution – A reason for gender Dysphoria”. Dr. Anjan Kumar Prusty highlighted the threat of plastic in the Coastal and Marine Ecosystem. There was two inhouse talk also given by Dr. Soumya Dasgupta and Dr. L. Prabhadevi on “Biodiversity in face of the Environmental alteration” and “Plastic pollution: Solution and Alternatives” respectively. A total of 42 participants attained the webinar talk. The summary of all the activities was uploaded to Meri LiFE Website at [merilife.org](http://merilife.org).



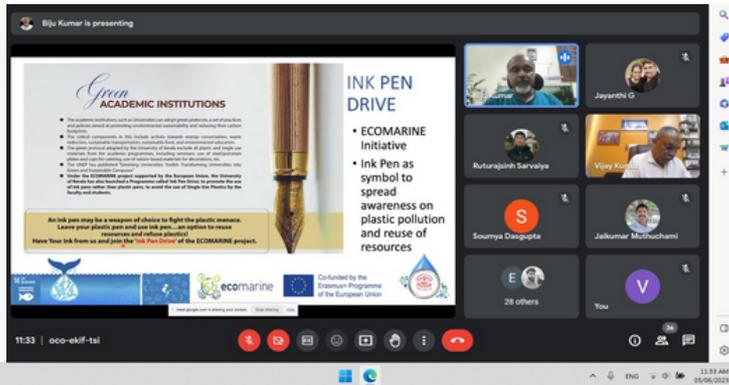
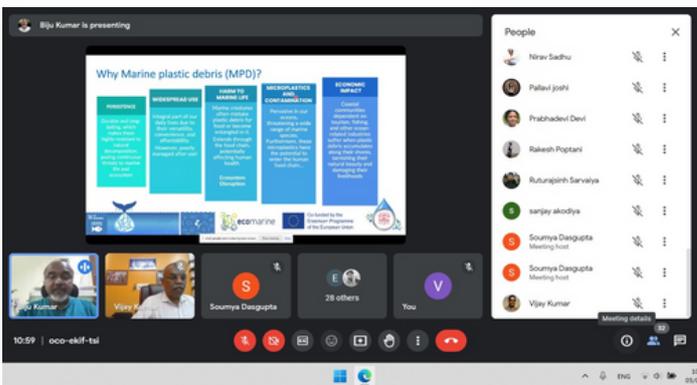
Bhuj, Gujarat, India  
 D12/12, St Colony Rd, Bhuj, Gujarat 370020, India  
 Lat 23.218301°  
 Long 69.655561°  
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Bhuj, Gujarat, India  
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 Long 69.655599°  
 05/06/23 08:44 AM GMT +05:30





## PUBLICATIONS AND WEBINAR/SEMINAR/WORKSHOP /CONFERENCES PARTICIPATED

### »» PUBLICATIONS

- Dixit D. (2023). Untargeted secondary metabolite profiling and putative pathway deduction of a marine Ochrophyte – *Iyengaria stellata* (Børgesen) using liquid chromatography-mass spectrometry. Food Bioscience, 51, 102211.
- Dixit D., Suthar P., Trivedi M.H., Reddy C.R.K., Gadhavi D. (2023). Evaluation of Tropical Edible Seaweeds Across the Untapped Frontier of GoK for Boosting the Expanse's Fiscal Valorization. Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci. Published online 24<sup>th</sup> April 2023.
- Prabhadevi L. (2023). "Hydrothermal vent communities and their Ecology". Proceedings of the International webinar series on "Socio-cultural, Archeological, Natural, Geo heritage sites, Mouments and Museums: identification, conservation, Management, Organized by Under RUSA, World Bank MPHEQIP Scheme, In Association with National Academy of Sciences India - Bhopal Chapter held on 22<sup>nd</sup> February 2023. Volume II. Mountain, Wetlands and Marine Biodiversity.

### »» WEBINAR/SEMINAR/WORKSHOP/CONFERENCES PARTICIPATED

- Dr. L. Prabhadevi participated in the International webinar series on "Socio-cultural, Archeological, Natural, Geo heritage sites, Mouments and Museums: identification, conservation, Management, Organized by Under RUSA, World Bank MPHEQIP Scheme, In Association with National Academy of Sciences India - Bhopal Chapter held on 22<sup>nd</sup> February 2023. The topic of Presentation was "Hydrothermal vent communities and their Ecology"
- Dr. L. Prabhadevi presented a talk on "Plastic pollution: Solutions and alternatives" on the world environment day 5<sup>th</sup> June 2023 in the webinar organized by Gujarat Institute of Desert Ecology, Bhuj, Gujarat.
- Dr. L. Prabhadevi and Dr. K. Karthikeyan attended one day workshop on "Coastal Security: MISHTI initiative" held at Gandhinagar, on 8<sup>th</sup> May, 2023 organized by Gujarat Ecology Commission.
- Dr Krushnakant Baxi participated in the Porbandar Wetland Bird survey-2023 organized by Bird Conservation Society of Gujarat, Nirma Ltd. and Forest Department on date January 28<sup>th</sup> & 29<sup>th</sup> 2023 at Porbandar, Gujarat.
- Dr Krushnakant Baxi, Ms. Dipti Parmar and Ms. Pallvi Joshi participated in the Six Days Online Faculty Development Programme on "Advanced Tools in Assessment of Marine Biodiversity and Pollution Monitoring (ATAMBPM)" organized by Centre for Ocean Research Col. Dr Jeppiaar Research Park, Sathyabama Institute of Science and Technology in association with Ministry of Earth Science from 12-17 September 2022.

## UPCOMING SEMINARS/CONFERENCE/ EVENTS/INTERNSHIP

### ➤➤➤ July 2023

- 27<sup>th</sup> July International Conference on Ecology, Human Habitat and Environmental Changes in Malay World (EHMAP) - Port Dickson, Malaysia
- 29<sup>th</sup> July International Conference on Ocean Science and Marine Technologies (ICOSMT) - Zurich, Switzerland
- 29<sup>th</sup> July International Conference on Oceanography and Marine Science (ICOMS) - Zurich, Switzerland
- 29<sup>th</sup> July International Conference on Polar Ocean and Marine Sciences (ICPOMS) - Zurich, Switzerland

### ➤➤➤ August 2023

- 05<sup>th</sup> August International Conference on Polar Ocean and Marine Sciences (ICPOMS) - Vancouver, Canada
- 26<sup>th</sup> August International Conference on Marine Sciences and Pollution (ICMSP) - Paris, France
- 26<sup>th</sup> August International Conference on Marine Science and Engineering (ICMSE) - Paris, France

### ➤➤➤ September 2023

- 06<sup>th</sup> September International Conference on Oceanology and Marine Science (ICOMS) - Prague, Czechia
- 06<sup>th</sup> September International Conference on Coastal Oceanography and Marine Sciences (ICCOMS) - Prague, Czechia
- 16<sup>th</sup> September International Conference on Marine Mammal Science and Research (ICMMSR) - Nice, France
- 16<sup>th</sup> September International Conference on Marine Science and Pathology (ICMSP) - Amsterdam, Netherlands
- 20<sup>th</sup> September International Conference on Marine Science, Pathology and Immunology (ICMSPI) - Lisbon, Portugal

### ➤➤➤ October 2023

- 21<sup>th</sup> October International Conference on Marine Mammal Science and Research (ICMMSR) - Athens, Greece
- 28<sup>th</sup> October International Conference on Gas in Marine Sediments and Marine Sciences (ICGMSMS) - Los Angeles, United States

### ➤➤➤ November 2023

- 04<sup>th</sup> November International Conference on Coastal Oceanography and Marine Sciences (ICCOMS) - Nicosia, Cyprus
- 15<sup>th</sup> November International Conference on Marine Science and Engineering (ICMSE) - Reykjavik, Iceland

### ➤➤➤ December 2023

- 02<sup>nd</sup> December International Conference on Ocean Science and Marine Technologies (ICOSMT) - Tokyo, Japan
- 8<sup>th</sup> & 9<sup>th</sup> December Second Science Undergraduate Research Conference (SURC) to be held on in Bengaluru, By Azim Premji University.
- 13<sup>th</sup> December International Conference on Marine Mammal Science and Research (ICMMSR) - Cairo, Egypt

### ➤➤➤ January 2024

- 07<sup>th</sup> January International Conference on Marine Science and Conservation (ICMSC) - Tokyo, Japan

### ➤➤➤ February 2024

- 22<sup>nd</sup> February International Conference on Oceanography and Marine Science (ICOMS) - Paris, France
- 25<sup>th</sup> February International Conference on Ecosystem-Based Management and Marine Sciences (ICEBMMS) - Buenos Aires, Argentina

### ➤➤➤ April 2024

- 08<sup>th</sup> April International Conference on Marine Science and Engineering (ICMSE) - Athens, Greece
- 22<sup>nd</sup> April International Conference on Ecosystem-Based Management and Marine Sciences (ICEBMMS) - Marrakesh, Morocco

### ➤➤➤ May 2024

- 17<sup>th</sup> May International Conference on Ecosystem-Based Management and Marine Sciences (ICEBMMS) - Sydney, Australia
- 17<sup>th</sup> May International Conference on Coastal Oceanography and Marine Sciences (ICCOMS) - Paris, France
- 24<sup>th</sup> May International Conference on Gas in Marine Sediments and Marine Sciences (ICGMSMS) - London, United Kingdom

### ➤➤➤ June, 2024

- 10<sup>th</sup> June International Conference on Marine Science and Conservation (ICMSC) - Barcelona, Spain
- 28<sup>th</sup> June International Conference on Marine Science and Engineering (ICMSE) - London, United Kingdom

### ➤➤➤ July 2024

- 19<sup>th</sup> July International Conference on Marine Science and Conservation (ICMSC) - Helsinki, Finland
- 29<sup>th</sup> July International Conference on Ocean Science and Marine Technologies (ICOSMT) - Zurich, Switzerland