









#### THE ORGANISATION

Gujarat Ecology Society (GES) is a non-profit organization registered in January 1995 under the Bombay Public Trust Act and the Societies Registration Act. GES is being managed by prominent individuals from diverse disciplines with a proven commitment to environmental conservation and ecological restoration. GES derives its strength from networking and integrating the inputs from associates and eminent visiting scientists and specialists in distinct disciplines from various agencies in the country in general and Gujarat in particular.

Mission: "To pursue, promote and disseminate knowledge, information, and processes that enable conservation, restoration, and development of natural resources concerning their ecological sustainability".

- Notified Under Section 35(1)(ii) of the Income-tax Act, 1961.
- Recognized as a Scientific and Industrial Research Organization by the Ministry of Science and Technology, the Government of India
- Registered under The Foreign Contribution (Regulation) Act, 1976
- Member of the International Union for Conservation of Nature

#### **SOCIETY MEMBERS**

SHRI HASMUKH S SHAH, CHAIRMAN (upto 24.10.2021)

SHRI SAMIR PARIKH, BOG MEMBER (ACTING CHAIRMAN from 24.10.2021)

DR. VIREN J PATEL, VICE CHAIRMAN

SHRI L RAJAGOPALAN, BOG MEMBER

SHRI PRADEEP KHANNA, BOG MEMBER

Dr. DATTA MADAMWAR, BOG MEMBER

PROF. ANJANA DESAI, BOG MEMBER

DR. DEEPA J GAVALI, SECRETARY

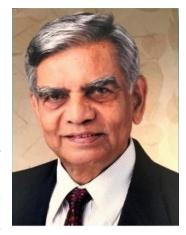
SHRI VIMAL PATEL,LIFE MEMBER MRS NILA SHAH,LIFE MEMBER DR. SHISHIR RAVAL,MEMBER MRS NEHA SARWATE,MEMBER



#### CONDOLENCE MESSAGE

It was with great sorrow we learnt about passing away of ShriHasmukhbhaiShah -The Founder and Working Chairman of Gujarat Ecology Society on 3rd December 2021. Kindly accept our heartfelt condolences.

Gujarat Ecology Society is one of many organizations created by Shri Shah for research and conservation of the environment. His commitment to the preservation of ecology and the environment has been an inspiration and driving force for various projects and research activities of Society. His vision, support, and guidance enabled the



Society to successfully complete about 108 projects covering diverse subjects including salinity, conservation of biodiversity, coastal environment, and restoration of degraded lands, thereby fulfilling the goals for which Society was created. He insisted and ensured that the Society achieved its objective without compromising on principles and ethics and that the quality of research is not compromised.

While working on various projects Shri Shah always expressed his deep concern for the well-being of deprived communities like tribal, factory workers, and small farmers.

Shri Shah encouraged us to create quality research publications in peer-reviewed journals. GES publications like CD on underwater videography of corals, book on Ecology of Coastal Gujarat, and reports on the Conservation of Rare and endangered Biodiversity of Gujarat are some of Shri Shah's contributions to the society for which he will be always remembered with a sense of reverence. All of us at the Society feel privileged to have been associated and worked with an exemplary personality like him.

We are aware our words of condolence are inadequate to account for his contribution to Society. His absence has left a big void, which will be very difficult to fill.

We all the members of the Board of Gujarat Ecology Society; employees and beneficiaries of the society; and the community of researchers, academicians, and scientists from across the globe express our heartfelt sorrow on the sad demise of ShriShah.Please accept our deepest condolences. We pray to God and wish the family strength to bear this loss and peace in life. Om Shanti.

#### Samir Parikh

Acting Chairman Gujarat Ecology Society Dec 6, 2021

#### THRUST AREAS

- Biodiversity Conservation
- Coastal and Marine Ecology
- Dynamic Ecology
- Restoration Ecology



#### **MULTIDISCIPLINARY TEAM**

The creation of a multidisciplinary ecological database is considered one of the main components of all programs of GES. The Society has, on its rolls, a team of highly qualified and experienced professionals/scientists, on subjects like

- Environmental Sciences
- Marine Sciences
- Wildlife science
- Biostatistics
- Botany
- Zoology
- Geology
- Hydrogeology
- Aquatic sciences









# **CURRENT YEAR PROJECTS**

The project activity picked up in the year 2021-22 and a brief description of the Society's activity is presented in the following sections.

# COASTAL AND MARINE ECOLOGY

#### REVISITING ECOLOGY OF THE GUJARAT COAST



Vice Admiral R. Hari Kumar, PVSM, AVSM, VSM, Indian Navy released the book titled "Revisiting Ecology of The Gujarat Coast", Trends of last two decades on 25th October 2021, published by Gujarat Ecology Society, Vadodara. The main authors of the book are Dr. Deepa Gavali, Dr. Jayendra Lakhmapurkar, and Dr. Sonia Tadhani.

The book is a progression over the comprehensive benchmark study

carried out by the Gujarat Ecology Society (GES), in 1998. The present study was undertaken wherein the coastal dynamic alteration for 23 years has been ascertained through a holistic approach. The book highlights the dynamism in the environment, development demography, and socio-economical aspects spread over seven chapters for each coastal section of the Gulf of Kachchh, Gulf of Khambhat, Saurashtra coast, and South Gujarat Coast.

The book compiles relevant information, and digitization of past and present changes along the 47 coastal talukas of Gujarat, with the depiction in a user-friendly manner. The interesting feature of the book includes a CD-ROM containing 30 years of socio-economic data for the selected coastal villages.



#### State of Environment of Gujarat Coast

The coastal and marine environment component of the State of Environment of Gujarat coast was prepared by the Gujarat Ecology Society. The project was awarded through GUIDE, Bhuj, and part of the State programme. The main purpose of the assignment was to address the changes in the environmental variables of the coastal region of the State of Gujarat over the last 10 years following the DPSIR mode (Drivers state Pressure Impact Response).

The document emphasized the strategies required for the long-term management of the Gujarat Coast.

#### BIODIVERSITY CONSERVATION

# Livelihood enhancement of selected rural women through value addition of medicinal plants along Gujarat

This project is sponsored by the Science for Equity Empowerment and Development (SEED) Division of the Department of Science and Technology, Ministry of Science and Technology, NewDelhi. The project is aimed at conserving biodiversity and indigenous technical knowledge in 5 villages of the Vadodara district through the self-help groups of the respective villages. The broad objectives of the project are (1) Enhancing the livelihood capacities of women through processing and value chain addition of products from indigenous medicinal plants (2) Preserving ethnobotany and traditional knowledge of the studied region.

As part of the project activity orientation to the SHG on the medicinal plants and training on the value addition of the important medicinal plants were imparted. A solar dryer was installed through the project funds in the target village and training for the operation and maintenance of the solar dryer was imparted.

# Gujarat Ecology Society





# DYNAMIC ECOLOGY

Source-To-Sink Spatio-Temporal Variability in Sediment Fluxes and Their Control on Coastal Sediment Dispersal Systems in Gujarat

This is a Ministry of Earth Sciences, New Delhi, sponsored project. There are five institutions involved in the project viz., M S University of Baroda (lead institution); Indian Institute of Seismological Research, Gandhinagar; M G Science Institute, Ahmedabad; Gujarat Institute of Desert Ecology, Bhuj and Gujarat Ecology Society. The broad objectives of the project include,

- 1. To understand Source-to-Sink sediment transport in the two river systems of different climatic regimes.
- 2. To carry out validation of conventional palaeo-environmental proxies in known climate regimes.
- 3. To understand ecological linkages with sedimentation patterns.



Gujarat Ecology Society has undertaken the component of the study of ecological aspects of the Dhadhar river basin. The ecological parameter like the water, soil, and vegetation components was studied for 25 locations in the entire basin. Seasonal water and plankton sampling was done to understand the change in the dynamic of



the various ecological variables. The vegetation composition of the entire basin was done through the quadrate method. Important findings include the presence of good water quality upstream of the Dhadharriver and deterioration observed after the discharge of domestic sewage from Por onwards.

#### Towards A Policy for Riverine Islands in Ganga Basin

This project is being carried out INTACH for the Ganga Basin and GES has sub-allocated the work for the Mahi and Narmada rivers. The present study aims to understand the legal structure of the islands, geology, and ecology services and suggests conservation measures for this fragile ecosystem. The project will develop policy options for conservation and management through stakeholder consultation resulting in an analysis of the current status, potential, governance issues, and stakeholder interests.





# RESTORATION ECOLOGY

#### Restoration of natural grassland habitat at Lakhpat region, Gujarat

This project is sponsored by ADANI Ports and Economical Zones for a period of 4 years. The projects aim to building sustainable growth in the Lakhpat region by

# Gujarat Ecology Society

taking the initiative of restoring the natural habitats alongthe Guneri village. The objective of the project includes (1) Restoring the grasslands in the gauchar lands. (2) Documentation of ecological process and the success of grassland development and (3) Capacity building of the locals in the ecological monitoring process and process of documentation and observation of changes.

In the first year, 10 Ha of the village area was considered for restoration. The site identification was done through PRA and grass seeds along with organic manure were tried in the plot. Nursery for rare and threatened species found in the area was raised for plantations in the second year. Ecological data in terms of vegetation composition, soil quality, and faunal diversity was recorded in the treated plot as baseline information. This will ensure longer monitoring of the restoration process.





### **ACTIVITIES**

#### **BOOK PUBLICATION**

Gujarat Ecology Society released a new publication entitled "Revisiting ecology of Gujarat coast" by the esteemed guest of Honour Vice Admiral Hari Kumar, PVSM, AVSM, VSM, Indian Navy on October 25 at 4.30 p.m. at FGI Hall, Vadodara. The programme was attended by eminent personalities and citizens of Vadodara.

The book is exclusively based on primary research carried out by the Gujarat Ecology Society and highlights the Spatio-temporal dynamics of growth, development, industrialization, and its impact on demography, livelihood, and migration patterns of over 47 coastal talukas during the last two decades (2001-2020). The books present a holistic view of the changes in coastal ecology through a multidimensional approach.





#### **PAPERS PUBLISHED**

- 1. Prachi Singh, Kunal R Jain, JayendraLakhmapurkar, DeepaGavali, Chirayu Desai, DattaMadamwar (2022). Microbial community structure and functions during chronosequence-based phyto-remediation programme of Lignite tailing soil. *Environmental Technology & Innovation*. 27; 102447
- 2. Panseriya, H.Z., Gosai, H.B., Vala, A.K., Gavali, D.J. and Dave, B.P., 2021. Assessment of surface water of Gulf of Kachchh, west coast of India: A chemometric approach. *Marine Pollution Bulletin*, 170, p.112589. (IF: 5.553)
- 3. Nisarg Bhatt and DeepaGavali 2022. *New emerging issue: Solid waste management from hotels in Vadodara city*, Eds., Arya A, Patel VS, Agrawal M, Murthy CN, Bhatt B, Padate G, In: Environmental pollution, climate change and altered lifestyle during COVID. pp.167-174.
- 4. GavaliDeepa (2021) Scenario of solid waste management –Case study from Vadodara City, In: Environmental Sustainability, Green growth and disaster Resilience. Editors Bindal M K, A K Gupata, S Baidya, P Acharya and S Bhardwaj. Published by National Institute of Disaster Management, NewDelhi, 264 pp.
- 5. Lakhmapurkar J., Gavali D., Bhatt N. (2022) *Coastal Ecosystem Services of Gujarat, India: Current Challenges and Conservation Needs*. Madhav S., Nazneen S., Singh P. (eds) Coastal Ecosystems. Coastal Research Library, Vol 38. Springer, Cham. <a href="https://doi.org/10.1007/978-3-030-84255-0\_13">https://doi.org/10.1007/978-3-030-84255-0\_13</a>

#### **INVOLVEMENT AS AN EXPERT**

- 1. Dr. JayendraLakhmapurkar was invited as a judge for selection of project at District Level for National Children's Science Congress Regional Community Science Centre on 24th October 2021
- 2. Dr. JayendraLakhmapurkardelivered lecture to celebrate World Soil day was on 5<sup>th</sup> December 2021 by Adani port and logistics and GES with the theme "Halt soil salinization and boost soil productivity".
- 3. Dr. DeepaGavali was invited as an expert to celebrated International wetland day on 2<sup>nd</sup> February 2022 by Adani port and logistics with the theme "Action on wetlands for people and nature".
- 4. Dr. Deepa Gavali was invited as an expert to present paper at the National seminar on "People in Conservation" organised jointly by Sahjeevan with RAMBLE on 15<sup>th</sup> March 2022 at Bhuj.

#### **ONLINE WORKSHOP**

- 1. Dr. Jayendra Lakhmapurkar attended the IUCN World Conservation Congress held at Marsille from 3<sup>rd</sup> to 11<sup>th</sup> September 2021 in online mode.
- 2. Dr. Deepa Gavali attended the online workshop organized by IUCN office, on 31<sup>st</sup> March 2022 with the theme "An Introductory session on "Contributions for Nature digital platform" for IUCN Members in Asia".



#### **NEXT YEAR PLAN**

#### RESEARCH PROGRAMMES

- Biodiversity assessment studies under CSR projects
- Marine Environmental monitoring off the Dahej coast
- Understanding the Response of Microbial Communities towards Xenobiotic Perturbations in the Estuarine Regions of the Gulf of Khambhat

### **COVERAGE IN MEDIA**

#### **Divua Bhaskar 26.10.2021**





# Printed from THE TIMES OF INDIA

# VMC's recharge wells plan may prove futile: GES study

TNN | Sep 23, 2021, 06.00 AM IST

Vadodara: The Vadodara Municipal Corporation (VMC) is mulling to promote groundwater recharge through recharge wells in residential societies across the city. But the entire exercise may turn out to be futile in the long run.

But a hydrogeology study done by city-based Gujarat Ecology Society (GES) suggests that the city needs more wetlands and water bodies to maintain the water table rather than artificial recharge.

The civic body has planned to promote groundwater recharge by building recharge wells in residential societies. While the VMC has proposed to bear the majority of the expenses, the resident welfare associations will have to shell out nearly a quarter of the total expenditure.

#### Congratulations!

You have successfully cast your vote

#### Login to view result

The study done by an intern of GES Nirav Dhadankar under the guidance of Dr Jayendra Lakhmapurkar shows that the groundwater in Vadodara city does not have lateral movement as the bedrock is flat.

There are three layers of aquifers and most of the water through tube wells is drawn from the second layer which is the biggest aquifer. An aquifer is a body of rock or sediment that holds groundwater.



"If we observe the aquifer along the Vishwamitri river originating from the base of Pavagadh hill, there is a lateral movement till Vadodara city and further after Vadodara city until the river merges with Dhadhar River," said Lakhmapurkar. "Since there is no lateral movement in Vadodara city, the water recharged through tube wells overflows," he added.

Researchers suggest that more groundwater bodies and more wetlands with connections for slow percolation of water should be developed instead of recharge wells.

The city has already lost 40 hectares of wetlands since 2005. "Another problem with recharge wells in the city is that they may need regular maintenance as dirt and other particles may get accumulated," Lakhmapurkar said.

The researchers also raised concerns about the industrialization and concrete developments around the origin of Vishwamitri River. "Due to industrialization and urbanization in Halol, Jarod and Savli, there are high possibilities of groundwater contamination which will affect Vadodara city directly in future," Lakhmapurkar said.

"Villages near Mahisagar river are complaining about contaminated groundwater due to pollution caused by industries in Nandesari. A similar situation may arise in Vadodara too," said Dr Deepa Gavali, director of GES. The contaminated groundwater can have several health hazards as neither RO system nor boiling water can purify it.



#### **Times of India 3.11.2021**

THE TIMES OF INDIA

# Coastal salinity in Gujarat increasing by the day, says study

TNN I Nov 10, 2021, 05:00 AM IST



VADODARA: Gujarat boasts of the longest coastline in the country and it has paved way for industrial development along the coastal area in the past couple of decades. However, the industrialization and consequent migration have contributed majorly to increase salinity in the state.

In its latest book titled 'Revisiting ecology of the Gujarat coast: Trends of last two decades', city-based Gujarat Ecology Society (GES) tried ascertaining how coastal dynamics have been altered over a span of 23 years.

- People dependent on agriculture activities for livelihood in coastal areas have come down to 19.63% in 2011 as industrialization has increased
- As more men have migrated to coastal areas in search of labour work, the sex ratio has been disturbed
- Between 1991 and 2011, 74 villages in coastal areas have been urbanized and are now major towns



- Researchers expect salinity to reduce as the increasing trend of heavy rains due to climate change will recharge the groundwater with fresh water
- Although industrial activities have increased along coastal areas, mangrove cover too, has increased to 1,177 square kilometers in 2019 from 960 square kilometers in 2001

In their study, researchers at GES found that livelihood of people have changed, sex ratio has been disturbed, urbanization has increased, which have all added to salinity. "Soil and groundwater salinity has increased due to increasing agricultural activities,

too much use of groundwater for Irrigation and domestic purposes," said Dr Jayendra Lakhmapurkar, director of GES.

He added as population along the coastal areas has increased, people go on digging tubewells and water table has gone down. While the overall state population between 1991 and 2011 increased by 23%, in coastal areas, the population during the same period increased by 38%.

"Besides over exploitation of groundwater, damming the river and untreated sewerage water also play major role," Lakhmapurkar added. ભાપની ભવાજ, આપની ભાષા, આપના સમાચાર

# અદાણી પોર્ટ્સ અને સ્પેશિયલ ઈકોનોમિક ઝોન (APSEZ) દ્વારા જમીનની તંદ્રરસ્તી વધારવા મુન્દ્રા ખાતે 'વર્લ્ડ સોઈલ ડે'ની ઉજવણી



### વિદ્યાર્શીઓ, કર્મચારીઓ અને ખેડૂતોમાં જનજાગૃતિ અંગે સવાદ

કાયલ્લ મુખ્ય ખાતે વિશ્વ મૃદા દિવસ (વાર્ડ સેઇલ કે) ની ઉત્સારકોર ઉજવણી કરવામાં આવી. જમીનની ફાલ્યુપતા વધારવા અંગે જનજાગૃતિ ફેલામ તે કેનુશી આયોજીત વિવિધ કાર્યક્રમોમાં વિશાશીઓશી લઈને કંપનીના કર્યચારીએ અને મેડુ તોએ અફેલ્ડી સંખ્યામાં ભાગ લીધો. આ કાર્યક્રમમાં લોકોને જમીનની તંદુરસ્તીનું મહત્વ, ખારી જમીન યુધારણ, સુચિની ફાલ્યુપતા વધારવા તેમજ ટકાઉ ભાવાશા પત્નની ફિમાયત કરતા વિવિધ પૂર્વોગોનું નિરૂપણ કરવામાં આવ્યું.

વર્લ્ડ કોઈલ ડેની ઉજવણી નિચિત્તે આયોજીન અદાણી પોર્ટ્સ અને સ્પેક્ષિયલ ઈકોનોચિક ઝોન (APSEZ) દારા સંસ્થાના તથામ કર્મચારીઓ માટે એનલાઈન તાલીમ સત્રનું આયોજન કરવામાં આવ્યું કતું. જેમાં કર્મચારીઓ સક્રિયપણે ભાગ લઈ જમીન અને પર્યાવરણની તંદ્રસ્તરી વધારવા અંગે તાલીમ લીધી. તો વિદ્યાર્થીએ જમીનની તંદ્રસ્ત્રની વિદ્યો જાગૃત અને તે માટે ઝરપસ ગામની સરકારી સઈસ્કુલમાં સાનસત્રનું આયોજન કરવામાં આવ્યું. જેમાં વિદ્યાર્થીઓને માદીની



ફળકુપતાને અસર કરતાં પરિબળી વિશે માફિતગાર કરવામાં આવ્યા. કૃષિ વિશાન કેત્ર (KVK) ના સફયોગરી મેટ્રતો માટે સેપ્કતમ કૃષિ પક્રતિઓ અને વૈજ્ઞાનિક અગિગમો અંગે સંવાદ કરવામાં આવ્યો, જેમાં બસેળી સંખ્યામાં સૃત્રિપૃત્રોએ સાગ ત્યો હો

લોકોમાં જમીન(મૃદા) અંગે જાગૃતિ આવે તો તેઓ ખાશ પાણી/રસાયણોનો ઉપયોગ ટાઉ, જૈવિક મેતી અંગે સફિય અને, સુગર્ભ જ્ઞાનો સગ્રહ કરતા શાય તેમજ જમીનનો બગાડ અટકાવવા પ્રયાસરત બને તેવી સમજણ વિકસાવવાનો આ નવતર પ્રયોગ કતો. આયોજીત કાર્યક્રમોમાં સફસાગીઓને જમીનનું ક્ષારણ, ફ્ષારના સ્ટોતો, ખારી જમીનની સુધારણ, અજૈવિક, જૈવિક, સુરમ જીવી, ફ્ષારના સ્ટોતો, ખારી માટીમાં ઉગતી વનશ્ધતિનું વાવેતર અને તેના વ્યવસ્થાપન સફિત અનેક વિષયો સંદર્શ માર્ગદર્શન આપવામાં આવ્યું. તાલીમ બાદ તમામ સફસાગીઓને APSEZ મુન્ય ટીમ તરફશી શેટના ટોકનશી પણ સત્યાનિત કરવામાં આવ્યા ફતા.

આ પ્રસંગે APSEZ એન્વાયરમેન્ટ ફેલ્શ એન્ડ શેક્ટી વિભાગના શિનીયર મેનેજર ભાગવત સ્વરૂપ શર્માએ જણાવ્યું કતું કે "માદી એ પૃથ્વી પરના તમામ શજીવો માટે બઠ્ઠમૂલ્ય છે. શીને પોષણ અને રક્ષણ આપતી શૂચિ પર પ્રદૂષણ અટકાવવુ એ પર્શાવરણની શ્રેષ્ઠતમ શેવા છે".

ક મામમાં આવશી ખોર્ટ્સ અને રખેશિયલ ઇકોનોમિક ઝોન (APSEZ) તેમજ ગુજરાત ઇકોલોજી સોસાયટી (GES)ના સફિયાસ પ્રયાસીથી ચાલતા પ્રોજેક્ટ પણ વિશ્વ મુદા દિવસ-2021 ના શીખને બરાબર અનુરૂપ છે. ગુનેરી ગામમાં શરૂ કરાયેલા 'ગાસલેન્ડ ઇકોસિસ્ટમ રિસ્ટોરેશન પ્રોજેક્ટ'નો ઉદેશ જમીનમાં રહેલી ખાસશ્ચ દૂર કરી તેની કલદ્વપતા વધારવાનો છે.

જમીનના મહત્વ અંગે જનજાગૃતિ કેઇવવા અને જ્ઇવાયુ પરિવર્તનમાં ઘટાડો ભાવવાના ઉદેશશી વિશ્વગરમાં દરવર્ષે 5મી કિશેમ્બરે વાર્ડ શોઈલ ડેની ઉજવણી કરવામાં આવે છે.

#AdaniPorts, #APSEZ, #India, #Kutch, #KutchNewsHeadlines, #WorldSoilDay

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News of Wednesday, 22nd December 2021

## જમીનની તંદુ રસ્તી વધા રવા મુન્દ્રામાં 'વર્લ્ડ સોઇલ ડે'ની ઉજવણી ખેડૂતો, વિદ્યાર્થીએ અને કર્મચારીએમાં જનજાગૃતિ અંગે સંવાદ



(વિનોદ ગાલા દ્વારા)ભુજ,તા.૨૨: કચ્છના મુન્ના ખાતે વિશ્વ મૃદા દિવસ (વર્લ્ડ સોઈલ ૩) ની ઉત્સાહભેર ઉજવણી કરવામાં આવી. જમીનની ફળદ્ગુપતા વધારવા અંગે જનજાગૃતિ ફેલાચ તે હેતુથી આયોજીત વિવિધ કાર્યક્રમોમાં વિદ્યાર્થીઓથી લઈને કંપનીના કર્મચારીઓ અને ખેડ્નતોએ બહોળી સંખ્યામાં ભાગ લીધો. આ કાર્યક્રમમાં લોકોને જમીનની તંદુરસ્તીનું મહત્ત્વ, ખારી જમીન સુધારણ, ભૂમિની ફળદ્ગુપતા વધારવા તેમજ ટકાઉ વ્યવસ્થાપનની હિમાયત કરતા વિવિધ પ્રયોગોનું નિરૂપણ કરવામાં આવ્યું

વર્લ્ડ સોઈલ ડેની ઉજવણી ભિમિત્તાં આયોજન અદાણી પોર્ટસ અને સ્પેશિયલ ઈક્રોનોમિક ઝોન દ્વારા સંસ્થાના તમામ કર્મચારીઓ માટે એનલાઈન તાલીમ સત્રનું આયોજન કરવામાં આવ્યું હતું. જેમાં કર્મચારીઓએ સક્રિયપણે ભાગ લઈ જમીન અને પર્યાવરણની તંદ્વરસ્તી વધારવા અંગે તાલીમ લીધી. તો વિદ્યાર્થીઓ જમીનની તંદ્વરસ્તી વિશે જાગૃત બને તે માટે ઝરપરા ગામની સરકારી હાઈસ્કૂલમાં શાનસત્રનું આયોજન કરવામાં આવ્યું, જેમાં વિદ્યાર્થીઓને માટીની ફળદ્વપતાને અસર કરતાં પરિબળો વિશે માહિતગાર કરવામાં આવ્યા. કૃષિ વિજ્ઞાન કેન્નના સહયોગથી ખેડ્તી માટે શ્રેષ્ઠત્તામ કૃષિ પદ્ધતિઓ અને વૈજ્ઞાનિક અભિગમો અંગે સંવાદ કરવામાં આવ્યો, જેમાં બહોળી સંખ્યામાં ભૂમિપુત્રોએ ભાગ લીધો. લોકોમાં જમીન (મૃદા) અંગે જાગૃતિ આવે તો તેઓ ખારા પાણી રસાયણોનો ઉપયોગ ટાળે, જૈવિક ખેતી અંગે સિક્રય બને, ભૂગર્ભ જળની સંગ્રહ કરતા થાય તેમજ જીનનો બગાડ અટકાવવા પ્રયાસરત બને તેવી સમજણ વિકસાવવાની આ નવતર પ્રયોગ હતો. આયોજીત કાર્યક્રમોમાં સહભાગીઓને જમીન ક્ષારણ, ક્ષારના સ્રોત, ખારી જમીનની સુધારણ, અજવિક, જૈવિક, સૃક્ષ્મ જીવો, ક્ષારના સ્રોત, ખારી માટીમાં ઉગતી વનસ્પતિનું વાવેતર અને તેના વ્યવસ્થાપન સહિત અનેક વિષયો સંદર્ભે માર્ગદર્શન આપવામાં આવ્યું. તાલીમ બાદ તમામ સહભાગીઓને મૃન્ના સેઝની ટીમ તરફથી ભેટના ટોકનથી પણ સન્માનિત કરવામાં આવ્યા હતા.

આ પ્રસંગે અદાણી સેઝ એન્વાચરમેન્ટ હેલ્થ એન્ડ સેક્ટી વિભાગના સિનીચર મેનેજર ભાગવત સ્વરૂપ શર્માએ જણાવ્યું હતું કે 'માટી એ પૃથ્વી પરના તમામ સજીવો માટે બહુમૂલ્ય છે. સૌને પોષણ અને રક્ષણ આપતી . ભૂમિ પર પ્રદૂષણ અટકાવવુ એ પર્યાવરણની શ્રેષ્ઠત્તામ સેવા છે.

કાર્યક્રમમાં અદાણી પોર્ટ્સ અને સ્પેશિયલ ઇકોનોમિક ઝોન તેમજ ગુજરાત ઇકોલોજી સોસાયટી ના સહિયારા પ્રયાસોથી ચાલતા પ્રોજેકટ પણ વિશ્વ મૃદા દિવસ ૨૦૨૧ ના શીમને બરાબર અનુરૂપ છે. ગુનેરી ગામમાં શરૂ કરાયેલા ગ્રાસલેન્ઠ ઇક્રોસિસ્ટમ રિસ્ટોરેશન પ્રોજેકટનો ઉદ્દેશ

જમીનમાં રહેલી ખારાશ દૂર કરી તેની ફળદ્રુપતા વધારવાનો છે. જમીનના મહત્વ અંગે જનજાગૃતિ કેળવવા અને જળવાયુ પરિવર્તનમાં ઘટાડો લાવવા વિશ્વભરમાં દર વર્ષે પમી ડિસેમ્બરે વર્લ્ડ સોઈલ ડેની ઉજવણી કરવામાં આવે છે.

(10:35 am IST)

#### GES team as part of the urban nesting survey

#### THE TIMES OF INDIA

# City to conduct first survey of birds' urban nesting habits

TNN | Feb 6, 2022, 04.23 AM IST

Vadodara: For the first time, an online survey of birds' nesting will be carried out in Vadodara to scientifically understand habitat of bird species in urban areas.

City-based environmental organization – Kids for Environmental Development Initiative (KEDI), M S University's Department of Zoology, Gujarat Ecology Society and Community Science Centre (CSC) – have joined hands to carry out the survey with the help of citizens, especially schoolchildren.

The institutes will circulate an online form which will be widely publicized through social media platforms and workshops of schoolchildren.

"The forms will contain a list of common birds with their scientific names and photographs that will provide easy access to identify the species nesting. The form will also list few observation points like type of nesting sites - on ground, bushes, trees, buildings or any other site, if the nest is made in natural habitat or artificial habitat like nest boxes, status of nest like if it was under construction or parents were incubating the eggs or even nurturing the young. And finally, the nest was observed in which area of the city," said Hitarth Pandya, who runs KEDI.

In 2020 during the Covid-19 induced lockdown, KEDI had carried out a similar survey through which around 20 species were reported nesting in different parts of Vadodara city.

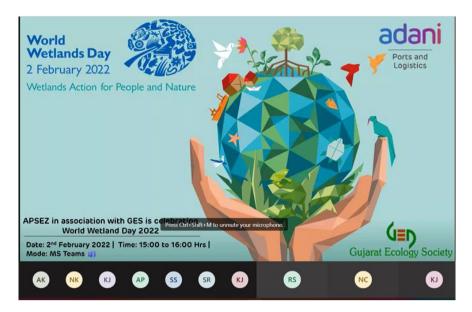
"It was heartening to see that maximum reporting was for house sparrow, passer domestic. Next in abundance of report were purple rumped sunbird and tailor bird. Common myna and red vented bulbul are also two of the commonest species in urban area and reports of their nesting were also in good number followed by jungle babbler and laughing dove," said professor Geeta Padate.

## World Soil day celebration on 5th December 2021 - Dr. Jayendra Lakhmapurkar





## World Wetland Day celebrations on 2nd February 2021 - Dr. Deepa Gavali



World Wetland Day celebrations on  $2^{nd}$  February 2021 - Dr. Jayendra Lakhmapurkar



VNM discussion on wetland day celebrations 3.2.2022 - Dr. Deepa Gavali





# THE STAFF

Name	Designation
Dr. DeepaJ Gavali	Deputy Director and Secretary
Dr. JayendraJ Lakhmapurkar	Acting Director
Dr. JagrutiY Rathod	Associate Ecologist till July 2021
Dr. Sonia Thadani	Research Associate
ShriHareshPanseriya	Junior Research Fellow
ShriBipin Gala	Accountant
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