



**REPORT ON ONE-DAY WORKSHOP ON
“WATER HARVESTING AND GROUNDWATER RECHARGE
TECHNIQUES” SPONSORED BY GUJCOST**



छोटुभाई गोपालभाई पटेल प्रौद्योगिकी संस्थान, बारडोली
Chhotubhai Gopalbhai Patel Institute of Technology, Bardoli

Organized By:

*Department of Civil Engineering
Chhotubhai Gopalbhai Patel Institute of Technology,
Uka Tarsadia University, Maliba Campus, Bardoli.*

(25th March, 2022, Friday)

Target Audience: Diploma Civil Engineering, B. Tech and M. Tech. of Engineering

No of Participants: Total 128 (Boys-95), (Girls-33)

Faculty Coordinator/Organizer:

Prof. (Dr.) Manoj J. Gundalia, Prof. (Dr.) Vaibhav R. Pawar and Prof. Dimple J. Desai

Detail Report on Workshop

Water Harvesting and Groundwater Recharge Techniques

Water is valuable asset of the planet of earth. Human beings live about three minutes without oxygen, three days without water and three weeks without food. Thus, water is second most critical need for human being. However, despite water being the basic human need, this precious resource is considered as free natural commodity and being wasted, polluted and getting depleted. With a view to address the related issues, the Government of India has established National Water Mission as one of the eight National Missions under the National Action Plan on Climate Change. National Water Mission's (NWM) campaign "Catch The Rain" with the tagline "Catch the rain, where it falls, when it falls" is to nudge the states and stake-holders to create appropriate Rain Water Harvesting Structures (RWHS) suitable to the climatic conditions and sub-soil strata before monsoon. Under this campaign, drives to make check dams, water harvesting pits, rooftop RWHS etc; removal of encroachments and de-silting of tanks to increase their storage capacity; removal of obstructions in the channels which bring water to them from the catchment areas etc; repairs to step-wells and using defunct bore-wells and unused wells to put water back to aquifers etc. are to be taken up with the active participation of people. Therefore, ground water recharge and harvesting of water becomes high priority for the nation. Department of Civil Engineering (DCE) organized this workshop with an aim to disseminate awareness about water harvesting and ground water recharge techniques.

Details of Workshop

Workshop Title	Water Harvesting and Groundwater Recharge Techniques
Number of days	One Day
Number of Sessions	2
Organizing secretary	Prof. (Dr.) Manoj J. Gundalia
Coordinators	Prof. (Dr.) Vaibhav Pawar and Prof. Dimple J. Desai
Numbers of Institutes Participated	1 –CGPIT
Numbers of Participants	Diploma Civil (08), B. Tech Civil (47), B. Tech Chemical (47), M. Tech Electrical (02), Faculty (24)
Objectives of the Workshop	1) To acquaint the students with current scenario of available water quantity and quality

	<p>2) To impart technical knowhow on ground water recharge techniques</p> <p>3) To impress and motivate the students to undertake rainwater harvesting</p>
Outcomes of the Workshop	<ul style="list-style-type: none"> • Be acquainted with current water availability and water demand • Aware about different ground water recharge techniques • Understand the importance of water harvesting and know the design of roof top rain water harvesting system
Speakers	Dr. Jayesh M. Patel, Er. Bharat M. Solia and Dr. Manoj J. Gundalia
General Feedbacks/ Suggestions	Overwhelming positive feedbacks have been received from Participants on the workshop and demanded to conduct more workshops in the similar area

Program Schedule

(Friday, 25 th March, 2022)	
9:00 - 9:30 AM	Registration and Breakfast (Venue: J. D. Hall, CGPIT)
09:30 - 10:00AM	Inauguration and Welcome Speech (Dr. Manoj J. Gundalia)
10:00 AM to 11:00AM	<p>“Water Evolving trends vis-a-vis water resources, availability, demand, and spatio-temporal distribution, with a view to Water Conservation”</p> <p>Dr. Jayesh M. Patel Research Scientist, Soil and Water Management Research Unit, (SWMRU), Nvasari Agricultural University, Navsari</p>
11:00 AM to 12:00PM	<p>“Groundwater Recharge Techniques”</p> <p>Er. Bharat M. Solia Asst. Research Scientist Soil and Water Management Research Unit (SWMRU), Nvasari Agricultural University (NAU), Navsari</p>
12:00 PM to 01:00 PM	Lunch Break
1:00 PM – 2:30 PM	<p>“Rain water Harvesting Issues, Challenges, Opportunities and Roof Top Rain Water Harvesting Design”</p> <p>Prof. (Dr.) Manoj J. Gundalia Associate Prof. and Head, Department of Civil Engineering, Chhotubhai Gopalbhai Patel Institute of Technology, Bardoli</p>

2:30 PM – 3:00 PM	High Tea
3:00 PM – 3:30 PM	Certificate Distribution and Closing Speech

Department of Civil Engineering of Chhotubhai Goplabhai Patel Institute of Technology (CGPIT), Uka Tarsadia University (UTU) organized one-day Workshop on “Water Harvesting and Groundwater Recharge Techniques”. The workshop was sponsored by Gujarat Council on Science and Technology (GUJCOST) and conducted on 25th March, 2022. Total 128 participants from diploma and degree engineering have actively participated in the workshop.

Session-1

We started the first day with prayer, UTU anthem, lighting of the lamp and an inaugural ceremony. Coordinator and anchor Prof. (Dr.) Vaibhav R. Pawar welcomed speakers from Navsari Agricultural University, Registrar of Uka Tarsadia University, Director of CGPIT, HoD of different departments, faculty members and participants. Dr. Chinmay K. Desai, Registrar of UTU and the director of CGPIT felicitated the speakers with bouquets. Similarly the Registrar and the Director of Diwaliba Campus, Shree Vijay K. Shah and other invitees were also welcomed by the coordinators. Dr. Chinmay K. Desai congratulated the DCE and CGPIT for organizing this GUJCOST sponsored workshop. He gave brief introduction of Uka Tarsadia University and it’s progressed. Dr. Manoj J. Gundalia, the HoD of DCE and I/C Director CGPIT explained the importance and purpose of this workshop in his inaugural address. He appreciated and congratulated to the coordinators for organizing such workshop. He discussed history of water harvesting and recharges techniques and enlightened the budget of world water during welcome speech and key note address. He also explained the aim, objectives and need of the workshop for bringing awareness and gave the brief of the workshop schedules. This was followed by the technical sessions.

The first lecture was conducted by **Dr. Jayesh M. Patel**, Research Scientist, Soil and Water Management Research Unit, (SWMRU), NAU on Water Evolving trends vis-a-vis water resources, availability, demand, and spatio-temporal distribution, with a view to Water Conservation. He presented spatio-temporal distribution of rainfall in Gujarat and Surat District. He explained rainfall analysis of South Gujarat Region in lucid language by discussing various case studies. He also spoke about the water conservation now a day carried out by advance technologies. The session was very interesting as he explained how the various parts of Gujarat lost their potential by over exploiting use of water. The session was ended with good discussion.

The second lecture on Groundwater Recharge Techniques at Village Level was delivered by **Er. Bharat M. Solia**, Assistant Research Scientist, Soil and Water Management Research Unit, (SWMRU), NAU. He explained the term watershed and its classification based on the size of watershed. He specifically emphasized on different groundwater recharge technologies and how effectively implemented them in the watershed at village level. He explained about the ‘value of water’ and its importance by showing the difference of the region prior to and post recharged. He

discussed best irrigation practices for better ground water recharge. He made the lecture interesting by asking questions to the participants.

In the second session after lunch, a lecture on Rain water Harvesting Issues, Challenges, Opportunities and Roof Top Rain Water Harvesting Design was delivered by **Prof. (Dr.) Manoj J. Gundalia**, Associate Prof. and Head, Department of Civil Engineering, I/C Director of C. G. Patel Institute of technology, Uka Tarsadia University. He began his lecture with brief history of water harvesting of India. He showed the photos of older water harvesting structures of historical cities. The lecture was simple and informative as he started the lecture by brushing up on the basics of Water availability and water quality at our door step. He also discussed the issues, challenges and opportunities in implementation of water harvesting systems in details. He presented the rainfall analysis of India and shown that more than enough rainfall is received from GOD, we solely responsible for present water crisis in the country. He also presented the latest researches in the field of water harvesting. In the last part, he discussed the functions of components of water harvesting system and explained step by step detail calculation of roof top rainwater harvesting (RTRWHS) design. He elucidated how water demand can calculate for a family having five members. He talked about importance and quality of components of RTRWHS by showing the photos. The lecture was become very interesting as the speaker explained the financial analysis of typical RTRWHS system for single family. He showed the detail calculation of how many years can require recovering invested money in construction of RTRWHS which kept the students on track. It was a very interactive lecture and the audience was curious to know about the RTRWHS. It was productive lecture ended with good discussion.

The workshop was ended with valedictory function. Vote of thanks was proposed by Prof. (Dr.) Vaibhav R. Pawar, DCE, CGPIT, UTU. The Participation certificates were distributed by Head of DCE and I/C Director of CGPIT, Dr. Manoj J. Gundalia. The feedbacks from all the participants were collected by coordinators Prof. Dimple J. Desai. The Workshop ended successfully and everyone felt contented with every aspect of the Workshop. A huge vote of thanks and gratitude were extended to the GUJCOST and UTU management for their support, motivation and honorable guest speakers for their time and incredibly good talk on the various topics.

Photo Gallery

GUJARAT COUNCIL ON SCIENCE AND TECHNOLOGY

Department of Science & Technology, Government of Gujarat



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Dr. Narottam Sahoo

Advisor & Member Secretary

GUJCOST/Sem-Symp 3690(2)/2021-22/ 3263

25th February, 2022

Dr. Manoj-J Gundalia,

Associate Professor and Head,

Dept. of Civil Engineering

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Tarsadi, Gujarat 394350

Sub: Financial Support of GUJCOST for the State Workshop on "Water Harvesting and Groundwater Recharge Techniques"

Ref: Your proposal, dated 25th November, 2021

Dear Sir,

Greetings from Gujarat Council on Science and Technology (GUJCOST), Gandhinagar.

With reference to above, it is our pleasure to inform you that your proposal for holding the "Water Harvesting and Groundwater Recharge Techniques" on 19th March, 2022 has been considered for the financial support of GUJCOST.

GUJCOST, is in principle approved an amount of Rs.15,000/- (Rupees Fifteen thousand only) for this programme on the following terms and conditions.

1. If you change the date and speakers or proposed resource person then please, intimate to GUJCOST.
2. The programme will be organised as per the proposal and guidelines of GUJCOST for the grant.
3. GUJCOST will release the sanctioned amount after the completion of the programme and on receipt of the programme report, Utilization Certificate, list of experts, Nos of participants, statement of income & expenditure copy of vouchers, photographs, press notes, etc. with necessary stamp and signature of the Programme Coordinator and Head of the Institute.
4. The organiser should send one illustrative poster including the title of the programme, dates, venue and other information details in one-week advance to publish on GUJCOST website and social media for broader outreach.
5. The organiser also publish the informative brochure / poster on institute social media for broader outreach.
6. The organiser shall acknowledge the support of GUJCOST, DST, and Govt. of Gujarat in all the publications including poster, brochure, banner, backdrop, invitation card, press release, souvenir and proceedings.
7. The organiser shall invite the DST, Govt. of Gujarat institutions as Resource Person / Expert Member as per the subject matter concern.
8. Once the programme is over, the organiser shall submit the program report, statement of expenditure and Utilization Certificate within one month of completion of the programme within one month.

We once again thank you for your kind effort and interest in organising the programme and wish the programme a grand success.

Thank you and with best regards.

Yours sincerely,


(Narottam Sahoo)

GUJCOST Approval Letter



Lamp Lightening by Invited Guests Speakers







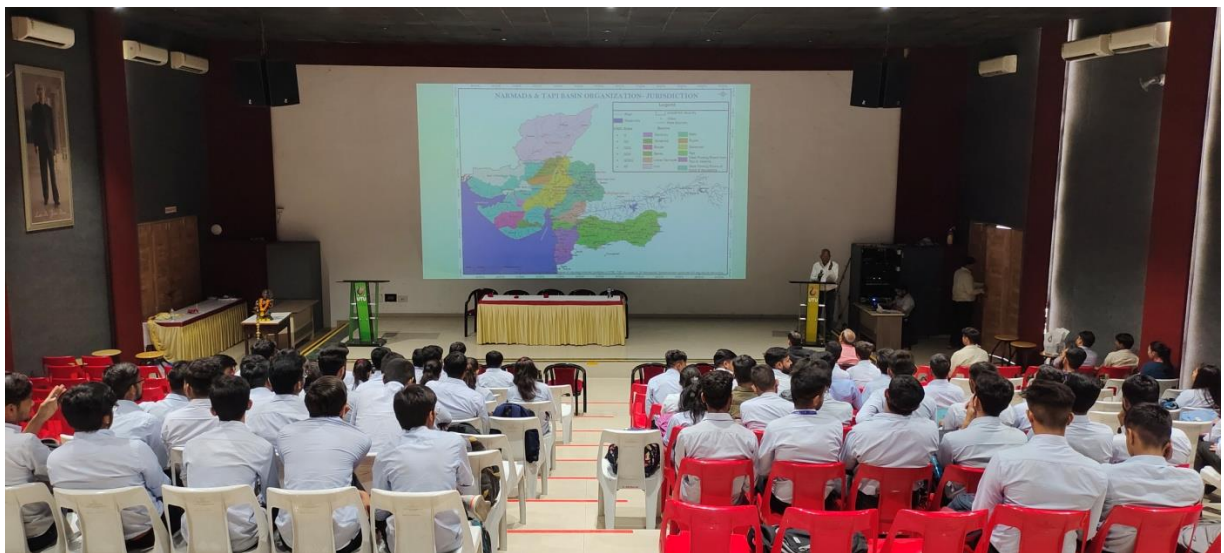
Inaugural address by Dr. Chinmay K. Desai, Registrar, UTU



Welcome Speech and Key Note Address delivered by HoD, Prof. (Dr.) Manoj J. Gundalia



Dr. Jayesh M. Patel Presenting Water Resources and Water Basins in Gujarat during 1st Lecture



Dr. Jayesh M. Patel Explaining Evolving Trend of Water Resources in India during 1st Lecture



Er. Bharat Solia Explaining Benefits of Groundwater Recharge during 2nd Lecture



Er. Bharat Solia Answering the Participant Questions on Groundwater Recharge Techniques during 2nd Lecture



Dr. Manoj J. Gundalia Discussing Issues, Challenges and Advantages of Water Harvesting System during 3rd Lecture



Dr. Manoj J. Gundalia Showing the Calculations of RTRWHS System during 3rd Lecture



Banners of the Workshop



Convener Dr. Manoj Gundalia Presenting Memento to the Speakers as a Token of Love





Certificates Distribution