



School of Civil Engineering

Faculty Development Program Report

“5 days FDP on Climate Change, Urban Water resources & Water Management”

Dates of Event: **12.8.24 to 17.8.24**

Venue: Civil Engineering Seminar Hall

Academic Year: 2024-25

School of Civil Engineering
REVA University,
Rukmini Knowledge Park,
Kattigenahalli, Yelahanka,
Bengaluru-560064

REVA University Vision: REVA University aspires to become an innovative university by developing excellent human resources with leadership qualities, ethical and moral values, research culture and innovative skills through higher education of global standards.

REVA University Mission:

- To create excellent infrastructure facilities and state-of-the-art laboratories and incubation centers
- To provide student-centric learning environment through innovative pedagogy and education reforms
- To encourage research and entrepreneurship through collaborations and extension activities
- To promote industry-institute partnerships and share knowledge for innovation and development
- To organize society development programs for knowledge enhancement in thrust areas
- To enhance leadership qualities among the youth and enrich personality traits, promote patriotism and moral values

School of Civil Engineering

Vision: To produce young engineers of Caliber, who would be committed to their profession with ethics, will be able to contribute to Civil Engineering and allied fields in optimizing usage of resources globally making the world more eco-friendly to live in.

Mission:

- To make the school a centre of excellence for training the undergraduate students.
- To promote involvement of staff and students in research and advanced training.
- To develop good understanding skills in student communities about Civil Engineering, ethical practices, automation design and society need centric teaching and learning and imparting value addition skills.

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Section:1 Permission Letter

To
Pro Vice Chancellor (Engineering)
REVA University,
Bengaluru.

Date: 15-07-2024

From
Dr. M. A. Nagesh
Professor,
School of Civil Engineering

(Through: The Director, School of Civil Engineering, REVA University, Bengaluru)

Subject: Proposal to organise 5 Days FDP & GIS Hands on Training – Regarding

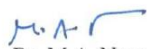
Respected Sir,

With reference to the above subject, the School of Civil Engineering would like to organize 5 Days **FDP & GIS Hands on Training from 12.08.2024 to 17.08.2024**. The Proposed title of 5 days FDP is **Climate change, Urban water resources and Waste management with GIS software hands on training**. As a part of the event, we would like to seek your permission, guidance, and support in organizing the event.

I herewith enclose the activities and proposal for the same and request you to kindly approve the proposal.

Thanking You,

Sincerely,


Dr. M.A. Nagesh
Coordinator

Dean
REVA University

Pro Vice Chancellor (Engg.)
Rukmini Knowledge Park
Kattigenahalli Yelahanka
Bengaluru - 560 054.


Director
School of Civil Engineering
REVA University,
Rukmini Knowledge Park
Yelahanka, Bengaluru - 560064.
Pro Vice Chancellor (Engineering)

Section 2:

FDP Brochure and Program Schedule

FDP Brochure

Chief Patron Dr. P. Shyama Raju Chancellor, REVA University	Er. Madhukeshwar S. TCS Dr. Vigneshwaran, REVA University Dr. Vinod Tamburi, REVA University	 REVA UNIVERSITY Bengaluru, India
Patrons Dr. Rajashekar C. Biradar Pro Vice Chancellor, REVA University Dr. K. S. Narayana Swamy Registrar, (U/C) REVA University	About REVA University REVA University is a State Private University established in Karnataka State under the Government of Karnataka Act No. 13 in the year 2012 in Bengaluru, the IT capital of India. REVA University, recognised by the University Grants Commission (UGC) and approved by the All India Council for Technical Education (AICTE), has an A+ grade from NAAC.	Five-day FDP on Climate Change, Urban Water Resources and Waste Management with GIS Software Hands-on Training
Conveners Dr. Bhavana B. Director School of Civil Engineering Dr. M. A. Nagesh Professor, School of Civil Engineering REVA University	REVA University prides itself in contributing to every student's holistic development. The University currently offers 38 full-time undergraduate programmes, 33 full-time postgraduate programmes, 20 PhD programmes, and certification and diploma programmes. The University offers programmes in Engineering, Architecture, Science and Technology, Commerce, Management Studies, Law, Arts & Humanities, and Performing Arts. Courses are offered in Certificate/Diploma and Post Graduate Diploma too. REVA University facilitates research leading to a Doctoral Degree in all disciplines. The programmes offered by REVA University are well-planned and designed based on methodical analysis and research with emphasis on knowledge assimilation, practical applications, hands-on training, global and industrial relevance, and their social significance.	12th to 17th August, 2024
Organising Chair Dr. Ajaybhaskar Reddy Assistant Professor School of Civil Engineering, REVA University Dr. Vigneshwaran S. Assistant Professor, School of Civil Engineering, REVA University Pavithra M. P. Assistant Professor, School of Civil Engineering, REVA University Raghunandan Koppad Assistant Professor, School of Civil Engineering, REVA University	Teachers and instructors with illustrious academic experience are the architects of the meticulously designed curriculum and program modules offered at REVA University. They come with industrial exposure and experience that often translates through their teaching, thus bridging the gap between the industry and academia.	
Resource Persons Dr. Sujay Raghavendra Naganna, MIT Dr. Arun Kumar T Yadav, MIT Rajesh Gopinath, BMSIT		Organised by School of Civil Engineering Rukmini Knowledge Park, Kattigenahalli, Yelahanka, Bengaluru-560064 Phone +91-80-4696 6966 Rukmini Educational Charitable Trust www.reva.edu.in

About the School of Civil Engineering The School of Civil Engineering is headed by highly experienced Professor and is supported by well qualified faculty members. The school has the state-of-art classrooms and well-equipped laboratories. It offers B.Tech and M.Tech programs in various specialized streams. The school also has research program leading to doctoral degree. The curriculum of both graduate and post graduate degree programs have been designed to bridge the gap between industry - academia and hence they are industry application oriented. The B.Tech program aims to prepare human resources to play a leading role in the competitive construction field and excel in their endeavours. The Master's Degree programs focus on research and design in the core areas such as Computer Aided Structural Engineering, Transportation Engineering and Management and Construction Technology and Management to supplement and create a sustainable world and to enhance the global quality of life by adopting enhanced techniques of design and application. This is reflected in various core subjects offered within the program. Currently Civil Engineering teaching was limited to planning, analysis, design, and execution of different types of infrastructure like buildings, roads, bridges, dams and power plants. However, due to increase of technological sophistication and demand for higher living standards geared up by economic growth and concerns about environmental impact have changed the scope of Civil Engineering. The challenges of today's Civil Engineering infrastructure are much more complex and interdependencies between resources. Even though there are many institutions in the country which are producing Civil Engineers, there is acute shortage of quality Civil Engineers.	Learning objectives 1. Enhance Knowledge and Awareness: Equip faculty with comprehensive knowledge of climate change impacts, urban water resource management, and waste management practices, emphasizing the role of GIS in these domains. 2. Develop GIS Skills: Provide hands-on training in GIS software and tools to enable faculty to analyse spatial data, model environmental scenarios, and create visual representations of complex datasets. 3. Promote Innovative Teaching Methods: Introduce innovative teaching methodologies and curriculum development strategies that incorporate GIS applications, enhancing faculty engagement and learning outcomes. 4. Encourage Continuous Professional Development: Promote a culture of ongoing professional development, ensuring faculty stay current with advancements in GIS technology and its applications in environmental studies.	Five-day FDP on Climate Change, Urban Water Resources and Waste Management with GIS Software Hands-on Training Name:..... Designation:..... Dept:..... Institution:..... Address:..... Mobile:..... Email id:..... Mode of transfer:..... Amount:..... Date:..... Signature & Seal of Principal / HOD
Overview of the Programme The 5-day Faculty Development Program (FDP) on Climate Change, Urban Water Resources, and Waste Management with GIS Software Hands-on Training aims to enhance participants' knowledge and skills in these critical areas through practical GIS applications. It covers climate change science, its impacts, and mitigation strategies, sustainable urban water resource management, and innovative waste management practices. Participants will engage in hands-on GIS software training, including data analysis, mapping, and visualization, with sessions led by experts in environmental science and GIS technology. Three days will be offline, and the remaining two days will be online. The program targets	Registration Details Registration Fees: Faculties from Outside REVA = Rs 500/- Faculties from REVA University = Rs 250/- Last date for Registration: 10th August, 2024 Contact Details Dr. M. A. Nagesh Professor, School of Civil Engineering REVA University Mobile: 9448748333 e-mail: nagesh.ma@reva.edu.in Mode of Transfer: Participants can transfer the registration fees through the link below. https://www.reva.edu.in/payment	

Program schedule

Date	Session details		
12-08-2024 (Offline)	Inauguration (10:00AM to 10:30AM)	Dr. Sujay Raghavendra Naganna Assistant Professor, Dept. of Civil Engg. MIT (AI in Water Resources) (10:45 AM to 12:45 PM)	Dr. Vigneshwaran S Assistant Professor, School of Civil Engg. REVA University (ARC GIS) (2:00 PM to 4:00PM)
13-08-2024 (Offline)	Field Visit to Rain Water Harvesting Theme Park/ Rain Water Harvesting Success story of REVA University campus (9:30 AM to 12:30 PM)		Dr. Arun Kumar T Yadav Manipal Institute of Technology, Bengaluru (Climate change, Urban Water Resources and Impact of Dam on shoreline) (1:30 PM to 3:30PM)
14-08-2024 (Offline)	Rajesh Gopinath, HOD, BMSIT, Bengaluru (Urban Warming) (9:30AM to 11:00AM)	Applications of Open-source tools in GIS (Trainer: Mohan Kumar S and Harish Kumar S, Accretegeo pvt ltd) (11:15AM to 1:15PM)	Applications of Open-source tools in GIS (Trainer: Mohan Kumar S and Harish Kumar S, Accretegeo pvt ltd) (2:00 PM to 4:00PM)
16-08-2024 (Online)	Dr. Vinod Tamburi, Assistant Professor, School of Civil Engg., REVA University (Climate change and Waste management) (10:30AM to 12:30PM)		
17-08-2024 (Online)	Er. Madhukeshwar S Transition Head, TCS, Bengaluru (Urban Waste Management) (10:30AM to 12:30PM)		

Section 3:

Speakers and details

Dr. Sujay Raghavendra Naganna

CONTACT INFORMATION	Department of Civil Engineering, Manipal Institute of Technology, Bengaluru , Karnataka, India	✉: sujay.gopan@gmail.com ☎: +91-9035219180
RESEARCH AREAS	Fluvial Hydrology; Groundwater Hydraulics; Machine Learning; Computational Statistics; Hydroinformatics; Concrete Technology	
EDUCATION	National Institute of Technology Karnataka , Surathkal, India Ph.D., Water Resources Engineering , October 2019 <ul style="list-style-type: none"> Thesis Title: Assessment of Spatio-temporal Variability of Streambed Hydraulic Conductivity: A Case Study in the Pavanje River, India Advisor: Prof. Paresh Chandra Deka, Ph.D M.Tech., Water Resources Engineering & Management, July 2014 <ul style="list-style-type: none"> Dissertation Title: Forecasting Monthly Groundwater Table Fluctuations in Coastal Aquifers using Hybrid Wavelet Packet - Support Vector Regression Advisor: Prof. Paresh Chandra Deka, Ph.D Visvesvaraya Technological University , Belgaum, India B.E., Civil Engineering @ (Bangalore Institute of Technology), June 2011	
EXPERIENCE	Assistant Professor Department of Civil Engineering, Manipal Institute of Technology, Bengaluru, India. Assistant Professor Department of Civil Engineering, Siddaganga Institute of Technology, Tumakuru, India. Faculty Department of Civil Engineering, Shri Madhwa Vadiraja Institute of Technology, India. Research Scholar Department of Applied Mechanics & Hydraulics, National Institute of Technology Karnataka, India.	Feb 2023 to Till Date July 2020 to Jan 2023 Aug 2018 to July 2020 July 2014 to July 2018
SPONSORED RESEARCH PROJECTS	Title: Coastal Hazards of Saltwater Intrusion: Detection and Delineation along the Coastal Aquifers of Udupi Shoreline. Funding Agency: Vision Group on Science and Technology, Department of IT, BT and S&T, Government of Karnataka. Research Grant: ₹ 5 Lakhs Time Period: 2019-2021	
REFEREED JOURNAL PUBLICATIONS	32 Mohanavelu, A., Shrivastava, S., & Naganna S. R. (2022). Streambed pollution: A comprehensive review of its sources, eco-hydro-geo-chemical impacts, assessment, and mitigation strategies. <i>Chemosphere</i> , 300:134589. DOI: 10.1016/j.chemosphere.2022.134589 31 Mehraein, M., Mohanavelu, A., Naganna, S. R. , Kulls, C., & Kisi, O. (2022). Monthly stream-flow prediction by metaheuristic regression approaches considering satellite precipitation data. <i>Water</i> , 14(22):3636. DOI:10.3390/w14223636	

Speaker 2::

CURRICULUM VITAE

Arunkumar Yadav

Dr. Arunkumar Yadav

B.E, M.Tech, Ph.D.

E-mail: atyadav@gmail.com

Mobile: 09980815739



Education

Ph.D. (2020) (RS and GIS Applications in Ocean Engineering and Water Resource Engineering), Dept.of Water Resources and Ocean Engineering National Institute of Technology Karnataka (NITK) Surathkal, Mangaluru.

M.Tech. (Geoinformatics) (2013), Karnataka State Remote Sensing Application Centre Bengaluru (KRSAC VTU Regional Centre) Completed in First class with distinction.

B.E. (Civil Engineering) (2011), Rashtriya Vidyalaya College of Engineering Bangalore, VTU Belagavi, India. Completed in First class.

PUC, Y.T.S.S Yellapura, Karnataka, India.

High School Education, Govt. High School, Castlerock, Joida, Karnataka, India. Primary Education, Govt. Higher Primary School, Ummachagi, Uttar Kannada, Karnataka, India.

Professional Experience

Sep 2022	Till Date	Sr. Assistant professor (MIT Manipal, Bengaluru)
Apr 2022	Aug 2022	Associate professor (CMRIT, Bengaluru)
Aug 2019	Mar 2022	Assistant professor (CMRIT, Bengaluru)
Jul 2015	July 2019	Research Scholar (NITK Surathkal)
Aug 2014	Jun 2015	Assistant Professor (JSPM Narhe, Pune)
Aug 2013	Aug 2014	Lecturer (KNSIT, Bengaluru)

Life Membership of Professional Bodies

- ❖ Lifetime membership at the Indian Society of Geomatics (ISG) with membership number ISG-L-2218.
- ❖ Lifetime membership at the Indian Institute of Remote Sensing (IIRS) with membership number L-5330.
- ❖ Lifetime membership at the International Association of Hydrological Sciences (IAHS) with membership number 17896.
- ❖ Lifetime membership at the Indian Society for Hydraulics (ISH) with membership number LM- 1533.

Speaker 3:

Artificial Intelligence can truly serve... when fortified with the Intelligence of Nature!



Dr RAJESH GOPINATH

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 dr.rajeshgopinathnair@gmail.com

 Associate Professor
Department of Civil Engineering,
Key Liaison - OIKOS (Eco Club-BMSIT&M)
Deputy Controller of Examinations
BMSIT&M, Bengaluru 560064

PREVIEW

ORCID_ID	0000-0001-9586-2233
Scopus Author_ID	57213384178
Web of Science / Publons_ID	N-9565-2017
Google_Scholar_ID	za8LUMEAAAA
Vidwan_ID	115913
LinkedIn_ID	2981b9150
Microsoft Academic_ID	2772519854

AWARDS

-  Global Environment and Climate Educator - 2022
-  Young Environmentalist - 2019
-  Young Faculty - 2018
-  Young Scientist - 2017
-  Most Contributing Doctoral Research - 2017
-  Best Alumni - 2016
-  Academic Excellence - 2006
-  Best Air NCC Cadet - 1995
-  University Ranks (2nd in PG - 7th in UG)

ABOUT ME

Citizenship: Indian
Languages: English, Hindi, Kannada and Malayalam.
Hobbies: Trekking, Cycling & Wildlife Photography.
Profile: Academician, Author, Environmental Engineer, Environmental Steward, Student, Motivational Speaker, Poet, Researcher and Nature Lover.
Research Area: Waste Management, Urban Climatology, Urban Ecology, Urban Flooding, Air Quality etc.

CAREER SNAPSHOT

-  Indexed Overseas Journal Publications - 24
-  Book Chapters - 12
-  Text Books - 2
-  Handbooks/Field Guides - 3
-  Media Articles - 14
-  Funded Projects - 5
-  Professional Memberships - 8
-  Citations - 142
-  Overseas Presentations - 8
-  Keynote Addresses, Session Chairs, Panelists & Expert Talks - 45
-  Best UG Project Awards – 20
-  Best Paper Award - 1
-  Best Poster Presentation Awards - 1
-  Best Paper Presentation Awards - 3
-  Advisory Panels - 4
-  Foreign University MOOCs - 14
-  Ecological Surveys - 15
-  Poems - 7 & Quotes – 2
-  Creator ~ Environmental Comic "Contrasting Earth"

EDUCATION

PhD in Civil Engineering
JNTUA, India, 2015

M.Tech. in Environmental Engineering
MSRIT, 2005, VTU, India (University 2nd Rank)

B.E. in Environmental Engineering
VVCE, 2003, VTU, India, (University 7th Rank)

MBA in HRM, 2010, Annamalai University
Post Graduate Diploma in **Environmental Law**, 2006, NLSIU
Certificate Course in **Strategic Management**, 2006, IISc

EXPERIENCE

BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT, INDIA
Associate Professor Apr 2016 - Present

ACHARYA INSTITUTE OF TECHNOLOGY, INDIA
Assistant Professor July 2010 - April 2016

THE OXFORD COLLEGE OF ENGINEERING, INDIA
Senior Lecturer August 2007 - July 2010

Speaker 4:

Madhukeshwar. S
(Call me Madhukesh)

Current :

Transition Head – BFSI – CBO @ Tata Consultancy Services. Working since 1999.

(Handled roles as Data Centre Head, High Performance Computing Delivery, Geographic Information System (GIS) head and other delivery roles in various domains)

Earlier :

- Sr. Engineer @ Tata Consulting Engineers. Designed WTP's, GLR's, gravity and pumping mains.
- Scientist "SC" @ National Informatics Centre, Govt of India handling Mapping projects.
- Scientist @ Drought Monitoring Cell (KSNDMC – Renamed as Karnataka State Natural Disaster Management Centre)



Other Positions :

Secretary : Clean Mysuru Foundation. Started in 2012

Educational Qualification : B.E (Civil), M.E (Water Resources Engineering), PGDEL(NLSIU)



1 | TCS Confidential

B.Balaji@tcs.com

Section 4:

Overview of the FDP Program

The 5-day Faculty Development Program (FDP) on Climate Change, Urban Water Resources, and Waste Management with GIS Software Hands-on Training aims to enhance participants' knowledge and skills in these critical areas through practical GIS applications. It covers climate change science, its impacts, and mitigation strategies, sustainable urban water resource management, and innovative waste management practices. Participants will engage in hands-on GIS software training, including data analysis, mapping, and visualization, with sessions led by experts in environmental science and GIS technology. Three days will be offline, and the remaining two days will be online. The program targets faculty, researchers, professionals, and students, culminating in a certificate of completion and fostering new research ideas and collaborations.

Learning objectives:

1. Enhance Knowledge and Awareness: Equip faculty with comprehensive knowledge of climate change impacts, urban water resource management, and waste management practices, emphasizing the role of GIS in these domains.
2. Develop GIS Skills: Provide hands-on training in GIS software and tools to enable faculty to analyse spatial data, model environmental scenarios, and create visual representations of complex datasets.
3. Promote Innovative Teaching Methods: Introduce innovative teaching methodologies and curriculum development strategies that incorporate GIS applications, enhancing faculty engagement and learning outcomes.
4. Encourage Continuous Professional Development: Promote a culture of ongoing professional development, ensuring faculty stay current with advancements in GIS technology and its applications in environmental studies

Section:5

Attendance Particulars

REVA
UNIVERSITY
Bengaluru, India

School of Civil Engineering
5 Days FDP on Climate Change, Urban Water Resources and Waste Management
with GIS Software Hands on Training (12th to 17th August, 2024)
ATTENDANCE SHEET

Sl.no.	Name	12.08.2024		13.08.2024		14.08.2024	
		F/N Session	A/N Session	F/N Session	A/N Session	F/N Session	A/N Session
1	Venkatesh Wadki						
2	Dr. Yeddula Bharath Smta Reddy						
3	Srinathi S U						
4	Nanjunda K N						
5	HARISH SAGAR M						
6	Dr. Pradeep Kumar BK						
7	Dr. Kannam PRAVEEN						
8	Dr. Nandini D N						
9	Avinash S Deshpande						
10	Shylaja N						
11	Dr. Vinod N T						
12	MADHU K A						
13	Dr. Ajaytharaka Reddy						
14	Dr. Mehar Babu Ravula						
15	Sreenatha M						
16	Pavitra M P						
17	AMARANATHA G A						
18	Dr. VIGNESHWARAN S						
19	Bhanupuresh						
20	Raveesh J						
21	Karthik Kumar						
22	Pushpa Lumina						
23	Dr. M A Nagesh						
24	Dr. Strikant						
25	Prashant N						
26	Lovely Sabat						
27	Preethi S						

Sl.no.	Name	12.08.2024		13.08.2024		13.08.2024	
		F/N Session	A/N Session	F/N Session	A/N Session	F/N Session	A/N Session
28	Ramya H N						
29	Dr. Darshan C Sekhar						
30	Thyagaraj K J						
31	Lavanya S						
32	Dr. Govaram Iswarya						
33	Roopadevi Birajdar						

M.A.
Convener
(Dr. M. A. NAGESH)

Section:6

Geo-tagged Photos

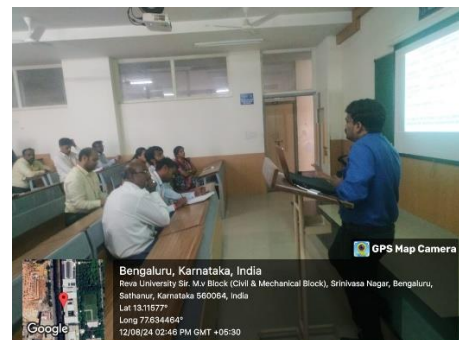
Day 1



Inauguration of FDP Program

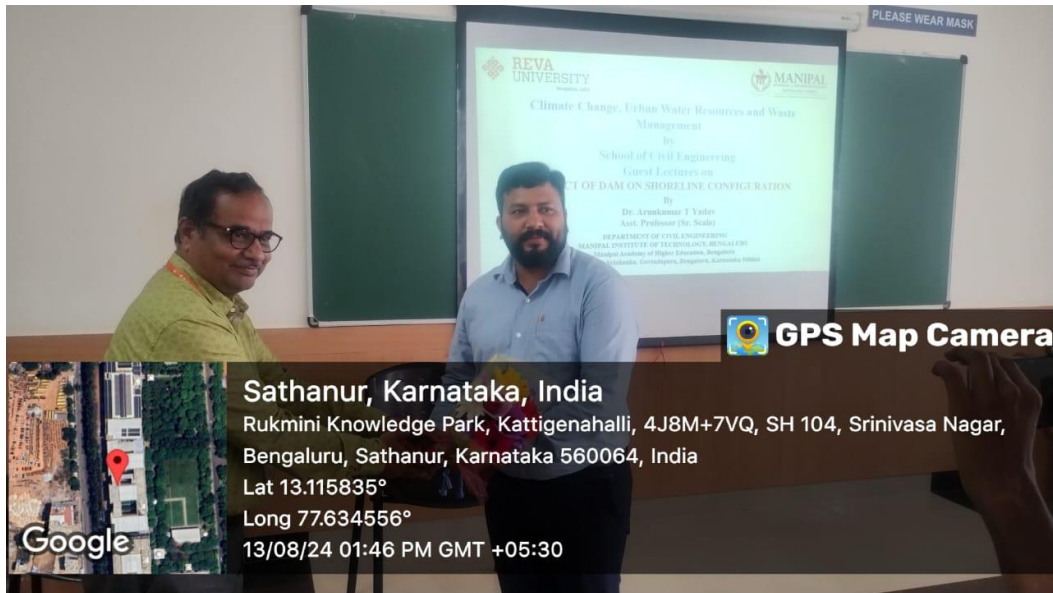


Presentation by Dr. M.A. Nagesh



Presentation by Dr. Vigneshwaran S

Day 2:



Presentation by Dr. Arim Kumar T. Yadav



Visit to Karnataka State Natural Disaster Monitoring Centre (KSNDMC)

Day 3:



Presentation by Dr. Rajesh Gopinath



GIS Hands on session by Mohan Kumar

Day 4:

Results of PLSR model

- Nitrogen**
- The medium estimation is obtained for nitrogen
- The optimal number of LVs for nitrogen is five
- The prominent peaks observed for estimation of soil nitrogen are at wavelengths 1346, 1754, 2072, 2294, and 2335 nm

➤ For better model - important for RMSECV and RMSEP values to be similar or close

Dr. Vinod Tamburi

Figure 6.2: Results of PLSR model for Nitrogen.

Figure 6.3: VIP for Nitrogen using PLSR

Online presentation by Dr. Vinod Tamburi

Day 5:

Introduction

Soil is the basic element of all living beings

- Important in regulating biogeochemical cycles & energy
- Important components of agricultural production
- Soil properties : neither static nor homogenous with space & time

Diagram illustrating soil profiles and land use:

- Land use: Woodland, Cropland
- Soil profile: SOM, Porosity, W.C.
- Processes: Litter input, Crop removal, Mineralization, Immobilization

Online presentation by Er. S. Madhukeshwar

Section 7: Outcome of FDP Program

Outcomes of a Faculty Development Program (FDP) on climate change, urban water resources, and waste management include the following:

1. Enhanced Knowledge and Awareness

Understanding Climate Change Impacts: Participants gain a deeper understanding of the causes, impacts, and mitigation strategies for climate change, specifically in urban areas.

Awareness of Water Resource Management: Improved knowledge on the sustainable management of urban water resources, including the conservation of water bodies, rainwater harvesting, and innovative water management technologies.

Insights into Waste Management: Understanding the different types of waste, waste segregation, and modern techniques for solid waste management, like recycling and composting.

2. Development of New Curriculum and Courses

Integration into Academic Programs: Knowledge from the FDP can help faculty integrate topics like climate resilience, water conservation, and waste management into existing courses.

New Course Development: Faculty may develop new electives or certificate courses focused on climate change, sustainability, and urban environmental management.

3. Research and Collaboration Opportunities

Interdisciplinary Research: Participants might engage in interdisciplinary research projects related to urban climate resilience, water resources, and waste management.

Collaboration with Experts: The program could foster partnerships with environmental organizations, government agencies, and academic institutions for research and policy development.

4. Capacity Building and Skill Development

Skill Enhancement: Faculty members can acquire skills in climate modeling, water resource management tools, and waste management practices.

Practical Applications: Participants could learn to apply theoretical knowledge through field visits, case studies, and practical demonstrations.

5. Policy and Community Engagement

Policy Formulation Support: Faculty members can contribute to local policy discussions on urban climate adaptation, sustainable water management, and waste handling.

Community Outreach Programs: The FDP may encourage participants to engage with local communities, promoting sustainable practices like waste segregation and water conservation.

6. Improved Teaching and Learning Methodologies

Pedagogical Innovations: The FDP can introduce new teaching methods, such as the use of case studies, interactive simulations, and problem-based learning focused on climate and sustainability.

Incorporation of Real-World Issues: Faculty may integrate local urban challenges related to climate change and waste management into their teaching for better student engagement.

These outcomes can significantly contribute to building a more sustainable and climate-resilient urban environment, with faculty acting as key facilitators of change in both academic and community settings with GIS applications.

Section:8

Sample Certificates & mementos



Participants Certificate copy

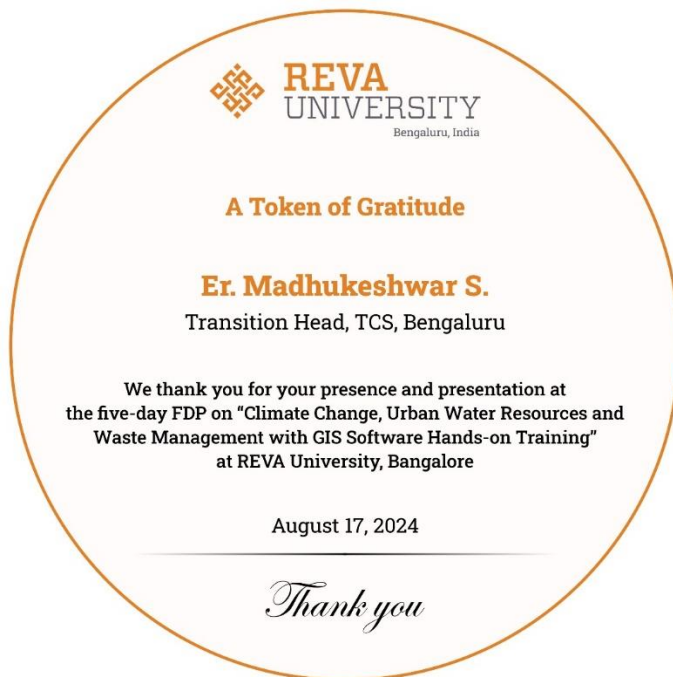


Speaker Certificate copy

Mementos:



Memento of Dr. Rajesh Gopinath



Memento of Er. S. Madhukeshwar

Section 9 : Day wise details of FDP event

Day 1:

The 5 Days FDP on Climate Change, Urban Water Resources and Waste Management with GIS Software Hands on Training was Inaugurated in morning session of 12.8.2024. The Inauguration was followed by the speaker **Dr. M.A.Nagesh** giving lecture on **Climate change and impact on urban water resources**. The lecture covered the contents such as meaning of climate change, effect on global warming, green house gases and it's bearing on warming of earth. In the lecture the mitigation of climate change was discussed.

During the afternoon session **Dr.Vignrshwaran S** gave the talk on capabilities of ARC GIS which is useful in GIS applications.

Day 2:

As a part of FDP program a visit to the Karnataka State Natural Disaster Monitoring Center (KSNDMC) was arranged during the morning session of 13.8.2024. The participants were taken by the university vehicle for the visit. In the KSNDMC centre a video of GIS applications, the centre role in management of natural disasters of the Karnataka state was discussed. The also emphasized the role of the KSNDMC in monitoring the recent landslides of Karnataka. Later it was explained how the centre receives the ONLINE Remote Sensing images for the purpose of disaster management.

During the afternoon session **Dr. Arun Kumar Yadav** gave his talk on **Climate change, Urban water resources and impact of dams on shoreline**. He gave information on urban water resources and impact of climate change in limiting the water resources availability. He also gave 21his research topic information of effect of dams on shore line.

Day 3:

On 14.8.2024, Dr. Rajesh Gopinath of BMSIT gave a talk on **Urban Warming**. In his lecture, the speaker explained the causes of urban higher temperatures compared to their rural surroundings. He explained that

Urban warming can lead to increased energy consumption, deteriorating air quality, and health risks, especially during heatwaves, making it a significant concern for urban planning and climate adaptation strategies.

The afternoon session of **GIS hands on training** was taken up by **Mr.Mohan kumar S and Dr.Harish Kumar S** of ACCRETEGEO. The participants came to know how to use the free GIS software and apply for any of related data. Participants with the provided map and its related data worked many aspects of GIS.

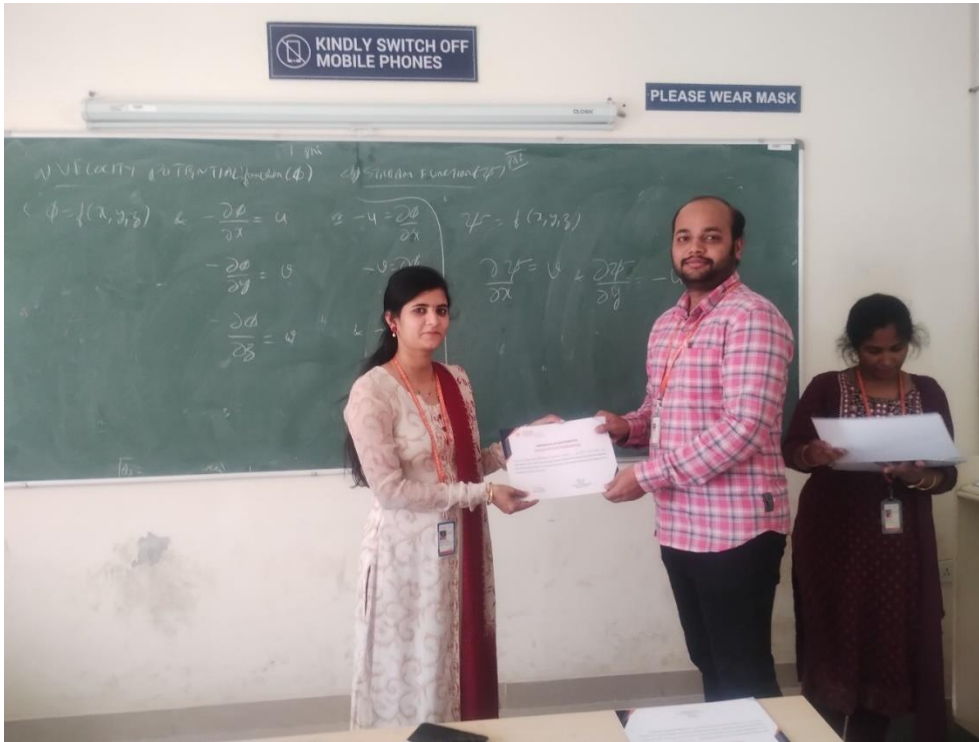
Day 4:

The online presentation On 16.8.24 was addressed by **Dr. Vinod Tamburi** on the topic of **Climate change and Waste Management**. In his talk he explained how Climate change and waste management are closely interconnected. Poorly managed waste, such as open burning, releases carbon dioxide and other harmful pollutants into the atmosphere, further intensifying climate change. The speaker also shared some of his research details of agricultural applications involving Nitrogen(N), Phosphorus (P) & Potassium (K) while using Remote sensing data.

Day 5:

The online presentation On 17.8.24 was addressed by **Mr.Madhukeshwar S**, Transition head, TCS, Bengaluru on the topic of **Urban Waste Management**. In his talk he gave all the steps involved in waste management which also involves waste processing. He gave information on waste generation centres involving wet waste and dry waste and explained how these can be sold after due process. He also stressed upon the strong building byelaws in implementing waste management and processing for environmental sake.

Section 10 : FDP Certificate distribution:



Participation certificate distribution



Organizer's certificate distribution

Section:11 : Feedback

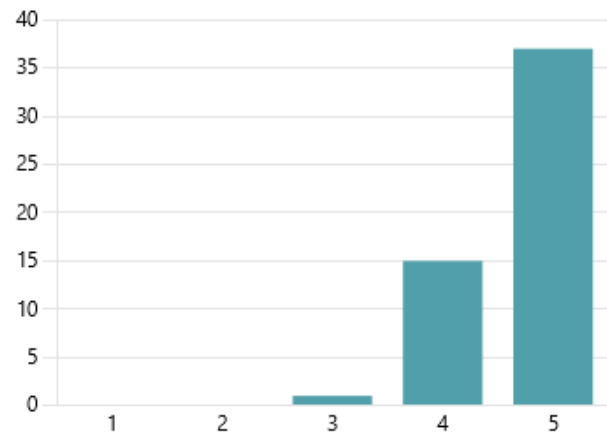
Session 1: Climate Change and Impact on Urban Water Resources Resource person: Dr. M A Nagesh

2. Were objectives of the FDP clear to you?

[More Details](#)

[Insights](#)

4.68
Average Rating

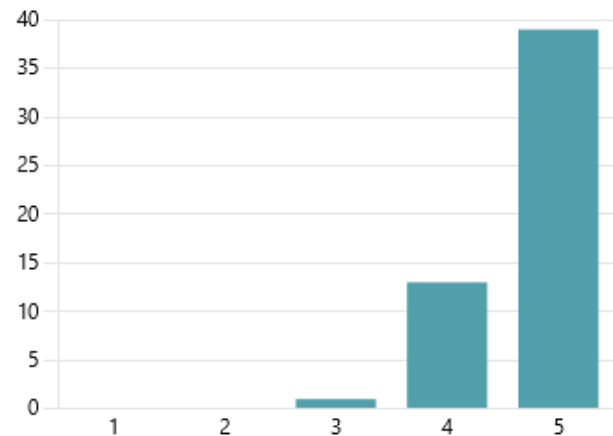


3. The FDP contents met with your expectations?

[More Details](#)

[Insights](#)

4.72
Average Rating



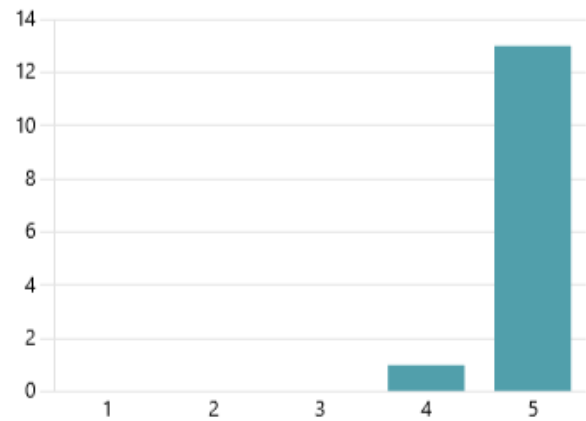
Session 2: ARC GIS Resource person: Dr. Vigneshwaran S

4. The FDP exposed you to new knowledge and practices?

[More Details](#)

[Insights](#)

4.93
Average Rating

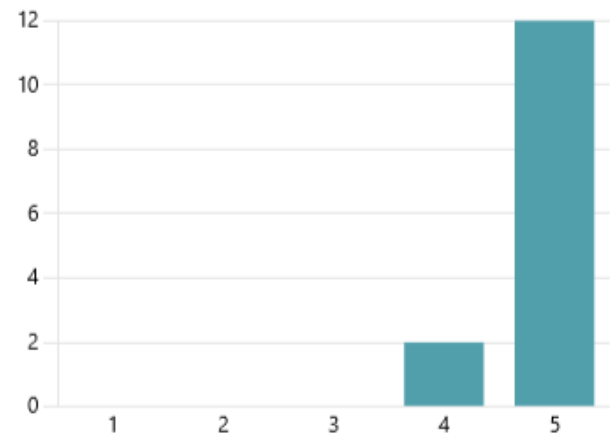


5. The knowledge level of resource person was met your expectation?

[More Details](#)

[Insights](#)

4.86
Average Rating



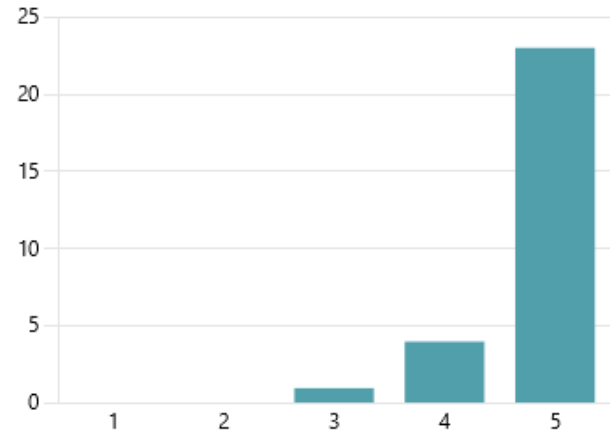
Session 3: Visit to KSNDMC, Bangalore Resource person: Mr. Gangadhar Math

2. Were objectives of the FDP clear to you?

[More Details](#)

[Insights](#)

4.79
Average Rating

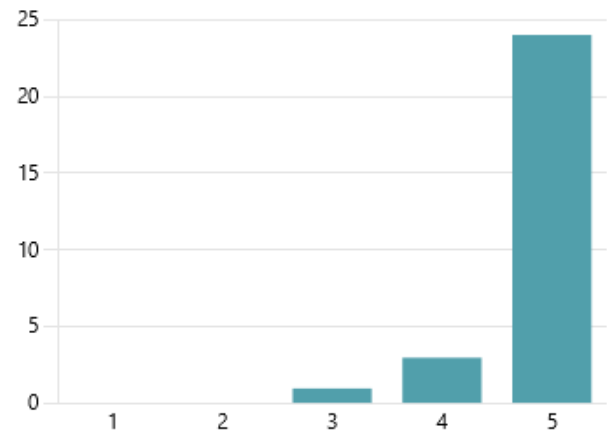


3. The FDP contents met with your expectations?

[More Details](#)

[Insights](#)

4.82
Average Rating



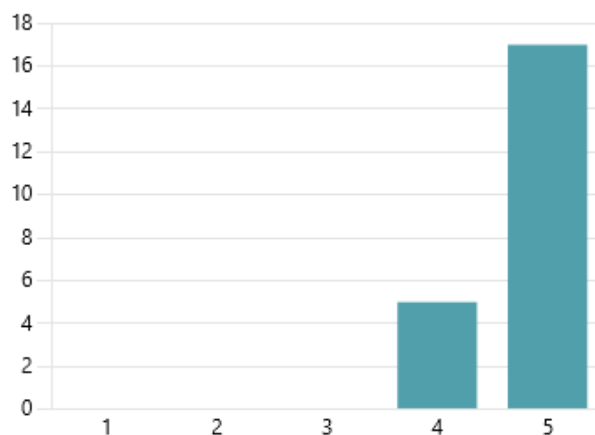
Session 4: Climate change, Urban Water Resources and Impact of Dam on shoreline Resource
person: Dr. Arun Kumar T Yadav

3. The FDP contents met with your expectations?

[More Details](#)

[Insights](#)

4.77
Average Rating

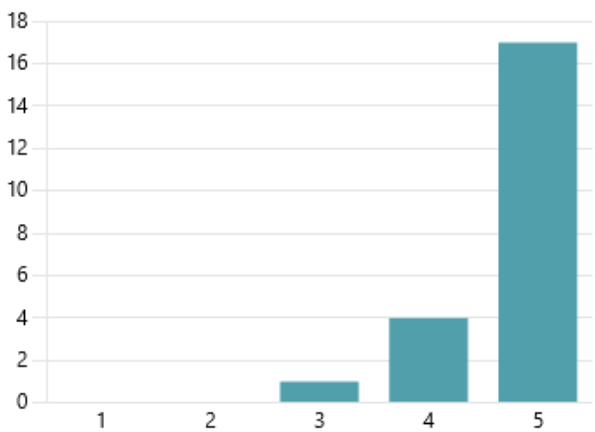


5. The knowledge level of resource person was met your expectation?

[More Details](#)

[Insights](#)

4.73
Average Rating



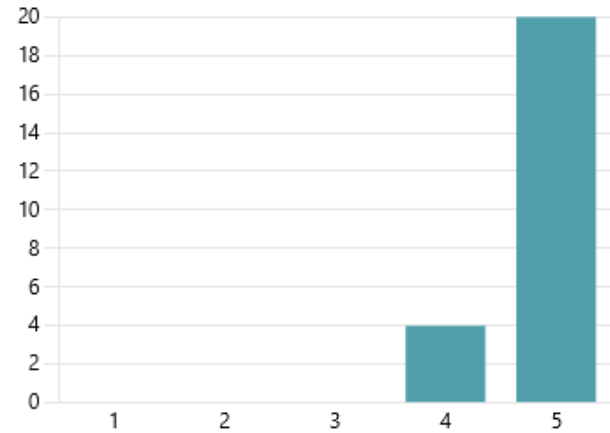
Session 5: Urban Warming Resource person: Dr. Rajesh Gopinath

4. The FDP exposed you to new knowledge and practices?

[More Details](#)

 Insights

4.83
Average Rating

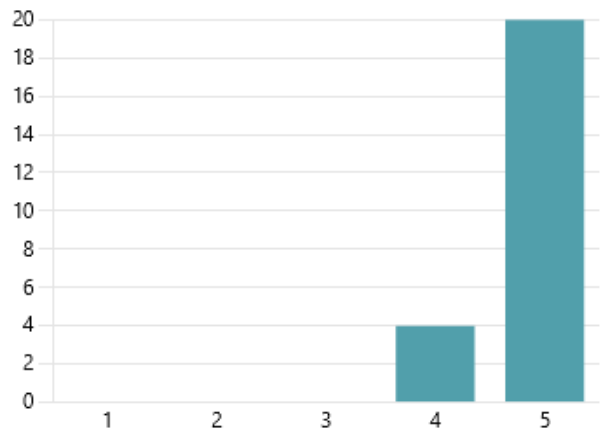


5. The knowledge level of resource person was met your expectation?

[More Details](#)

 Insights

4.83
Average Rating



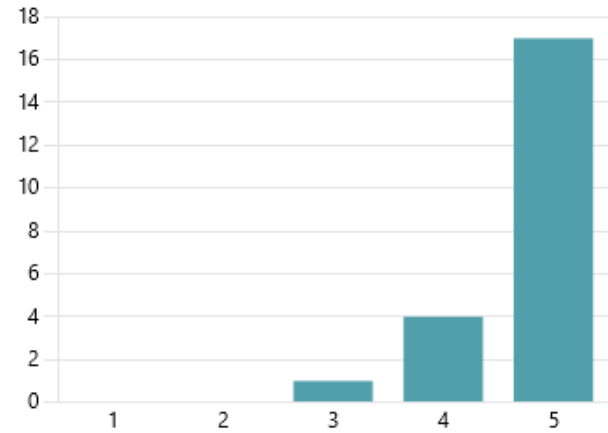
Session 6: Applications of Open-source tools in GIS Resource person: Mohan Kumar and Harish Kumar S

2. Were objectives of the FDP clear to you?

[More Details](#)

[Insights](#)

4.73
Average Rating

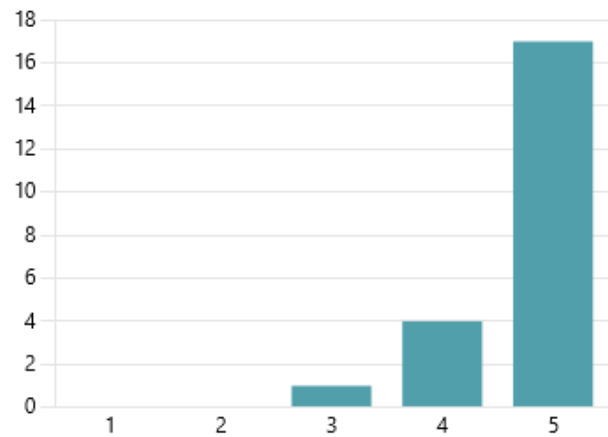


4. The FDP exposed you to new knowledge and practices?

[More Details](#)

[Insights](#)

4.73
Average Rating



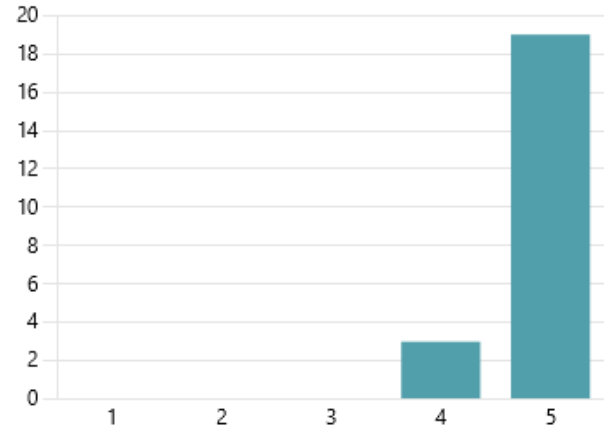
Session: Climate change and Waste Management Resource person: Dr. Vinod Tamburi

2. Were objectives of the FDP clear to you?

[More Details](#)

 Insights

4.86
Average Rating

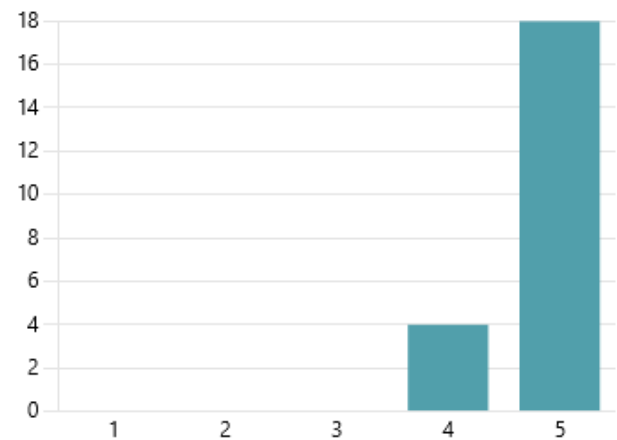


3. The FDP contents met with your expectations?

[More Details](#)

 Insights

4.82
Average Rating



session: Urban Waste Management Resource person: Er. Madhukeshwar S

Section:12

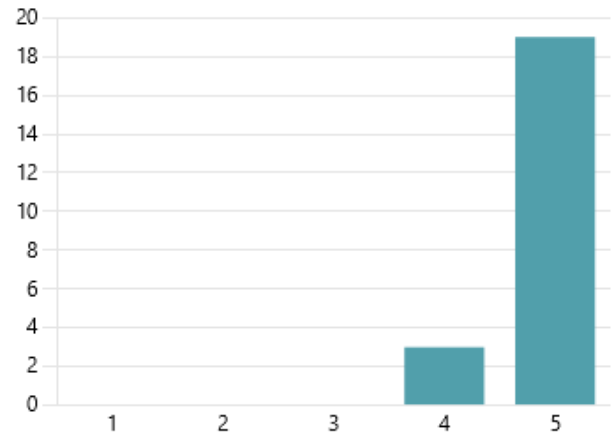
Feedback analysis

3. The FDP contents met with your expectations?

[More Details](#)

[Insights](#)

4.86
Average Rating

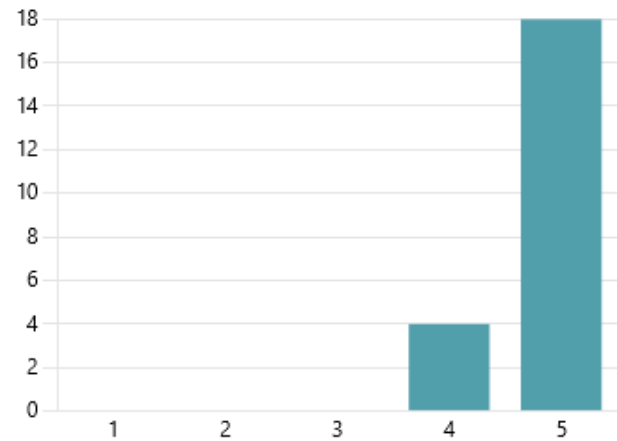


5. The knowledge level of resource person was met your expectation?

[More Details](#)

[Insights](#)

4.82
Average Rating



- The overall satisfaction rating for the conference was 4.86 out of 5 which is due high quality of speakers and faculty development program opt current topics.
- Many attendees commented of usefulness of the programs and appreciated the sessions given by the various speakers with their knowledge rated as average of 4.82 out of 5 from Day 1 to Day 5.

