

**DR. AMBEDKAR COLLEGE,
DEEKSHABHOOMI, NAGPUR-10**

Name of the Programme : Webinar on ‘ How do cities affect water
around them?... Case Study Nagpur
Resource Person : Mr Pradyumna Sahastrabhojnaee
Date of the Programme : 28/11/2021
Number of Participants : 95
Hosted by : Yatra Cell

Dr Ambedkar College, Deekshabhoomi, Nagpur

YATRA CELL

NOTICE

Date : 27/11/2021

A guest lecture on ‘How do cities affect water around them?... Case Study Nagpur’ is organized by the Yatra Cell of the college on 28th November 2021 at 12 pm. Guest speaker is Mr Pradyumna Sahastrabhojane. The guest speaker is Hon, Secretary, Vidarbha Nature & Human Science Centre (VNHS). The lecture is organized for the students of BSc (all streams), BCom, BCA and BA. All have to attend the lecture positively.

Coordinator of Yatra

Principal

Dr Aarti Wazalwar

B A Mehre

Webinar by Mrs Geeta Nannaware

(Lecture hosted by Yatra)

A webinar on ‘How do cities affect water around them?... Case Study Nagpur’ was organized online by the Yatra Cell of the college on 28th November 2021 at 12 pm. This lecture was held online on Zoom platform.

Guest speaker was Mr Pradyumna Sahastrabhojane. The guest speaker is Hon, Secretary, Vidarbha Nature & Human Science Centre (VNHS). The lecture was organized for the students of BSc (all streams), BCom, BCA and BA.

The lecture gave information about how Eco cities does ecological restoration instead of being a burden on the regional ecosystem. A study is being conducted about Nagpur region. A project report of Nag river basin eco-development project by Nagpur Municipal Corporation and VNHS Centre Eco City Foundation urban diverse City an action plan which is a component of the national biodiversity strategy and action plan funded by UNDP through GIF. This report was explained by Mr Sahastrabhojane.

He further told that the Eco City strategy and action plan resources and energy so that input output is ecological balance throughout thereby aiming at a high degree of self-sustainability.

He added that we have so far seen that water reuse strategy would help in maintaining water reserve ecological balance. Similar actions are to be proposed for other resources and create an ecological system city maintenance links of regional biodiversity corridors passing through it. The Eco City tries to maintain a healthy balance between mutually complementary and natural factors of flora and fauna he further added.

He emphasized the need for centralisation of water resources that if there are forests there will be rivers. He told that Nagpur is the tiger capital of India we have Gorewada reserve which is a balancing tank. We also have Totaladoh reserve we also have Kanhan reserve.

He told that the current sewage treatment water plant of about 250 per litre per head per day is in Nagpur city. Only 135 litres per day per head is needed for the normal public for consumption so people are in luxury as far as water is concerned in Nagpur.

that is what was the first point Mr Sahastrabuddhe had to say. However this initiative for current sewage treatment plant is for ensuring water supply to power plants and not for safe water consumption.

Mr Shastrabuddhe also talked about unprecedented urbanization. He further added that the concept of Eco City a popular termed was coined by Japanese architect Koichi Nagashima.

An ecocity aims at a high degree of self-sustainability. Mr Sahastrabuddhe also discussed geographical and historical background of Nagpur, biogeographical profile and biodiversity corridors of Nagpur. He told that gene pool is drawn from three biotic provinces 6E 6b and 6C.

The historical evolution of the region was that it was Gond tribes region.

He then highlighted a lot of water reservoirs that supply water to Nagpur. Some of them are Gorewada tank, Futala tank which was bhonsle Kaleen, Sukrawari Talao, Ambhazaari tank, the Sangameshwar temples.

He spoke at length about Sangameshwar temples Hudkeshwar Nala the Pora and Dora rivers, Sonegaon tank, Wardha Nadi, Kolar Nadi, kanhan Nadi and the pench river. These are come of the major water reservoirs which are situated in and around Nagpur.

At the outset, Principal of the college, Dr B.A Mehre welcomed the guest and thanked him for his presentation. She also briefed the students about the program Yatra and the importance of the program.

The session concluded with the questions being asked by the students.

The program was attended by about 95 students and teachers. All the students enjoyed the session because it was something new for them, which is out of regular syllabus.

Coordinator of program Dr (Mrs) Aarti N. Wazalwar interacted with the guest speaker. The event was hosted by students coordinators of Yatra Kruti Tiwari, Sakshi Khandare, Damini Sayyam and Karan Chaudhary.

physics dach is inviting you to a scheduled Zoom meeting.

Topic: Yatra Lecture

Time: Nov 28, 2021 12:00 PM India

Join Zoom Meeting

<https://us06web.zoom.us/j/87542309299?pwd=Y2d0K21YQUR5QkZvd3VmUjBDUudKQT09>

Meeting ID: 875 4230 9299

Passcode: 143883

GEOGRAPHICAL AND HISTORICAL BACKGROUND

Bio-Geographical Profile and Biodiversity Corridors

The Gene Pool is drawn from three Biotic Provinces



THE BIOGEOGRAPHIC CLASSIFICATION OF INDIA

Biogeographic Zone	Biotic Province
1 Trans-Himalayan	1A Tibetan
2 Himalayan	2A North West Himalaya
	2B West Himalaya
	2C Central Himalaya
	2D East Himalaya
3 Desert	3A Kutch
	3B Thar
4 Semi-Arid	4A Punjab
	4B Gujarat-Rajwara
5 Western Ghats	5A Malabar Coast
	5B Western Ghat Moun
6 Deccan Peninsula	6A Deccan Plateau
	6B Central Plateau
	6C Eastern Plateau
	6D Chhota-Nagpur
	6E Central Highlands
	6F Deccan Plateau
8 North-East India	8A Brahmaputra Valle
	8B Andaman Islands
	8C Nicobar Islands
10 Coasts	10A Lakshadweep Islan
	10B West Coast
	10C East Coast



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Kruti Tiwari

GPS Map Camera
Damini sayyam

Sakshi khandare

THE CONCEPT OF ECOCITY

THE POPULAR TERM COINED BY JAPANESE ARCHITECT "KOICHI NAGASHIMA" IS USED HERE; BUT THE CONCEPT IS MODIFIED TO SUIT THE CURRENT INDIAN SITUATION

1) AN ECOCITY AIMS AT A HIGH DEGREE OF SELF SUSTAINABILITY...

BY REDUCING DEPENDENCE UPON REGIONAL RESOURCES (like water & land) AND ENERGY; SO THAT INPUT - OUTPUT IS ECOLOGICALLY AND SOCIALLY BALANCED

2) AN ECOCITY PLANS & CREATES ITS OWN SELF-SUSTAINING ECO-SYSTEMS...

SO THAT A HEALTHY 'METRO-REGIONAL' ECOSYSTEM STARTS WITH OUTWARD RADIATING THROUGH STRATEGICALLY DEVELOPED & MAINTAINED BIODIVERSITY CORRIDORS



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Kruti Tiwari

Damini sayyam

GPS Map Camera

Sakshi khandare

(Instead of being a burden on the regional eco-system, as of now

Case Study : Nagpur City & Region

Extract of project reports

Nag River Basin Eco-Development Project

Jointly proposed by

**Nagpur Municipal Corporation and
VNHS Centre – Ecocity Foundation**

&

Nagpur – Urban-Biodiversity Strategy & Action Plan

As a component of the **National Biodiversity Strategy & Action Plan (NBSAP) Commissioned by MoEF, funded by UNDP through GEF**

Presented by Pradyumna Sahasrabhojane, Hon Secretary,

Vidarbha Nature & Human Science Centre (VNHS)

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Aarti Wazalwar

Pradyumna Sahasrabhojane

Kruti Tiwari

Kruti Tiwari

Damini sayyam

Damini sayyam

Sakshi khandare



Kruti Tiwari

Pritee lambat

Aman V Hadke

Damini sayyam

Sakshi Madke

Utkarsh kutare

Sakshi khandare

Karan choudhary



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CURRENT SEWAGE TREATMENT ATTEMPTS



BASED ON TOPOGRAPHY, CITY IS DIVIDED INTO THREE NATURAL DRAINAGE DISTRICTS: NORTH, CENTRAL AND SOUTH

SEWERAGE SYSTEM PRESENTLY EXISTS ONLY IN CENTRAL ZONE, TREATING ABOUT 80 MLD OUT OF 650 MLD SEWAGE

THREE TREATMENT PLANTS ARE PLANNED FOR PROVIDING SECONDARY TREATMENT TO 380 MLD OF SEWAGE; HOWEVER THIS INITIATIVE IS FOR ENSURING WATER SUPPLY TO POWER PLANTS AND NOT FOR IMPROVING QUALITY OF RIVER WATER

THE NAG RIVER REMAINS POLLUTED WITHIN THE CITY AND MUCH BEYOND THE CITY LIMIT; AND HAS STARTED POLLUTING THE MIGHTY WAINGANGA.

WENA & WARDHA RIVERS WOULD SOON MEET THE SAME FATE DUE TO NAGPUR'S 'PLANNED' EXPANSION IN SOUTHWARD DIRECTION.

DUE TO PLANNED AND UNPLANNED EXPANSION OF THE CITY IN THE NORTH, KOLAR RIVER IS GETTING INCREASINGLY POLLUTED.



GPS Map Camera

THREATS TO WENA & KOLAR RIVERS ARE NOT EVEN RECOGNISED, EVEN FACE-SAVING EXERCISES ARE PROPOSED FOR THEM

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Conventional systems **do not work**, because they **cannot work**

- Raw domestic sewage is comparatively easy to treat. Allowing it mix with other toxic/carcinogenic pollutants makes the treatment unnecessarily complex & unworkable.
- Some studies have shown that STPs have themselves become production centers of highly toxic bacteria and viruses.
- It is dangerous to use recycled water and manure obtained through STP treatment for agriculture in downstream areas as the same has unpredictable toxic/carcinogenic content.
- STPs never work at their installed capacities; but standards can't be monitored and accountability is never fixed.
- Many urban local bodies cannot afford to run STPs.
- During monsoons STPs can't handle extra volume of sewage.
- It is impossible to collect and divert entire sewage to STPs covering all macro/micro-watersheds of an expanding city.
- Existing sewer lines are choked or broken at many places; substantial quantity of sewage percolates into groundwater.
- If, theoretically, entire sewage was collected in huge trunk lines, at astronomical cost, streams in the City would run dry and get encroached upon; causing floods during rainstorms.
- STPs are supposed to be built on the edge of the city, but the city soon grows in different directions beyond their location.



GPS Map Camera

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 GPS Map Camera



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Water Regime Revival is possible only if we are ready to adopt
Decentralized Wastewater Treatment & Recycling
Thereby avoiding pitfalls of the flawed centralized systems

1) Primary Treatment by Baffled Reactor at household level.

2) Secondary Treatment by Anaerobic Filters in each Mohalla (locality)

3) Tertiary Treatment by Green Bridges in River beds

 GPS Map Camera



Advantages of decentralized treatment:
Nagpur, Maharashtra, India

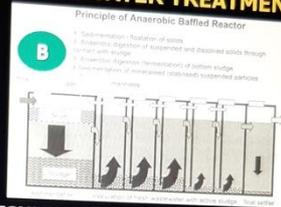
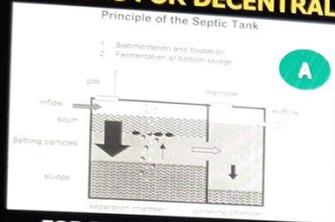
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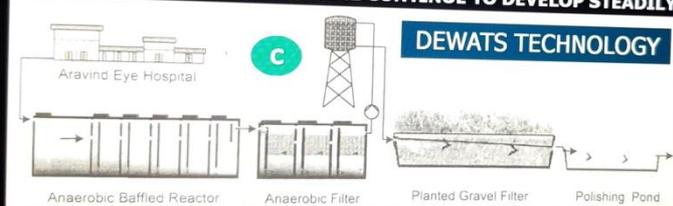
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OPTIONS FOR DECENTRALISED WASTEWATER TREATMENT



FOR PROGRESSIVELY IMPROVED RESULTS, BIO-TECHNOLOGIES
COULD BE APPLIED AS THE SAME CONTINUE TO DEVELOP STEADILY



DUE TO SPACE CONSTRAINTS IN CITIES, LAST 2 STAGES OF
'DEWATS' COULD HAPPEN ALONGSIDE OR IN THE RIVERBEDS

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ECOCITY TWO-PRONGED STRATEGY & ACTION PLAN

1) **MINIMIZE RESOURCES & ENERGY SO THAT INPUT – OUTPUT IS ECOLOGICALLY BALANCED THROUGHOUT, THEREBY AIMING AT A HIGH DEGREE OF SELF SUSTAINABILITY; WE HAVE SO FAR SEEN THAT 'DEWATS' & WATER REUSE STRATEGY WOULD HELP IN MAINTAINING WATER REGIME ECOLOGICAL BALANCE**
SIMILAR ACTIONS COULD BE PROPOSED FOR OTHER RESOURCES

2) **AN ECOCITY PLANS & CREATES ITS OWN ECOLOGICAL SYSTEMS**

- ✓ THE ECOCITY MAINTAINS LINKS OF REGIONAL BIODIVERSITY CORRIDORS PASSING THROUGH IT
- ✓ THE ECOCITY TRIES TO MAINTAIN A HEALTHY BALANCE BETWEEN MUTUALLY COMPLIMENTARY NATURAL FACTORS OF FLORA AND FAUNA



WHICH ECOSYSTEM MAINTAINS THE WATER REGIME,
RESOURCES, CLIMATE, AND TEMPERATURE

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Feedback :

The screenshot shows a Google Sheets spreadsheet titled "Copy of Feedback Form for Guest Lectures Yatra of Mr Sahastrabudhe (28th Nov 2021) (Responses)". The spreadsheet contains 20 rows of feedback responses to 10 questions. The questions are:

- Did you like the lecture?
- Which other topics related to the lecture did you like?
- What did you learn from the lecture?
- What did you learn from the lecture?
- Any suggestions/comments?
- Your Feedback regarding the talk...

The responses are as follows:

Row	Q1	Q2	Q3	Q4	Q5	Q6
1	Yes					
2	Yes I like the lecture					
3	Because I like the way she explaining all the things					
4	Yes, I like the lecture. It was very informative.	About our city.				
5	Can't say					
6	Because it is good for future Raman science	I learn everything from Mr Sahastrabudhe sir	No		Yes	
7	Yes I liked it because it provides Forest life and climate change	We get a vast knowledge I learned about how Nagpur	Please add some more	Yes	the talk was very informative and useful	
8	Yes I liked the lecture as it was very interesting and knowledgeable					
9	Yes, interesting material	New instrument launch	Information	Yatra in Nagpur	No	Nice presentation sir and guidelines
10	Yes, I liked the lecture. The Naag river	Naag river should be cleaned. Also, other topics should be kept in mind and try to work on one of them.				
11	Yes. Because I got a lot of historical places in the Nagpur	I got a lot of information by	I learned from Mr Sahas Lecture	was very nice.	Lecture was very nice.	
12	Yes					
13	Yes			So many things and facts about Nagpur	It was amazing	
14	Yes..it was very informative	That we have to gain knowledge	No		Great	
15	Yes..sir gives informative	All college of Nagpur	Many information collected	About rivers and many other	Good lecture	Very nice
16	Yes its so informative	More about Nagpur system				It was nice which explains about the drainage system and dams and many more
17	Yes..	Yes	So many new things.	No		
18	Yes, its good					
19	Yes because it was about Rulers of Nagpur, About	Something new about Nagpur	The Water System of Nagpur city and its geography	I liked it and I'm looking forward for such more lectures.		
20	Yes, I like the lecture. It is good to spread awareness	We are getting motivated	Taking awareness for nature	It is good and much better	It was impactful	