





A journey of Monu and Pinki







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Re-Imagining Urban Rivers: Urban River Management Plan (Student's Edition)

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This comic collection is intended as a representation of the 10 objectives of the Urban River Management Plan (URMP) in an easy-to-understand language for the youth.

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बृजेन्द्र स्वरुप, भाः वः सेः कार्यकारी निदेशक (परियोजना)

Brijendra Swaroop, IFS EXECUTIVE DIRECTOR (Projects) & DIRECTOR GENERAL, NMCG



भारत सरकार जल शक्ति मंत्रालय जल संसाधन, नदी विकास एवं गंगा संरक्षण विभाग GOVERNMENT OF INDIA MINISTRY OF JAL SHAKTI DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION



FOREWORD

Namami Gange, founded on five pivotal pillars including Nirmal Ganga (unpolluted river), Aviral Ganga (unrestricted flow), Jan Ganga (People's Participation), Gyan Ganga (knowledge and research-based interventions), and Arth Ganga (fostering economic growth and community engagement), has garnered international recognition as one of the world's foremost river rejuvenation programs.

While NMCG is determined to address the complex challenges remain ever present in the management of India's rivers and water resources, especially to leverage upon the creative solution, the youth of the country continue to remain invaluable contributors in this regard. Channeling their innovative ideas, creativity, and problem-solving energies, the process and journey of 'Re-imagining Urban Rivers' through a Student Thesis Competition (STC) format has brought with not only multi-stakeholder benefits but also has in many ways helped young participants move towards pathways of self-actualization.

In the four successful years thus far of the STC, much significance has been accorded to helping student navigate the finer nuances of river and waterbody management. This has been facilitated through learning and application of the Urban River Management Plan (URMP) and Urban Waterbodies Diagnostic (UWD) tools in the varying geographical and socio-cultural contexts of their studies. This creative output prepared by student finalists of the fourth cohort, highlights the need to spread the vision of achieving 'river-centric' development of cities. It underscores the need of having more simplified, relatable, and easy-to-read mediums for triggering a 'whole of society' approach for urban river management. The output's positive messaging and diverse storyboards further echo the need for holistically thinking about urban rivers.

While there remains much uncertainty and risk to natural resources and urban livability in the long term, the need to provide youth with more outlets and opportunities to help accelerate sustainable futures remains clear. May this creative output be one of many, to help spark more young minds to change their perceptions and act for urban rivers moving forward.

27/03/202

(Brijendra Swaroop)



राष्ट्रीय स्वच्छ गंगा मिशन प्रथम तल, मेजर घ्यान चंद नेशनल स्टेडियम, इन्डिया गेट, नई दिल्ली–110002 NATIONAL MISSION FOR CLEAN GANGA 1st Floor, Major Dhyan Chand National Stadium, India Gate, New Delhi - 110002 Ph.: 011-23049534 (M): 9434169208 | E-mail: ed.projects@nmog.nic.in



Foreword



Dr. Debolina Kundu Director (AC), NIUA

It is my pleasure to introduce this unique and innovative comic book inspired by the ideas generated from our student thesis competition on "Reimagining Urban Rivers." This endeavour represents a convergence of creativity, environmental stewardship, and community engagement, highlighting the potential of youth for transformative change in the urban river landscapes.

Urban rivers have been traditionally neglected and marginalized, often reduced to mere conduits for moving our waste. However, as our students have demonstrated through their inspiring proposals, these rivers hold immense potential as vibrant ecosystems and cultural landmarks within our cities. Through thoughtful design and community involvement, they can be revitalized into thriving hubs of biodiversity and recreation.

This comic book beautifully illustrates the various concepts and ideas generated during the thesis challenge, offering a visual narrative that captures the essence of each innovative idea and proposal. From the rejuvenation of traditional water system projects to community-driven conservation efforts, each page invites us to envision a future where urban rivers are celebrated and cherished.

What makes this effort truly remarkable is its emphasis on inclusivity and collaboration. The student proposals not only envision a more sustainable future for our urban rivers but also prioritize the needs and aspirations of the communities for whom the river is much more than just a water body. By engaging with local stakeholders and drawing upon their knowledge, these proposals offer a blueprint for truly sustainable urban development.

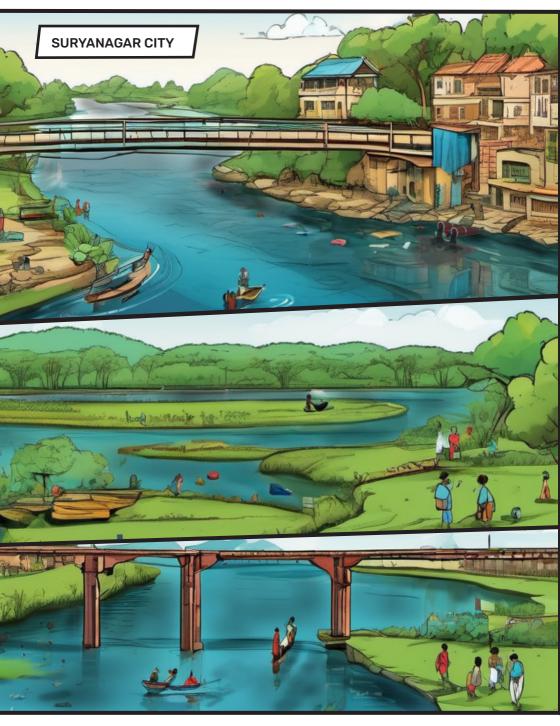
As we navigate the complexities of urbanization and climate change, the ideas presented in this comic book serve as a beacon of hope. They remind us that with creativity, dedication, and a sense of shared purpose, we can transform our cities into more liveable, resilient, and inclusive environments.

I would like to extend my heartfelt congratulations to all the students who participated in the thesis competition and contributed their ideas to this project. Your passion and commitment to environmental stewardship are truly inspiring, and I have no doubt that you will continue to make a positive impact in the field of urban planning and design.

I would also like to thank the mentors, academic partners, and my team at NIUA who have supported the thesis challenge and helped bring this comic book to life. Your dedication to nurturing young talent and promoting sustainable urban development is commendable, and I am grateful for your continued support.

I hope that this comic book will serve as a source of inspiration and motivation for all who read it, encouraging us to think creatively and act boldly in reimagining our urban rivers. Together, we can create cities that are not only sustainable and resilient but also vibrant, inclusive, and full of life.





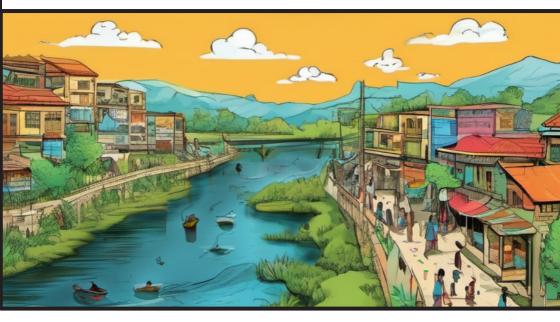
Nestled in the northern region of India, Suryanagar is a picturesque blend of rugged beauty and bustling civilization. It's a place where half of the land is covered in big, towering mountains, and the rest is flat and stretches out wide. Two major rivers flow through the city: the perennial Satva and the non-perennial Mukta. Satva, the perennial lifeline, meanders gracefully through the heart of the city, offering both solace and sustenance to its inhabitants. Its pristine waters have long been a source of inspiration, powering the city's iconic boat rides that traverse from one end to the other. The riverbanks, once vibrant hubs of community gatherings and strolls, now face the ominous threat of encroachment and frequent flooding, casting a shadow over its tranquil shores.

On the other hand, Mukta, though named for its apparent freedom, struggles under the weight of neglect and pollution. Its once-clear waters have now turned murky, choked by the discharge of waste and pollutants. The residents along its banks, once deeply connected to its ebbs and flows, now find themselves estranged from its polluted waters, a poignant reminder of environmental degradation.

The city is also blessed with several lakes, ponds, and a major wetland that feed water to the Mukta River through the unconfined aquifer below. Due to rapid urbanization, encroachment, and dumping of solid and liquid waste, the health of these waterbodies is deteriorating. This is also starting to impact the presence of innumerous diversity of animals, migratory birds and plants that are unique to the region.

To combat the burgeoning pollution crisis, the city administration has embarked on a bold initiative: the construction of a state-of-the-art 50 MLD (Million Liters per Day) wastewater treatment plant. With its completion, people are hopeful of restoring restoring the river's lost glory and rekindling the bond between the people and their waterways.

Yet, Suryanagar's challenges extend beyond its rivers. The city grapples with the looming specter of water scarcity, aggravated by dwindling reserves in one of its major reservoirs. This severe water scarcity serves as a stark reminder of the urgent need for sustainable water management practices and concerted conservation efforts. Despite these difficulties, the people of Suryanagar are not giving up. They're working together to find ways to take care of their rivers and make sure everyone has enough water to live happily.



Personality: Pinki is endlessly curious and loves solving puzzles, especially regarding nature. She's full of energy and always eager to make a difference in her community.

Background: Growing up near the river, Pinki has seen firsthand the effects of pollution and flooding. She's witnessed garbage floating downstream and worries about the impact it has on the river's health and the community.

Motivation: Pinki is determined to protect her city's rivers from pollution and frequent flooding. She wants to learn more about why it happens and find ways to stop it, so the river can be clean and safe for everyone to enjoy.



Pinki

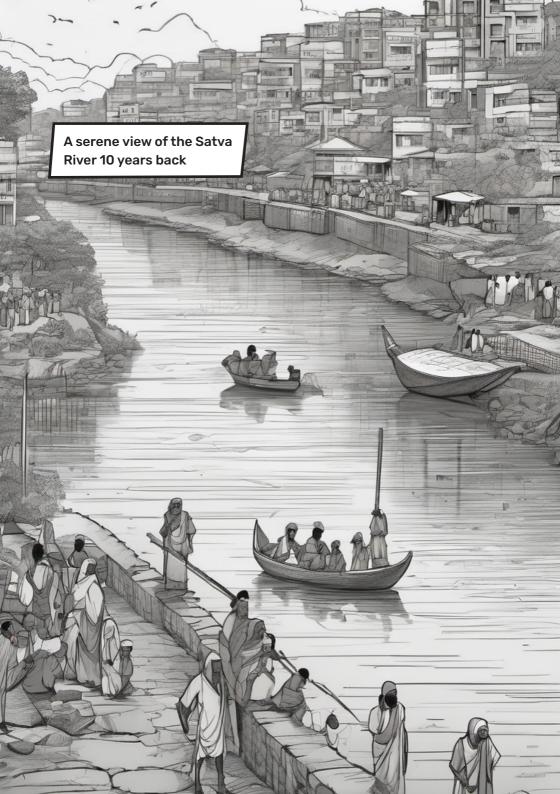


Monu

Personality: Monu is a budding scientist, who loves to observe and experiment. He's fascinated by nature and wants to understand how ecosystems work, so he can help protect them.

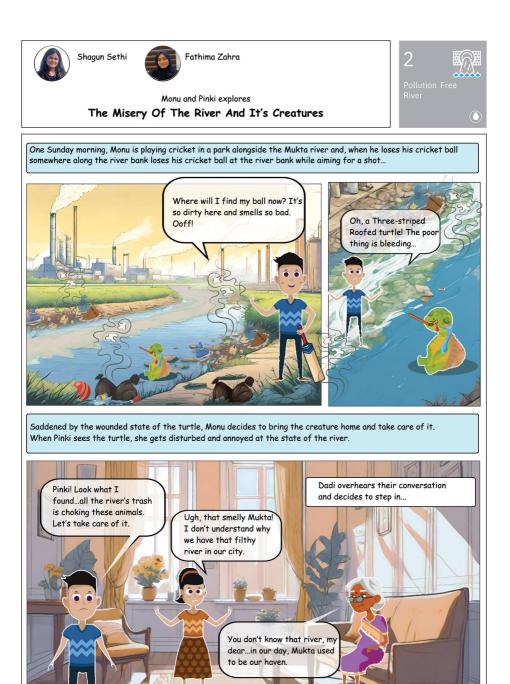
Background: Despite living in the city, Monu spends as much time as possible exploring parks and green spaces. He's noticed the effects of pollution on the water bodies, and their biodiversity, as the number of birds around these lakes has reduced in the past 10 years, and wants to do something about it.

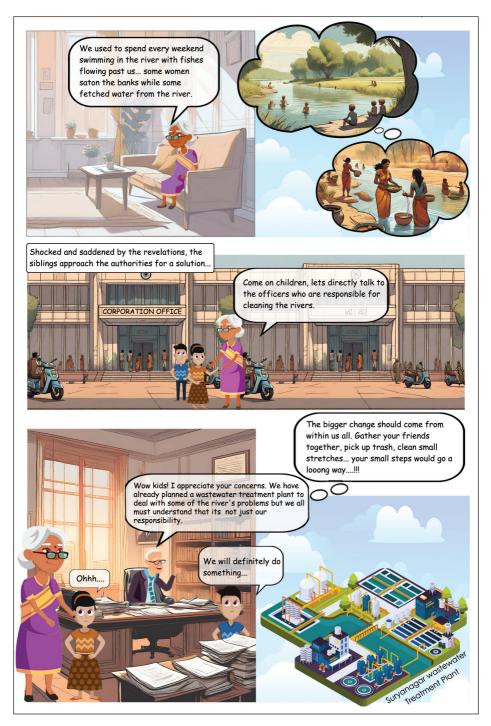
Motivation: Monu is driven to use his scientific knowledge to tackle the problem of river pollution. He believes that by studying the river ecosystem, he can find solutions to keep it clean and healthy for generations to come.

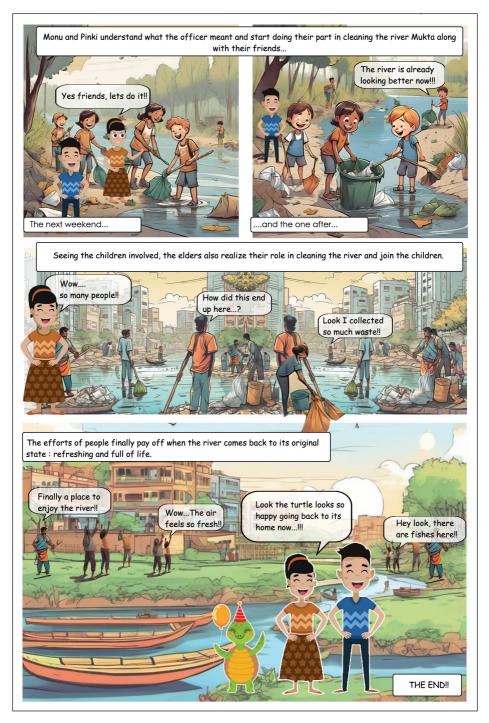


Pinki and Monu make a dynamic team of young explorers, determined to understand and protect their city's rivers. With their energy and passion, they embark on exciting adventures to uncover the causes of the river's health deterioration and find innovative solutions to keep the rivers healthy. Together, they'll inspire others to join them in their mission to safeguard the environment and create a brighter future for their community.





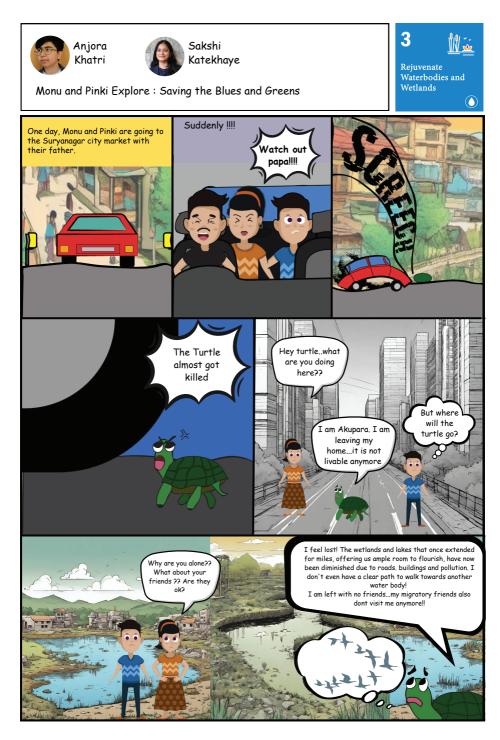


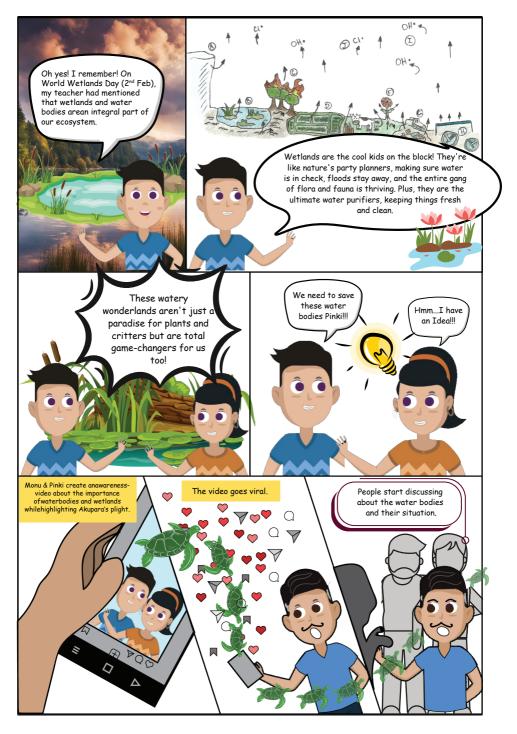




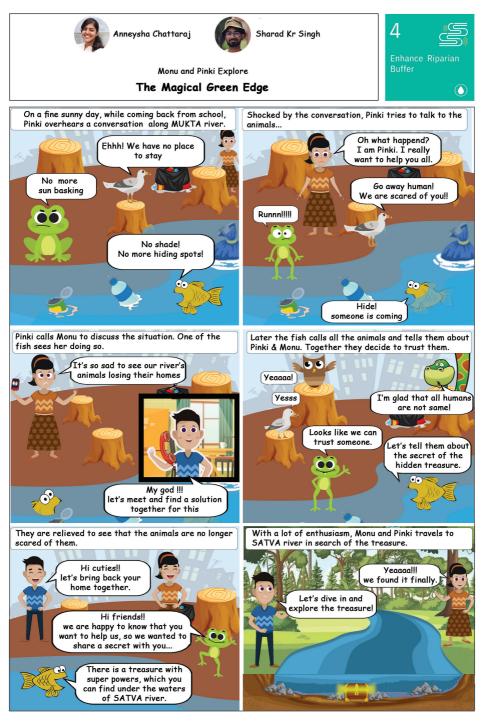


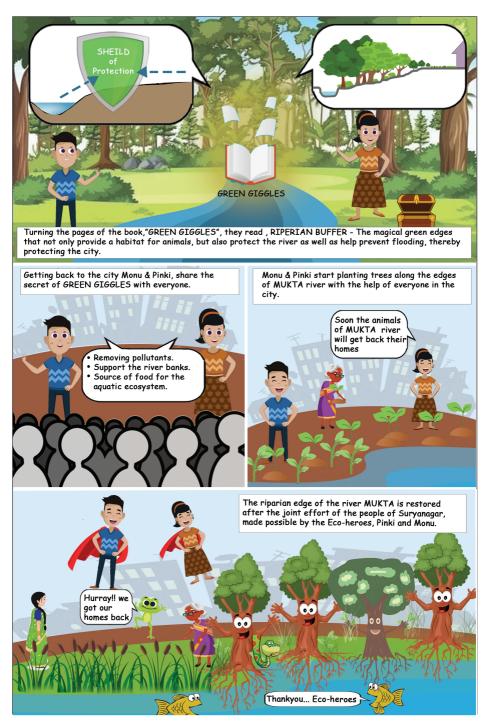


















URBAN WATERBODIES DIAGNOSTIC TOOL





Access the Urban Water Bodies Diagnostic Tool at https://niua.in/rca/uwdtool/



A decision support system for cities to manage the water bodies within their jurisdiction.



can be used for all urban water bodies of area greater or equal to one Acre (4047 sqms)



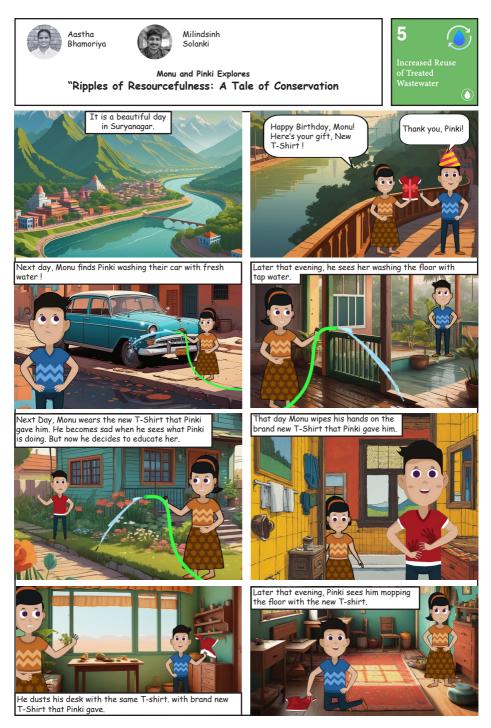
help city officials in identifying and prioritising actions for rejuvenation of water bodies



supports the rapid assessment of health of water bodies.

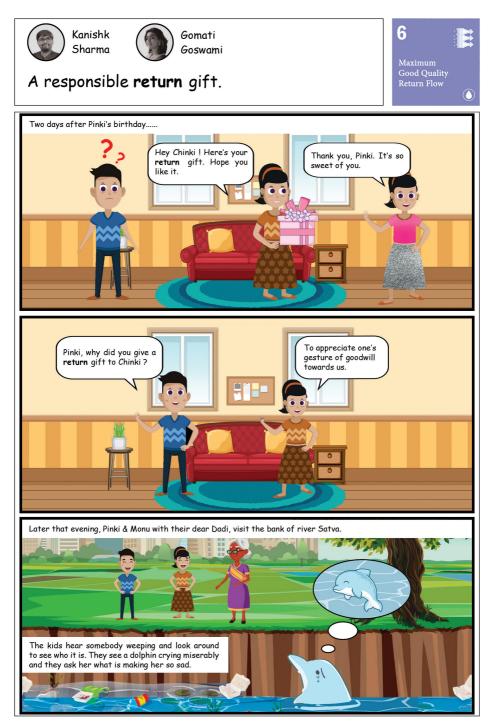


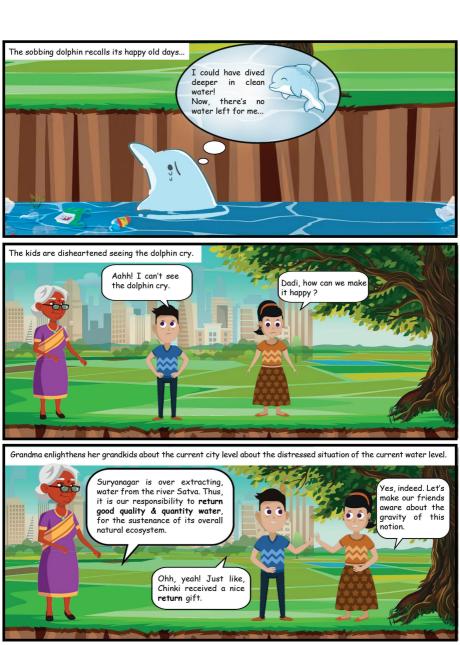
informs tangible actions for improving/ maintaining the state of water bodies.











And so, with hearts united and minds enlightened, the kids embark on a journey to revitalize the Satva River, guided by the wisdom of their beloved Dadi and the shared determination of their friends.





Online Module on Managing Urban Rivers: From Planning to Practice

Managing urban rivers in a holistic manner is a relatively new and evolving field in India, Until now, the emphasis has solely been on controlling pollution. The URMP Framework steers away from this and delves into the environmental, economic and social aspects of river management that need to be considered as well.

This certification module is to build the capacities of urban local bodies, practitioners, academicians, researchers and any other interested stakeholders in the knowledge and application of this framework. It is a step-by-step guide to understand the complete process of preparation of a URMP.



and can be accessed at: https://nulp.niua.org/learn/course/ do_1136550052517314561308

Online Module on Making River Sensitive Master Plans

This course emphasises the role of a MasterPlan to facilitate this harmony between a city and its river. Participants are introduced to the typical urban river-related challenges and shown how a city's Master Plan can help address those challenges through seven planning instruments. The course is beneficial for planning and development specialists, planning consultants, practitioners, academicians, researchers and any other interested stakeholders on integrating river-sensitive thinking into the Master Plans for river cities.





This course has been uploaded on National Urban Learning Platform and can be accessed at: https://nulp.niua.org/learn/course/ do 1136550347906744321351





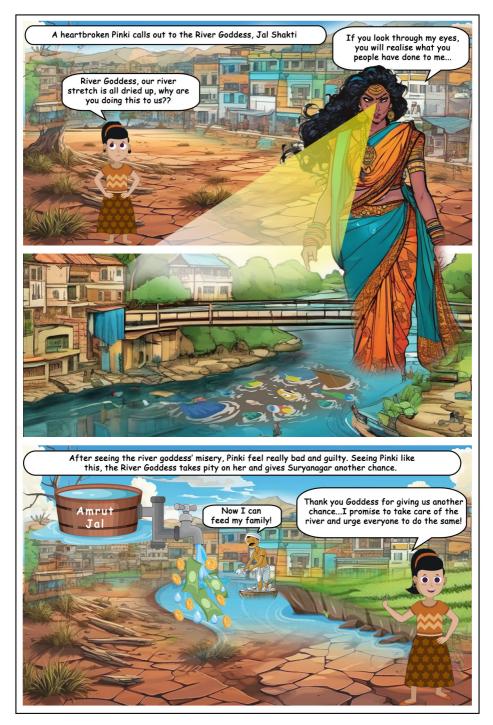


Filled with excitement,Monu and Pinki along with their friends decide to visit the Satva river side. But little did they expect.....

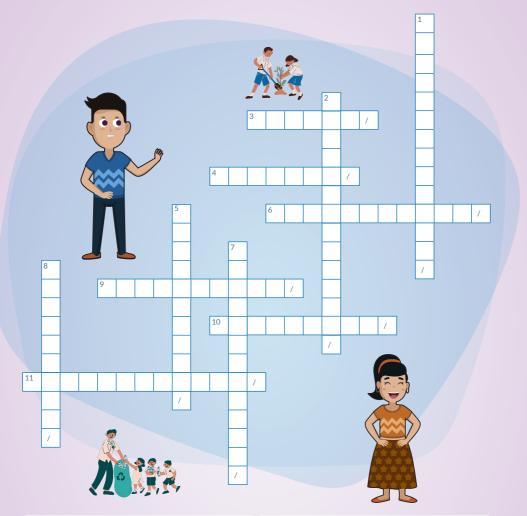










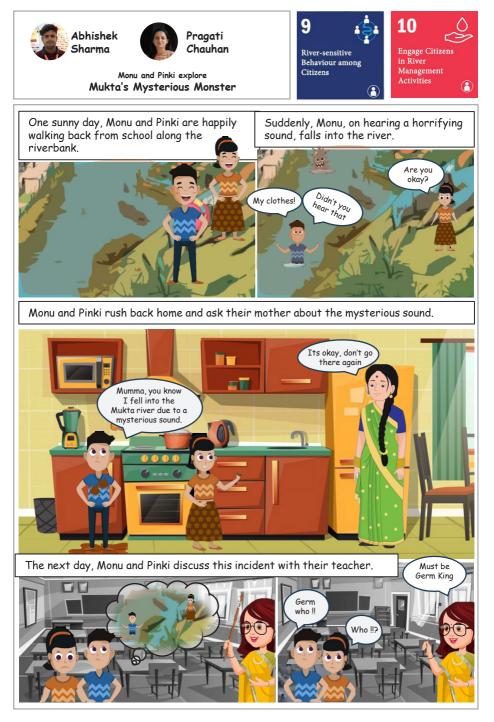


Down

- 1. 2.5 tonnes of _____ is generated by producing 1 tonne of plastic
- 2. Breakdown of organic matter by microorganisms, such as bacteria and fungi
- 3. Meant to be degraded faster than synthetic plastic
- 4. First person to fully pioneer the first fully synthetic plastic
- 5. First state in India to use plastic for making roads

Across

- 6. First state to ban single-use plastic
- 7. The collection of materials that can be broken down and reprocessed to make a new item
- 8. Means sorting of waste
- 9. Which country was the first to ban single-use plastic?
- 10. Plastic is derived mostly from?
- 11. Which ocean is suffering from the largest accumulation of plastic waste?



Their teacher tells them the story of the Germ King, who came into being due to the solid and liquid waste being duped into the river.

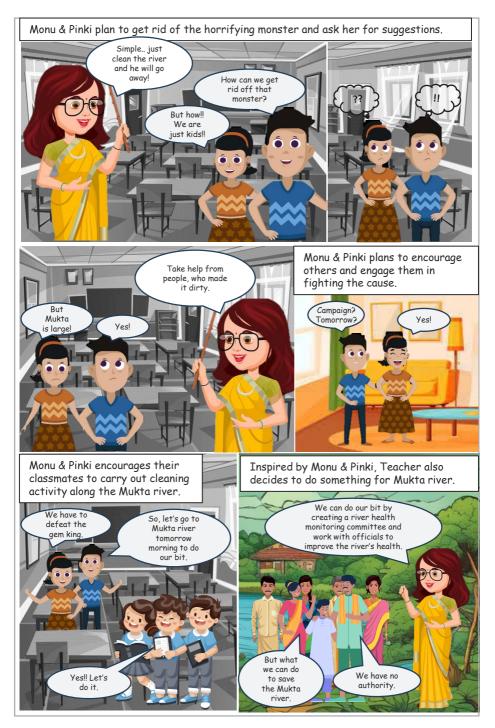


She narrates the story of clean Mukta River being used as source of water supply and how it started getting dirty due to the industrial and domestic pollution.



Monu & Pinki visit to the Mukta river and observe that the Germ king is getting powers from different type of wastes. Eg. Domestic wastes enlarging the body, Industrial waste generating more tentacles.







A s Monu and Pinki navigate the bustling streets of Suryanagar, they embark on a journey that leads them to unexpected encounters and transformative experiences. From the banks of the Mukta River to the Satva River at the heart of their city, they witness both the beauty and the challenges that surround them. Their encounters with issues like rescuing a turtle trapped in plastic, no water for aquatic animals, lost people and river connection, and polluted river makes them think about the gravity of the situation and work towards restoring the River's natural form.

With each step they take, Monu and Pinki inspire others to become active participants in the journey towards a sustainable future. Together, they work towards ensuring effective regulation of activities in the floodplain, keeping

the river free from pollution, and enhancing the riparian buffer along river banks. Joining hands with Pinki and Monu, the citizens of Suryanagar also come together to clean the two lifelines of the city and celebrate their achievements. They also recognize that the journey towards a healthier, more vibrant river is ongoing. With the URMP guiding their efforts, they are overcoming the challenges and are building a brighter future for generations to come.

Framework for Managing Urban River Stretches

10 Objectives of the Urban River Management Plan

The URMP is guided by ten objectives aimed at addressing environmental, economic, and social aspects. These objectives encompass a vision where the river thrives as a habitat for biodiversity, serves as a catalyst for economic development, and fosters a sense of pride among citizens.

To achieve these visions, the URMP outlines specific actions and interventions across the three elements:

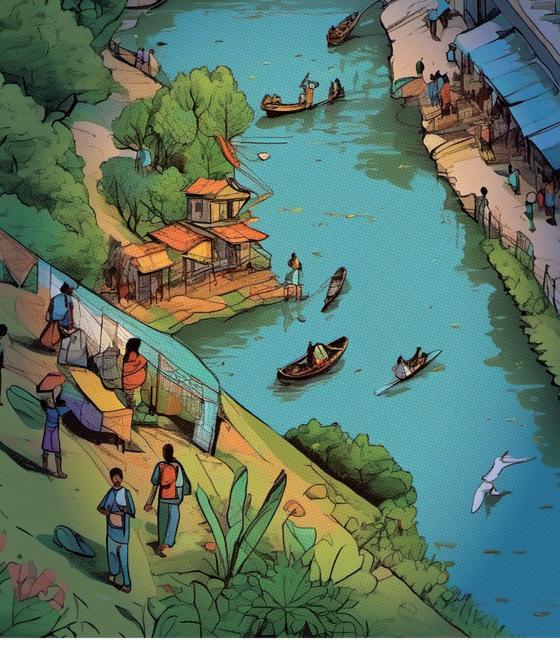
- Environmental objectives focus on regulating activities in the floodplain, keeping the river free from pollution, rejuvenating water bodies, enhancing riparian buffers, and promoting reuse of treated wastewater.
- Economic objectives aim to leverage the river's economic potential through eco-friendly riverfront projects.
- Social objectives seek to instill river-sensitive behaviour among citizens and engage them in river management activities.

By implementing these objectives through various projects, the URMP strives to create a sustainable and thriving relationship between cities and their rivers, benefitting both the environment and the community.



Draw your childhood memories of river and send them to us at urvers@niua.org







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