

Summary of the research agenda for India

Based on the discussions at URGENT Writeshop at the University of Pondicherry, March 31 – April 2, 2022

Goal: *The purpose of the writeshop was to elaborate on the general frame ensuring the consolidation of the URGENT research and research training action, and its sustainability after the end of the project lifetime. The following outputs are expected as a result of the writeshop (and the post-writeshop period)*

The gaps in the expertise related to urban resilience and livability

Copter application, PU

Legitimacy of planning decisions, NIUA

Hill cities, NIUA

Smart cities – to be detailed, JNU and NIUA

Creation of green spaces in middle size cities – interfaces of planning and ecology, SKUAST

Sustainable urban drainage systems in historical contexts + deficit of space for green areas (Urban sprawl in mountain contexts with land deficit), SKUAST (+Impact of high raising building development on hydrological systems (aquifer management most of all, including rainwater harvesting))

Sprawl of urban fabric on wetlands, including damping (+ lack of awareness (in citizens) of wetlands and their ecosystem services) + ecosystem disservices and related to sustainable urban drainage, SKUAST

Gaps in the inventories of urban biodiversity (species in urban contexts; what are the urban species? What ails the urban green space? How do we manage them?), relation to the city biodiversity index, SKUAST

Reconciling planning and ecological perspectives on what is “city green space”, SKUAST

River (big) management framework in city planning contexts (how to manage a river within the city, how to create and enabling framework), developed by NIAU for Ganges in Kanpur – NIUA

Monitoring of rainwater harvesting implementation (including citizen science approaches) GIFT

Implementation gaps of national policies on the scale of local management and planning

Scaling down from the level of national policies and master plans to neighborhood level, including EU experience in setting indicators, regulation, management tools and approaches for neighborhood resilience and livability

Engagement and representation of actor groups in the planning process

Prioritisation of development targets (across the levels – from citizens to politicians) – gainful grey infrastructure of GBI, no focus on “sustainable quality living”, integration of farmlands to sprawling urban fabrics and management options for promoting conservation targets

Prevalence of short-term visions at the expense of the strategic vision

Urban agriculture – air/soil pollution and food quality, indicators, energy consumption, economy, benchmarking (PU)

Planning policies legacies (from the planning decisions and agendas of the past), and how we rectify/manage them for sustainable today and tomorrow

Enforcement mechanisms for private land owners to implement sustainable land management – regulatory standards, economic incentives etc

Promotion of community-based water body conservation / revitalization / making sense of indigenous and local knowledge (MSc thesis in NIRMA on the integration of ICT with traditional knowledge)

Climate-sensitive policies and bringing them to planning (integrating climate issues to plans and agendas), including multiscale forecast/foresight/predictors and modelling frameworks

SDG governance fragmentation

Carbon sequestration by urban ecosystems, including urban agriculture (modelling, communication)

EU response to climate-related disasters, and the lessons can be useful for India

Monitoring and mapping of urban heat islands – observations, downscaling, modelling, communicating to citizens, planners and decision-makers (including action solutions)

Integration of ecosystem services to strategic planning documents

European lessons of managing floods and their applicability in India

Mapping and monitoring of landfills (legal and illegal; understanding of the scale and accumulated damage)

Direct requests by PhD students

Climate change and public wealth : A. Shahin Sultana

How to send students? : Thangadurai P.

Nanotechnology : Suresh Babu

collaboration on topic of fisheries :Dr Venu S

Challenges / gaps / specific requests

This specific challenges and requests can be addressed by the following means:

- direct requests to the experts from EU partners;
- short visits by EU/IN students or staff to/from the EU with purposes of e.g. developing teaching and learning materials, thesis chapters and publications, relevant project proposals;
- co-supervision of PhD and/or MSc students.

<i>Topic</i>	<i>Challenges/Gaps/requests</i>	<i>Suitable actions to address challenges and Gaps within URGENT research framework</i>	<i>Indian Partners</i>	<i>EU Partners</i>
<p>Learning from mainstreaming and institutionalizing actions across Indian smart cities.</p> <p>Climate center for cities: to build capacities for cities. NIUA support cities to implement subsequent actions to addressing CC</p>	<p>Collaboration for the revision of the assessment framework that is used to monitor the progress of cities</p>	<p>Revision support based on expertise of EU HEI according to thematic areas of the assessment.</p> <p>Assistance on the modules of the assessment framework.</p>	NIUA	All EU partners according to the different thematic areas
SUDS topic in relation to historical cities	Understanding the impacts of changes in land use/land cover according to urbanization impacts.	Examples (from existing implementation of SUDS) and modelling tools that can be used	SKUAST	UNICT
Urban agriculture – air/soil pollution and food quality, indicators, energy consumption, economy, benchmarking	Biological indicators for soil health quality and Carbon Sequestration. Crop models on how to improve fertility and diversity of crops. Microbiological sequencing.	<p>PHD student working on high resolution Land use Mapping.</p> <p>Sub-modules of subject “Sustainable Development” and “Urban Planning”</p> <p>NIRMA – has an online 2 ECTS course on urban agriculture (less on ecology, more on planning and social contexts)</p> <p>EMU would need a least of specific issues to check against, and an academic</p>	PU SKUAST JNU	EMU/HALLE

		staff member may visit EMU for 1-2 weeks to hold consultations etc		
Design the simulation model to DSS: for urban agriculture integrating different gis based indicators.	Examples any city adopted a DSS for different land uses in terms of models and actual application	Suggestion of examples.	Local Authority of Pondicherry PU	UNICT
Drone application for monitoring, surveillance, mapping, analysis + fine scale mapping of land-use and urban farming	Limited experience with drones in India	<p>EMU has a course for PhD students that can be shared</p> <p>EMU would ask its PhD student to come to PU or vice versa</p> <p>Outcomes would include a (joint) course with EMU (and SKUAST?) and hands on capacity building (cooperation with local authorities)</p>	PU SKUAST	EMU, MLU (?)
<p>Scaling down from the level of national policies and master plans to neighborhood level, including EU experience in setting indicators, regulation, management tools and approaches for neighborhood resilience and livability</p> <p>Engagement and representation of actor groups in the planning process</p> <p>Prioritisation of development targets (across the levels – from citizens to politicians) – gainful grey infrastructure of GBI, no focus on “sustainable quality living”, integration of farmlands to sprawling urban fabrics and management options for promoting conservation targets</p>		<p>(1) A short visit to an EU partner to complete a MSc thesis</p> <p>(2) A short visit of a PhD student to contribute to a chapter of a doctoral thesis and a joint publication (and/or a visit of an EU faculty to India to support this)</p> <p>(3) Co-supervision of a new doctoral thesis specifically addressing one of the topics (mutual visits and exploring other funding schemes to support the thesis)</p>	JNU (1-3) NIRMA (2) SKUAST (2) PU (1)	EMU UNICT

Prevalence of short-term visions at the expense of the strategic vision				
Promotion of community-based water body conservation / revitalization / making sense of indigenous and local knowledge (MSc thesis in NIRMA on the integration of ICT with traditional knowledge)		An EU MSc or PhD student to come to India to interact with students and researchers in India	JNU PU SKUAST NIRMA	MLU
EU response to climate-related disasters, and the lessons can be useful for India European lessons of managing floods and their applicability in India Mapping and monitoring of landfills (legal and illegal; understanding of the scale and accumulated damage)	In-hand management and policy experience	PU MSc dissertation on clogging waterways in Pondicherry (also with use of drones) – can be paired with the drone action An ongoing JNU PhD thesis on flood management and (peri)urban community resilience – a short visit from or to India EMU has curriculum on waste management that can be shared	JNU PU SKUAST	UNICT EMU
Sprawl of urban fabric on wetlands, including damping (+ lack of awareness (in citizens) of wetlands and their ecosystem services) + ecosystem disservices and related to sustainable urban drainage, Gaps in the inventories of urban biodiversity (species in urban contexts; what are the urban species? What are the urban green space? How do we manage them?), relation to the city biodiversity index		Any kind of relevant action	SKUAST	MLU