

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Asmeeta Das Sharma
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Studio	
Name / Theme	Complex Cities / Global South
Teachers / tutors	Dr. Gregory Bracken, Ir. Verena Balz
Argumentation of choice of the studio	<p>Climate induced forced migration is a complex global phenomenon in which people are displaced from their homelands as a consequence or adaptation to the change in their environment (Anwer, 2012). With the rise in sea level, excessive river erosion and frequent natural disasters, the Low Elevation Coastal Zones and delta regions are currently facing the threat of this mass displacement. This has led to the urgent need to define and redefine concepts like climate-induced forced displacement, the entitled rights and the accountability and roles of the state and global community (Intergovernmental Panel on Climate Change (IPCC), 2013).</p> <p>This research aims to investigate these concepts in the cross-border region of the Ganges-Brahmaputra Delta and its spatial consequence on the bordering Indian state of West Bengal. Expert guidance of the Complex Cities studio will enrich the research with adequate methods to approach the issue. The studio, with the tools of regionalization, spatial organization and territorial governance, is well equipped to address the projected complexity and scale. The issue requires an integrated, trans disciplinary approach to identify the institutional changes required to manage the spatial reorganization to accommodate the displaced. The expertise offered within the studio can give this research an adequate direction to achieve a realistic and concrete proposal for the benefit of the scientific and societal discourse on this issue.</p>

Graduation project	
Title of the graduation project	<p>Accommodating the Displaced An inclusive regional preparedness strategy to use circular migration as an adaptation strategy for climate change in the Ganges-Brahmaputra delta</p>
Goal	
Location:	West Bengal, India
The posed problem,	<p>Climate change is having an increasing impact on the historical phenomenon of human migration. The past decade has seen sudden and gradual mass movements across regions and borders due to the forced displacement caused by adverse environmental conditions or events, especially in the Global South. However, the scientific discourse still lacks a universal definition for the migration taking place in the context of climate change.</p> <p>Considering the current efforts to mitigate global warming, millions of people are predicted to be trapped or displaced due to the 1.5-degree Celsius temperature rise by 2050. (Rigaud et al., 2018). There is an urgent need to define and safeguard the rights of these new category of the 'forcibly displaced'.</p> <p>The Ganges- Brahmaputra Delta, being the largest and one of the most vulnerable delta regions to climate change, faces an overarching threat of the displacement of 40 million inhabitants by 2050. (Rigaud et al., 2018) High densities, poor economic conditions and loss of livelihood and land forces people to relocate or at times flee in search for sustenance and shelter, most often to the vulnerable areas of nearby urban agglomerations. The movement from one vulnerable zone to another traps the migrants in a negative cycle in which they lose their identity, culture and at times citizenship. The plight of being stateless in one's own country or by illegally crossing a border, is not only a discourse about livelihood but also of basic human rights. This further has a detrimental effect on the overall development of the region.</p>
research questions and	<p>Main Research Question How can spatial planning and good governance be used as a tool to facilitate the use of climate-induced displacement for the development of the receiving regions and an adaptation strategy for the sending regions?</p>

	<p>Sub Questions</p> <ol style="list-style-type: none"> 1. What are the gaps in the prevalent institutional responses by the transnational agencies, nations at the front-line of the disaster and communities currently faced with the disaster, to climate-induced displacement? 2. What are the climate induced migratory patterns and climate related threats in the Ganges Brahmaputra Delta? How can the sending and receiving areas be identified? 3. What are the current spatial and policy instruments for development in the region? How can these be altered to flexibly plan for the socio-spatial and economic inclusion of the influx and circular nature of the migration? 4. How can this circular migration be used as a successful adaptive strategy to climate change for the vulnerable population? Can forming symbiotic relationships between the sending and receiving areas lead to better regional development?
<p>design assignment in which these results.</p>	<p>Regional Preparedness Plan and Strategy for the bordering districts of West Bengal</p>
<p>The design proposes the creation of a cross-border buffer zone with a network of interconnected economic centers to facilitate the free movement of the migrants. The new centers aim to provide formal employment opportunities for the migrants as well as depressurize the metropolitan region of Kolkata. A supporting bi-lateral treaty is used to define the movement to restrict the movement to the corridor and curb illegal migration. The economic activities are derived from the community-based organizations and local skills identified in the region. A supporting strategy is proposed with policy and institutional provisions to recognize the rights of the migrants, enable free movement and right to work and capacitate with adequate skills.</p>	
<p>Process</p>	
<p>Method description</p>	
<p>The quest to validate the relationship between the multi-disciplinary concepts of climate change, migration and urban development is an exploratory and deductive one. The subjective nature of this research called for a phenomenological approach to be able to see beyond the obvious facts and critically asses the humanitarian crisis at hand.</p>	

The research uses 3 key approaches to explore the topic: Review of existing literature, analysis of the situation at hand and a review of the current responses as informants to the process.

The key conceptual links were established through scientific literature and discussions with experts working on the issue from across various fields. This was further informed by documentaries and existing empirical research. Gaps in the current regime were identified through a comparative analysis of the actions taken in response to the ongoing and predicted migration in the context of climate change. Case studies were conducted across the scales to inform the intervention in the case in hand - the Ganges-Brahmaputra Delta. Finally, a spatial analysis of the delta region, mapping the movement and other processes was conducted to reveal the prevalent trends of the region.

A field visit was conducted to support this analysis. It involved interactions with professors, authorities and civil society organization workers to understand the ground situation, political mood and identify local adaptation strategies currently being used.

Refer to Methodology Diagram in the Appendix.

Literature and general practical preference

The theoretical base for this research has been classified into two sets of theories. One is a set which has been used to investigate the phenomena of migration and climate-induced migration. These theories provide an insight into the socio-economic and behavioural reasons behind human migration in general.

The second set of theories are termed as the 'informative theories' have been used to inform the design response for the research. They have been derived from existing responses to environmental displacement and literature.

A list of the theories used is as follows:

Investigative theories: Ravenstein's Laws of Migration, Lee's Push and Pull Theory of Migration, Circular Migration

Informative theories: Symbiotic Cities, Urban Revolution, Pre-emptive Disaster Planning, Community-Based Development and Sustainable Livelihoods Framework

Literature used:

Archipelagos. From Urbanisation to Trans-localisation (2018), Bertuzzo T. Elisa, Kulturverlag Kadmos, Germany

Brunner R, L. A. (2010). Adaptive Governance and Climate Change. American Meteorological Society (Vol. 39).

Ha H, N. D. T. (2013). The Palgrave Macmillan Governance Approaches to Mitigation of and Adaptation to Climate Change in Asia.

Corsellis, T., Vitale, A., & OXFAM. (2005). Transitional settlement: displaced populations, 464.

Development, W. R. (2016). Increasing Resilience to Climate Variability and Change.

Fiddian Qasmiyah E, Loescher G, Long K, S. N. (2014). The Oxford Handboob of Refugee and Forced Migration Studies. oxford (Vol. 12).

Betts, A., Bloom, L., Kaplan, J. D., & Omata, N. (2016). Refugee economies : forced displacement and development, 272.

Wilson Center. (2017). URBAN PERSPECTIVES: Climate Change, Migration, Planning and Financing A NEW GENERATION OF IDEAS 2017.

Shaw, R. (2013). Climate Change Adaptation Actions in Bangladesh.

Reflection

What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

As a research conducted in the Urbanism Department of the TU Delft, it will get a relevant platform and voice to reduce the gap in the global discourse on the topic of climate-induced displacement. The research lies at an overlap of the research themes of the Urbanism studio. It looks at the institutional response of a region to the current and predicted population pressure due to a geologically transitioning territory. It addresses an urgent, socially relevant issue which has major consequences on the spatial configuration and development of the region. The department with its wide range of expertise along with the Complex Cities studio will enable the research to approach the topic from various perspectives. It aligns with the social and ethical responsibility upheld by the department by responding to a globally relevant humanitarian issue with a technical intervention. The exploration of the role of urbanism in a sociological context and intervening in the built environment of the region chosen, makes the research relevant to the masters programme of architecture, urbanism and the building sciences.

What is the relevance of your graduation work in the larger social, professional and scientific framework?

Scientific Relevance

Even though migration is inherently considered to be a part of the social studies, it has had an effect on the urban fabric for decades. The pressure on cities and resources has exponentially increased and has led to the expansion of the informal sector, which has become a subject of growing interest. Climate induced migration is mostly

undocumented, and the migrants are subjected to resource scarce situations. The condition of these migrants is similar to that of refugees and require considerable scientific research.

This research highlights two major gaps in the discourse - one of definition and the other of inter relations. Scholars from multiple fields have repeatedly tried to define a term for climate induced migration. Transnational humanitarian agencies have tried to initiate conversations about this issue by highlighting the scale of the impending disaster. Further, countries at the frontline of this disaster have repeatedly made appeals on international platforms for increased attention and assistance. However, all these elements of the discourse are seemingly fragmented and do not cohesively address the humanitarian challenge behind environmental migration. This fragmentation often makes the claims and predictions less believable for the society and reflect in the lack of proactive action.

The second is the gap between scientific fields of spatial planning strategies and environmental migration. The potential of spatial planning tools and good governance to make a positive contribution to the discourse has rarely been addressed in the discourse. Effective planning can help generate effective processes to manage all the stakeholders, prevent disaster situations and protect the dignity of the migrants. This research cohesively defining and classifying the environmental migrants and establishing the positive role of spatial planning in this discourse.

Societal Relevance

“Environmental refugees are reshaping the human geography of the planet - a trend that will only increase as deserts advance, forests are felled and sea levels rise. Mega crises may well become the new normal. These are all threats to human security as well as to international peace and security.” – Ban Ki-Moon

Migration by definition is social and deeply influenced by the societal dynamics. This research aims to reflect on two scales of impact on the society – global and local.. Common global challenges like security issues, radicalisation of the deprived, disease and conflict can be experienced as an outcome of this phenomenon. These impacts are being felt in the countries on the front line of the disaster and leaders are demanding accountability and support from the countries which have significantly contributed to the GHG emissions. With the demand of international ‘burden sharing’, this research is extremely relevant to the global community. It targets the global society with its contribution to the definition of the issue and the proposed transferable methodology. Through the proposed strategy and governance model, it defines the role of the community in supporting the crisis.

Further, at the local level, the challenge is to manage the ethnic tensions between the resident and migrant population as well as protect the dignity of the migrants. Especially in the case of the GB Delta, which has historically been ethnically, linguistically and religiously segregated. Considering this, the mass influx of refugees will lead to an added pressure on the limited resources and further cause additional conflict and apprehension among the locals. This research aims to look at methods to mitigate this consequence through planning and design. Further, it looks at methodologies to ensure a basic quality of life for the refugees and works towards smoothening the transformation of the existing society. With the aim to develop a model for social and spatial inclusion of the displaced population, the research draws from the concepts of spatial justice and ones right to the city and resources

Through community participation and self-organisation, the affected communities can retain their original identity and culture by designing their own future. Efficient and sensitive livelihood management can be instrumental in reducing the local conflicts and make it a situation of mutual benefit.

Ethical Relevance

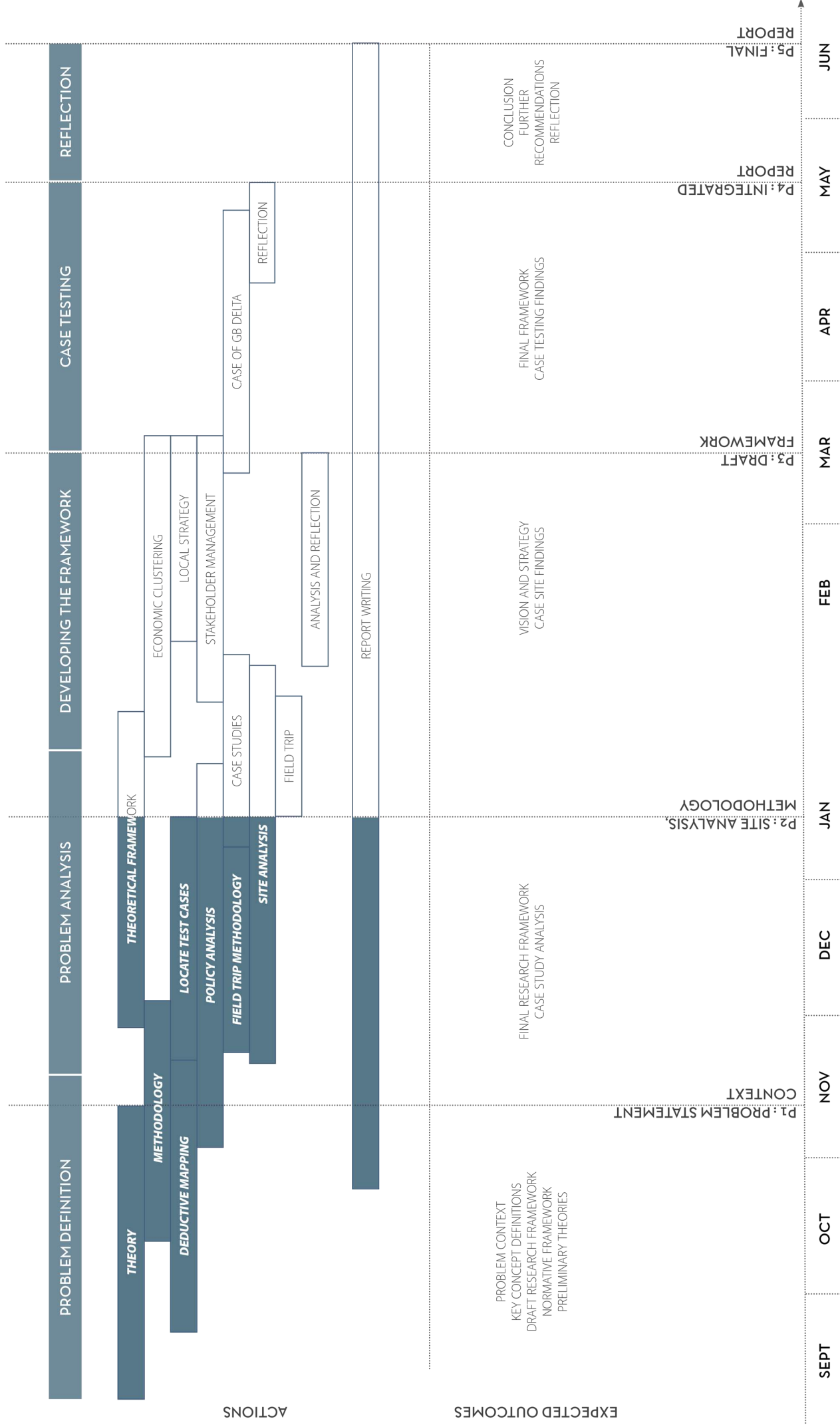
There are two types of ethical considerations which are crucial to address the issue of migration.

The first primarily addresses the receiving regions ethical stand on accepting and accommodating climate refugees. Multiple ethical questions like how many refugees can the region cater to, what are the living standards it should provide and how to manage the internal resource scarcity while catering to a foreign population become key for the institutions of the country. The current absence of the very definition of the term 'climate refugee' in the policy framework of both India and Bangladesh, makes this research relevant and urgent. (Kartiki, 2011)

Second, the research also highlights the ethical dilemma of an urbanist. Decisions like where to draw line between humanitarian ethics and social and spatial capacity and where do the remaining people go, become key to the decision-making process.

Time planning

This timeline places the tasks undertaken for this topic over time. The current progress is highlighted in blue .



References
Anwer, S. (2012). Climate Refugees in Bangladesh. <i>Climate Refugees Study</i> , 30(February), 1–32.
United Nations. (2017). International Migration Report 2017: Highlights. https://doi.org/ST/ESA/SER.A/404
Intergovernmental Panel on Climate Change (IPCC). (2013). Climate change 2013. The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.
Kartiki, K. (2011). Climate change and migration: A case study from rural Bangladesh. <i>Gender and Development</i> , 19(1), 23–38. https://doi.org/10.1080/13552074.2011.554017
United Nations. (2012). No Title. Retrieved from https://www.un.org/sustainabledevelopment/sustainable-development-goals/
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APPENDIX : Research Framework Diagram on the Next page.

