

# 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](mailto: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	Karel George van Oordt Montalvo
Student number	4823575
Telephone number	
Private e-mail address	

Studio	
Name / Theme	EMU
Mentors	Machiel van Dorst - Environmental modelling (First mentor), Steffen Nijhuis- Landscape Architecture (Second mentor), Joaquim Sabaté - UPC Barcelona (Third mentor)
Argumentation of choice of the studio	-

Graduation project	
Title of the graduation project	Amazon Way: A Territorial Agenda for Life in the Peruvian Amazon Waterway
Goal	
Location:	Puerto Prado; Nauta; Iquitos (Loreto, Peruvian Amazonia, Peru).
The posed problem,	<p>The Kukama people, located in the confluence of the Marañón and Ucayali rivers which give origin to the biggest river on earth, the Amazon, believe their relatives and cities live underwater, from which they emerge and come down constantly (Quisca, 2017). Born from the Big Woman Snake, or the First Tree, myths are part of a normative system that teaches and regulate the values of their wisdoms and daily practice (J. Abad, personal interview, January 28, 2020): a worldview that puts reciprocity and responsibility with the environment at the front, as they understand themselves as nature (Reed, 2007).</p> <p>Their territories and many others from around 32 first nations (MINCUL, 2018) along the Amazon Waterway Project prioritized by the government to improve international commercial trade among Brazil, Peru, and China, are threatened as the dredging of the rivers could cause major socio-ecological impacts whilst the creation of local opportunities has not been fully assessed (WCS Peru, 2018). Paradoxically, after 50 years of oil extraction, Loreto is still one of the poorest regions of the country inscribed in the "resource course"</p>

	<p>paradigm (Auty, 1993) with plenty of unaccomplished promises for local development (M. Martin, personal interview, January 28, 2020), and the promotion of international trade by the project has not drawn a solid economic, environmental and social framework to improve local development.</p> <p>In this sense, the Amazon Waterway Project represents both a risk of widening the current territorial unevenness gap and a challenge for imagining an assertive development thinking globally and acting locally. Here, spatial planning and design have the potential to exemplify how to reframe development dichotomies.</p>
research questions and	<p>Research Question:</p> <p>How can the spatial exploration of the abundance and talents of the Amazon Waterway provide a holistic development framework for its territory?</p> <p>Sub research questions:</p> <ul style="list-style-type: none"> <li>- <b>Understand:</b> How can traditional knowledge become part of a holistic development of the Amazon Waterway?</li> <li>- <b>Imagine:</b> What can holistic development do to transform the Amazon Waterway?</li> <li>- <b>Design:</b> How can the spatial explorations of holistic development contribute in designing autonomous territories and economies for the Amazon Waterway?</li> <li>- <b>Implement:</b> How can holistic development be achieved through projects like the Amazon Waterway?</li> </ul>
design assignment in which these result.	<p>The principal outcome is a framework for holistic development. This is composed by a Methodology for analysis, Principles and Tools for design and, Recommendations for implementation.</p> <p>The Principles and Tools for Design will comprehend an overview of Scenarios based in bioeconomy and decentralization, a series of Actions for regenerating abundance, a Vision and strategies for a selected transect of the Amazon Waterway, and a deeper exploration of systematic replicable interventions within this area.</p>
<p>[This should be formulated in such a way that the graduation project can answer these questions. The definition of the problem has to be significant to a clearly defined area of research and design.]</p>	

## Process

### Method description

The parts of the graduation project are presented as the steps of a handbook.

Firstly, the present part, **Contextualize** gives a general overview of the problem and defines the research questions, research design & methodologies and the scientific relevance of the study.

Secondly, in **Understand**, literature review, interviews and conjunctural analysis are driven to unfold the historical development of the Amazon Waterway region including a study on the impacts of the project and its comparison to similar ones in Latin America.

Also, an overview of the planning, legislative, and agent's framework will be assessed. Finally, the theoretical perspectives will explore concepts such as bioeconomy and decentralization -through literature review -to define a methodology for territorial analysis.

This methodology selects a central transect of the Amazon waterway to workout iteratively through four scales: Small (Puerto Prado), Medium (Nauta), Large (Iquitos) and Extra-large (Waterway Transect).

Thus, an analysis of the human and environmental conditions of the territory will be assessed through a layered approach composed by Nature, Infrastructure, Occupation and Perception categories in the four scales to discover the potentials and vulnerabilities of the territory. The conclusions of this part will serve as a basis for the next step.

In this one, **Imagine**, a set of four scenarios (Overflowed, Preserved, Intensive, Holistic), will be built from the theoretical perspectives (a Bioeconomy and Decentralization matrix) and a visualization of the possible futures of the transect will be presented.

Besides this, an investigation of top-down and bottom-up initiatives demonstrating alternative ways of development will be carried. Additionally, Interviews will be held to inform the ideas of holistic development. Finally, a series of principles for design will be derived as a conclusion.

Fourthly, in **Design**, the preferred scenario (Holistic) will be selected to further develop a Vision and Strategies drawn from the vocations of the territory to Regenerate, Redistribute, Reactivate, and Revalue abundance in the transect.

From this, a set of replicable interventions within the transect will test the suitability of the strategy, transferability and upscale through an adaptative pathways approach to create an open-ended range of options for decision making.

Additionally, in **Implement**, a literature review and conjunctural analysis of the administrative and governance framework together with a study of successful initiatives and ongoing proposals will allow to propose a series of policy recommendations on how to improve their structures.

Ultimately, **Reflect**, will show the findings that were made during the whole research, addressing the complexity of interactions between the physical interventions, administrative and institutional design in ontological and practical terms.

### **Literature and general practical preference**

Along the literature reviews, there will be an exploration of different experiences from top-down and bottom-up initiatives.

Auty, R. M., & Furlonge, H. I. (2019). The Rent Curse: Natural Resources, Policy Choice, and Economic Development.

Bélanger, P., Lister, N.-M. E., & Biennale di Venezia. (2016). Extraction: Exhibition catalog : Venice architecture biennale, Canadian exhibition 2016.

Crosby, A. W. (1986). Ecological imperialism: The biological expansion of Europe, 900-1900. Cambridge: Cambridge University Press.

Davis, W. (2009). The wayfinders: Why ancient wisdom matters in the modern world. Toronto: CBC Audio.

D'Alisa, G., Demaria, F., & Kallis, G. (2015). Degrowth: A vocabulary for a new era. Descola, P., & Lloyd, J. (2013). Beyond nature and culture. Chicago; London: The University of Chicago Press.

(Desmaison, B., Espinoza, K., Jaime, K. Gallardo, L., Peña, M., Rivera, C. (2018). Convivir en la Amazonía en el Siglo XXI: Guía de Planificación y Diseño Urbano en la Selva Baja. Lima: PUCP

Dourjanni, M 2013. Loreto sostenible al 2021. Lima:DAR

Escobar, A. (2014). Sentipensar con la tierra: nuevas lecturas sobre desarrollo, territorio y diferencia. Ediciones Unaula.

Espinoza, O. 2009. Ciudad e identidad cultural. ¿Cómo se relacionan con lo urbano los indígenas amazónicos peruanos en el siglo XXI. Lima: PUCP

Fairlie, A. (2016). Crecimiento verde y biocomercio: una mirada andina. Lima: PUCP.

Fuentes, G. (2019), Análisis y sistematización de los instrumentos de planeamiento en el marco del plan de cierre de brechas para la población del ámbito petrolero de Loreto. Working document.

GOREL (2015). Plan de desarrollo concertado al 2021. Iquitos: GOREL

Hardenburg, W. E., & Enock, C. R. (1913). The Putumayo: The devil's paradise; travels in the Peruvian Amazon region and an account of the atrocities committed upon the Indians

therein. London: T. Fisher Unwin.

Haasnoot, M., Kwakkel, J., Walker, W., & Ter Maat, J. (2013). Dynamic adaptive policy pathways: A new method for crafting robust decisions for a deeply uncertain world. Global Environmental Change, Deltares: Delft.

Hickel, J. (2018). Why growth can't be green?. Retrieved from: [https://www.jasonhickel.org/blog/2018/9/14/why-growth-cant-be-green?fbclid=IwAR0z\\_C73PhqQYRO0GioksIafWITmIeVL0OsPoqhnOneCbHIFwQzTXDI0EGI](https://www.jasonhickel.org/blog/2018/9/14/why-growth-cant-be-green?fbclid=IwAR0z_C73PhqQYRO0GioksIafWITmIeVL0OsPoqhnOneCbHIFwQzTXDI0EGI)

Hickel, J. (2017). The divide: A brief guide to global inequality and its solutions. London: William Heinemann

Kothari, A., Salleh, A., & Escobar, A. (2019). Pluriverso: Un diccionario del posdesarrollo. Barcelona: Icaria.

Kramvig, Britt & Pettersen, Margrethe. (2016). Living Land - belove as above.

Lovejoy, T. E., & Nobre, C. (2018). Amazon Tipping Point. Science advances, 4(2), eaat2340. <https://doi.org/10.1126/sciadv.aat2340>

Mann, C. C. (2005). 1491: New revelations of the Americas before Columbus.

Moulaert, F., MacCallum, D., Mehmood, A., & Hamdouch, A. (2015). The international handbook on social innovation: Collective action, social learning and transdisciplinary research.

Periferia., WWF. (2019). Ciudades del Peru. Lima: WWF

Pretell Mego, B. A. (2017). Evolución de la vivienda en el Centro Histórico de Iquitos y la zona baja de Belén (trabajo de investigación para optar la licenciatura en Arquitectura). Universidad de Lima.

Quisca (ed.) (2017) Karua: La gente del rio. Lima: Quisca.

Reed, B. (2007). Shifting from "sustainability" to regeneration. Building Research & Information, 35(6), 674–680

Santos, F & Barclay, F, 2007) guía etnográfica de la alta amazonía. Volumen vi

Seelos & Mair, 2007). Innovation and scaling for impact. How Effective social enterprises do it.

WCS, Peru. (2019) La Hidrovia y sus impactos en la Pesca. Lima: WCS Peru. Retrieved from: [https://peru.wcs.org/Portals/94/Publicaciones/DT\\_IMPACTOS\\_PESCA\\_HA-12.pdf?ver=2019-05-24-213032-867](https://peru.wcs.org/Portals/94/Publicaciones/DT_IMPACTOS_PESCA_HA-12.pdf?ver=2019-05-24-213032-867)

WCS, Peru. (2019) Análisis de l Hidrovia. Lima: WCS Peru. Retrieved from: [https://peru.wcs.org/Portals/94/Publicaciones/DT\\_IMPACTOS\\_PESCA\\_HA-12.pdf?ver=2019-05-24-213032-867](https://peru.wcs.org/Portals/94/Publicaciones/DT_IMPACTOS_PESCA_HA-12.pdf?ver=2019-05-24-213032-867)

ACODECOSPAT. (2014). Genocidio indígena. Retrieved from: <https://observatoriopetrolero.org/acodecospat-abandono-impunidad-corrupcion-inhumanidad-y-genocidio-asi-definimos-la-actividad-petrolera-en-la-selva-peruana/>

#### Interviews

Abad, J. (2020, January 24). Personal interview.

Chirif, A. (2020, January 10). Personal interview.

Canziani, J. (2020, January 11). Personal interview.

Cauper, L. (2020, January 13). Personal interview.

Chase, R. (2020, January 29). Personal interview.

Delgado, D. (2020, January 11). Personal interview.

Martin, M. (2020, January 20). Personal interview.

Tapullima, E. (2020, January 28). Personal interview.

#### Reflection

1. 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)?

Diversity is what gives value to the Amazon. Its uniqueness actively preserved through millennia by thousands of people is one of humanity's most sacred treasures. Therefore, if we do not start any proposal by highlighting its richness and potentials, we will likely fail to provide meaningful transformations for its future by falling in the vicious circle of structural unevenness.

In this regard, spatial planning and design play a key role to articulate narratives of abundance in a context of deep uncertainty. The tools and methodologies learned in the EMU to deal with such complexities come of great value since they have helped to build frameworks to understand the human and environmental conditions of the place and to promote processes of adaptative design in the Amazon Waterway territory.

Also, the discussion of alternative views on development from Amazonia indigenous perspectives points out the importance of experiences exchange from different contexts. This enriches the set of approaches and methodologies of the program while is part of a broader process of decolonizing education.

In addition to the exchange of knowledge, the awareness generated of the topic and the construction of a potential network of action from the EMU program is of great value. Finally, this unveils the potential of spatial planning and design for collaborating in the imagination of possible futures and processes for transformation.

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

This graduation project is an effort to contribute in the negotiations of new understanding of life as the intersection between local and global development towards more suitable ways of co-existence in the Amazonia from spatial planning and design.

Growth models based on extraction and driving to unevenness have proven to be outdated to more suitable ways of development from alternative worldviews. The reduction of the Amazonia to an extractive area, veils an amazing potential full of resources, talents, and opportunities that can create real abundance and futures for all.

Still remains urgent the need to transform the mistreat we have to traditional knowledge and to the earth itself, as a hostile, unreachable space, towards the abundance of its territory through the enhancement of its potentials and the leverage of the lack of services and opportunities.

Further, Amazonia is of vital importance to the biosphere equilibrium, as it plays a key role in balancing earth biome, and where the Amazonians, guardians of its territory, are the everlasting way finders of alternatives that celebrate life.