



UNDIP International Student Planning Competition for IKN Forest City

EPoC#45

EVOLUTIONARY PLANNING OF THE CAPITAL HABITAT 2045

MISSION

Evolutionary Planning Of The Capital Habitat 2045

UNDIP is excited to announce EPOCH45: a multidisciplinary student and young professionals planning competition. EPOCH45 seeks spatial solutions for the next phases of development of the new capital city of Indonesia, Nusantara (IKN).

This open ideas competition acts as a catalyst for reimagining entrenched planning paradigms within the dynamic landscape of Kalimantan. EPOCH45 invites participants to explore the concepts of Evolutionary Planning and envision pathways of incremental development for Nusantara from an administrative core in 2025 to a self-reliant and robust “Forest City” of 2 million people by 2045.

EPOCH45 is an initiative by UNDIP and MARS Architects, lead by prof Wiwandari Handayani, guest lecturer Dr. Neville Mars, with Dr. Rukuh Setiadi, and Hon. Prof. Dr. Bambang Susantono.

www.EPOCH45.org



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MARS

MARS ARCHITECTS SHANGHAI / BALI



Van Eesteren-Fluck
& Van Lohuizen
Stichting

IN BRIEF

Region // District // Block

EPOCH45 seeks new strategies for the integrated development of IKN Capital City for the year 2045. Emphasis is on designing the expansion towards an inclusive “Forest City” — a landscape where jungle and metropolitan functions are symbiotic. The existing administrative core will need to expand in two stages from the current settlement to an urban constellation of 1 million by 2035, to a metropolitan region of 2 million people by 2045.

Spatial integration is critical to achieve a vibrant metro region that encompasses 70% diverse jungle by 2045, on what is currently an Acacia and palm oil plantation. The competition unfolds across 3 scales, and asks for: 1. a regional vision that lays out the infrastructural, economic, agricultural and ecological backbone of IKN, 2. town planning of one or more districts, indicating urban fabric, typologies, and transit systems, 3. articulation of the block and street level, including possible architectural impressions, which illustrate how regional and district plans work together and manifest at the scale of its inhabitants (see fig. p7).

These goals introduce many practical challenges such as walkability and inclusivity, but also opportunities for IKNs business case. For the two stages of its development, basic urban indicators (i.e. built footprint, GFA, FAR, land use, population density, walkability) and performance indicators should support the vision. Ultimately, the proposal must reveal how it engages the landscape over time to achieve a self-sustaining, multifunctional region that unites urban, agricultural, and natural systems. In short, EPOCH45 asks: how can the human habitat and the natural habitat — City and Forest — be planned to become complementary?

PREMISE

From forest in the city to Forest City

Mankind's ambition to recreate natural landscapes has inspired a long and rich tradition. From the gardens of Versailles to Manhattan's Central Park, land, water and vegetation have been meticulously engineered to our specifications. The contrast between brick and mortar and flora and fauna has been applied to enhance both spaces. Few experiences are more profoundly urban than reemerging from a downtown subway station into a lush park. Increasingly, natural elements have been stacked onto buildings, embedded within airport terminals, and revitalised outdated inner-city infrastructure. The symbiosis between natural and artificial landscapes appears almost complete. Yet the sum of these spaces do not constitute natural landscapes. While more biodiverse, they expand urbanity, not nature. They are fragments of forest within the city, not yet a Forest City.

Rather than altering nature to enhance our cities, EPOCH45 suggests the next step in planning evolution is to invent a city that facilitates nature.

But the urban project seems caught in a loop. The world has witnessed a resurgence of new town projects. Yet this century-old planning model has hardly evolved. Instead, it is perpetually revived with new technologies. EPOCH45 posits that the concerns surrounding 'blueprint on greenfield' planning are spatial, rather than technological. Indeed, the model's shortcomings are augmented. While villages and townships throughout the ages have been able to sustain a resource balance with the lands in their immediate vicinity, the modern city thrives on its intricate connections with global logistic and data networks. This real triumph is at odds with goals for local resource independence.

Putting the New in New Town

Urbanism has reached a fork in the road. The future of planning seems limited to two opposing ideologies that drive both discourse and global practices. On the one hand, there is the top-down, global-capital-dependent blueprint planning of large insular ecocity projects, and on the other, grassroots incentives geared towards incremental growth and community building. In reality, no urban project can rely entirely on one or the other planning logic. This dichotomy reflects a disturbing mismatch between urban theory and planning practice. This disparity is becoming more palpable as both newly planned settlements and suburban expansions are absorbed within the same rural-urban continuum. Cityscapes are now expected to incorporate nature, meanwhile rural landscapes are consumed by spaces of production spat out by the metropolis. However, in the absence of clearly distinguishable physical and conceptual boundaries, the planning models based on urban//non-urban and centre//periphery dichotomies that planners have so long relied upon, fundamentally falter. These two antithetical planning ideologies now share a common challenge: the amalgamation

of Red, Green, Blue, or the casual juxtaposition of urban, agricultural, and natural geographies.

This presents us with a *wicked problem*. The fork in the road is merely a false choice. Centralised//grassroots, urban//rural, and global//local binary systems have become intertwined to the point that they must be conceived within a unified, multi-scalar space. Within this matrix agro-industry, city services, leisure, and flora and fauna must form a new productive landscape—a singular habitat of symbiotic co-dependence. This is still a dream, but it is also an urgent opportunity to revive the urban project in line with global exigencies, severely muddled environments, and a need for new planning models that—somehow—integrate diverse nature with spaces of consumption to form a new, gradually maturing productive ecosystem.

A Green Canvas

The new town model is notoriously challenging. Planning cities from scratch has been alluring to so many, even though it is fraught with numerous unresolved issues, which are compounded when such schemes are projected on a green canvas in virtual isolation. New town models clash with the core tenets of spatial planning—i.e. connectivity, context sensitivity, and community engagement. Complexity itself is undercut when designing a new habitat wholesale. As a future metro region, envisioned on a sparsely inhabited island, amidst a tree plantation, where urban history, nature, a larger community, and precise data are lacking, EPOCH45 embodies all these predicaments.

Teams are thus confronted with the persistent traps and temptations of designing the blueprints for a wholly engineered ecocity on a green canvas. However, there is a loophole to navigate the contradictions innate to the eco-new-town model. The theme of evolutionary planning invites exploration of a phased development, accreting complexity over time to generate a critical mass of people and industry, with its own data, its own agro-ecology, socioeconomic and communal fabric, and ultimately, its own path dependence.

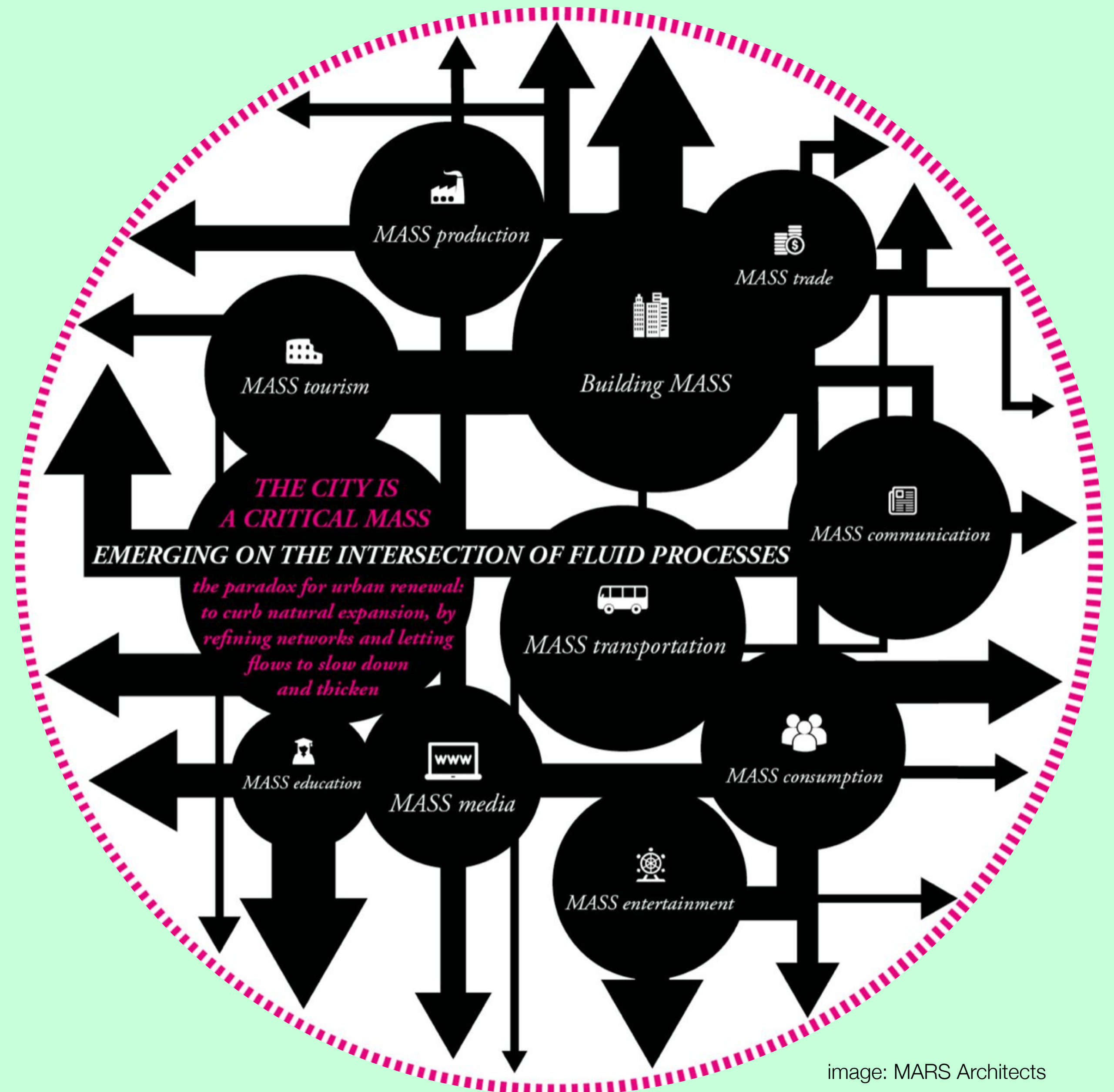
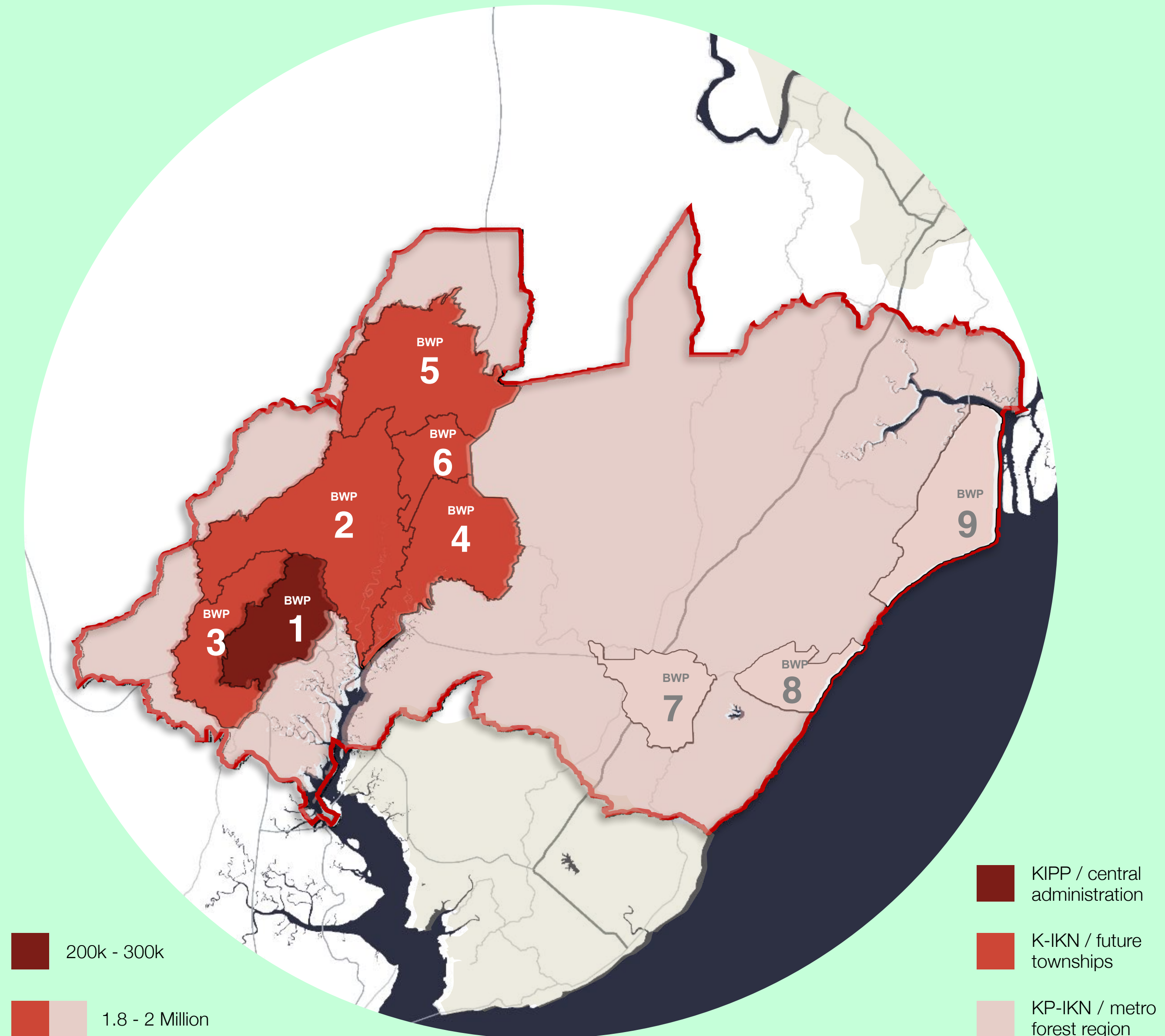


image: MARS Architects

Having avoided the pitfalls of a static blueprint, the EPOCH45 planning challenge extends, as teams are tasked with designing the spatial framework of a "forest city," a concept still undefined, and open to interpretation, which in turn evokes many new questions and presents significant new spatial, socioeconomic and procedural paradoxes, o.a.:

Spatial

- How can a diverse jungle be cultivated by planning a city on the site of a tree plantation?
- How can a vibrant and equitable city emerge from an existing urban core dominated by offices and exclusive housing compounds?
- Is it possible for a metropolis to incorporate the aspired 70% forest while retaining spatial integrity, compactness, and thus walkability?
- Can parametric or GIS models ensure a careful integration with the undulating topography?
- In the face of diverse risks and natural disasters including drought, wildfires, flooding, inundation, heatwaves, and typhoons, can we rely on nature-based solutions to ensure a resilient forest city?
- Can landscape urbanism mitigate the impact IKN has on the fragile ecologies of Balikpapan Bay?



Socioeconomic

- Are the intended administrative and educational programs robust enough to establish a virtually disconnected city and support its self-reliance?
- Can these relatively easy to relocate programmes provide the stimulus to incrementally attract other programme and promote ongoing diversification?
- What alternative investment models could be conceived if influx from global capital stagnates?
- Can ecosystem services provide a sustainable foundation to support the new metro region?
- How can a sense of community be cultivated and surrounding villages benefit from developments?

Procedural

- In what ways can incremental and adaptive planning models be effectively implemented for the development of the new forest capital?
- In a remotely planned capital, to what extent can operations be virtual, and what is the physical infrastructure that would still be required?
- What kind of management structure is required to engage a diverse range of local stakeholders and experts in a long-term iterative design process?

- Who should be involved in participatory feedback loops to inform participatory GIS and budgeting?
- How to define and evaluate the distinguishing qualities of a forest city—an unproven concept?
- What are appropriate KPIs? Can the SDGs offer a holistic lens? Or would absolute resource autarky best define the new capital's success in 2045?

Such narratives will invariably escalate, while the competition solicits clear and concise visions to reinvent not only the new capital, but also the novel planning methods it will need to be built on.

Neville Mars
17-08-2024

image: MARS Architects

SUBMISSION

a singular vision

Participants must submit a presentation, driven by a clear spatial concept, presented in 3 parts:

- a) **Visual Exposé:** up to 6 renderings showcasing the design vision.
- b) **Technical Exposé:** plans, section, and system diagrams detailing the evolving spatial proposal.
- c) **Written Exposé:** a 500 word introduction, elucidating the main concepts underpinning the proposal, demonstrating the planning logic, the growth strategy, possible KPIs, and business case.

Deliverables

- a) a PDF file of 3 posters in A0 landscape:
 - at printable resolution 200-300 DPI, with all images and links embedded.
 - written English text and statistics must be integrated within the design of the posters,
 - using an open type font (OTF) such as Helvetica Neue, at point 13 for the body copy.
 - it is encouraged to organise the schemes for the three scales—Region / District / Block—one per poster, while indicating correlations.
 - it is encouraged to fully cover the background for each A0 poster, for instance using one full spread rendering, with the title, intro, diagrams and additional images superimposed onto it.
- b) a 2 minutes video presenting the scheme with English voiceover: 1920x1080 pxl (MP4, 1080p).
- c) total file size per item cannot exceed 130 MB.
- d) entries are anonymous and are only marked by the provided code that participants receive on registration. This code should be used as the file name of the PDF and MP4 that are submitted.

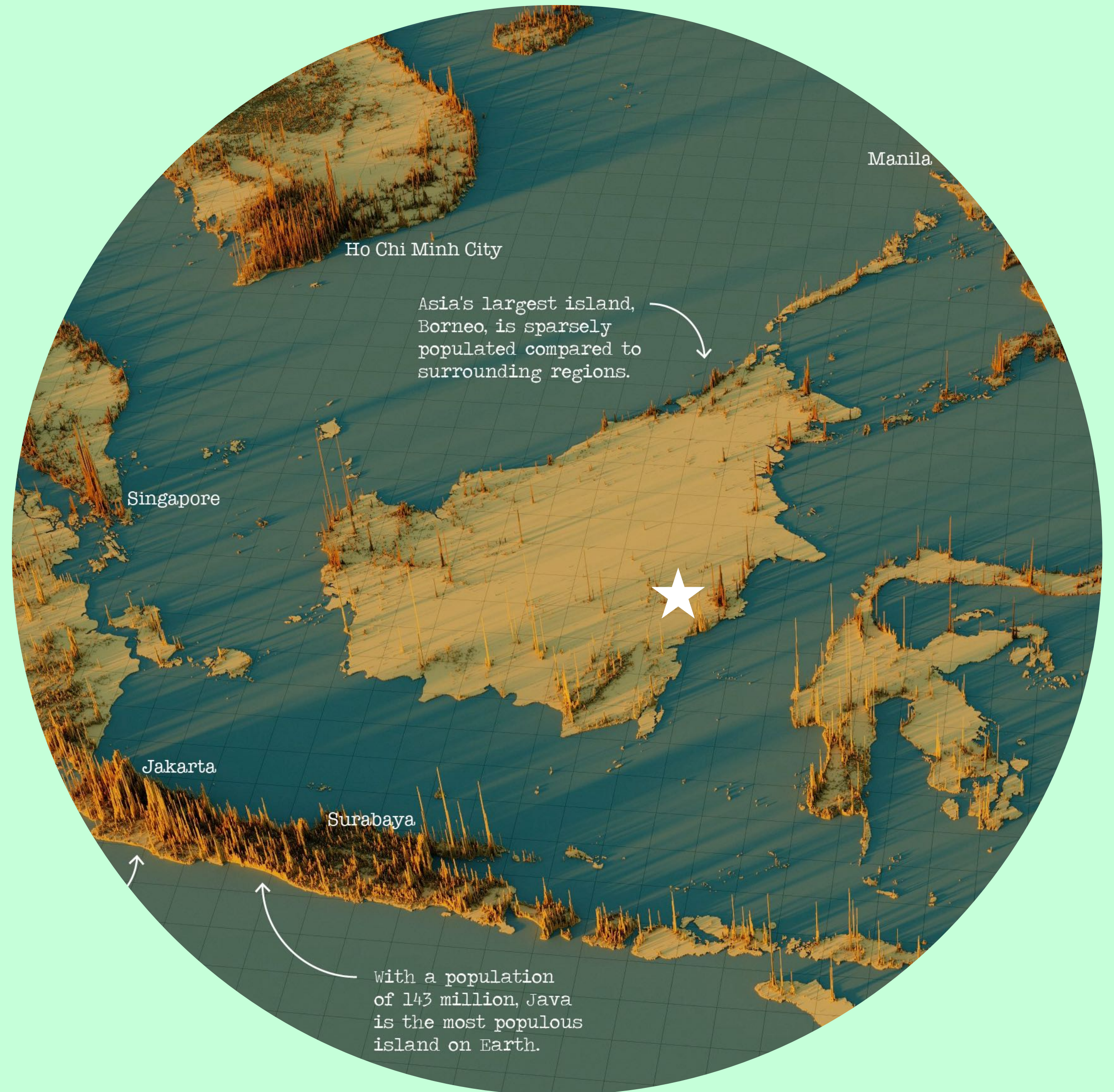
Eligibility

Epoch45 is an open ideas competition, calling for multidisciplinary teams of around 3 to 6 members consisting at least half of students, academics, or young professionals (graduated after 2020), who can reflect on the general themes listed below. International collaboration is encouraged.

1. Regional and City Planning / Landscape Urbanism 2. Nature-Based Solutions / Infrastructure Planning / Energy, Water and Environmental Engineering / Resilience 3. Geography / GIS / Climate Adaptation, 4. Ecology / Reforestation / Ecosystem Services / Biodiversity / Permaculture 5. Sustainable Architecture / Housing / Material science / Life Cycle Design 6. Economic Sustainability / Community Planning.

Registration

- Send an email to epoch2045@gmail.com by end of day 17 January 2025 with “team registration” as the subject line.
- include the names and emails of each team member, and designate one contact person.
- provide a brief description of your team’s educational institution / affiliation.
- Teams will receive a link to a personal google drive folder to upload entries and an entry code to be used as the file names of final submissions.



Prizes

- a) The 5 winning teams will be able to present their project to the IKN planning committee.
- b) The top 5 entries are invited to present their schemes at the second Forest City Conference to the authorities of IKN.
- c) Three cash prizes will be offered: USD 6,000 for the winning team, USD 3,000 for the second team, and USD 1,000 for the third team.
- d) Top 5 entries will be showcased in an urbanism exhibition in Rotterdam or Venice — TBC.

Data base / Lecture series / QnA

Maps of IKN, data sets, and a suggested reading list is made available on a google drive: [here](#).

- Questions can be posted [on the site](#), or sent to epoch2045@gmail.com until 17 February 2024.
- These will be addressed in person by email, or on the website, or more generally during the lectures.
- An online lecture series will be on offer delving into the themes at hand. Details will become available on www.EPOCH45.org



image: MARS Architects

Timeline

-Announcement	17 AUG 2024
-Registration Opens:	17 AUG 2024
-Registration Closes:	17 FEB 2025
-Submission Deadline:	1 MAR 2025
-Winner Announcement:	31 MAR 2025

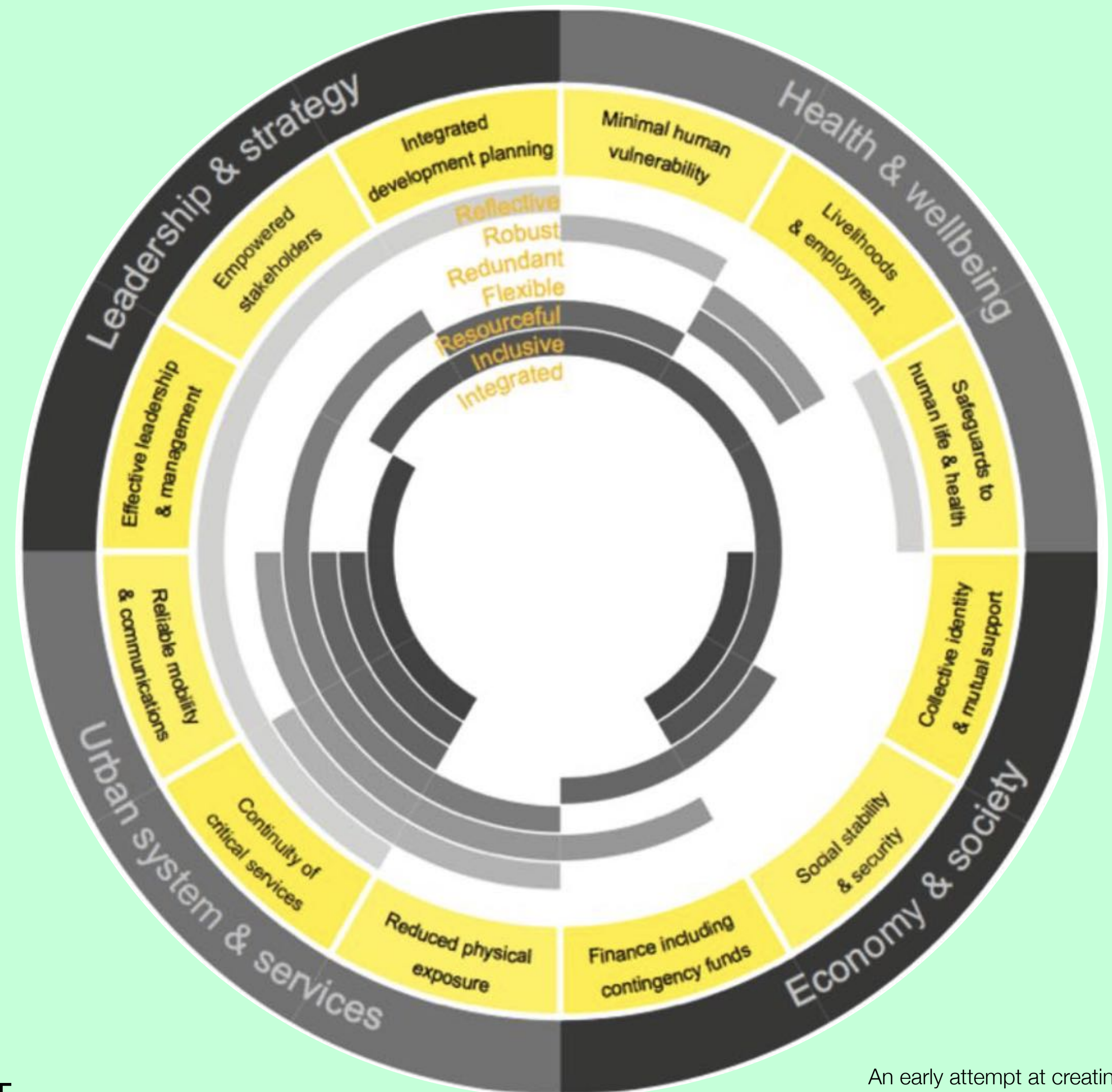
Uploading

Upload final entries to the dedicated google drive by end of day, 1 MARCH 2025. A link to your team's folder will be provided after registration.

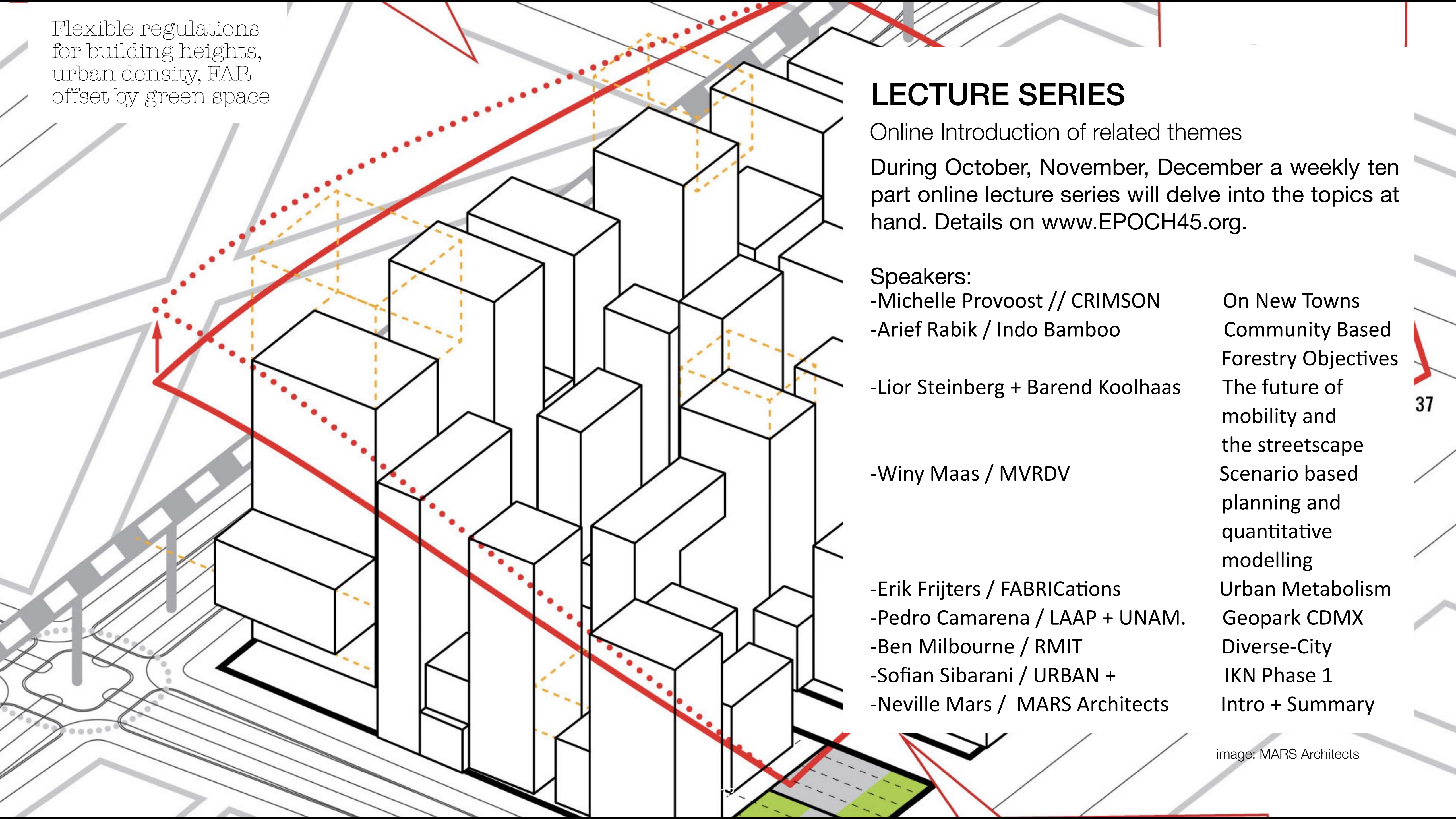
International Jury — TBC

An international jury of 9 leading urban scholars and landscape professionals will evaluate entries.

- Bambang Susantono — president
- Winy Maas — MVRDV
- Henk Ovink — Commission on the Economics of Water
- Pedro Camarena — LAAP + UNAM
- Arief Rabik — Indo Bamboo
- Sofian Sibarani — URBAN +
- Daliana Suryawinata — SHAU
- Eric Frijters — FABRICations
- Bindu Lohani — Distinguished Adjunct Board Member AIT



An early attempt at creating an integrated "resiliency index".
Image: McKinsey MGI 2015



Flexible regulations
for building heights,
urban density, FAR
offset by green space

LECTURE SERIES

Online Introduction of related themes

During October, November, December a weekly ten part online lecture series will delve into the topics at hand. Details on www.EPOCH45.org.

Speakers:

- Michelle Provoost // CRIMSON
- Arief Rabik / Indo Bamboo
- Lior Steinberg + Barend Koolhaas
- Winy Maas / MVRDV
- Erik Frijters / FABRICations
- Pedro Camarena / LAAP + UNAM.
- Ben Milbourne / RMIT
- Sofian Sibarani / URBAN +
- Neville Mars / MARS Architects

On New Towns
Community Based
Forestry Objectives
The future of
mobility and
the streetscape
Scenario based
planning and
quantitative
modelling
Urban Metabolism
Geopark CDMX
Diverse-City
IKN Phase 1
Intro + Summary

image: MARS Architects