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Oil Rig Lepas Pantai sebagai Alternatif Habitat Hunian Masa Depan dengan Pendekatan Arsitektur Regeneratif
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ABSTRAK

Ancaman kenaikan muka laut menunjukkan tren akseleratif dalam beberapa dekade terakhir sebagai konsekuensi langsung dari perubahan iklim global dan peningkatan suhu rata-rata permukaan bumi. Kondisi ini secara nyata mempersempit ruang hidup masyarakat pesisir, termasuk di kawasan Muara Angke, Jakarta Utara, yang situasinya semakin kompleks akibat fenomena penurunan muka tanah hingga 10 cm per tahun. Keadaan tersebut diperkirakan akan semakin memburuk setiap tahunnya sehingga berpotensi menyebabkan kondisi Bumi tidak lagi sama pada abad selanjutnya (2100).

Di tengah krisis ruang tersebut, apakah daratan yang kita pijak hari ini masih akan eksis secara geografis pada awal tahun 2100? ataukah perubahan iklim akan meredefinisi ulang konsep ruang hidup manusia? Hingga kini, respons kebijakan cenderung berfokus pada perluasan ruang darat dan mitigasi bencana, sementara eksplorasi alternatif hunian berbasis laut belum dipertimbangkan secara serius sebagai solusi atas kenaikan muka air laut. Padahal, keberadaan infrastruktur lepas pantai seperti *oilrig* menunjukkan contoh nyata bahwa aktivitas manusia di atas laut bukanlah sesuatu yang utopis. Fakta bahwa 116 dari 635 unit *oil rig* di Indonesia dilaporkan tidak beroperasi (SKK Migas, 2024) mengindikasikan adanya potensi sumber daya infrastruktur yang belum dimanfaatkan secara optimal dalam menjawab tantangan krisis ruang akibat perubahan iklim.

Sebagai respons terhadap kondisi tersebut, perancangan ini menawarkan upaya pemanfaatan kembali *oilrig* lepas pantai sebagai alternatif habitat hunian masa depan berbasis komunitas melalui konsep arsitektur regeneratif. *Oilrig* direinterpretasi sebagai hunian komunitas yang adaptif terhadap ancaman iklim dengan menekankan pada integrasi sistem mandiri, memungkinkan integrasi hunian dan ekosistem laut sebagai satu kesatuan sistem hidup. Pendekatan ini membangun paradigma baru bahwa hunian tidak harus selalu berpijak pada daratan.

Kata kunci: *kenaikan permukaan air laut, iklim global, oilrig lepas pantai, Muara Angke, habitat, hunian komunitas, regeneratif, ekosistem*

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ABSTRACT

The progressive acceleration of sea-level rise over recent decades cannot be understood as a peripheral environmental issue; rather, it constitutes a structural consequence of global climate change and the sustained increase in the Earth's mean surface temperature. Coastal territories are increasingly subjected to spatial contraction, a reality acutely experienced by communities in Muara Angke, North Jakarta. In this context, the crisis is intensified by land subsidence reaching up to 10 cm per year, creating a compounded geophysical vulnerability where the ground simultaneously sinks as the sea advances. Such intersecting processes signal not only environmental degradation but also the gradual destabilization of the terrestrial foundation upon which human settlement has historically relied. If these trajectories persist, projections toward 2100 suggest the possibility of a markedly altered planetary configuration, where present-day coastal landscapes may no longer retain their existing geographical form.

Confronted with this emerging spatial precarity, a critical inquiry becomes unavoidable: will the land we inhabit today endure in geographic terms by the beginning of the next century, or will climate change fundamentally transform the parameters of habitable space? Prevailing policy responses remain largely terrestrial in orientation, emphasizing land reclamation, coastal defense infrastructure, and disaster mitigation strategies. While these measures are significant, they tend to reinforce an assumption that habitation must remain land-based. Meanwhile, serious exploration of marine-oriented settlement models remains marginal within mainstream discourse. This hesitation appears incongruous when viewed against the longstanding existence of offshore infrastructures such as oil rigs, which have demonstrably sustained human activity in open-sea environments for decades. Furthermore, data indicating that 116 of 635 oil rig units in Indonesia are currently non-operational (SKK Migas, 2024) reveal the presence of dormant infrastructural assets—resources that could be reconceptualized within the broader context of spatial adaptation to climate-induced territorial loss.

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In light of these conditions, the present design proposal advances a strategic reconfiguration of offshore oil rigs as alternative community-based habitats grounded in the principles of regenerative architecture. Rather than treating these structures as obsolete remnants of extractive industry, the proposal reframes them as adaptive spatial platforms capable of integrating autonomous systems and fostering symbiotic relationships with marine ecosystems. Through this reinterpretation, habitation is no longer conceived as an activity that must be anchored exclusively to solid ground, but as a dynamic system capable of coexisting with oceanic environments. This paradigm shift invites a reconsideration of the sea—not as a threatening frontier to be resisted, but as a potential spatial continuum within an evolving ecological and architectural framework.

Keywords: *sea-level rise, global climate, offshore oil rigs, Muara Angke, habitat, community housing, regenerative architecture, ecosystem*