# The 2nd International Electronic Conference on Land



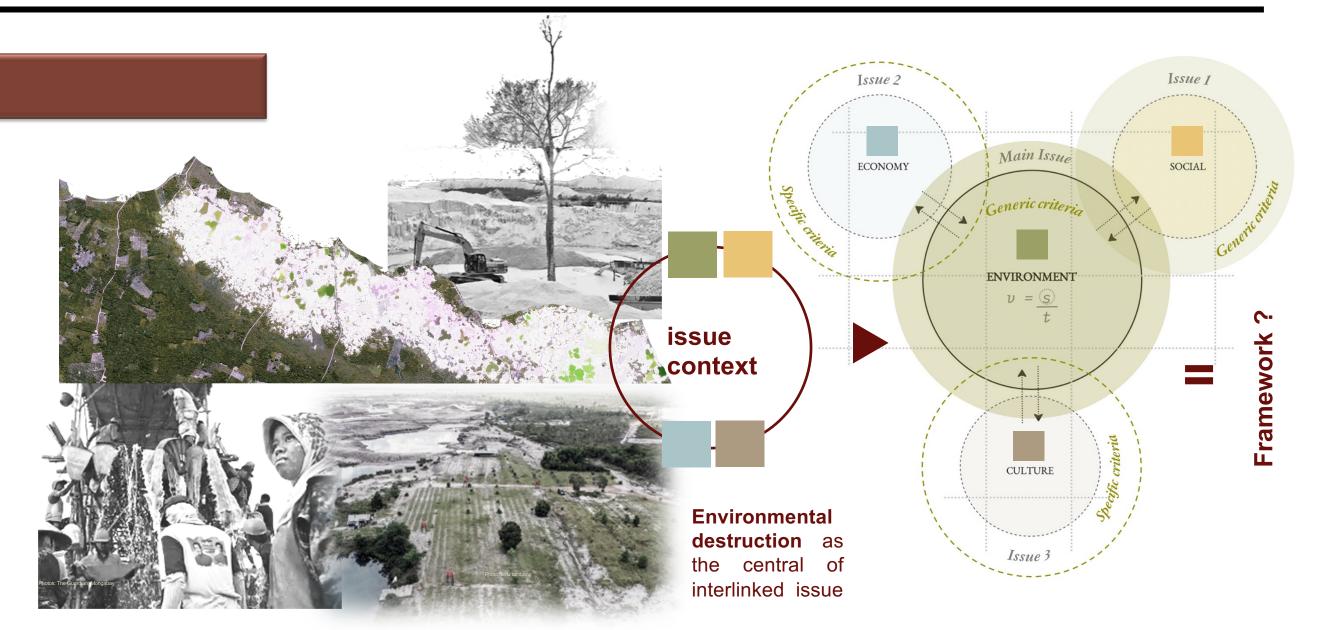
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# A Framework for Landscape Restoration: Ecological Timeframes and Design Principles for Post-Tin Mining Land

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## **INTRODUCTION & AIM**

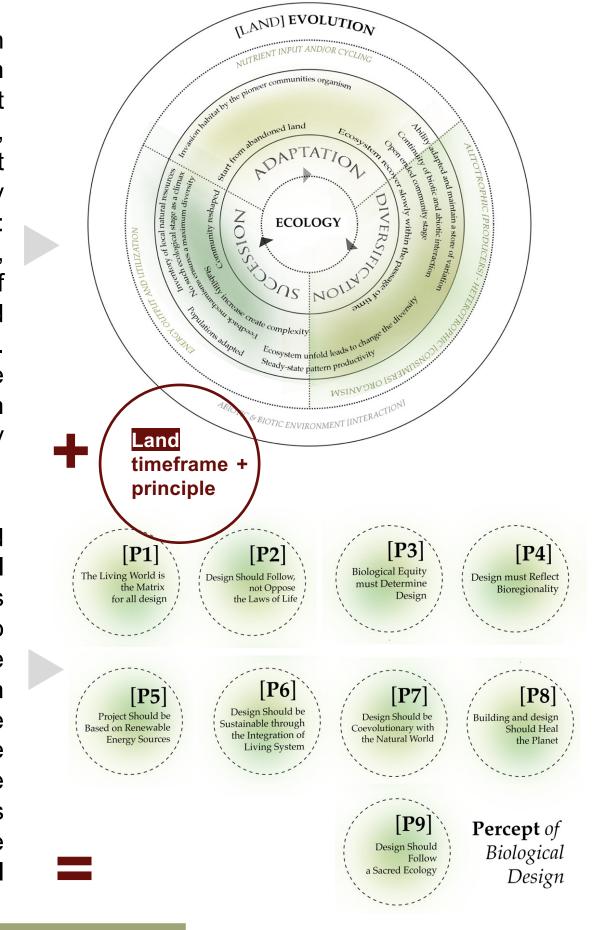
A methodological framework is outlined for landscape restoration on post-tin mining land, addressing the various affected context that would be resolved through alternative strategies to restore degraded landscapes caused by extractive industries. Worldwide, open-pit mining has left extensive areas ecologically fragmented, while the conventional reclamation approaches often fail to match the scale or pace of damage. In this context, Bangka Belitung, Indonesia, is presented as a case study, where over one million hectares have been severely disrupted by illegal tin mining yet formal reclamation rates remain below 10%. This situation highlights the need for site-responsive interventions that work in harmony with natural processes rather than opposing them. Two core components structure the proposed framework: *Ecological Timeframes* and the *Percept of Biological Design*.

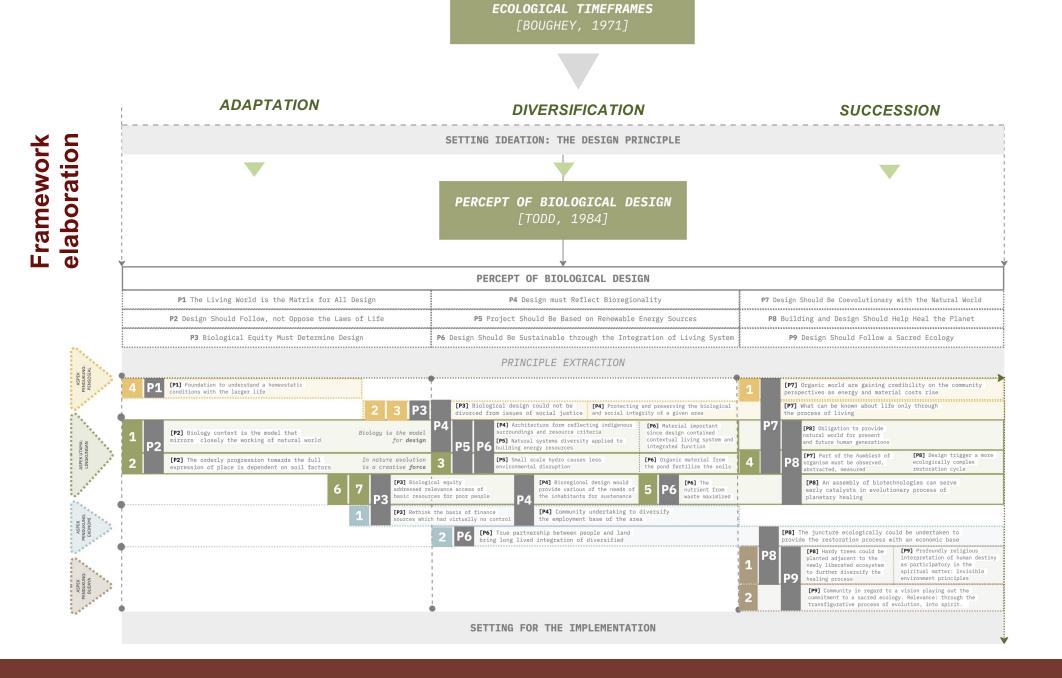


#### **METHOD**

Ecological Timeframes inspired from geological phase from Boughey (1971) in which giving the base information content about how natural evolution work. Hence, this approach would be appropriate to fit the case in place adaptively. Provide a way to map the phases of ecological recovery: adaptation, diversification, succession, Ensuring that the pace and sequence of natural regeneration are recognised and integrated according to the context. Positioning interventions within these phases clarifies when and where design efforts should be prioritised to effectively support ecosystem renewal.

The *Percept of Biological Design* adapted from Todd (1984) functions as a practical design toolbox, comprising nine principles that translate the mapped timeframes into phased, site-specific actions. These principles here used to inform decisions on focus, scale, and sequencing, allowing the interventions to adapt to changing site conditions over time. By combining these two elements, landscape architecture is positioned as an adaptive and responsive medium aligned with ecological succession.



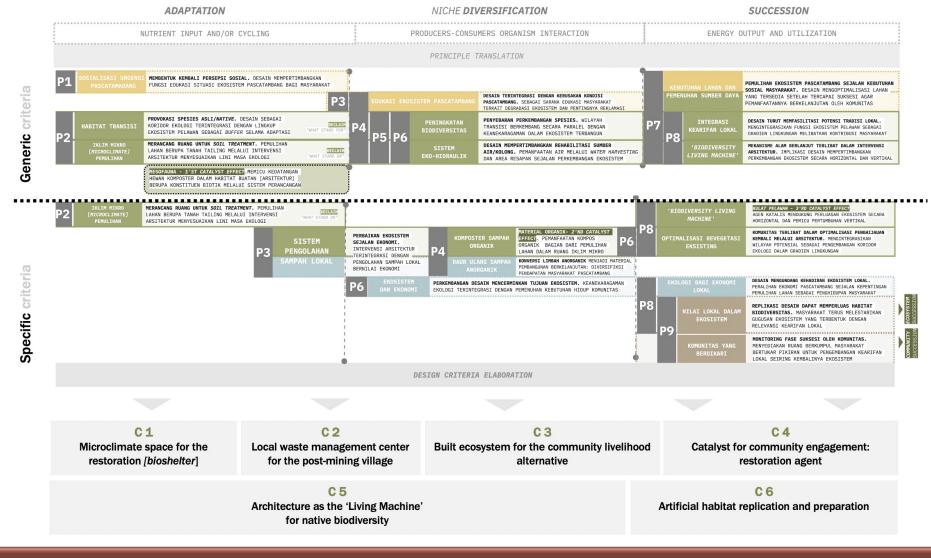


# **RESULTS & DISCUSSION**



Landscape & Architectural [Intervention within site context]

The implementation of the principles formulated in the ecological timeline is the initial framework for determining the priorities and capabilities of the community to pursue reclamation based on site design. There are two overview of what would happen if the general design criteria (C) were applied: specific and generic. This classification is expected to help the community in mapping resources more coherently with the context of post-mining conditions, adjusting the potential according to their respective regions.



### **CONCLUSION**

Understand the desertification caused by the post-mining aftermath are linked within the other aspect that might be vary from one place to another, this framework try to provide an approach which could track the void. Restoration failure due involving different background of culture would be possible to handle as long as still following how the phase of land to heal itself. The intervention is build on default of nature.

#### REFERENCES

[1] Boughey, A. S. (1971): Man and the Environment: An Introduction to Human Ecology and Evolution, The Macmillan Company, New York, 1-18. [2] Todd, John, Todd, N. (1984): Bioshelters, Ocean Arks, City Farming: Ecology as the Basis of Design, Sierra Club Books, San Francisco, 19-79.