

Forest regenerating archi-tourism for inclusive relationships with the landscape: A Case of Nijhum-Dwip, Bangladesh

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Abstract.

The study examines how the existing model of ‘archi-tourism’ could learn from this crisis and acquire place potentiality to create a ‘forest-regenerating built environment’ through exploring inclusive relationships. The investigation has assumed an exploratory approach to collect qualitative data. Data collection and analysis have followed an interdisciplinary approach integrating the methods of three disciplines- Architecture, Anthropology, and Ecology. The study area has been chosen in a vulnerable context, *Nijhum dwip* (silent-island), on the south-central coast of Bangladesh. The research finds that the island underwent substantial ecological damage since 2005, when tourism flourished as an economic potential for the study area. The study undergoes a historical analysis of the island’s morphology to identify the key causes of deforestation and their relationship with the practiced model of archi-tourism. It finds that the settlement growth has failed to weave a meaningful relationship between the community and landscape, resulting in significant biodiversity loss. A certain settlement growth has flourished around tourism and generated a tourism-centric development, which could be worded as ‘archi-tourism’. Analyzing theoretically, this paper reveals an inter-scalar way of exploring inclusive relationships in a spatial model, integrating multiple scales including, ‘self’ scale (hedonic-wellbeing); ‘community’ scale (community-wellbeing and human-human relationship); ‘cross-community’ scale (social-wellbeing, human-human relationship) and ‘nature’ scale (ecological-wellbeing and human-nature relationship). Furthermore, in the case of *Nijhum dwip*, the spatial modality of ‘archi-tourism’ in alignment with multi-scalar relationship, spatial translations and activities are suggested. Using the argument of architect Aldo Rossi, architecture has been interpreted in the research simultaneously as a site, event and sign; spaces are understood as activities, products and attitudes that complement meaningfulness with the ecology and specific sites. Within the framework, the paper argues that architectural thinking is central to a sustainable archi-tourism model, where architecture can be the storyteller of the forest, landscape, people-overall the context, as a pedagogical element. Such modality finds the ‘transformational’ scope of policy upgradation, envisioning holistic wellbeing, a sense of inclusion, belongingness and collective consciousness through creating more meaningful and inclusive inter-relationships (human-human, human-nature) with the landscape.

Keywords: archi-tourism, regenerative architecture, resilient landscape, inclusive planning, deforestation

1. Introduction

The rapid tropical deforestation in recent decades has attracted significant international concern (Asner et al., 2010; FAO, 2012; Laurance et al., 2014; Atmadja, S., and Sills, E. O., 2015). In Bangladesh, the forest area has been declining since the 1870s (Government of Bangladesh (GoB), 2014), and from 2002 to 2022, the country lost 7.64 kilo-hectares of humid primary forest, making up 3.4% of its total tree cover loss in the same time period. The total area of humid primary forest in Bangladesh decreased by 8.0% in this time period (Global Forest World, 2023). According to the United Nations Food and Agriculture Organization, the annual deforestation rate in Bangladesh is almost double the global average, 2.6 percent, as stated by the TIB (The Daily Star, 2021).¹ Concerning the deforestation problem, strategies of ecological restorations have evolved for vulnerable and remote areas/landscapes. Among them, sustainable tourism planning gained popularity in recent years for the successful conservation of the forest. Tourism planning seeks to create an economic venture around the sightseeing potentiality of the forest landscapes and boost the economy. Syncing with global practices, Bangladesh also started to exercise these strategies to protect ecology, in the form of ‘eco-tourism, and community-based eco-tourism (CBD).

Following the Manila Declaration of World Tourism in 1979, mass tourism has been considered to do ‘more harm than good’ to people and societies of the developing World (Honey, 2008, p. 10–11). To minimize these negative impacts on nature and locals, Hetzer (1965) identified the model of ‘eco-tourism’ along with the four principles of responsible tourism. Ecotourism is now defined as ‘responsible travel’ to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education (TIES, 2015). Martha Honey (2008, p. 6) (former Executive Director of TIES) observes, ‘Ecotourism is often claimed to be the most rapidly expanding sector of the tourism industry’. By 1998 the United Nations World Tourism Organization (UNWTO) estimated that ecotourism comprised 20 percent of the US\$441 billion global tourism market and was growing approximately 30 percent per year (versus 4% for the industry as a whole) (UNWTO 1998). In 2004, the UNWTO reported again that ecotourism has continued to develop at three times the industry average (The International Ecotourism Society, 2006) (Fletcher and Neves, 2012).

Despite such eco-friendly initiatives, current statistics show that the rate of deforestation did not slow down and has not shown enough hope of resolving the crisis. Scholars criticized (Das and Chatterjee, 2015), ecotourism is presented merely as a solution to support mass tourism and requires less investment, even in underdeveloped areas. In developing countries, tourism, as a profitable sector, invites international and national financial institutions to invest in ecotourism (UNWTO, 2017). Within the investment opportunities, ecotourism has been heavily promoted in Bangladesh in recent years by a wide range of actors, including transnational organizations, financial institutions, national governments, non-governmental organizations, professionals, and researchers, and is becoming an increasingly popular strategy (Fletcher and Neves, 2012; Voumard, M., 2019). This research intends to conduct an examination of those apparently admirable aims of ecotourism and its application in the context of Bangladesh.

It identifies the limitations of ‘eco-tourism-centric’ development and discusses how ‘archi-tourism’ could be an answer. Ockman and Frausto (2005) used the term ‘archi-tourism’ and discussed the relationship between tourism and architecture from the viewpoint of ‘built environment-centric tourism,’ whereas the paper refers to a different viewpoint of ‘tourism-centric built environment’ to explore the relationship of tourism and architecture. The paper discusses how Architecture could offer a potential mechanism for inscribing a belongings-ness into the environment, which will be able to etch a long-lasting impact on tourists, (Ye, H. and Tussyadiah, I. P., 2016). Concerning the capacity of architecture as an effective pedagogical instrument, the paper refers that Architectural thinking could generate a spatial model that could act as a mediator for building an inclusive relationship with the forest.

2. Methodology

¹ TIB refers to Transparency International Bangladesh (TIB).

The study chose *Nijhum-Dwip* (Silent Island), a biodiversity-rich area located on the south-central coast of Bangladesh, under the *Hatiya* district, Chattogram for a detailed examination. The investigation has assumed an exploratory approach to collect qualitative data. Data collection and analysis have followed an interdisciplinary approach integrating the methods of three disciplines- Architecture, Anthropology, and Ecology. Literature review has been conducted on published data [e.g., research papers, books, relevant videos, documentaries, journals, newspapers, etc.] to examine the contemporary and historical evolution of tourism planning, tourism system, and related economic development.

For contextual understanding, a physical field survey was conducted in the study area in 2021 along with the research works and documentaries on this particular context of *Nijhum-dwip*. This helped to identify the contextual strength and threats to the forest areas. This scenario creates an urge to undergo a historical analysis of the island's morphology to examine the reasons for deforestation. As the island started to form its core land in 1950 and settlement growth had begun since 1970 (which is sourced from secondary data and the native's oral narrative), the duration of 1970 to 2021 is selected for morphological analysis, and satellite images are traced to do the mapping. This geo-morphological mapping identifies the land formation/landscape changing pattern of the island, forestation and deforestation period, the relationship between deforested areas and settlement growth, and patterns of forest thinning (figure:04).

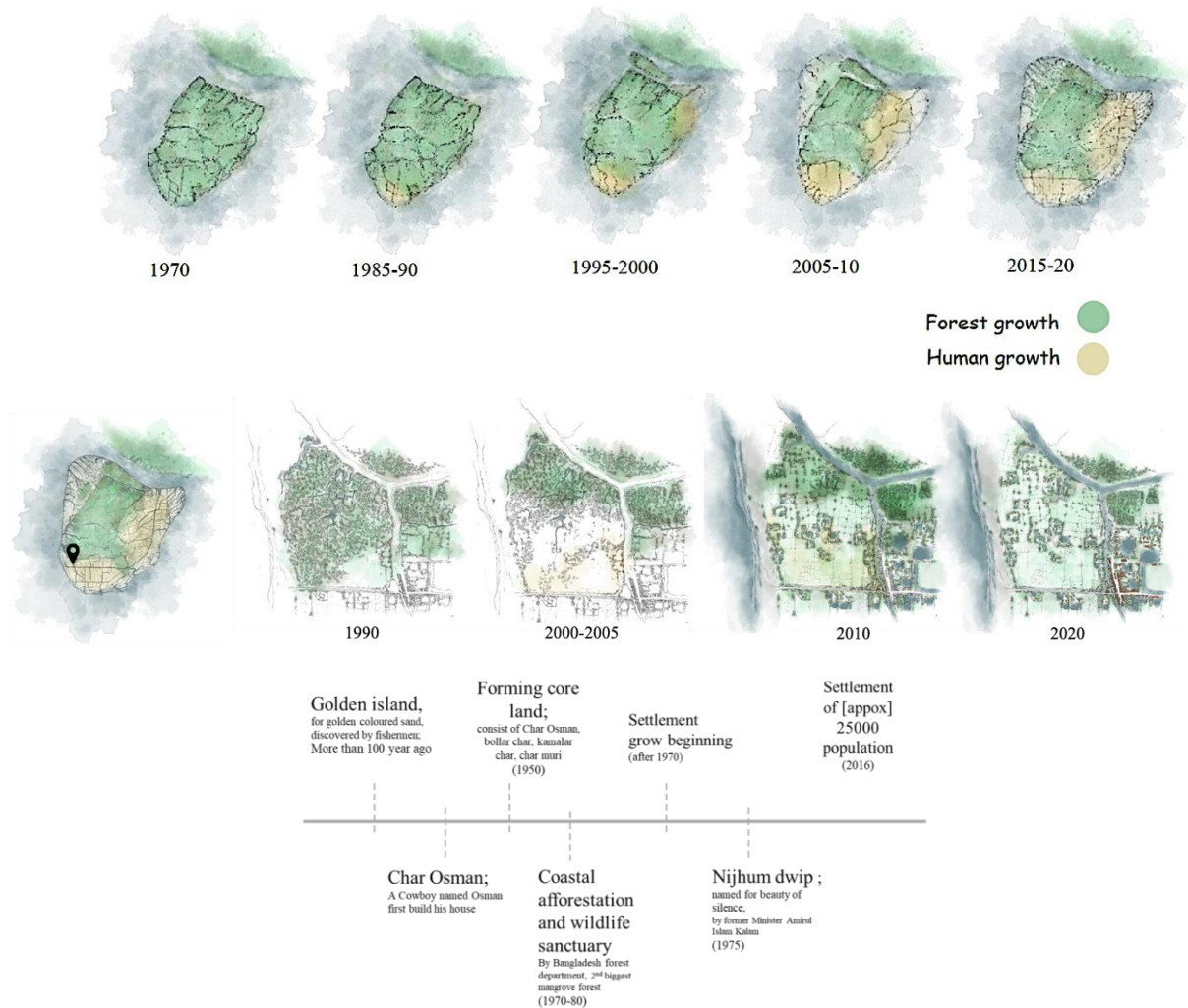
For analysis, interview responses have been transcribed and coded with narrative, sketches and diagrams. Visual research data have been transformed into maps to understand Socio-economic, cultural, ecological, and physical (infrastructure type and functions, land type, land ownership, accessibility, circulation, public space/social space mapping) changes. Mappings are produced in macro scale, microscale, and intermediate scale. The 'Photovoice' method plays a significant role in this visual research data analysis. Major attributes and criticisms are interpreted through this tool. As content creation became a recent trend in social media platforms including YouTube, Facebook, about travel vlogs, tourism facilities, etc., on *Nijhum-dwip*, these are carefully analyzed. For the selection of the content, the paper has considered the uploading time.

3. Findings

3.1 Context of *Nijhum Dwip*

Nijhum Dwip was born on a land of golden sand about (1950) hundred years ago, known as '*char osman*'. Bangladesh Forest Department afforested the *char* area from 1970-80, and made the island the second biggest mangrove forest in Bangladesh. The human settlement grew since 1970 from the southern area of the island, where the fishermen migrated from other parts of Bangladesh. The settlement growth extended towards northwest and northeast parts between 1995 and 2020. By 2000, with the development of transportation infrastructure and connectivity with the neighboring island tourism started to flourish (figure: 01).

bottom: chronological evolution of the island)



Source: (Shahidullah, 2023)

The island was named ‘*Nijhum Dwip*’ (silent island) from *char*, for its spectacular silent beauty, and tourists started to travel in the early 2000’s. Tourism has become a potential earning source at the same period. A certain pattern of settlement growth has flourished around tourism generating a tourism-centric development and architectural vocabulary since 2005-10. The primary concentration of the physical development to support tourism took place mostly around the area of *Namar bazar* node, which is an active socio-economic space for the island. The node became a public place by serving for trade, commercial, tourist accommodation, and multipurpose purposes. Due to the nearby *Namar bazar ghaat*, the maximum sightseeing spots could be accessed from here by boat. A rapid growth of settlement around this public space occurred with high density. This resulted in tourism-related economic growth, including accommodation business, food, and other logistics. In parallel with such infrastructure development, the deforestation rate also increased. This forest thinning continued northeast, east, south, and southwest portions of the island.

3.2 A tourism modality around the concept of ‘gazing’:

The social mapping/analysis (social space and relationship mapping, etc.) (figure: 05,06,07) found that the settlement growth has failed to weave a meaningful relationship between the community and landscape, resulting in significant biodiversity loss. Topologically the mangrove forest, the second biggest mangrove in the country, and the ocean, Bay of Bengal; made an attractive ambiance. Such landscape of the island grabs the attention of adventurous, foreigners,

and various types of tourists. Statistics show that in the winter season, more than 300-500 tourists have gathered (project report, 2020). This interest has been accompanied by the social-media-based content uploading, which peaked in 2018-2019. In the wave of social media and virtual reels, *Nijhum Dwip* has been marketed as a ‘visual’ exquisite of real scenarios. Consequently, it objectifies the forest.

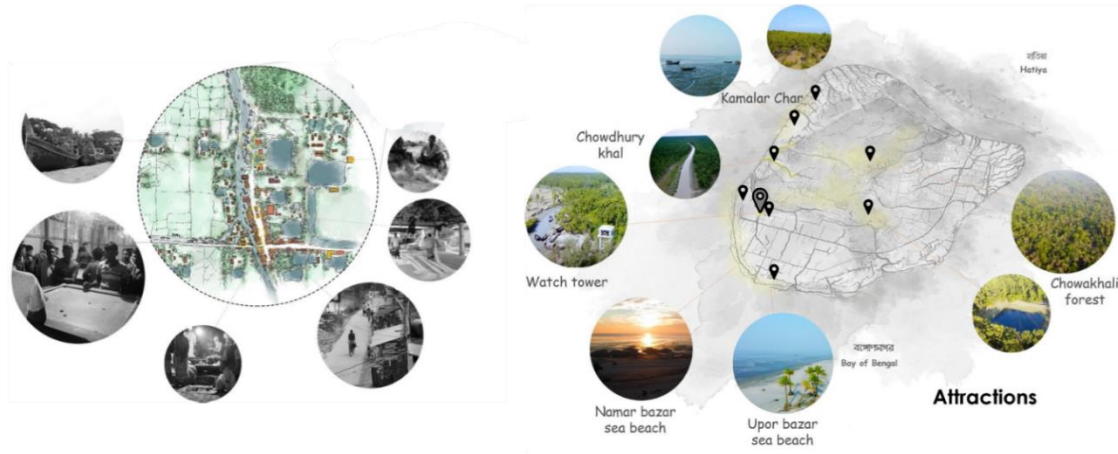
Figure 3: Geo-morphological analysis (top: macro scale entire island; bottom: mesoscale, namar bazar).

Source: (Kumar, A., and Luna, S. S.,2018)



Source: (Shahidullah, 2023)

Figure 5. (left) Namar bazar node centric activity; (right) Namar bazar ghaat centric tourist spots.



Source: (Shahidullah, 2023)

Figure 6. Existing tourism-centric infrastructure development.



Source: (Shahidullah, 2023)

To cover the economic damage of the locals, the government and non-government organizations attempted to facilitate different capacity-building approaches, including eco-tourism or community-development models that could not help much in sustaining the forest. As one of the participants responded to this, "... 'bazar-wala' raa mehoman niyaa jay..." or 'the people from the market group (of Namar bazar) take away/despoiled the guests from us (who are supposed to participate in community-based ecotourism).' From this, there is a practice of 'micro-capitalism', exercised by those who are addressed as 'bazar wala'. It generates a micro-scaled capitalistic system, around the *bazar* or tourism-centric settlement area/built environment, where the market is limited to outsiders and neighboring island people/investors. Thus, these capacity-building approaches are impaired in this context, and this tourism model sinks into a capitalistic market-driven competition causing unintentional or intentional damage to the forest.

Figure 7. Mapping analysis.

<p>Sharing Map</p>	<p>Sharing map</p> <ul style="list-style-type: none"> - shared pond - Shared circulation - Shared courtyard 	<ul style="list-style-type: none"> - Shared space also indicates social bonding and creates an attribute in a spatial sequence - To find the possible intervention zone
<p>Social Relationship Mapping</p>	<p>Social relationship map</p> <ul style="list-style-type: none"> - Sibling and kinship - Abandoned homestead - Neighbourhood 	<ul style="list-style-type: none"> - For a high migration rate, most of the clusters are nuclear families. - So host clusters could be arranged with the existing two or three clusters, concerning their relationship.
<p>Connectivity Mapping</p>	<p>Connectivity mapping</p> <ul style="list-style-type: none"> - Primary road - Secondary road - Aile and internal road 	<ul style="list-style-type: none"> - From inter connectivity line, both-way participation zone could be specified

Source: (Shahidullah, 2023)

Thus, the growing spatio-economic concept of the island became rooted in micro-capitalistic ventures. A sense of exclusion (figure: 02) from the forest building practices has resulted as the existing vocabulary of architecture becomes a market-driven endeavor, merely promoting consumption-driven profit making. Hence, the relationship between humans and the landscape has been losing its meaningfulness and inclusiveness and deteriorated the forest and ecology. Such architectural vocabulary failed to create belongingness and a sense of place to restore the scarred forest. The spatio-economic context created even by the eco-tourism model remains devoid of any belongingness of the tourists for the forests and their ways of being on the island. As a result of the lack of necessary engagement and belongingness of the tourists, the latter could not afford a meaningful relationship with the forest.

3.3 Rethinking Archi-tourism as a new Regenerative method:

The existing modality of eco-tourism/archi-tourism is more focused on economic regeneration from the host perspective only, it does not create a system of forest belongingness. Such a host perspective-oriented archi-tourism model encourages a system of service providing for profit gaining, which ensures/offers bodily comfort and consumption for the tourist and hardly leaves any option to be 'shared' in responsibility and participation, which turns the tourists into 'visitors' rather than 'explorers'. The role of the visitor is centered on the concept of '**gazing**,' which develops a system of '**purchasing**' comfort and visual beauty of the landscape. This implies visual consumption, a similar practice of mass tourism and a chance to 'gaze' upon exotic sights (Urry 2001) The touristic experience of 'gazing' is based on 'consumption' as suggested by Urry (1990), which includes 'consumption' of signs, symbols, and cultural experience. Holistically, it would create a relationship of '**give and take**' and ensure the

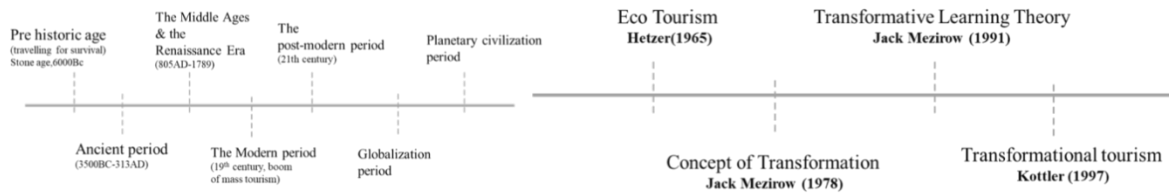
‘exchange’ of service provider-consumer rather than an inclusive relationship of mutual participation. Gazing’ as the only touristic experience made the forest and landscape as an object of consumption, whereas the forest is the **‘co-existents’** of humans. The forest and landscape are supposed to be perceived as co-extents from the **existential perspective** rather than the **consumerism perspective**. A profit-oriented market-driven practice in a capitalistic frame in the name of ‘eco’ is the **other side of the coin**, similar to the mass tourism.

From this system, (tourism-centric) built environment developing ‘gazing promoting infrastructure’ and acts as a money-making industry/institution. Instead of storytelling of the context/represents the cultural identity which could create a meaningful relationship with the landscape acting as a boundary between humans and landscape/ forest. Such a scenario could not create any sense of inclusion and place, which could make the tourists ‘belong’ to that context, ‘being’ involved and ‘sharing’ the responsibility in both host-tourist ways- a system that ensures one-way cash flow and capitalistic consumerism, focusing economic regeneration only rather than forest regenerating system. The study examines how the existing model of ‘archi-tourism ’ could learn from this crisis and acquire place-potentiality to create a ‘forest-regenerating built environment’ through exploring inclusive relationships. As this paper suggests, architecture which would create spaces for **contemplating nature**/spaces or would facilitate contemplation- could be ‘one of the ways’ to look at the crisis.

As the architect and theorist [Aldo Rossi \(1984\)](#) argues that architecture is simultaneously a ‘site’, ‘event’, and ‘sign’ rather than a static structure, spatiality is interpreted as activities and interactions which could create an infrastructure alive. The human experience is emphasized and explored contextual nature and cultural symbolism of architecture beyond mere aesthetics and functionality. Such an understanding of spatiality could extend architectural capacity in both tangible and intangible aspects- creating attitudes that complement meaningfulness with the ecology and specific sites. With this conception, for the context of *Nijhum dwip* activities and functions could be framed in spatial layers for the archi-tourism model. Beyond concrete spaces and boundaries, architecture could act as a contemplating platform through its functions and activities, where it could connect the deeper root of the cultural context. This paper attempts to state that **architectural thinking is central** to generating a sustainable tourism model using Rossi’s argument.

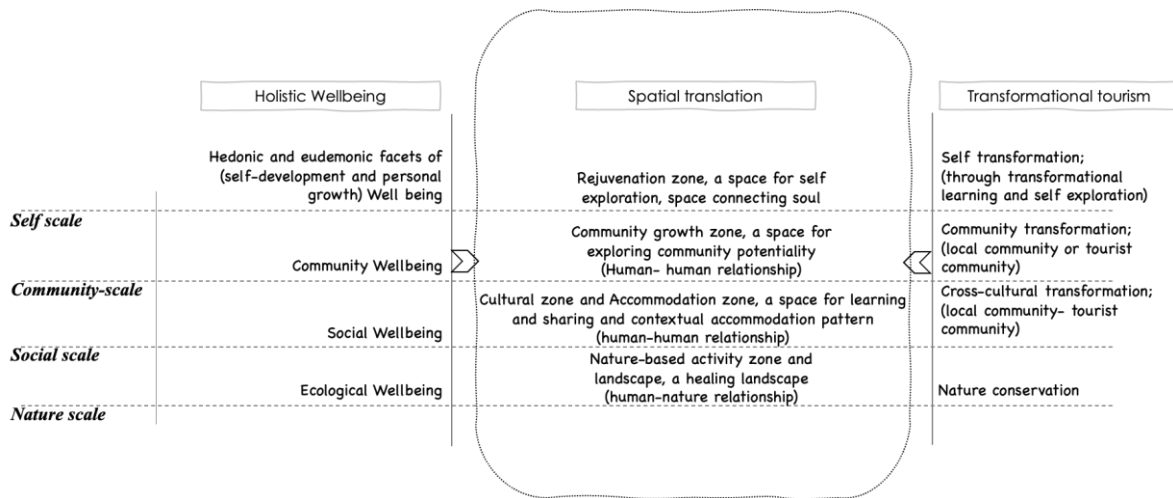
Architecture as a contemplating platform that could define an entirely new way of creating shared responsibility. To create a healing infrastructure for the forest, which is primarily a contemplating nature and upholds the function as well, in accommodation, touristic sites, etc. where the scope of archi-tourism could be explored. As well as, could be one of the ways to create resilient infrastructure for the forest, as the study refers. Such an archi-tourism module could avail participatory ethnography, acknowledging the gap of existing models where gazing would not be promoted through the touristic role of a ‘viewer’ only. Formulating a spatial framework/model of archi-tourism , and analyzing the scope of transformation and well-being, this paper reveals an inter-scalar way of exploring inclusive relationships, multiple scales are integrated, including ‘self’ scale (hedonic-wellbeing); ‘community’ scale (community-wellbeing and human-human relationship); ‘cross-community’ scale (social-wellbeing, human-human relationship) and ‘nature’ scale (ecological-wellbeing and human-nature relationship). As the paper finds the existing models encountering economic regeneration only and creates a missing link of integration of other scales, the suggested model integrates multiple scales for holistic wellbeing. This spatial module integrates multi-layers of activities and events to generate such contemplating spaces where tourists could ‘be’ on the landscape and explore the ‘co-existence’ as well. With this spatial perception, inclusive relationships – (human-human, human-nature) could be manifested in the landscape and could make it resilient and forest regenerative.

Figure 8. Explored Chronology of tourism and tourism ideas.



Source: (Shahidullah, 2023)

Figure 8. Mapping analysis. multi-scalar relationships exploring inclusive relationships.



Source: (Shahidullah, 2023)

Figure 9. Comparative spatial models of existing tourism planning and deforested land at north (left) and suggested/proposed tourism planning with forest regeneration (right).



Source: (Shahidullah, 2023)

4. Conclusion

Tourism-centric built environment and development, labeled 'eco' or not, could not ensure the context-sensitivity of the planning, as the tourism system is focused in economic regeneration only, in the context of Bangladesh. In the study area, Nijhum dwip is content with many touristic infrastructures under the name of 'eco' is not considering ecology. Gradually creates a 'host centric' market-driven endeavor limited into a group of people (who are addressed as bazar-wala form interview) and generates a micro-capitalistic venture where the locals and landscapes are neglected. In this development framework, the system sinks into a profit cycle and gazing centered; there are missing links of 'fixes', as [Harvey \(1989, 2006\)](#) argued, Ecotourism is seen to offer a number of potential logistical 'fixes' to tourism development. Although, recent decades witnessed the rise of 'alternative' tourism (i.e., 'transformative tourism; by Kottler, 1997)) offering a variety of flexible, individually tailored trips concurrent with "capitalism's shift" ([Harvey, 1989; Fletcher and Neves, 2012](#)). Such a tourism model-based development framework for ecologically enriched landscapes shapes the built environment of the landscape with this capitalistic direction. These scenarios/circumstances could not support any inclusive relationship with the landscape and passively encourages deforestation.

Moreover, at the policy level of Bangladesh, the paper identifies, the National Tourism Policy-2010 and functions of the Bangladesh Tourism Board mentioned 'responsible tourism', sustainability, and the term 'eco- tourism' merely in a way of income generation. Along with this, tourism is tagged as a 'product and service' directed towards a strong economic cycle rather than focusing on ecological restoration or regeneration. Since eco-tourism planning is centered around a system of economic regeneration in policy, it generates/provokes to generate consumption-driven tourism planning where ecological restoration and regeneration is a less prior point. The existing profit-seeking and gazing-centered tourism model promotes consumption-service by exchanging currency. Consequently, this tourism model often fails to create any sense of place and objectifies the landscape creating a consumption-driven attitude. These circumstances create exclusive relationships with landscape, and hence, the gap remains in conceptualizing landscape, to prevent any significant biodiversity loss.

This paper identified the perceptual gap of archi-tourism model and human-nature relationship and argues that architectural thinking is central to a sustainable archi-tourism model by using [Aldo Rossi \(1984\)](#). Along with this, the study explores the 'contemplating' nature of architecture, which could create a 'sense of inclusion' and belongingness to the place and an inclusive relationship with the landscape could be explored- where relies on the architectural contribution to creating such a responsible model for forest regeneration and landscape resiliency. In this archi-tourism model, architecture could be the storyteller of the forest, landscape, people- overall the context, as a pedagogical element. 'Sense of inclusion' and place indicates belongingness with the context and landscape, and this perception of belongingness could evolve into a system of shared responsibility with the context not as an in that context. Such modality finds the 'transformational' scope of policy upgradation, envisioning holistic wellbeing, a sense of inclusion, belongingness and collective consciousness through creating more meaningful and inclusive inter-relationships (human-human, human-nature) with the landscape.

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References

- AlSayyad, N., and Roy, A. (Eds.). (2003). *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia*. Lexington Books.
- Ashton, A. S. (2018). Spiritual retreat tourism development in the Asia Pacific region: Investigating the impact of tourist satisfaction and intention to revisit: A Chiang Mai, Thailand case study. *Asia Pacific Journal of Tourism Research*, vol. 23(11), pp. 1098-1114.
- Atmadja, S., and Sills, E. O. (2015). Identifying the causes of tropical deforestation: meta-analysis to test and develop economic theory.
- Development planning proposal at *Hatiya and Nijhum dwip* of Noakhali district. (April, 2020). Ministry of civil aviation and tourism, People's Republic of Bangladesh.
- Fletcher, R. (2011). Sustaining tourism, sustaining capitalism? The tourism industry's role in global capitalist expansion. *Tourism Geographies*, vol. 13(3), pp. 443-461.
- Fletcher, R., and Neves, K. (2012). Contradictions in tourism: The promise and pitfalls of ecotourism as a manifold capitalist fix. *Environment and Society*, vol. 3(1), pp. 60-77.
- Fontana, D., and Slack, I. (1996). A definition of 'transpersonal'. *Self and Society*, vol. 24(4), pp. 30-30.
- Gelter, H. (2010). Total Experience Management: a conceptual model for transformational experiences within tourism. In *Nordic conference on experience: 26/11/2008-28/11/2008* (pp. 46-78). Tritonia.
- Haq, B. (1999). *Battling the storm: study on cyclone resistant housing*. German Red Cross.
- Heidegger, M. (2006). Building dwelling thinking. Spaces of visual culture. London, Routledge, 66-76.
- Heintzman, P. (2013). Retreat tourism as a form of transformational tourism. In *Transformational tourism: Tourist perspectives* (pp. 68-81). Wallingford UK: CABI.
- Hossain, M. D., Hossain, A., Rahman, H., Rahman, M., Asif, A. A., Billah, M. M., and Mondal, M. A. I. (2018). Marketing channels of mud crab (*Scylla serrata*) at Nijhum Dwip, Noakhali, Bangladesh: A value chain analysis. *J. Entom. Zool. Stud*, 6, 521-527.
- Hossain, M. S., Rahman, M. F., Thompson, S., Nabi, M. R., and Kibria, M. M. (2013). Climate change resilience assessment using livelihood assets of coastal fishing community in Nijhum Dwip, Bangladesh. *Pertanika Journal of Science and Technology*, 21(2), 397-422.
- Hossain, M. S., Rahman, M. F., Thompson, S., Nabi, M. R., and Kibria, M. M. (2013). Climate change resilience assessment using livelihood assets of the coastal fishing community in Nijhum Dwip, Bangladesh. *Pertanika Journal of Science and Technology*, vol. 21(2), pp. 397-422.
- Kader, M. A., Mohammed, A. S., Hossain, M. K., Kabir, M. H., and Shafiqur, R. (2013). Environmental impacts and adaptive techniques to cyclones in an offshore Coastal Island of Nijhum Dweep in Bangladesh. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, vol. 4(3), pp. 995-1004.

- Kuddus, K. and Uddin, G. (2023, March 17). St Martin's being killed by unplanned infrastructure. *Prothom Alo English*. Retrieved from <https://en.prothomalo.com/environment/f07pr6xa76>
- Kumar, A., and Luna, S. S. (2018). Migrant Community of Nijhum Dwip: Comparative Importance of Livelihood Capitals to Adapt in This Island. *Journal of the Asiatic Society of Bangladesh, Science*, vol. 44(2), pp. 127-136.
- National Tourism Policy. (2010). Ministry of Civil Aviation and Tourism, People's Republic of Bangladesh
- No author. (March 21, 2021), 'International Forest Day: Annual deforestation rate in Bangladesh almost double the global average, TIB report says'. *The Daily Star*. Available <https://www.thedailystar.net/environment/news/international-forest-day-annual-deforestation-rate-bangladesh-almost-double-the-global-average-tib-2064413>
- Ockman, J., and Frausto, S. (2005). *Archi-tourism*. NY: Columbia Book of Architecture.
- Pop, D. (2013). Space perception and its implication in architectural design. *Acta technica napocensis: Civil engineering and architecture*, 56(2), 211-221.
- Pung, J., and Chiappa, G. (2020). An exploratory and qualitative study on the meaning of transformative tourism and its facilitators and inhibitors. *European Journal of Tourism Research*, 24, 2404-2404.
- Rahman, M. M., Pramanik, M. A. T., Islam, M. I., and Razia, S. (2018). Mapping mangrove forest change in Nijhum Dwip Island. *Journal of Environmental Science and Natural Resources*, 11(1-2), 217-225.
- Rahman, M., Rahman, M. M., Hasan, M. M., and Islam, M. R. (2012). Livelihood status and the potential of alternative income generating activities of the fisher's community of Nijhum dwip under Hatiya Upazilla of Noakhali district in Bangladesh. *Bangladesh Res. Publ. J*, 6(4), 370-379.
- Rahman, S., Islam, M. S., Khan, M. N. H., and Touhiduzzaman, M. (2019). Climate change adaptation and disaster risk reduction (DRR) through coastal afforestation in South-Central Coast of Bangladesh. *Management of Environmental Quality: An International Journal*, 30(3), 498-517.
- Reisinger, Y. (2013). Connection between travel, tourism and transformation. In *Transformational tourism: Tourist perspectives* (pp. 27-32). Wallingford UK: Cabi.
- Reisinger, Y. (2015). *Transformational tourism: Host perspectives*. CABI.
- Reisinger, Y. (Ed.). (2013). *Transformational tourism: Tourist perspectives*. CABI.
- Rossi, A. (1984). *The architecture of the city*. MIT press.
- Saha, P. K., Bodiuzzaman, M., Hossain, M. N., and Shanta, A. S. (2014). A Study on the management strategies of protected area in Bangladesh for biodiversity conservation on Nijhum Dwip, Noakhali, Bangladesh. *International Journal of Innovative Research and Development*, 3(7).
- Sheldon, P. J. (2020). Designing tourism experiences for inner transformation. *Annals of Tourism Research*, 83, 102935.
- Tan, S. K., Kung, S. F., and Luh, D. B. (2013). A model of 'creative experience' in creative tourism. *Annals of tourism research*, 41, 153-174.
- Voumard, M. (2019). Promises and pitfalls of ecotourism: patterns from a literature review.
- Winter, D. D. N. (2003). *Ecological psychology: Healing the split between planet and self*. Lawrence Erlbaum Associates Publishers.

- Woosnam, K. M. (2010). The inclusion of other in the self (IOS) scale. *Annals of Tourism Research*, vol. 37(3), pp. 857-860.
- Ye, H., and Tussyadiah, I. P. (2016). Tourists' Transformation Experience: From Destination Architecture to Identity Formation.
- Zajontz, T. (2022). The Chinese infrastructural fix in Africa: lessons from the Sino-Zambian 'road bonanza'. *Oxford Development Studies*, vol. 50(1), pp. 14-29.