Financing Nature-Based Solutions for a Just Transition: Bamboo Afforestation in Hong Kong

MOK Wing Yiu Yoyo, CESGA®

Hong Kong Institute of Environmental Impact Assessment, Co-opted ExCo Member

Abstract

Nature-based solutions (NbS) provide a 'triple win' potential to tackle global challenges related to biodiversity loss, land degradation and climate change, yet they are significantly underrated in terms of financial values. According to United Nations Environmental Programme (UNEP)'s State of Finance for Nature 2022, investments to NbS must be at least doubled by 2025 to deal with global crises, in which private sector investments are crucial for closing the financial gap. While the key role of NbS in green transition is clear, it alone does not guarantee a Just Transition due to its prime focus on environmental instead of social aspects. As catalysts for change, Financial Institutions (FIs) have a unique opportunity to champion a Just Transition that leaves no one behind while driving for ambitious climate crisis mitigation and adaptation efforts. Can Impact Assessment be the tool to help FIs integrate Just Transition principles in their efforts of scaling up NbS investments? Invaluable functions of Impact Assessment will be discussed through a NbS project funded by a FI, PricewaterhouseCoopers (PwC), in planting bamboos on an abandoned farmland which is rich in biodiversity at Ha Pak Nai in Hong Kong. This case shed light on the critical role of Impact Assessment in navigating Just Transitions in FIs through complexities and challenges. By effectively assessing the environmental, social, and economic impacts, FIs can make informed decisions that promote inclusivity, resilience, and sustainability. In this synergy, NbS investments can also be benefited from engagement with indigenous communities, tapping into their cultural knowledge and expertise about local ecosystems.

Introduction

According to World Economic Forum's The Global Risks Report 2023, 6 of the climate and environmental risks, including 'failure of climate change mitigation and adaption', 'natural disasters and extreme weather events', and 'biodiversity loss and ecosystem collapse', feature in the top 10 global server risks over the next decade (Heading & Zahidi, 2023). Among all global risks, 'biodiversity loss and ecosystem collapse' is considered as one of the fastest deteriorating risks over the next 10 years.

In the quest for effective solutions, there is a growing recognition to the crucial role of NbS in mitigating and adapting to these environmental challenges. Estimates by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) suggested that NbS can provide one-third of the climate mitigation needed until 2030 to meet the goals of the Paris Agreement (Brondizio et al., 2019). Despite NbS provide a 'triple win' potential to tackle global challenges related to biodiversity loss, land degradation and climate change, they are significantly underutilised and underfinanced. With reference to the UNEP's State of Finance for Nature 2022, investments to NbS are currently only $154 billion per year, that must be at least doubled by 2025 and tripled by 2030 to limit climate change to below 1.5°C, halt biodiversity loss and achieve land degradation neutrality (UNEP, 2022). The substantial funding shortfall in NbS reflects a desperate need to scale up finance for the nature, in which private sector investments are crucial for closing the financing gap and as catalysts for change in driving ambitious climate crisis mitigation and adaptation efforts.

Just Transition and NbS

To truly achieve a Just Transition, it is necessary for FI to go beyond the environmental focus of NbS and consider their social implications. While NbS have widely acknowledged for their potential to address global challenges related to biodiversity loss, land degradation, and climate change, solely prioritizing the environment may not guarantee a Just Transition. *Figure 1* illustrates the potential social risks associated with NbS if not adequately planned. One area of concern is the potential displacement of workers due to temporal, spatial, and structural misalignments during the transition, along with uncertainties surrounding labour rights. Furthermore, the preservation of indigenous rights and cultural links is essential, as restrictions on resource access can negatively impact their livelihoods and traditional practices. Additionally, it is vital to address intersecting inequalities and prevent socio-economic setbacks for marginalized communities.

Figure 1 Potential Transition Social Risks in Nature-based Solutions

In line with the Decent Work in Nature-based Solutions 2022 report (ILO, UNEP, & IUCN, 2022), a Just Transition aims to establish a fair and inclusive green economy by providing decent work and green job opportunities, managing transition risks, and ensuring that no one is left behind. This approach seeks to maximize the social and economic benefits of environmental actions while minimizing negative impacts on workers. By supporting affected workers, businesses, and communities, it endeavours to foster an equitable transition that benefits all stakeholders.

Impact Assessment as a Tool for Integrating Just Transition Principles

Impact assessment serves as a useful decision-making tool for guiding FIs in integrating just transition principles when investing in NbS. By aligning with currently available standards (i.e., IUCN Global Standard for NbS and ILO Just Transition Guidelines), as well as evaluating the viability and impacts of proposed NbS projects across environmental, social, and economic aspects, impact assessment enables FIs to make informed decisions that promote inclusivity, resilience, and sustainability.

In the environmental aspect, impact assessment plays a key role in helping FIs understand the current state and drivers of the project site, allowing them to assess the potential biodiversity net gain and return on investment. By assessing the baseline ecological situation, identifying biodiversity conservation outcomes, and identifying opportunities for ecosystem enhancement, impact assessment guides the design of NbS projects that are environmentally sound. In the social aspect, impact assessment is essential for assessing and addressing the potential social challenges posed by the NbS projects. It enables FIs to engage stakeholders from the earliest stages through site visits and consultations to identify the human well-being outcomes of the NbS. This process helps in identifying the specific drivers and responses to societal challenges associated with the project, allowing for the development of inclusive action plans that leaves no one behind. For NbS projects to be investable, it is essential to ensure their economic feasibility. Impact assessment facilitates this by assisting the cost-effectiveness studies and sensitivity analyses to justify the

project against alternative solutions. It also involves reviewing long-term principles and complementary funding mechanisms to secure resources for continuous implementation, ensuring the economic viability of the NbS project.

By utilizing impact assessment as a decision-making tool, FIs can effectively integrate Just Transition principles into their NbS investments. This holistic approach enables FIs to assess and address the environmental, social, and economic aspects of NbS projects, promoting sustainable and equitable outcomes while driving ambitious climate crisis mitigation and adaptation efforts.

Case Study

PwC funded NbS Project in Ha Pak Nai, Hong Kong

In 2022, the first bamboo afforestation initiative in Hong Kong. 'Project Prosperity', was initiated through a collaboration between PwC China and a local NGO called the 'A Plastic Ocean Foundation'. This partnership, funded by the PricewaterhouseCoopers Foundation, offers valuable insights into the application of impact assessment as a tool for FIs to navigate the principles of Just Transition in NbS.

Located on the northwestern coast of Hong Kong, Ha Pak Nai is a biodiversity hotspot renowned for its vital role as a nursery and feeding ground for the near-threatened horseshoe crab. Despite being home to one of the largest seagrass beds in Hong Kong, the environment of Ha Pak Nai has been adversely affected by pollution, soil erosion, and contaminations resulting from various human activities. The consequences of these damages are evident, with abandoned farming operations causing erosion and unchecked contaminations from nearby industrial activities seeping into the streams and sea. Moreover, Ha Pak Nai is particularly vulnerable to the increasing frequency of extreme weather events caused by climate change, including severe typhoons and heavy rainstorms, which significantly heighten the risk of flooding in the area.

Considering the potential impacts across environmental, social, and economic aspects, the NbS project has been carefully designed to address the diverse challenges and opportunities associated with its implementation in Ha Pak Nai. Bamboo was specifically chosen as the focal element of the project due to its unique characteristics and benefits.

From an environmental perspective, the strategic implementation of bamboo afforestation in the buffer zone and water-adjacent areas serves as a protective natural barrier, safeguarding the marine ecosystem by preventing pollution and soil erosion. Additionally, bamboo's phytoremediation characteristic enables it to clean up contaminants in the soil and reduce toxin concentrations, thus contributing to overall environmental improvement. The rehabilitation of abandoned farmland through bamboo afforestation also promotes the recovery of biodiversity in the area.

On the social front, the project goes beyond environmental conservation by focusing on a Just Transition through the creation of green job opportunities and on-the-job training for under-educated youth. Bamboo's versatility and adaptability make it an ideal resource for sustainable industries, offering economic opportunities and supporting the community's transition to a green economy. By empowering the climate-vulnerable community, the project encourages active social and environmental participation while addressing the underemployment of young adults in the village. The collaboration between the younger generation and experienced farmers, who possess indigenous knowledge gained from decades of rural life, holds great potential for making significant impacts. Furthermore, the project's circular model not only contributes to the rehabilitation of nature but also enhances resilience for coastal communities, providing a comprehensive solution to multiple challenges. This empowerment not only enhances their livelihoods but also promotes social inclusivity, fostering a just and sustainable future.

From an economic standpoint, the project leverages the harvested bamboo to produce eco-friendly bamboo tableware, which serves as a sustainable alternative to single-use plastic items. With the recent ban of single-use plastics in Hong Kong, the market demand for eco-friendly products presents a viable opportunity for economic growth and scale. Besides, bamboo's regenerative characteristics, such as its rapid growth and ability to grow back from its original root system, make it a sustainable and renewable resource for the project's long-term viability. The income generated from the sales of harvested bamboo and the manufactured bamboo products establishes a self-sustaining business model, ensuring economic growth and resilience within the community.

In conclusion, this NbS project in Ha Pak Nai showcases a comprehensive approach that effectively address environmental, social, and economic challenges. Through the strategic design of the NbS using impact assessment, the project mitigates environmental degradation, promotes social inclusivity and green job creation, and establishes a sustainable economic model. This case study exemplifies the potential for impact assessment to guide FIs in navigating Just Transition principles within NbS, contributing to a more sustainable and resilient future for communities like Ha Pak Nai.

Future Directions

As we continue to navigate the challenges posed by climate change, it becomes increasingly obvious that connection is key to building resilience and advancing sustainable solutions. In crafting strategies and financing initiatives to address climate change, it is crucial to prioritize the concept of a Just Transition, particularly about the individuals and communities directly affected.

Connection, both among stakeholders and with the environment, plays a vital role in fostering resilience. Collaborative efforts, such as the partnership between PwC China, the 'A Plastic Ocean Foundation,' and the Ha Pak Nai community in the 'Project Prosperity,' exemplify the power of collaboration and collective action. By bringing together diverse expertise, knowledge, and resources, we can develop holistic solutions that address the multifaceted challenges of climate change. Furthermore, building resilience requires recognizing and embracing the interdependencies between ecological, social, and economic systems. Only by adopting a comprehensive approach that considers the interconnectedness of these domains, we can create synergistic solutions that yield long-term benefits for both people and the environment. Inclusive and equitable decision-making processes are fundamental to the success of any climate change mitigation and adaptation strategy. The principles of a Just Transition guide us in ensuring that no one is left behind in the pursuit of sustainability. In the context of NbS, it is imperative to involve and empower local communities, particularly those most vulnerable to the impacts of climate change. By valuing and incorporating their traditional knowledge, perspectives, and needs, we can co-create solutions that are contextually relevant and socially just.

Looking ahead, future NbS investments should prioritize the strengthening of connections, the cultivation of resilience, and the promotion of inclusiveness. To effectively address climate change, we must foster collaborative networks, engage diverse stakeholders, and embrace a holistic approach that transcends disciplinary boundaries. By centering the principles of a Just Transition with the use of impact assessment, we can ensure that the pathways we design are equitable, sustainable, and transformative for both present and future generations.

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