

Roundtable on Financing Water

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Session 4. Financing Water Infrastructure and Landscape Approaches in Asia and the Pacific

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BACKGROUND PAPER

Understanding the Problem

The scale of water-related risks and natural capital deterioration can no longer be overlooked. The ‘tragedy of commons’ seems to be materializing with the overstepping of several ‘planetary boundaries’: 79% of the land surface, 66% of the ocean area, 85% of wetlands (area) have been significantly altered by multiple human activities¹. With an estimated 5.2 billion population by 2050, its rapid urbanization and buoyant economic growth, Asia and the Pacific region faces alarming water challenges: 3.4 billion people are expected to be living in water-stressed areas by 2050. Water-related health risks and ecosystem deterioration are exacerbated by the poor-quality condition of water bodies: almost 80% of wastewater is discharged in rivers, lakes and the sea with little or no primary treatment². These challenges are compounded by climate and land use changes, increasing extreme weather events, water-related crises and associated disasters. Water risks affect not only livelihoods and ecosystems, but also the economy. When water risks are not adequately managed, economic impacts are significant. In terms of monetary costs, weather-related disasters have amounted to USD 750 billion losses from 2003 to 2013³ in the region, with Myanmar, the Philippines, Bangladesh, Vietnam and Thailand among the most affected.

Over the last decade, the World Economic Forum has ranked water in its top five global risks and CDP has estimated over USD 30 billion corporate losses due to water crises in 2018⁴. On the one hand, water challenges can directly impact businesses with supply chains and operations heavily dependent on water (i.e. food industries, beverage companies and textiles). On the other hand, water risks can have negative externalities on the financial sector, affecting specific asset classes and decreasing revenues. These can be (i) physical risks, for companies and relative investments characterized by water-intensive production processes; (ii) regulatory risks, related to policy and regulations governing water use and pollution control; (iii) reputational risks, particularly in regions with high water stress and resource competition among different stakeholders including productive sectors (i.e. agriculture, manufacturing) and local communities⁵.

Our landscapes are not static but rather continuously adapting and re-shaped by several internal and external factors forged by social, environmental, economic and political dynamics which are highly interconnected. Integrated landscape management involves long-term collaboration among different groups of stakeholders to achieve their multiple objectives and expectations within their landscape for local livelihoods, health and well-being⁶. Landscape-based approaches (integrated projects within a given spatial area) deliver multiple water-related benefits across several sectors, for example to agriculture, energy production, fisheries, recreation and tourism. Projects incorporating landscape-based approaches are increasingly being developed to address SDG-related challenges.⁷

¹ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). 2019 Report.

² ADB. 2016, Asian Water Development Outlook. Manila.

³ UNEP. 2015. Aligning the Financial Systems in the Asia Pacific Region to Sustainable Development. UNEP Inquiry: Design of a Sustainable Financial System. Geneva.

⁴ More info here: <https://www.cdp.net/en>

⁵ WWF, November 2019, http://wwf.panda.org/our_work/water/freshwater_news/?355750/Linking-water-risk-and-financial-value

⁶ <http://peoplefoodandnature.org/about-integrated-landscape-management/>

⁷ OECD.2019. Making Blended Finance Work for Water Sanitation and Infrastructure.

The Financial Gap

While the benefits of investing in water are clear, a substantial financial gap remains. According to the latest ADB report⁸, of the approximate USD 880 billion spent regionally on infrastructure investments in 2015, only 5% (USD 44 billion) were water related. Of these, 98% came from the public sector, with private sector investments amounting to less than 2% and concentrated mostly in China, Malaysia and the Philippines. Water supply and sanitation sectors represent the greatest investment needs, followed by flood protection and irrigation. Climate-adjusted water and sanitation infrastructure investments in Asia and the Pacific are estimated around USD 800 billion over the period 2016-2030, which represent 3.1% of the total infrastructure investment needs.

Although the unmet demand to unleash private market capital into water-related infrastructure investments is significant, a paradigm shift to move away from the ‘business as usual’ model is underway. According to a report by Credit Suisse and McKinsey⁹, financial institutions and the larger private sector have started to seize the opportunity in investing in the broader spectrum of water-related infrastructure and conservation.

Aim and Approach

The aim of this paper is threefold. Firstly, it attempts to unpack the concept of green finance for investments in water infrastructure and landscape approaches. In doing so, it highlights some of the barriers to mobilize private capitals for these sector-specific initiatives. Secondly, it proposes risk mitigation measures to unlock private sector opportunities. Lastly, it sheds some light on recent initiatives to leverage blended finance for water-related investments in Asia and the Pacific. The analysis is not exhaustive. It is intended to be further developed and refined by drawing on lessons learnt both regionally and globally. Challenges ahead to bridge the financial gap are complex. They require enabling conditions and integrated efforts blending not only diversified sources of finance but also tools across different sectors and multi-stakeholder partnerships.

‘Green’ Finance for Water Infrastructure and Landscape Approaches

Classifications systems (or taxonomies) to ‘tag’ water-related investments eligible under ‘green’ finance sources are a growing global trend¹⁰. This paper identifies three main categories: (i) Water infrastructure: climate-resilient and water-energy saving systems for municipal, industrial and agricultural water supply, improved drainage, water pollution control and wastewater treatment; (ii) Natural capital conservation: protection of ecosystems, freshwater bodies – e.g. wetlands, rivers and lakes – and marine/coastal areas, including coral reefs and fisheries; (iii) Disaster and resilience: climate-proof infrastructure

⁸ ADB. 2017. Meeting Asia’s infrastructure Needs. Manila

⁹ Credit Suisse and McKinsey. 2016. Conservation Finance – From Niche to Mainstream: The Building of an Institutional Asset Class.

¹⁰ The European Union Commission established a Technical Expert Group (TEG) on sustainable finance in 2018. The TEG has proposed a regulation for the establishment of a framework to facilitate sustainable investment, covering climate change mitigation, adaptation, sustainable use and protection of water and marine resources and protection of healthy ecosystems. For further info: https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en

including nature-based solutions, early warning systems and insurance against water-related disasters.

Box 1. ‘Unpacking’ Green Finance

Sustainable, green, climate, conservation and landscape are often used interchangeably. There are not consistent definitions attributable to the different terms. Although there is no internationally agreed definition, green finance is usually referred to as finance for green growth. Generally, sustainable finance takes a broader environmental, social, economic and governance approach. Narrowing the concept down, green finance refers more specifically to environmental issues, including both climate and conservation elements. Therefore, climate and conservation finance can be considered sub-components of green finance. Conservation finance is aimed at funding investments to conserve the values of the ecosystem for the long-term. More specifically, climate finance is targeted to climate change mitigation and/or adaptation initiatives associated with the United Nations Framework Convention on Climate Change (UNFCCC). Landscape approaches are increasingly emerging as integrated solutions to pool different sources of finance. The ADB defines ‘green’ finance as ‘finance for a sustainable planet. This covers the gamut of financial services, institutional arrangements, country initiatives and policies, and products (i.e. debt, equity, insurance, or guarantees) designed to promote the flow of finance towards economic activities and projects. These would actively promote environmental improvement, climate change mitigation and adaptation, and improve efficiencies in natural capital preservation and resource mobilization’¹¹.

In Asia and the Pacific, countries have become increasingly active in promoting green finance with national policy packages and localized initiatives. For example, China, Vietnam, Indonesia and Bangladesh have adopted their own green finance definitions and introduced sustainable guidelines and regulations¹². Some of these are detailed with taxonomies of water sector-based targeted activities, as follows: pollution prevention and control, resource conservation and recycling, ecological protection and climate change adaptation (China); land use conservation and green agriculture (Vietnam); climate change mitigation and adaptation, resource efficiency, protection of natural capital and biodiversity (Indonesia); liquid waste management, energy efficiency and recycling activities (Bangladesh)¹³.

¹¹ ADB. 2017. Catalyzing Green Finance. A concept for leveraging blended finance for green investments.

¹² Volz, U. 2018. Fostering Green Finance for Sustainable Development in Asia. ADBI Working Paper 814. Tokyo: Asian Development Bank Institute. Available: <https://www.adb.org/publications/fostering-green-finance-sustainable-development-asia>

¹³ Sachs, J. D., W. T. Woo, N. Yoshino, and F. Taghizadeh-Hesary. 2019. Why Is Green Finance Important? ADBI Working Paper 917. Tokyo: Asian Development Bank Institute. Available: <https://www.adb.org/publications/why-green-finance-important>

Barriers to Private Capital Mobilization for Water-related Investments

Scaling up private investor engagement for water infrastructure and landscape-based investments faces both technical and non-technical barriers. Some of these are explained below:

1. **Unattractive risk-adjusted returns of investments:** Water infrastructure and landscape projects are often considered not ‘bankable’ by investors. This is mainly for two reasons. The first is their associated inadequate risk-adjusted returns with relatively high transaction costs. Most water sector projects have public or ‘common good’ characteristics with little financial returns due to affordability considerations, especially in developing markets, characterized by subsidized water prices and low water tariffs. In addition, costs to achieve environmentally sustainable targets usually outweigh revenues since they require more advanced technologies, better optimization and more sophisticated management strategies. The second reason why water investments are unattractive to the private sector is related to so-called ‘short-termism’: commercial banks mainly fund short-term horizon investments of 1 to 3 years which guarantee quick returns. They are unlikely to fund water infrastructure investments with long-term payback periods of 20 to 30 years. This mismatch generates a ‘tragedy of horizons’, affecting commercial finance investment opportunities, unless de-risked and blended finance mechanisms are put into place.
2. **Market failures:** Monetary benefits of water-related investments –which can be derived through access to drinking water and sanitation, improved efficiency, cleaner and circular production – are not properly identified, quantified and incorporated in financial assessments. Water values remain hidden and opportunities untapped.
3. **Lack of transparency in Environmental, Social and Governance (ESG) data to value water:** ESG criteria for corporate data disclosure to investors have typically either focused on carbon or covered water risks through singular values. However, water risks are multi-dimensional and integrated approaches to better account for them with more nuanced responses would provide a more accurate picture of the performance, risks and opportunities for investments. Financial valuation tools to calculate water risks (i.e. WWF’s Water Risk Filter and WRI’s Aqeduct) are freely available online. Notwithstanding these efforts to collect, disclose and systematize water data, there are no standardized formats to date. This results in discrepancies in reporting and accounting.
4. **Inadequate regulatory, and policy coherent frameworks:** Regulatory requirements for water risks disclosure and reporting by financial institutions are broadly lacking. International initiatives, such as the Task Force on Climate-Related Financial Disclosures (TCFD) launched in 2015 and the EU Commission Action Plan on sustainable finance launched in 2018, exist. In addition, 13 out of the 32 countries represented in the Sustainable Banking Network (SBN), are from Asia¹⁴. However, these regulations often do not incorporate physical risks (i.e. water shortage, water pollution, ecological impact, climate-driven extreme weather events, such as floods and cyclones) and transition risks (i.e. changes in policies, liabilities, market preferences, or so-called ‘stranded’ assets).

¹⁴ Volz, U. 2018. Ibid.

5. **Project Technical Constraints:** Water infrastructure and landscape projects often suffer from poor preparation of project pre-feasibility and design, weak pipeline identification structuring and implementation. Another issue is silo-sector thinking instead of programmatic approaches. Policy silos between different ministries or agencies with management roles over water, natural resources management and productive uses result in duplications, overlapping roles and overall inefficiencies.

Risk Mitigation: Unlocking Private Capital Investment Opportunities

Targeted policy actions can be designed to overcome technical and non-technical barriers while creating a conducive environment for private capital investments. Some of these are:

1. **Classify water investments to manage risks and increase bankability:** Context-based taxonomies can be used to map investment categories: this can inform investors' decisions and align their investment strategies with project developers and national policy objectives.
2. **Create value for natural capital and ecosystem services to overcome market barriers:** several methodologies have been developed to integrate economic, social and environmental values into corporate and financial decision-making. Market-based solutions, such as Payment for Ecosystem services (PES) or water stewardship initiatives to promote integrated water resources management at a catchment level, have been widely mainstreamed by non-profit organizations (i.e. WWF and TNC) partnering with for-profit and development banks (i.e. Credit Suisse, the ADB). Country examples exist, such as the 'eco-compensation' policy framework established by the Government of China to incentivize local authorities to achieve targeted compensation outcomes and catalyze innovation. As a result, Ecological Transfer payments to Key Ecological Function Zones (KEFZs) have increased nationally from CNY6 billion across 230 counties in 2008 to CNY80 billion across 700 counties by 2016, for a total investment of CNY251.3 billion during 2008–2015.¹⁵
3. **Standardize mechanisms to mainstream water risks in ESG and increase transparency:** Green bond initiatives are exponentially growing as financial products to crowd in private capital investments, with the green bond market amounting to USD 216.4 billion globally¹⁶. To increase transparency and harmonization, the Climate Bonds Standard and Certification labels schemes used globally by bond issuers, governments, investors and the financial markets. The Water Infrastructure Criteria was launched to inform investment decisions on eligible activities, use of proceeds, reporting and verification mechanism. Criteria cover both engineered water infrastructure and nature-based solutions, including hybrid and multi-purpose systems for water collection, storage, treatment and distribution and flood resilience¹⁷. Third-part review of green bond issuance and

¹⁵ Government of the People's Republic of China, Ministry of Environmental Protection, and Chinese Academy of Sciences. 2008. National Ecological Function Zoning Plan. Beijing.

¹⁶ More information here: <https://www.climatebonds.net/>

¹⁷ More info here: <https://www.climatebonds.net/standard/water>

tracking use of proceeds are also important factors to help avoid green washing in this market¹⁸.

4. **Promote landscape approaches to overcome silo-thinking and provide holistic solutions** through the engagement of actors and the mobilization of capital within the relevant special scale (i.e. catchments and river basins). Water funds and finance facilities can serve as pool mechanisms to channel investments in water different subsectors. They can also be very effective tools to mobilize private capitals from institutional investors, such as pension funds and insurance companies, by issuing local currency bonds in the capital market in support of their own country's national priority actions on water and sanitation service delivery.

Leveraging Blended Finance for Water-related Investments in Asia and the Pacific

The People's Republic of China (PRC) has been at the forefront in driving green finance innovation in Asia since 2014, when a Green Finance Task Force was set up by the Bank of China and the UNEP. The key principle underpinning PRC's green finance strategy is to mobilize the private sector through an efficient capital market system leveraged by government funds and policies. This is executed through a comprehensive set of institutional mechanisms to enable green investments, financial measures and ring-fenced lending. A multitude of green financing channels and products have been promoted since 2014. In 2015, the Bank of China has released the first country-specific green bond issuance guidelines. With approximately USD 42.8 billion, PRC was the largest issuer of green bonds in ASEAN+3 countries¹⁹ in 2018, followed by Japan and Korea²⁰.

Cumulatively, PRC is the second largest green bond market after the US with a total amount of more than USD 80 billion. The top three sectors of investments have been so far energy and transport, though the water sector is increasingly gaining traction, especially with regard to water pollution control and coastal protection.

Developing sustainable capital market strategies, strengthening financial regulations, building capacity and mobilizing financial flows are common policy ingredients for other countries in the region, namely India, Indonesia and Vietnam. As an example, the Government of Vietnam has been particularly active in designing programs and plans to operationalize not only green growth but also climate resilience and adaptation strategies in urban and peri-urban areas²¹

Innovative initiatives have been recently launched to bridge the finance gap, especially in high priority infrastructure subsectors – such as water supply and sanitation – which traditionally lack investment diversification. Among these, the ADB's pioneering Green Finance Catalyzing Facility (GFCF) was designed as a tool to create localized green finance solutions and vehicles to drive green growth leveraging public-private sectoral funds. The GFCF explicitly leverages catalytic funds through mixed finance including public funds from development partners, central and local governments, as well as private, institutional and commercial (PIC) finance. Setting its foundation on the two main pillars of financial

¹⁸ Such as the second opinions done by CICERO: <https://cicero.oslo.no/en/posts/single/CICERO-second-opinions>

¹⁹ PRC, Japan, Korea, Indonesia, Singapore, Malaysia, Philippines, Thailand and Vietnam.

²⁰ Climate Bonds Initiative (CBI) as of May 2019.

²¹ ADB. 2017. Ibid.

bankability and environmental sustainability, the GFCF concept takes a different approach to green finance. This consists in focusing on proactively generating bankable green project pipeline to attract PIC finance at the project level rather than raising finance based on the financial strength of the project sponsors. Water-related initiatives eligible under the facility include (i) water and sanitation to decrease pollution of natural water bodies; (ii) climate change and disaster resilience and (iii) land use with the aim of protecting natural environment and biodiversity.

A facility with similar characteristics, the ASEAN Catalytic Green Finance Facility, was recently launched (April 2019) to catalyze private capital by mitigating risks through blended instruments. The facility will mobilize USD 1 billion, pooling funds from different actors, including the ADB.