Dutch involvement in international water development projects via Masterplans

Comparative case study on Beira, Jakarta & Manila Bay

Utrecht University

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Abstract

The Netherlands aspires to assist other countries across the globe in achieving safety and security regarding water. The Netherlands wants to supply researchers and consultants to countries that lack the required specialist knowledge. Recent Dutch international development cooperation has been regarding environmental degradation, by teaming up with developing countries to create three water-related Masterplans for development in vulnerable areas and promoting inclusive development. The target areas were Beira, Jakarta and Manila Bay. These three Delta areas shared problems regarding water vulnerability. Threats of flooding due to climate change, sea level rise and land subsidence were common characteristics. Other challenges were linked to rapid urbanization that led to insufficient housing, drinking water and trouble with waste and waste-water.

Through semi-structured interviews and a document analysis, the plan development process and the stakeholder influence is analyzed, in terms of needs, challenges and impact. A comparison analysis between the Masterplans shows the main differences and similarities between the target areas and their needs, as well as the changes in developing the plans over a timespan of eight years. The stakeholder analysis is used to gain a better understanding of the Dutch actors and their involvement in the planning and implementation phases of the Masterplans.

Masterplans can be a helpful tool for reaching water safety and security, because they offer good suggestions to deal with the urgent problems, tailored to the needs of the area. However, it is not clear if and how the local governments will proceed after the planning phase is done. The Masterplans cannot directly be linked to achieving an inclusive society. Social inclusiveness has improved during the timeline of the Masterplans, but due to local circumstances of corruption and the large scale of the plans it cannot be certain to be a large influence for an inclusive society.

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I wish you a pleasant reading,

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List of Abbreviations

DRR	Dutch Risk Reduction
DENR	Department of Environment and Natural Resources
ECC	Environmental Clearance Certificate
IWA	International Water Ambition
JCDS	Jakarta Coastal Defense Strategy
MBSDMP	Manila Bay Sustainable Development Master Plan
NCICD	National Capital Integrated Coastal Development
NEDA	National Economic and Development Authority
NGO	Non-governmental Organisation
NIWA	Netherlands International Water Ambition
NMIA	New Manila International Airport
PAP	Programs, Activities, Projects
PDP	Philippine Development Plan
RVO	Rijksdienst Voor Ondernemend Nederland (Netherlands Enterprise Agency)
SDG	Sustainable Development Goals
SMC	San Miguel Corporation
WSP	Water Safety Plan

Introduction

Safe & Secure water

As 71 per cent of the Earth's surface is covered with water and the oceans hold about 96.5 per cent of all the water on Earth, it is crucial to focus on developmental challenges regarding water (*How Much Water is There on Earth?* | *U.S. Geological Survey*, 2018). On the one hand, rising sea levels, extreme weather and flooding threats are becoming more frequent, suggesting an abundance of water supply. On the other hand, the lack of safe drinking water is an urgent problem.

As a shared blueprint for peace and prosperity for people and the planet, the Sustainable Development Goals (SDG) are adopted by all United Nations Member States in 2015 (*THE 17 GOALS* | *Sustainable Development*, n.d.). These goals are an urgent call for action for all countries in the UN to work on humanitarian and economic goals while tackling climate change and taking steps to preserve our forests and oceans. Three of the seventeen goals are targeted to water: aquatic life, climate change and clean water & sanitation.

To achieve these goals, the UN has made inclusive development a part of their strategy. Inclusive development emphasizes the social, ecological and political dimensions of development. Gupta & Vegelin (2016) present inclusive development as having three key dimensions; social, ecological and relational inclusiveness. It is important that all three dimensions are given equal weight in the design of the developmental strategies in order to reach inclusive development. In relation to the challenges of the previously mentioned water problems, these dimensions are necessary to achieve sustainable development.

Dutch water ambition

The Dutch government has a grand history of international water development both by conducting development cooperation programs and by expanding the opportunities in the water development industry (Spitz et al., 2013; Savelli, Schwartz & Ahlers, 2019)

Dutch Aid and Trade policy focuses on a variety of issues, including income creation and employment generation, entrepreneurship, business, trade and investment climate as well as climate change and water – priorities where Dutch knowledge and expertise can make a significant impact, according to the Dutch Ministry of Foreign Affairs (2013). Set within a framework of improving 'aid effectiveness' and based on the discourse of economic growth as the engine for poverty alleviation, the merger of development aid and trade is argued to result in a more effective approach for achieving inclusive and sustainable growth with this policy (Savelli, Schwartz & Ahlers, 2019).

A central tenet of this policy is to promote private sector involvement in development projects. The underlying assumption is that the private sector, through its involvement and investment in development projects, will lead to economic growth and poverty alleviation (Ministerie van Buitenlandse Zaken, 2022). Set within a framework of improving 'aid effectiveness' and based on the discourse of economic growth as the engine for poverty alleviation, the merger of development aid and trade is argued to result in a more effective approach for achieving inclusive and sustainable growth with this policy (Savelli, Schwartz& Ahlers, 2019). At the same time, trade – and in particular the global trade system– is not inherently good and does not inexorably deliver benefits to poorer countries. There are also concerns that combining development objectives with Dutch commercial interests risks leading to the capturing of aid by trade – something that was not only raised by NGOs (Both ENDS, ActionAid, & SOMO, 2013), but also noted by the Organisation for Economic Cooperation and Development (OECD) (*Development Co-operation Report 2016 - the Sustainable Development Goals as Business Opportunities - OECD*, n.d.).

The Netherlands aspires to assist other countries across the globe in the prevention of flood disasters and clean water. Together with other countries possessing water expertise, the Netherlands wants to supply specialists to countries that lack the required specialist knowledge (Ministerie van Buitenlandse Zaken, 2020). Two other main strategies in water-related development are investments and planning. Recent Dutch development cooperation has been regarding environmental degradation by teaming up with development countries to create three water-related Masterplans for development in vulnerable areas.

The term Masterplan covers a wide array of urban design tools. They range from flexible urban design frameworks that just cover the essential urban framework to detailed tools that guide governance or public authorities to a very local spatial scale. Masterplans are used by the Dutch to create a framework with suggestions for future implementations to support international development projects on a local level.

Research questions

The role of the Netherlands in these water-related development cooperations is part of a larger political development framework, and by researching the three recent Masterplans and in-depth the case of Manila Bay, this paper contributes to that framework. The findings contribute to a better understanding of possible improvements for Dutch development cooperation in the future**.**

In order to find these insights the following questions will be researched:

Main question

Given the Dutch water ambition, how do Masterplans contribute to water security, water safety and inclusive development?

Sub questions

-What are the characteristics and problems of Beira, Jakarta and Manila Bay?
-What solutions are proposed by the Masterplans for Beira, Jakarta and Manila Bay?
-Are the Masterplans helpful in providing solutions for the water problems encountered by Beira, Jakarta and Manila Bay?
-How is social inclusiveness incorporated in the Masterplans?

Masterplans

The first Masterplan is located in Beira, Mozambique. The city is facing serious climate threats, it is located just a few meters above sea level and faces heavy rainfall during the summer. The capacity and quality of the drainage system and coastal protection are currently insufficient to effectively protect Beira and its inhabitants against floods. Secondly, many people suffer from bad living conditions and poor quality of life due to insufficient coverage of urban infrastructure like drainage, drinking water and sewage systems. Furthermore, the rapidly growing, uncoordinated urban development negatively affects the living conditions of the residents of Beira, especially in flood-prone areas.

A clear climate change adaptation strategy is necessary to meet the challenges with regard to flood safety, economic development and quality of life (*Beira Master Plan 2035,n.d.)*. To realize the goal of a safe, prosperous and beautiful Beira, the plan focuses on the economic potential, improving the living conditions and climate change adaptation.

The second Masterplan is set in Jakarta, Indonesia. This city experiences rapid land subsidence, the average rate of subsidence is 7.5 centimetres per year. In combination with

rising sea levels and intense rainy seasons the city suffers from flooding and increasing flooding threats. Secondly, polluted rivers, insufficient drinking water storage and poor living conditions threaten the residents of the rapidly growing Jakarta.

For several years Indonesia and the Netherlands have been working together to reduce and prevent floods in the national capital of Indonesia. This collaboration resulted in the Jakarta Coastal Defense Strategy (JCDS) in 2011. Bilateral cooperation is continued in the National Capital Integrated Coastal Development (NCICD) project. The main goal is to offer Jakarta long-term protection against flooding from the sea and rivers in the coastal area, and at the same time facilitate socio-economic development. To achieve this, a long-term flood safety model is necessary, alongside a design for urban development and a roadmap for implementation.

The third Masterplan is made for Manila Bay, a large bay in the Republic of the Philippines, adjacent to the capital Manila. The bay area is increasingly vulnerable to flooding, due to sea level rising and extreme weather. Other problems are pollution, the lack of regulation for land reclamation proposals and safe drinking water to accommodate the rapid urban growth.

The Philippines has formed a partnership with the Netherlands to create the Manila Bay Sustainable Development Master Plan (MBSDMP). This Masterplan is envisioned to guide decision-makers in the assessment and approval of programs, activities and projects (PAPs) for implementation in Manila Bay and in adjacent areas with significant influence on the bay (Manila Bay Sustainable Development Master Plan, 2021). To reach this goal, they focus on water quality, protection of ecosystems and improvement of quality of life for the local communities.

These Masterplans all have in common that they are located in delta areas vulnerable to flooding due to rising sea levels, rivers and extreme weather. The Masterplans are developed by a collaboration between local governments and the Dutch government, with Dutch research companies as leading teams on the development of the plans.
Since the development stages of these plans are finished by now (2022), it is interesting to take a look at these three plans to see what they have in common and what we can learn from them.

Research Methods

For this research, a qualitative approach has been chosen, as the goal is to gain an in-depth understanding of the processes of development politics and social inclusiveness in Dutch development cooperation. The main focus of qualitative research is to explore, understand and clarify situations, perceptions or experiences of a group of people. A qualitative study design is suitable for exploring variation and diversity in any aspect of social life (Kumar, 2014). The qualitative research focuses on the experiences of the different actors involved in the Masterplans and can share insights from the field that are narrated by the partaking parties. An analysis of these shared insights embraces the perspectives of the involved parties and the context in which the projects have taken place. Therefore, a qualitative approach is especially suitable for answering the research questions.

Firstly, a document analysis has been executed. Documents of the Dutch government on development strategies and documents specified to the three Masterplans were used for this analysis to expand the context for the interviews. In total 20 documents were included in the analysis (appendix A). Examples of the search terms used are; Masterplan Beira,

Masterplan Jakarta, Masterplan Manila Bay, NCICD, MBSDMP. Apart from the document analysis a literature study was performed to provide the regional context. Google Earth and other maps were used to collect visual support regarding the delta areas.

Secondly, a stakeholder analysis was conducted to get a better insight in the involved parties in the three cases and to explain their roles in the Masterplans. A stakeholder analysis is a methodology used to identify people and organizations that have a 'stake' in an issue that would affect them or their organization. In this stakeholder analysis the different roles and goals of the parties were structurally mapped out to create a general overview of the Dutch involvement in the Masterplan projects. This is helpful in order to understand the connections, responsibilities and (possible) conflicts that might be present in the cases.

Lastly, for this research 10 semi-structured interviews have been conducted, Dutch government officials, NGO representatives and researches shared their experiences with the processes in Manila Bay. By interviewing the different actors the variety of viewpoints is attempted to be captured. The transcriptions of these Masterplans were processed in NVivo with codes created both before and during the analysis process. As some information is sensitive, the interview transcripts are not included in the appendix. If one needs access to the transcripts, please contact via e-mail.

More details and examples of the interview guides, code trees and documents can be found in appendix A.

The thesis starts with the theoretical framework, where water safety & security, wicked problems and partnerships are the main themes. Followed by three chapters on the creation of the Masterplans. After the descriptions of the Masterplans a comparison analysis is drawn, followed by the Dutch stakeholder overview. The findings are further argued in the discussion including the limitations of this research, tailed by the conclusion.

1. Theoretical Framework

Safe & Secure Water

By 2050, a significant part of the world's population will live in densely populated urban deltas. These areas are faced with a growing demand for water for food production, energy transition, and industrial and household use. At the same, flood risks in delta regions are increasing due to sea level rise and land subsidence, amongst other problems. Innovative, sustainable solutions are required to secure water safety and water security worldwide against climate change, urbanisation, population growth and loss of biodiversity (Tarigan & Mahera, 2020; Bakker, 2012).

Water security is defined as an acceptable level of water-related risks to humans and ecosystems, coupled with the availability of water of sufficient quantity and quality to support livelihoods, national security, human health, and ecosystem service, to the standards of the United Nations (Bakker, 2012). Water is at the core of sustainable development and is critical for healthy ecosystems, socio-economic development and for human survival itself. It is vital for reducing the global burden of disease and improving the welfare, productivity and health of populations. However, sustainability also means being adaptable and resilient to increasing extreme weather events that may contribute to issues such as flooding and scarcity (Giugni, Kanakoudis, De Paola & Keramaris, 2022).

Interdisciplinary research on water security faces several challenges, given the complexity of analysing interrelationships between risk, vulnerability and resilience across sectors, scales and disciplines in the context of limited predictability. Additional challenges arise from current barriers to creating constructive synergies between policy-makers, researchers and practitioners (Giugni et al., 2022). Promising examples exist of potentially useful innovations in funding, institutional incentives, research design and graduate education; these must be systematically tested, refined, and replicated to make more effective contributions to addressing global water insecurity by researchers (Bakker, 2012). Furthermore, these innovations should be customized per implementation project, as no general designs fit perfectly on all projects.

Water safety is about the quality of drinking water. Safe drinking water is a cornerstone of community health and well-being, making it a critical political, economic, environmental, and human health objective, but it remains inaccessible to many people in developing countries. (Kot, Castleden & Gagnon, 2015). Drinking water is used for many purposes including cooking, drinking, washing, personal hygiene, irrigation, and recreational and industrial use. Improved water supply, sanitation and better management of water resources can boost countries' economic growth and can contribute greatly to poverty reduction (Treacy, 2019).

The water safety plan (WSP) approach involves a comprehensive assessment of present and potential risks throughout a water supply, from the water source to the consumer's tap, and the development of a plan for reducing these risks to an acceptable level (Kot et al., 2015). Water safety plans present a risk-based, proactive framework for water management, and are considered the best method for achieving safe drinking water, however, the potential impact of this approach is often overshadowed by implementation challenges (Tarigan & Mahera, 2020).

Water safety and security are important but very complex topics that deal with an extensive number of challenges and constantly changing variables. The next paragraph focuses on wicked problems to explain more about the complexity within plans.

Wicked problems

An important part of development and development cooperation is planning these projects and events. Insight into the timeline and necessary research and resources are of great importance in order to make sure that the ideas actually become a reality.

Any type of organization that deals with commercial, financial or social planning - so any type of public policy planning – will have to deal with so-called *wicked problems* that can mess up the schedules. “These are complex, ever-changing societal and organizational planning problems that are difficult to treat because they are constantly evolving” (Ritchey, 2013, p2).

Wicked problems are ill-defined, ambiguous and associated with strong political, moral and professional issues. They are strongly stakeholder dependent, therefore there is often little consensus about what the actual problem is and how to deal with it. They are also known as social messes and unstructured reality (Horn, 2001). Key properties of wicked problems are defined in Figure 1. According to Ritchey (2013) the most evident and important wicked problems are complex, long-term social and organizational planning problems. An example of this is the question; how should our organization develop in the face of an increasingly uncertain future? – There is no straightforward answer and through time and different managers, the solutions will change and evolve as well.

Key properties of a wicked problem

1. There is no definite formulation of a wicked problem.
2. Wicked problems have no stopping rule.
3. Solutions to wicked problems are not true-or-false but good-or-bad.
4. There is no immediate or ultimate test of a solution to a wicked problem.
5. Every solution to a wicked problem is a ‘one-shot operation’; because there is no opportunity to learn by trial and error, every attempt counts significantly.
6. Wicked problems do not have an enumerable (or clearly describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a symptom of another problem.
9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem’s resolution.
10. The planner has no right to be wrong.

Figure 1. The key properties of a wicked problem (Rittel & Weber, 1973)

In the field of sustainable development, the debate about strong and weak sustainability is ongoing and has yet to show signs of reconciliation. Early propositions regarding wicked problems were focussed on public policy issues, later on, they spread out to many diverse disciplines. According to Pryshlakivsky & Searcy (2013), many characteristics of wicked problems show overlapping and coherence, such that they may be said to exhibit two significant traits. First, they are dynamic and kinetic. Secondly, they are subjective not only because of the individual perspectives with regard to the many different stakeholders involved, but also due to the confluence of applied science with politics.

In the subject of Masterplans, there are many challenges involving wicked problems, as these plans are written for complex situations that are very dynamic due to the people,

climate change and time. The first step is to acknowledge these difficulties and from there on it is necessary to start investigating possible solutions or alternatives.

Social inclusiveness

In order to understand the inclusiveness challenges that are encountered in the three Masterplans, an insight into social inclusiveness is needed. Social inclusiveness has its roots in human rights, inequality, rural development redistribution, entitlements and capability concepts and has been expressed in the Millennium Development Goals (Collier, 2007; Hickey, 2013).

There are many viewpoints on inclusiveness in the development industry and Pouw & Gupta (2017) state that it represents the effort by social justice and environmental actors to bring the center of gravity of the trade-offs between environmental, social and economic issues towards social and environmental goals (Gupta & Vegelin, 2016) .The underlying argument is that social inequality reduces opportunities for enhancing human well-being while reducing the resource base and aggravating the climate vulnerability of these people. This definition fits well in the context of the three Masterplans and therefore will be used in this paper.

Social inclusiveness aims at empowering the poorest through investing in human capital and enhancing the opportunities for participation. It is non-discriminatory and is age, gender, caste, sect and creed sensitive in terms of income, assets and the opportunities for employment (Huang and Quibria 2013). It aims to reduce the exposure to risks such as civil conflict and natural disasters that increase vulnerability (Rauniyar and Kanbur 2010). In doing so, inclusive development policies focus attention on the sectors (e.g. small-scale farming and fishing), locations (e.g. rural, peri-urban), and arenas (home-based activities, street vendors) of high vulnerability to enhance well-being. These policy processes need to be contextually sensitive and encourage capacity building and participatory governance to enhance such participation (Borel-Saladin & Turok, 2013).

Some scholars and policymakers interpret inclusive development as supporting the poor in a patronizing manner; however, others argue that it is much more about empowering the poor through rights, creating equal opportunities and ensuring redistributive justice. Therefore it requires addressing the political processes that lead to the concentration of power. Thus inclusive development is about social, environmental and relational inclusiveness, and defines development as enhancing ecological and social well-being rather than as just economic growth (Pouw & Gupta, 2017).

To get development truly inclusive, equality in partnerships is of great importance, the next paragraph will dive deeper into this topic.

Partnerships and Balanced ownership

International donors often refer to any and all entities with which they collaborate in some way as partners, leading to questions pertaining to how partnership differs from other collaborative relationships. Brinkerhoff & Brinkerhoff (2004) define partnership not in either—or terms but as lying along a continuum of relationship types based on the extent to which the relationship exhibits organization identity and mutuality interorganizational relationships that expose a high degree of mutuality and reliance upon and maintenance of respective organization identities can be considered partnerships. These assessments are necessarily subjective, confirming the importance of viewing partnership as a relative practice. Partnerships are formed for

varying reasons. It could be to enhance efficiency and effectiveness through a reliance on comparative advantages and a rational division of labour. Or to get on from a no-win situation for multiple actors to a compromise and potential win-win situation (Brinkerhoff, 2002). Perhaps the partnership is formed to open decision-making processes to promote a broader operationalization of public goods. Enhancing efficiency and effectiveness is an essential part in the partnerships between international donors and receiving parties. But not all relationships in development are partnerships or balanced.

The Western constructions of foreign aid are often demonstrated as ´free´ and generous, but there are multiple ways in which it actually serves Western interests while extracting a price from its recipients. Examples are tied aid, loan repayments, conditionalities that assist overseas investors, military aid and the support of foreign policy objectives (Kapoor, 2008). International development cooperation is carried out in many different ways, and a diverse scala of relationships are formed between donors and receivers. It is important to clearly state and understand the power balance that exist in these cooperations, therefore we will look into balanced ownership in the following paragraph.

According to Keijzer and colleagues (2018) ownership refers to both the process and the substance of development cooperation and it takes an explicitly relational perspective.
Ownership both promotes and reflects on the quality of the development cooperation relationship and is ultimately about enabling locally owned and driven cooperation. Ownership is considered universally accepted and unlikely to encounter resistance at both the ideational and operational level. Yet the same ownership principle coexists with multiple competing priorities that are promoted in relation to other development cooperation objectives and is closely associated to the concepts of capacity, sustainability and trust. The current focus of Development on poverty reduction via promoting good governance and social vitality and well-being was increasingly critically interrogated, pointing towards what appears to be a growing re-validation of, and focus on economic growth as the fundamental driver of Development. Recalling earlier theories of economic modernisation, poverty reduction was framed as achievable by focusing in the first instance on growth and poverty reduction would automatically follow from the trickle-down effects (Mawdsley, Savage & Kim, 2014).

The idea of ownership has frequently been linked to the narrative that successful cooperation is based on self-determination of recipient parties. Metaphors such as ‘putting countries in the driver’s seat’ are abound in policy discussions. In reality, development cooperation is often influenced by donors own development trajectories (or ‘driving skills’, as the metaphor goes) which nurtures a persistent unofficial narrative of development based on progress in developing states (Keijzer, Klingebiel, Örnemark & Scholtes, 2018).

Mawdsley and colleagues (2014) suggest that it appears paradoxical that reform initiatives need to be locally owned, while it is the previous actions of the presupposed owners that generate the need for reform in the first place. With varying levels of success, donors manage to reconcile developing country stakeholders’ priorities and policy choices with their own values, models and experiences. The result will be more or less favourable to developing country stakeholders depending on how ownership of the cooperation contents is agreed. Similarly, when it comes to ownership of the cooperation process, stakeholders, intermediaries and intended beneficiaries will all have distinct preferences regarding the process and substance of cooperation. Successfully promoting shared ownership means navigating this inherent tension between control and trust. When communication and shared responsibility is low, development cooperation may get stuck in a vicious cycle of low trust, low capacity and low ownership which in turn leads to poor performance (Keijzer, Klingebiel, Örnemark &

Scholtes, 2018). Balanced ownership and fair division over stakeholders are key factors to make a development cooperation successful with the best mutual benefits for involved parties. The fairness of the division must in particular be distributed according to capacity, and possible imbalance in benefits should tip over in favour of the developing party. A key part of balanced ownership is the partnerships that are formed and the expectations in these partnerships.

Now the importance of balance between the stakeholders is clear, another important subject for balanced sustainable development needs to be explored; the environmental part.

The role of nature in Sustainable Development

Development is leaning on three pillars, Environmental, Social and Economic themes are all involved and important in development, and sustainability is necessary in all three (figure 2). After the Social and Economical parts have been presented, the topic of Environmental Sustainability in development needs to be explored.

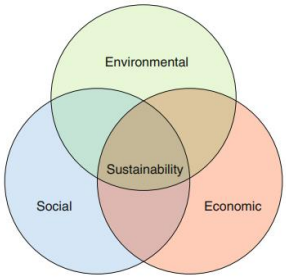

Figure 2. Venn diagram on development (Pryshlakivsky & Searcy, 2013).

Banjeree (2003) states that sustainable development is not egalitarian, despite its promise of local authority, because environmental destruction is not egalitarian; it is more disastrous for people with little access to resources to prevent the destruction of their natural spaces. The contemporary discourses of sustainable development fall short in delivering freedom, which are seen as an important measurement for quality of life. The environmental sciences have documented large worrisome changes in earth systems, from climate change and loss of biodiversity, to changes in hydrological and nutrient cycles and depletion of natural resources (Ehrlich, 2008; Steffen et al., 2015; Ripple et al., 2017).

These global environmental changes potentially have strong negative consequences for future human well-being, and raise questions about whether global civilization is on a sustainable path or is “consuming too much” by depleting key natural capital (Arrow et al., 2004). The increased scale of economic activity and the consequent increasing impacts on earth arises from both major demographic changes and rising per capita income. Examples are including shifts in age structure, urbanization, population growth, and spatial redistributions through migration. Another major impacy is the shift in consumption patterns, such as increases in meat consumption due to rising incomes (Godfray et al., 2010; Tilman et al., 2011). Therefore extra attention should be paid to the environmental part of sustainable development, it should be recognized better as an important stakeholder whose needs are taken into account.

Traditional engineering approaches for optimizing safety are often insufficiently sustainable nor resilient. Densely populated deltas in particular need more resilient solutions that are robust, sustainable, adaptable, multifunctional and yet economically feasible (Syvitksi

et al., 2009). Innovative concepts such as ‘Building with Nature’ provide a basis for coastal protection strategies that are able to follow gradual changes in climate and other environmental conditions, while maintaining flood safety, ecological values and socio-economic functions (van Slobbe et al., 2013). The Building with Nature innovation programme uses a triangle to picture the relationship between the three subsystems that are relevant in coastal protection: the biotic and abiotic environment, man-made infrastructures and the governance of society (figure 3).

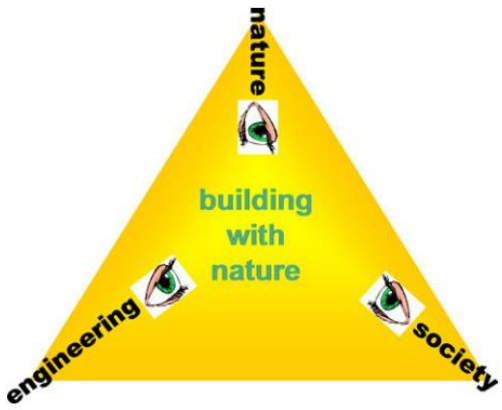

Figure 3. The three perspectives of the Building with Nature programme (van Slobbe et al., 2013)

By incorporating the environmental characteristics and taking the needs of all stakeholders into account for sustainable development projects, the feasibility and actual long-term sustainability increases. Building with nature projects need to be carefully implemented, based on deep knowledge of the local situation, implying that generic knowledge will be of limited value if it is not carefully translated to suit local conditions. Adger et al. (2005) stress the urgency of enhancing the resilience of coastal systems, but point out that a project or engineering approach alone will not be sufficient if the underlying causes of the declining resilience (human pressure and climate change) are not addressed. Increasing the role of nature and environment as an important stakeholder in development is of great importance in order to reach the goal of sustainability.

2. Dutch Institutional Context

There are many parties involved in the three Masterplans, some of them are involved in all, others in just one or two. The vast majority is Dutch or related to the Netherlands instead of the Masterplan cities. In this chapter, the Dutch institutional context is explained. The main stakeholders will be discussed, a description of all parties shown in the figures can be found in Appendix B.

An overview of the NIWA participants per Masterplan

The Netherlands International Water Ambition (NIWA) is a platform for collaboration founded by four Dutch Ministries to improve water safety and water security for over a hundred million people worldwide by 2030. It is the successor to the International Water Ambition (IWA). NIWA is a means to deploy the Dutch water-related international policy instruments in a more coherent way, and to be a platform for collaboration between public, private, social and academic partners (*Nederlandse Internationale Waterambitie (NIWA)*, 2023).

Climate adaptation and the Sustainable Development Goals are the focus of this collaboration platform. In this chapter, only the NIWA stakeholders involved in the Masterplans are included, as they are the relevant parties for this research. The figures 4, 5 and 6 below show the stakeholders involved in the Masterplans that are linked to the NIWA.

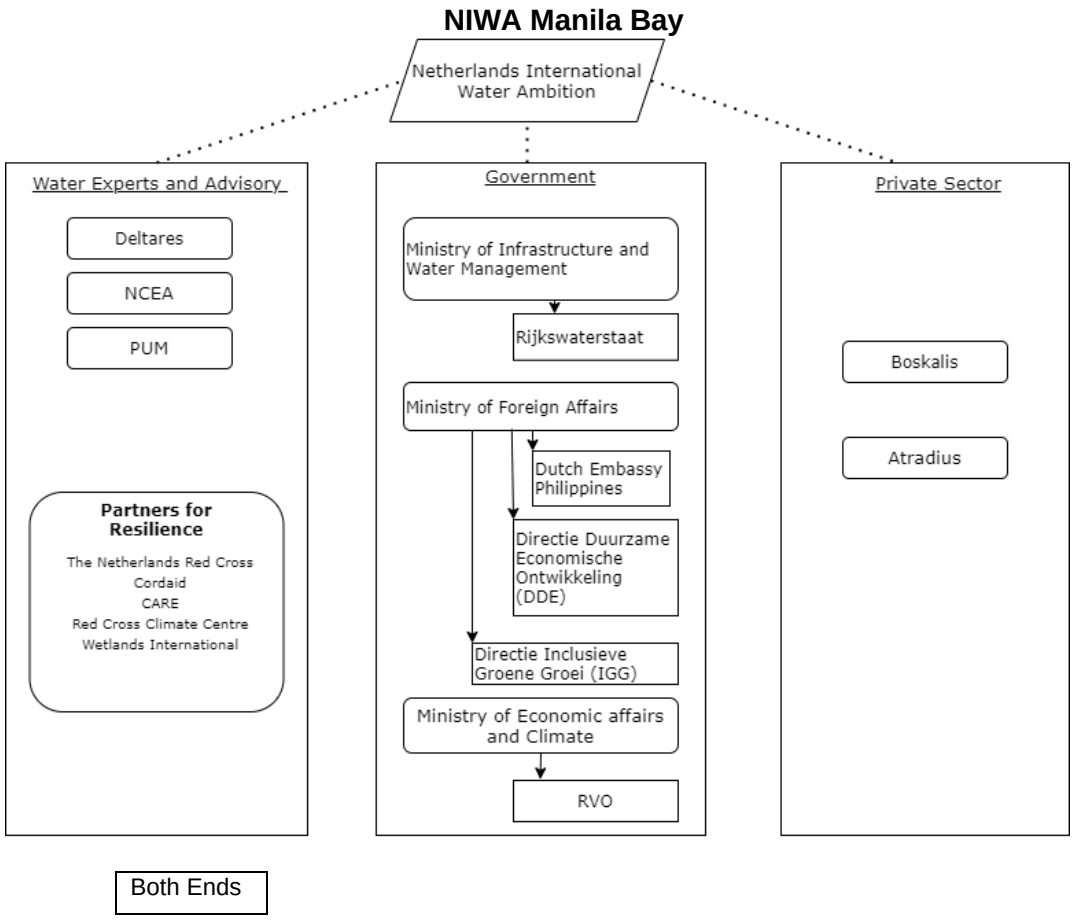

Figure 4. Overview of the Stakeholders in Manila Bay (Created by author, 2023)

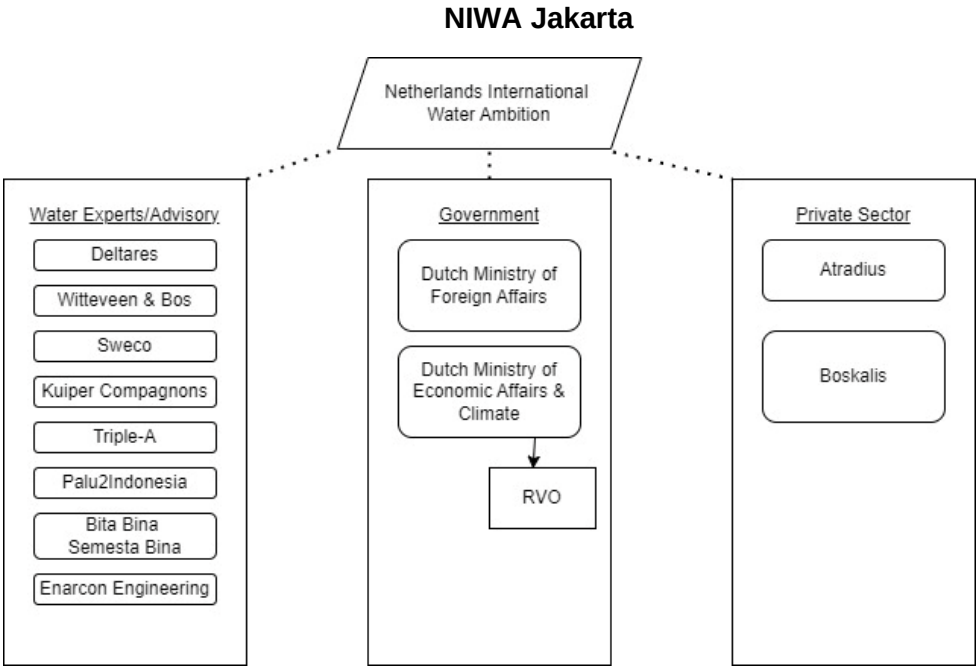

Figure 5. Stakeholder overview Masterplan Jakarta (Created by author, 2023)

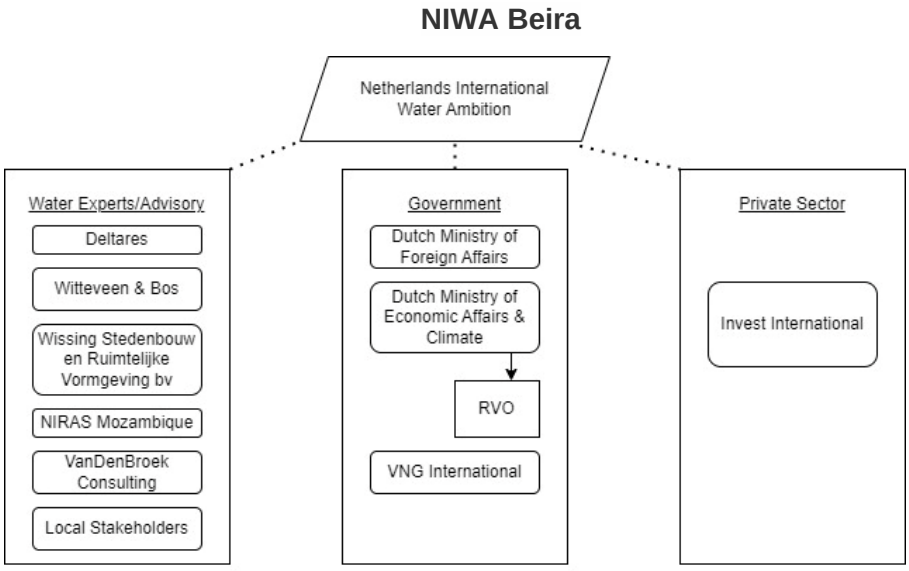

Figure 6. Stakeholder overview Beira (created by author, 2023)

Knowledge partners

The collaborating partners are divided in three groups in the figures 4,5 & 6. Firstly, the advisory pillar in all three figures will be discussed, followed by the government and private sector. Research Institute Deltares is involved in all three plans and it worked closely on Jakarta and Beira with engineering consultancy Witteveen+Bos. The two took the lead in research for the first two Masterplans and consulted the other parties in the Water Expert columns. Deltares was also leading the research for the Manila Bay Masterplan.

These other Dutch parties were mostly focused on urban & spatial planning, and infrastructure development. Examples are bureaus such as Sweco and VanDenBroek Consulting, they were involved in Jakarta and Beira. These consultancy bureaus state that

they are experts in several fields, such as Public Private Partnerships (VanDenBroek), spatial planning with focus on water and nature (Wissing), and risk management & actuarial services (Triple-A). These topics are useful in developing a Masterplan because it is focussed on an urban area with many stakeholders and an important role for nature.

In the advisory column a couple local parties are included, they are civil society and local engineering consultancies. These are important stakeholders, but are not usually connected to the NIWA, as they are not Dutch. The Manila Bay figure shows the Partners for Resilience, this is a taskforce formed to represent a united voice of humanitarian and ecological NGO's to consult for the Masterplan. In the previous Masterplans, these kinds of civil society partners were involved, but less organised and less direct. The knowledge partners are all involved in the planning stage of the Masterplan and they have made suggestions for implementation, but are not directly involved in the implementation. Figure 4 shows Both ENDS under the advisory pillar, but not in the column. This NGO was not part of the Partners for Resilience, but fulfils the role as a watchdog in this project.

It is lucrative for the consultancy partners to be involved with the Masterplans, as these are large plans that take time and have complex challenges. Therefore, it is economically attractive for these consultancy bureaus as well as it is interesting for their network to spread out over the world.

Government

The Dutch Ministries shown in the second column of figure 4,5,6 are of course involved in the creation of the Masterplans. They work together with the consultants and the local government parties to form the plans and improve the feasibility of proposed projects. The Netherlands Enterprise Agency (RVO) is a government agency which is part of the Dutch Ministry of Economic Affairs and Climate Policy and this agency is heavily involved with the Masterplans. The RVO helps entrepreneurs and organisations to invest, develop and expand their businesses and projects, both in the Netherlands and abroad. The goal is to support entrepreneurs, NGOs, knowledge institutes, policymakers and organisations. To improve collaborations and strengthen positions through funding and networks. By sharing know-how, they aim to help companies move forward doing business abroad (*About the Netherlands Enterprise Agency | RVO.nl*, n.d.).

The Dutch government is involved in both the planning stage and parts of the implementation process of the Masterplans, as it delivers a large part of the funds and expertise for the projects. Aside from funding for the initial plans, several follow-up research projects are financed by the Dutch government.

Private Sector

The private sector linked to the Masterplans and shown in the third column of figure 4,5,6 are all involved in the implementation stage. Atradius is an insurance company linked to the Dutch government, that insures Dutch dredging company Boskalis for projects in Manila Bay and Jakarta. Boskalis works mainly on land reclamation in these areas. Remarkably, the (financially) largest project for Boskalis at the moment is the land reclamation for the New Manila International Airport. Invest International is a joint venture between the Dutch government and the Entrepreneurial Development Bank (FMO) founded to support Dutch companies with finance and network to develop projects abroad. The currently involved private sector has strong connections to the Dutch government. In order to follow the vision of the Masterplans and to make the plans viable a broader private sector needs to be involved, especially the local private sector in the cities and the bay area.

3. The Masterplans

In this chapter the three Masterplans are explained. Starting with a regional context and summary of the challenges, followed by the plan, stakeholders and local contestation.

3.1 Beira, Mozambique

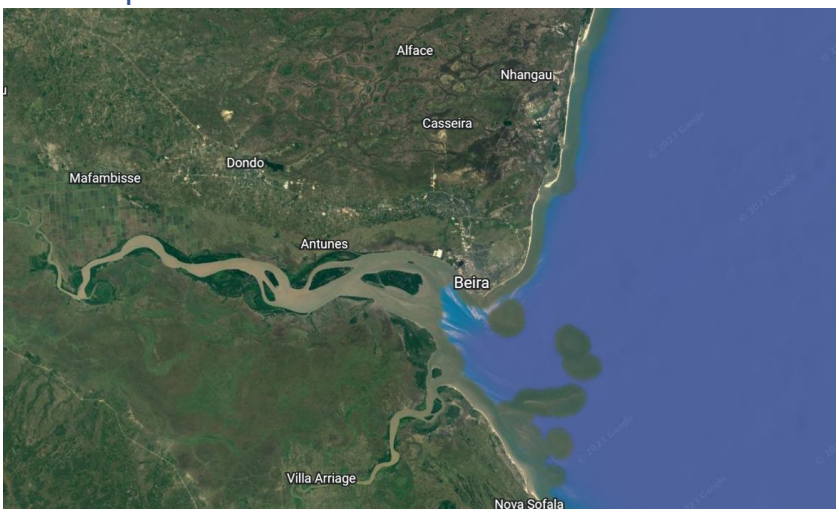

Figure 7. Map of Beira, Mozambique (Google, n.d.)

Beira's Estuary

Beira (figure 7) is adjacent to the estuary of the Púngoè and Búzi rivers ending in the Mozambique Channel. Estuaries are stretches where rivers approach the ocean, they are influenced by freshwater from upstream as well as the influx of saltwater from rising tides. The Púngoè river is with its 400 kilometres one of the major rivers of Mozambique and large seasonal wetlands form around the Pungwe and Urema rivers in the rift valley section (figure 8).

Climate change is predicted to lead to about a 10% reduction in annual rainfall. This implies decreased river flow and available water for the Pungwe River basin, with possibly severe consequences for agricultural production. While the between-year variability in flow is not predicted to change significantly, within-year variability is expected to increase. This will worsen both floods and droughts (Andersson, Samuelsson, & Kjellströ, 2011).

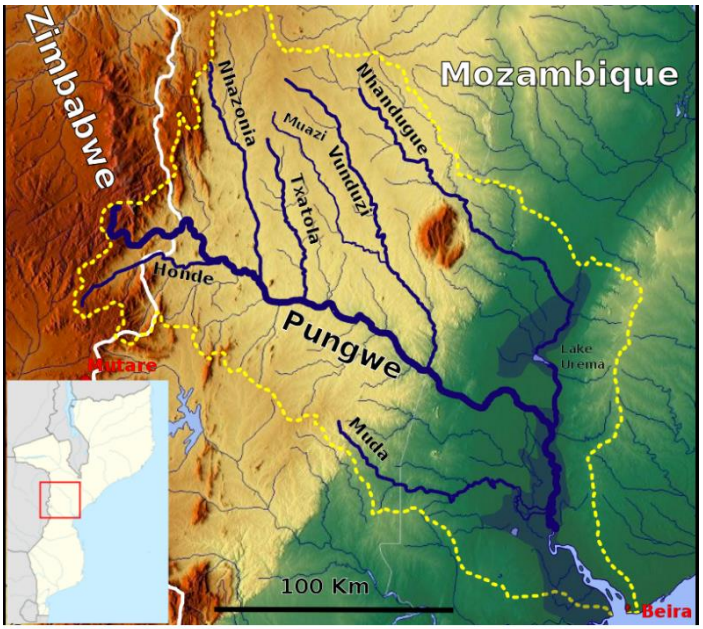

Figure 8. Map of the Pungwe River Basin. (Hans Braxmeier, 2022)

The main part of the Beira coast is protected by a low dune ridge. In the 1950's they started with constructing groynes along a coastal stretch of about seven kilometres to mitigate coastal erosion. Due to the decay of the groynes the coast is eroding faster. On explicit stretches of the coast, the dune retreats about one meter per year. The erosion is likely the result of natural and human-induced factors like sea level rise and sand transport.

With Mozambique's vulnerability to climate change, the city is becoming more susceptible to flooding and other water-related issues. This has resulted in coastal erosion, leading to severe flooding, which has numerous impacts on the community, including disruptions in movement and accessibility, economic damages, environmental degradation, and health problems, such as increased cases of Malaria and Cholera (*Beira Master Plan 2035,n.d.)*.

The population and urbanization of Beira grow rapidly, so there is a need for protection of the city in the low laying delta. The city also struggles with infrastructure, pollution and drinking water due to the rapid informal growth (RVO, 2013).

The plan

The research institutes developed a two-parted plan, the Masterplan and long- and shortlist to tackle the problems in order of necessity, with a start of searching for financing options. The Masterplan was finished in 2013 and it was mainly focussed on long-term urban development of Beira. However, successful implementation of the Masterplan and the sustainable development of Beira depended on immediate and decisive short-term actions. The three goals set for this Masterplan are:

- To utilize the potential of the city and its hinterland
- To improve the currently poor living conditions of a large part of its inhabitants
- To adapt to climate change and sustainably coexist with its natural environment.

Retention Lake

To improve the flood safety, especially in the rainy season, a drainage system is planned to be installed in Beira that leads to a retention basin. This drainage system will support the development of housing areas for the people who are currently living in informal settlements. Figure 9 below shows the location of the retention lakes in blue.

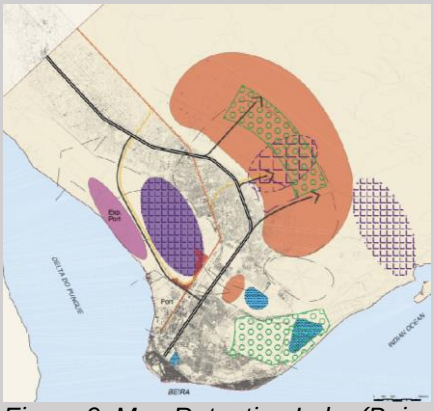

Figure 9. Map Retention Lake (Beira Master Plan 2035,n.d.)

Figure 10 shows an overview of the most important topics in the plan. One of the main points in the plan is to create a flood water basin at the edge of the city to direct all the abundant rainfall to, this could be used as drinking water and the park-like area can be used for residential and leisure purposes. The improved urban drainage system can lead the water to this basin and this new leisure and living area can be turned into an interesting tourist location.

There is a lot of unplanned and uncoordinated urban development that negatively affects the living conditions of the inhabitants of Beira, especially in flood prone areas. The coverage of urban infrastructure and service levels is planned to be increased to improve the living conditions in Beira. A suggestion of the Masterplan is for urban development to be planned and coordinated by the city council, to prevent urban development in flood prone areas and to provide sufficient infrastructure and services. In the report housing projects, sewage systems and improvement of drinking water systems are suggested to help sustainable urban development.

Figure 10. Masterplan Beira Mozambique, (Tongeren,2020)

It was a conscious decision to write the Masterplan quite general and without many details in order to keep flexibility in the future, as this plan has a long timeline (Masterplan Beira 2035, 2013). The Masterplan's overall goal is to contribute significantly to a safe, prosperous and beautiful Beira. Deltares was the lead partner in the consortium and aimed to allow stakeholders in Beira to see for themselves, understand and gain confidence in the idea that green infrastructure helps them to tackle their water difficulties and other problems (Deltares, 2017).

Economic Opportunities

The Beira Masterplan builds a large part of the sustainable development strategy on economic opportunities that the location of the city offers. Beira's port is of major importance and an extensive infrastructural plan is suggested to improve the port and industrial areas. Tourism is also explored as an option for economic opportunities. This is an important part of the plan as the goal is to finance the development from increased economic activity in the city.

Stakeholders

The city council of Beira has entered into a partnership with the Dutch government to jointly develop the Masterplan. The Netherlands has a dedicated platform for collaboration for its international water related projects, the Netherlands International Water Ambition (NIWA) collaborations contribute to reaching the common goals of increasing water security and water safety worldwide. Members of this platform worked together with engineering consultancy bureau NIRAS Mozambique, local civil society and stakeholders on the Masterplan, led by research institutes Deltares and Witteveen+Bos.

Local contestation

The critique on this Masterplan was about the lack of social development, the focus on the business perspective and the absence of implementation of follow-up plans. The Masterplan was mainly focused on infrastructure instead of social development and many people would suffer the consequence of displacement due to the plans, small-scale farmers in particular. The urban poor did not profit from the housing project as it was target at the middle-class to be more feasible from a business case perspective (Shannon, 2019). After the document was finished, the complexity of Mozambican politics came into play and key actors redefined their involvement in Beira. By 2018 the presented follow-up projects were downscaled or shelved indefinitely (Van Beek et al., 2019).

3.2 Jakarta, Indonesia

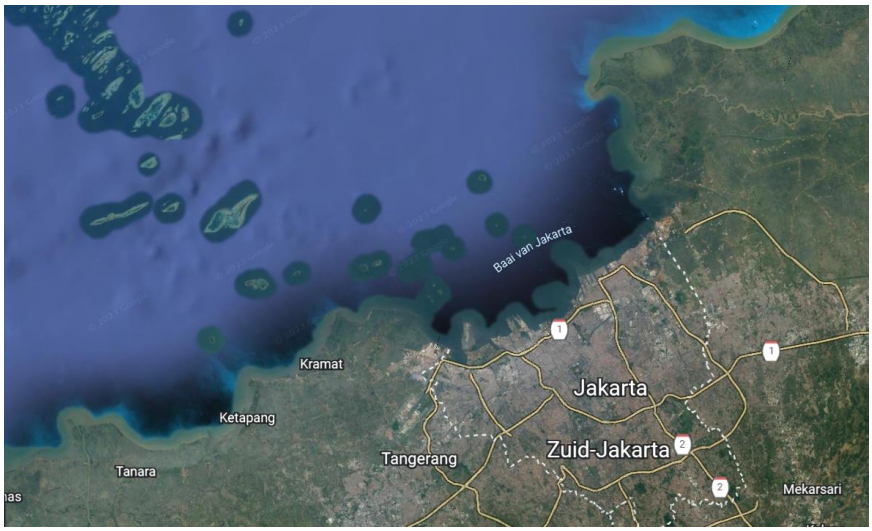

Figure 11. Map of Jakarta, Indonesia (Google, n.d.)

Jakarta's delta and challenges

Figure 11 shows that the city of Jakarta is located in a delta area. The basin of the 14 rivers that flow through Jakarta can be roughly divided into a steep, mountainous area upstream of Bogor; a moderately steep hilly area between Bogor and Jakarta; a valley plain area along the rivers in the hilly area; and a flat coastal plain area. The city of Jakarta measures over 600 km2. Jakarta's southern area has an altitude of about 50 metres above mean sea level, but vast tracks of its northern area are lowlands with elevation ranging from -1 to +3 m above mean sea level (Wosten, Douven, et al., 2013).

The area has a wet season that runs approximately from December till May. Maximum rainfall amounts are generally observed in Ciliwung River Delta (figure 12) in January and February, due to heavy monsoon rainfall. Differences in rainfall volumes between the wet season and the dry season occur in the northern part of the Jabodetabek area. In the southern part of the area orographic effects cause relatively high rainfall amounts, even in the "dry season". The rainfall in the area is characterized by high intensity short duration storms. Even in the wet season, long dry spells can occur between storm events (van der Most et al., 2009).

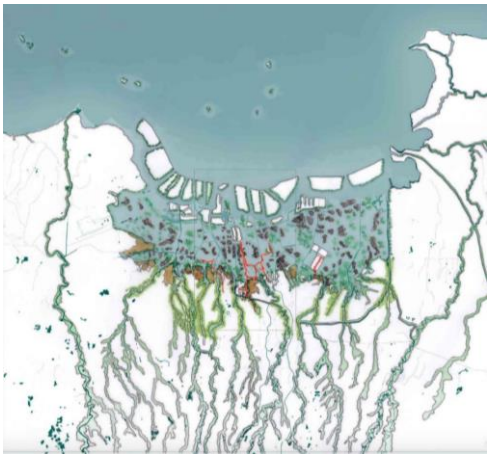

Figure 12. Archipello of Jakarta's Bay in the Ciliwung Delta. (Purnama, 2019)

The city is therefore prone to perennial inundation due to excessive rainfall and flash floods along the river systems. In North Jakarta, flooding is set to become the worst in the area due to land subsidence. The average rate of subsidence is 7.5 centimetres per year, but in some coastal areas a subsidence rate of 17 centimetres per year has been measured.

Apart from land subsidence, the municipalities of the Jakarta Metropolitan Area are facing issues of overexploitation of groundwater, lacking infrastructure, sanitation and treatment of municipal waste water (Steinberg, 2007). The uncontrolled flow of untreated municipal waste water has led to a strong deterioration of water quality in the rivers of Jakarta and along the shores of Jakarta Bay (Damar, 2003; Arifin, 2004; Thoha et al., 2007).

The Masterplan

The National Capital Integrated Coastal Development (NCICD) follows the Jakarta Coastal Defence Strategy Project (JCDS) in responding to the urgency of the extreme land subsidence that is happening in the northern part of Jakarta.

The purpose of the Masterplan is threefold:

- provide a worked-out long term flood safety model which also provides socio-economic opportunities for the national capital;
- provide a design for urban development with underlying business cases as development framework;
- provide a road map for implementation

The NCICD aims to provide a solution for the long-term protection of the Jakarta area against flooding from the sea and the coastal development creates new space in the national capital for over 1.5 million people by providing seaward expansion in a planned manner. Coastal development should also improve current connectivity problems in West Java and Banten and address many of their current environmental problems (*NCICD Jakarta*, n.d.). The seaward expansion is provided by land reclamation and a giant sea wall that creates an artificial lagoon to help river water flow within river boundaries. This retention basin might become a source of raw water supply if the water quality is safe.

The Great Garuda

The sea wall will be shaped in the form of a Garuda, a mythical Eagle (figure 13). Apart from protection against flooding, the Garuda has the purpose of serving as a new central city area, as a natural extension of the central spine area of Jakarta. At the sea side beaches will be formed, and the lagoon side is purposed to house urban wharfs, offices, commercial, residential and leisure developments.

Figure 13. Sea Wall Masterplan Jakarta, The Great Garuda to save Jakarta (2021)

The current water quality in Jakarta Bay is bad, as only 2% of Jakarta is connected to the sewer system, the vast majority of waste ends up in the rivers (ConsultancyNL, 2014). Therefore, waste water management systems are proposed to collect and treat the water. Rain water should be collected separately and used as a supply for surface water streams and feed into parks, green zones and mangrove areas.

The Masterplan offers projects for improving infrastructure and creating an integral design for socio-economic urban development, in order to support the sustainable development in Jakarta (Ministry for Economic Affairs, 2015).

Retention Lake
The retention lake that is created by the sea wall temporarily stores the river water before it will be pumped out to sea. The water level can fluctuate 2,5 metres to create storage space. Currently, the river water is too polluted, but in the future the lake might be useable for leisure and as a source of raw water supply.

The Masterplan includes plans and conceptual designs for three phases;
- Phase A, the existing sea defences
- Phase B, the outer sea wall and land reclamation
- Phase C, long-term development in the east of Jakarta Bay (in sketch, as this development is far into the future and contains many uncertainties)

Existing plans were evaluated for the Masterplan and information from stakeholders was obtained and incorporated. However, additional design of systems, planning and cost calculations are not part of this Masterplan. The collaboration between the Indonesian government and the Dutch government has been set up to create a Masterplan that explores the options and necessities to deal with all these urgent challenges. The Masterplan was finished in 2014 and has a timespan of 20-30 years to finish implementation problems (*NCICD Jakarta*, n.d.). .

Stakeholders

The Netherlands and Indonesia have a long history together, as the Netherlands used to colonize Indonesia. In 1949 Indonesia became a sovereign state, but since then, the Netherlands stayed involved and there have been many development and economic projects. The Government of Indonesia has formed a partnership with the Government of the Netherlands to develop the National Capital Integrated Coastal Development (NCICD) Masterplan. Just like with the Beira Masterplan, the NIWA is involved in this project and Deltares leads the project. Indonesian parties involved are: Kementarian coordinator bidang perekonomian Republik Indonesia, Bita Bina, Semesta Bita, Kementerian PPN/Bappenas, Jakarta's city council and local civil society.

Local contestation

The critique on this Masterplan by civil society was mostly on the effect of the Masterplan on the local population of fishermen and urban poor and the limited participation of local interest groups in the planning process leading up to the design and implementation of NCICD (Baum, Kusumanti, et al., 2016). Another concern is the NCICD neglects the most probable cause of future flooding in Jakarta: the land subsidence in the area.

The financial risk for the Indonesian government is high and NCICD is prone to attract controversial investors with a bad track record regarding human rights, corruption and environmentally damaging projects. The NCICD programme management unit has already consulted two companies whose leadership is closely connected to the Indonesian military and accused in a corruption case (Both ENDS et al., 2017). Various articles in the Jakarta Post show public concerns expressed about the environmental and socio-economic consequences of the Masterplan including the deterioration of the water quality in the intended storage basins (Van der Wulp et al., 2016).

3.3 Manila Bay, Republic of the Philippines

Figure 14. Map of Manila Bay, The Philippines (Google, n.d.)

Manila's Delta and problems

Figure 14 above shows the map of Manila Bay next to the capital of the Philippines; Manila. The surface area of the bay is 1,800 km (Rodolfo, 2014). The two main contributory rivers are the Pasig and the Pampanga river basins (figure 15). The Pasig River connects Manila Bay with Laguna de Bay, the largest freshwater lake in Southeast Asia.

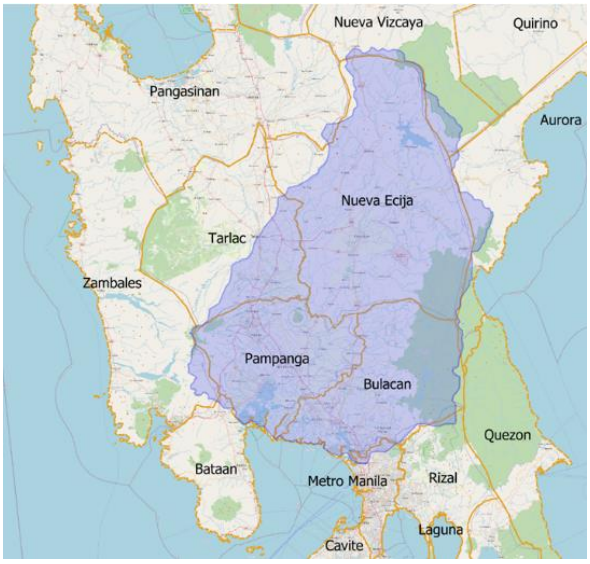

Figure 15. The Pampanga river basin (*Royal Haskoning DHV, 2015)*

Near the river outflows, the coastal wetland areas are 0-1 meters above Mean Sea Level (MSL) and reach several kilometres inland. The upper parts of the delta are about 9 meters above MSL. Due to this relatively small elevation difference over the extent of the delta (20-30 kilometres), the North Manila Bay Delta is prone to pluvial (rainfall), fluvial (river), and coastal flooding. Decades of coastline expansion, sea-level rise, river flow narrowing, and rapid land subsidence in recent decades make the North Manila Bay Delta area even more vulnerable to flooding (Royal Haskoning DHV, 2015). Currently, millions of people are exposed to periodic flooding and it is expected to increase due to further land subsidence as a result of excessive groundwater extraction.

The four main wetland habitats in the North Manila Bay Delta coastal zone are fishponds, shallow foreshores, tidal flats, and mangroves. Wetland habitats decreased by 71% over around 125 years (Jensen, 2018). Due to irresponsible land use, irresponsible fishing methods and water degradation this is expected to worsen.

The city of Manila and the surrounding area experiences rapid urbanization, with mainly expansion by informal settlers. Poverty challenges, lack of resources and pollution are major problems that result from the rapidly growing population in the bay area.

The plan

The Manila Bay Sustainable Development Masterplan (MBSDMP) is a collaboration between The Philippines and the Netherlands. It started because of a Dutch Risk Reduction (DRR) mission in 2015 due to coastal damage by typhoons, these are short missions that are set up to map out a problem that a government has and to form an advice on the situation. DRR teams are formed by the RVO (The Netherlands Enterprise Agency). After this mission there have been meetings guided by the Dutch embassy in the Philippines and eventually the Filipino government sent an official request for collaboration (Interview Dutch Embassy, 2021).

The focus of the collaboration is to assist with the formulation of recommendations for the conduct of a Masterplan Study for the development of Manila Bay. While traditional plans for Coastal Management and Development assume public financing, the MBSDMP approach aims to make use of solicited private sector investments to achieve strategic management and development goals for inclusive growth, ecosystem protection, disaster risk reduction and climate change adaptation, improved water quality, and upgrading informal settlements (Manila Bay Sustainable Development Master Plan, n.d.).

The Manila Bay Masterplan has the timespan of the contract between 2018 and 2020 and when finished serves as a guide for decision-makers in the assessment and approval of programs, activities and projects for implementation within the Manila Bay area, by 2040 the plans should be implemented (Manila Bay Sustainable Development Master Plan, 2021).

The Manila Bay case is remarkable, because there are two contradicting projects that follow roughly the same timeline and completely overlap in the focus area. One the one hand there is the Manila Bay Sustainable Development Master Plan, and on the other hand the New Manila International Airport.

In figure 16, a timeline is shown with key elements of the Masterplan and airport process.

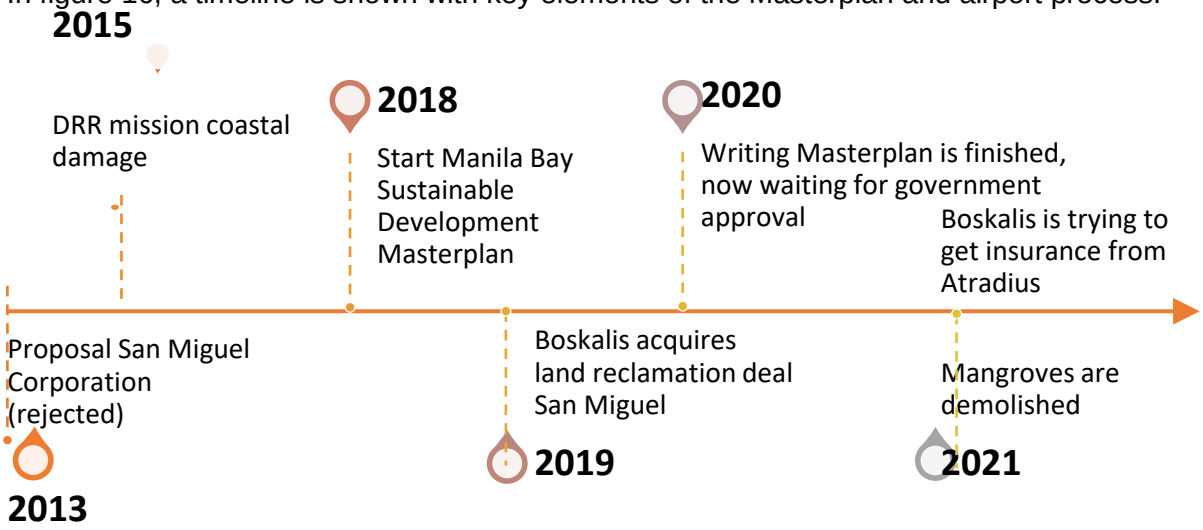

Figure 16. Timeline Manila Bay, created by author 2021

MBSDMP

The MBSDMP is an inclusive Masterplan for the sustainable development of Manila Bay. It is envisioned to guide decision-makers in the assessment and approval of programs, activities, projects (PAPs) for implementation in the Manila Bay and in adjacent areas with significant influence on the bay.

Further, the Masterplan aims to provide a vision consistent with the national development objectives under the Philippine Development Plan (PDP) and to contribute in achieving the country's long-term vision as spelled out in the AmBisyon Natin 2040.

Six priority measures were drawn up to bridge the gap between the former state of the area and the vision:

- comprehensively reduce pollution load that enters the bay
- improve solid waste management
- reduce exposure of people, livelihood and properties to flooding
- conscientiously restore a healthy and vibrant natural habitats and ecosystem
- strategically boost fish biomass
- actively promote responsible and sustainable tourism

Stakeholder Engagement

During the planning process, much attention was given to stakeholder engagement to ensure that the plan contained the needs, aspirations, opinions and suggestions of the people envisioned to be assisted by the Masterplan, according to the MBSDMP. The project had consultation workshops, small group meetings, consultation meetings, and invitations for project presentations and discussions. A technical committee was composed of representatives of concerned national and local government agencies to provide comments and recommendations on the various reports submitted by the Study team.

Towards achieving the vision, the MBSDMP aims to restore and maintain a resilient Manila Bay that sustainably delivers a variety of services to the people, and reducing the risk of communities against flooding under present and expected climate change conditions.

This Masterplan also states to be highly dependent on its communication strategy. The strategy mainly served as means of bringing the Masterplan and its values and benefits to the attention of the key stakeholders and the general public in order to evoke broad-based support and participation in the implementation of this plan. Included in this strategy was a website with all the documents and updates available freely to the public. This was the source of sustained and free flow of information from the governing parties the general public and key stakeholders, to ensure transparency and accountability of all actors in the implementation of the MBSDMP.

NMIA

The New Manila International Airport (NMIA) is an unsolicited proposal from the Philippine conglomerate San Miguel Corporation (SMC), and is planned to be constructed on the coast of Bulacan municipality on newly reclaimed land (figure 17). SMC was afterwards also rewarded a franchise to construct the NMIA, which means SMC is allowed to build and operate the airport for a period of 50 years, after which it will be transferred to the Philippines government. The airport is proposed as a way to decongest the city of Manila and reduce the pressure on the existing Ninoy Aquino airport which is reaching its maximum capacity (GOVPH,2021; *San Miguel Corporation*, n.d.).

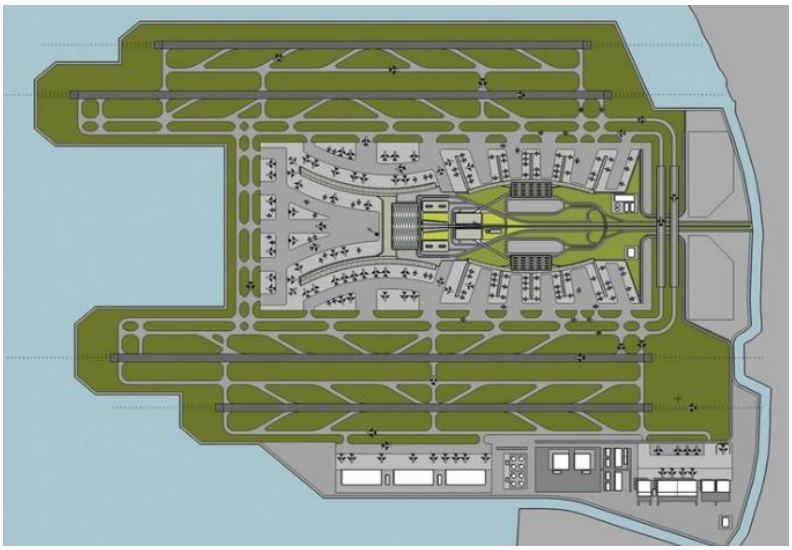

Figure 17. New Manila International Airport (Meeting, 2022)

Policy Note MBSDMP

The MBSDMP includes a policy note on the airport and specifically on the planned location. The construction of NMIA in Bulacan will permanently damage the natural habitats on the site where construction and development activities will be made. The only way this damage can be avoided is if NMIA will be constructed in other sites away from the coastal areas of Manila Bay. As this is not likely to happen, the following due diligence is advised.

>Compensate the natural habitats and ecosystems that will be lost by restoring adjacent natural habitats and ecosystems with total area of at least 10 times the footprint of all development activities on land and offshore.

>Provide support to the establishment of coastal flood protection measures.

>Provide support to the development of alternative sources of water for the adjoining LGUs.

>Fund the setting up of long-term and permanent system for monitoring natural habitats, ecosystems, water quality, sea level rise and land subsidence within the immediate impact areas of the Airport.

(Manila Bay Sustainable Development Masterplan, 2021)

The proposed land reclamation completely falls within the recommended 'coastal buffer zone' that is recommended by the MBSDMP. This is a zone 1 *Strict Protection Zone* consisting of natural areas with high biodiversity value. The NMIA project site lies in an area prone to land subsidence which is expected to be worsened by the economic activity resulting in additional groundwater extraction on the NMIA site. The area is also highly prone to flooding because of its location on and near the outlet of several rivers. The area is currently inhabited by fishermen from illegal settlements. They are being pressured by SMC to self-destruct their homes in turn for compensation, which is only given after people have left the area. There is no official resettlement plan, and human rights violations are being recorded in the pressuring of the population to move out of the area. Dutch international dredging company Royal Boskalis Westminster N.V. has been contracted for the land development design and construction of the NMIA. The contract has been awarded by San Miguel Aerocity Inc (SMAI), a subsidiary of SMC, with an estimated value of €1.5 billion. Preparatory works started early 2021 and the land development is expected to be finalised by 2024 (Koninklijke Boskalis Westminster N.V., 2019).

The proposal for the NMIA has been approved in April 2018 by the National Economic and Development Authority (NEDA), which is striking because it is not in line with the other activities and recommendations of NEDA in developing the MBSDMP. In 2019 an Environmental Clearance Certificate (ECC) was given out by the Department of Environment and Natural Resources (DENR) for the development of the land reclamation.

Stakeholders

The Government of the Republic of the Philippines has formed a partnership with the Dutch government to develop the Manila Bay Sustainable Development Masterplan. The main stakeholder is the National Economic and Development Authority (NEDA), the Philippines' social and economic development planning and policy coordinating body. NEDA is responsible for the MBSDMP in the Philippines, they are the government authority that proposed the teamwork on the plan and they cooperate with the Local Consulting Firm and the foreign expert teams to develop the MBSDMP (NEDA, 2017). Of course the NIWA was involved in this plan as well, led by Deltares, as well as Local Government Units surrounding Manila Bay, Filipino civil society and researchers.

Local contestation

The advice of the Masterplan was to look for another location for the implementation of the Airport Project, this was no longer possible as the permits were already granted for the plan to take place in the Bulacan region. Further advise if relocating the airport would not happen is to compensate the natural habitats and ecosystems that will be lost by restoring adjacent natural habitats and ecosystems with a total area of at least ten times the footprint of all development activities on land and offshore . To provide support to the establishment of coastal flood protection measures and development of other water sources for the affected municipalities. Lastly, they emphasize on setting up a long-term and permanent system of monitoring the ecological surroundings within the immediate impact areas of the Airport (Van Gent, 2017; Manila Bay Sustainable Development Master Plan, n.d.).

Local civil society and the communities have many concerns regarding the airport and the consequences on the environment and their lives. The main concerns are displacement, the lack of inclusion and transparency on the project. The communities that are affected are barely able to get in touch with the exploiting party and they do not get sufficient information on what is happening. There are no clear plans to support the relocation of the local population and help with alternative livelihood opportunities, where people are already displaced. Civil society is also worried about the safety of the people in informal settlements in the area. The airport and the further infrastructure will provide job opportunities but it is unclear if the local residents will be included in these opportunities and their futures are uncertain (Both Ends, 2020; Kalikassan, 2019).

4. Comparison of the Masterplans

Now that there is an overview of all three Masterplans it is time to seek their comparisons and differences. The analysis of the three master plans was conducted in order to gather more knowledge about the possible changes in the approach between the three Masterplans and possibly find the underlying reasons. The results of the comparative analysis are explained below.

Challenges

Environment

Jakarta´s land subsidence causes much stress for the local environment as flooding seas threaten the flora and fauna with the salt water. However, the ambitious plans presented in the Masterplan are also a possible threat to the Jakarta environment. As the land reclamations and the sea wall will drastically change the water environment, the saltwater aquaculture will disappear in the freshwater retention lake. It is uncertain what the effects will be in the wider environment and if the aquaculture succeeds in relocating outside the wall. Another challenge is the necessary sand for the land reclamations. A lot is needed for the projects and it is unsure where to get it from, if the sand is mined in a distant area the contents might be too different and change the values of the water, which leads to loss of aquatic life. If the sand comes from another vulnerable location, the risks of land subsidence in that area increases.

The north of Manila Bay area experiences extreme coastal flooding due to sea level rise, land subsidence and obstructed waterways. The future land subsidence rate is expected to worsen with the anticipated increase in water demand and continuous extraction of groundwater brought about by the growing population, influx of travellers and development activities in the area associated with the New Manila International Airport. As the placement of the land reclamation is in front of the estuary of a network of waterways, this will increase the risks of flooding as well, as it blocks the way for the water. Lastly, the material for the land reclamation often comes from nearby areas, it is unclear where the sand borrows are, but the impact of removing large amounts of soil needs an impact assessment as well. The removal of soil further inwards may increase flood risks inland.

Both Jakarta and Beira experience heavy rainy seasons that flood the cities in their low-lying urban deltas. Sedimentation and waste accumulation combined with peak river discharges create occasional floods in the rivers that flow through the city areas. Street flooding caused by heavy rainfalls is more common, and the capacity and quality of their drainage systems are currently insufficient to effectively protect the cities and their inhabitants.

In all the Masterplans water is the main topic due to the direct threats that are caused by rivers, sea and climate. This is also the main reason the Netherlands - as water expert - is involved in all these projects via the NIWA.

Land use

The three countries experience the challenge of unplanned and uncoordinated urban development and lack of consistent regulation. Population growth in the cities and bay area keeps on rising and this results in growing informal settlements. These problems are indicated in the Masterplans and suggestions for solutions mainly focus on policy creation.

Furthermore, Manila Bay struggles with many unsolicited land reclamations in the bay area. The issue with the many unsolicited proposals is that they don’t take the other proposals into account and there is no clear consistent strategy for the development of the bay (Angeles,

2014). Coastal land reclamation projects are popular in Asia and especially in South-East Asia (Martín-Antón, Negro, del Campo, López-Gutiérrez & Esteban, 2016). Land reclamation is the process of creating new land from oceans, seas river beds or lake beds. The reclaimed land is known as landfills or reclamation grounds. Coastal area land reclamation projects are implemented with several goals; to protect the coastal area from environmental threats such as flooding and hurricanes, to improve economic opportunities by expanding existing harbour- and airports and to create social opportunities for further (environmental) protection and housing and labour opportunities (Martín-Antón et al., 2016).

Solid waste and wastewater management

All three cities have trouble with properly managing their waste. Most of it ends up in the rivers, blocking and polluting the water escape routes and therefore creating floods, or flowing into the ocean and polluting the waters which consequently create dangerous situations for the inhabitants and the ecosystems. This is an urgent matter and therefore shows up in the priority lists of the Masterplans. Sewage systems are insufficient for the rapid urban development, this also increases health risks and therefore is an urgent topic.

Drinking water

All three areas struggle with enough and safe drinking water. Even though they all have rivers flowing with fresh water next to or through their areas, most of these are too polluted to use and the collecting systems for rainwater are too small or just not working well. One of the main reasons for the shortage is the rapidly growing number of inhabitants in the three places, most of this growth is happening in the poorly registered informal settlements that don´t have access to fresh water. Other problems are the inconsistent water sources due to rainy and dry seasons and underdeveloped distribution networks. In all Masterplans there has been given attention to offering suggestions and solutions for this problem.

Summary Challenges

Most of these challenges are overlapping for all or two of the cities, some are specific to just one.

- Climate change that results in sea level rise and increasing droughts and flooding.
- Insufficient waste and wastewater management causing pollution that damages environment and endangers residents.
- Lack of safe and secure drinking water.
- Increasing land subsidence that causes flooding**.**
- Lack of due diligence with land reclamations causing environmental damage.

Masterplan solutions

Integrated planning approach

All projects share that they were formed by using the integrated planning approach. Integrated planning is a cross-functional process that ensures all stakeholders are involved at the right time to align priorities across an organization or project. Integrated planning gives a complete

view of resources and commitments and with these complex plans, it is one of the most thorough methods to work with (Yigitcanlar & Teriman,2015).

The Beira Masterplan deviates a bit by using staged planning on top of the integrated planning approach. This means the different tasks are split up and their development follows their own relevant scale and (smaller) timeframes. To achieve this, the Masterplan should be followed up by structure plans for parts of the city and detailed zoning plants on a neighborhood level (*Beira Master Plan 2035,n.d.)*.

Social inclusiveness

All three Masterplans mention the inclusion of local stakeholders and that their opinions are taken into account in the creation of these plans. However, there is not much detail on the social inclusiveness provided in the first two Masterplans and civil society organizations have shared critiques on this topic. The Beira Masterplan was mainly focused on infrastructure instead of social development and many people would suffer the consequence of displacement due to the plans, small-scale farmers in particular. The urban poor did not profit from the housing project as it was targeted at the middle-class to be more feasible from a business case perspective (Shannon, 2019).

Remarkable is that only the Manila Bay Masterplan has a chapter on stakeholder engagement, including a piece about gender and development in the MBSDMP. The case of the Manila Bay Sustainable Development Masterplan is quite unique, in the sense that all documentation is open, all reports can be found online and are therefore transparent. This is the first Dutch Masterplan where everything is openly accessible to the public while in the processes of creation. That is a leap forward in inclusive development, as access is needed to gain the information as public actors. There are still things to work on, the feedback documents stated that there was a lack of inclusion of local stakeholders, communication was insufficient and too late. An example of that is the invitation to a stakeholder meeting that was sent out one week before the event, only via online communication. This left out many people and gave too little time to prepare.

Tourism & Recreation

The Manila Bay area hosts several important tourism sites that showcase the country's natural and cultural heritage. The Masterplan states that it is crucial to identify the development and management strategies needed for the tourism sites to thrive. This will help with employment generation, to support inclusive growth and poverty alleviation. Beira and Jakarta also acknowledge the importance of tourism for economic purposes. In Beira the suggestion is to invest in the park surrounding the water retention basin to attract more tourism, focussed on quality-based performance measures. Jakarta too, received the advice of creating an area for mass-tourism functions, alongside the Jakarta Bay New Urban Beachfront and Waterfront Boulevard. The beach park will include pavilions, kiosks, beach festivals, outdoor performance spaces, piers, jetties and other sea-side activities to boost employment opportunities and the economy.

Flooding

All plans have strategies to deal with the flooding threats. In Jakarta the most drastic plan is written for flood prevention with the giant sea wall to prevent the city from disappearing under

water. This proposal is quite extreme and has many challenges to overcome in order to succeed. Flood prevention in Beira is mainly focussed on drainage systems and the enhancement of coastal erosion protection. This is done by working with nature and regulated urban planning. The strategy for Manila Bay is targeted at clearing of waterways by dredging to improve waterflow during rainy season. Dredged materials may be used as embankment along riverbanks to control measures or may be used for reclamation of low-lying areas that can serve as resettlement areas for those who will be displaced by floods. For coastal flooding the proposed solution is to focus on nature-based solutions alongside technical solutions. Planting mangrove forests help with the delay of coastal eroding coastlines.

Water Basin

Both Jakarta and Beira need a large-scale water basin to tackle their problems, according to the Masterplans. By building the Garuda Seawall, a 75km2 retention basin is created to temporarily store river water discharged into it before the water is pumped out to sea. By creating this artificial basin, the rivers don't get pushed back by the rising sea levels and therefore flooding inland is reduced. The water level can fluctuate to create storage space. The Masterplan states that the water basin might over time become a source of raw water supply, however, the current water quality of the urban water is very poor and needs to be improved for the retention basin to function properly. Beira's Masterplan strongly advocates for large retention areas and drainage canals to deal with the floodings in the rainy season and to store drinking water, as well as to use for leisure activities. Water retention is mentioned only once in Manila Bay's plan, with the strong disclaimer that research is needed and drilling should be minimized and ultimately eliminated to avoid ground subsidence.

Expanding Infrastructure

All plans have a focus on generating an improved infrastructure that helps the economy to grow. A big part of Beira's Masterplan is about the improvement of infrastructure to utilize its economic potential and that of its hinterland, as well as improving living conditions in the city. Expanding the harbours, road and rail infrastructure take up a large part of this Masterplan.

In the Jakarta Plan, two sections are dedicated to expanding and improving infrastructure, mainly about the road and public transport network and main- and airport development. Port development is a large and important topic in this plan as the planned sea wall will need the right adjustments to keep the port accessible. Tanjung Priok is the most important (main-)port of Indonesia and an essential economic driver for Jakarta. A short section is dedicated to the possibility of a new airport, but there is no defined plan as this would take specific airport studies in the future.

The MBSDMP is written as a guideline on how to deal with the problems in the bay area and where they do propose some infrastructural projects to improve the conditions in the area they mostly focus on the need of regulating the land reclamations. Especially the unsolicited New Manila International Airport project of San Miguel Holdings Corporation is threatening many important values expressed in this Masterplan, such as reducing the threat of flooding and restoring healthy and vibrant natural habitats and ecosystems. A policy note has been written with advice on how to deal with this major infrastructural project.

Finance

The financial aspects of the three Masterplans differ quite a lot. In the Beira Masterplan the focus is on finding the financial engineering of the follow-up projects where they search for parties that can be financially committed and if revenue opportunities exist. Secondly, they point out the necessity of financial feasibility, but have not researched this. As the focus of this Masterplan is on infrastructural and urban projects that can improve Beira's economy, there is an assumption that these projects can fund themselves by the profits they will generate in the future.

The Jakarta Masterplan is financed by the Government of The Netherlands. The mission of this Masterplan is to integrate flood safety solutions with urban development, thus solving urban problems and at the same time generating revenues to finance flood protection. Therefore, it is more than a flood management plan. It aims to be a catalyst for development of the coastal zone. Investment opportunities have been optimised to create maximum revenues, balancing possible revenues and market absorption of real estate.

The Manila Bay Masterplan is written as a guideline to develop the bay area in a sustainable way, the investments in this plan have been dedicated to the research for the project. Further investments for the implementation need to be generated by investors or the Filipino government.

Investments from the Netherlands in the Masterplans		
Beira Plan & Implementation €5.867.322,-	Jakarta Plan & Implementation €3.045.438,-	Manila Bay Plan €824.714,-

Table 1. Overview investments Netherlands in the Masterplans in 2023 (created by author, 2023)

Summary Solutions

- Integrated planning approach to execute the plans step by step.
- Applying Social Inclusiveness by incorporating visions of local stakeholders in the plans.
- Improve recreation and tourism opportunities to generate new jobs and sustainable economic opportunities.
- Develop drainage systems for flood protection
- Develop retention basins to improve drainage and save fresh water for drinking and leisure opportunities.
- Expand infrastructure to support urban development and economic opportunities.
- Create economic opportunities and an attractive business climate to finance the other sustainable development.

5. Discussion

Impact of international Masterplanning

The Masterplan partnerships were created in collaboration with the Dutch water sector to develop Beira, Jakarta and Manila Bay in a sustainable way. The Dutch water sector is involved because they can enhance efficiency and effectiveness through a reliance on comparative advantages (Brinkerhoff, 2002). The debate that rises here is about what influence a development collaboration actually has in improving the target area by writing a plan without certainty of further local commitment.

There are many concerns about human rights violations in these three partner countries and within the Manila Bay project. These are serious accusations and the civil society that shared them in the interviews urges the involved stakeholders to take action on these topics. The position of the Netherlands in these partnerships is to collaborate on a development plan that the other government can use to work on a vulnerable area in their country. Practically, there is no direct power for the Netherlands within the national borders in the partner country, except for requests and demands that could be involved in engaging in the partnership, which were not made. But it can be argued that the Netherlands could and should have used its position to support and better the human rights violations during the process of the Masterplan creations.

Another point is that the conflicting interests between the airport and the vision of the Masterplan in Manila Bay are a difficulty for the credibility of the Dutch stakeholders involved. By partaking in the MBSDMP, they were helping to create a plan to develop in a sustainable matter, and they do not want to be associated with the unsustainable NMIA, the reputation of the Netherlands might be threatened by the course of the development.

Wicked problems

The Masterplans are prime examples of the concept of wicked problems, as they deal with complex, ever-changing societal and organizational planning problems that are difficult to treat as they are constantly evolving. The plans are full of large-scale challenges that due to rapid climate change and urban growth urgently need to be tackled. However, there is no clear solution and the challenges lie on a broad spectrum of topics regarding economic, social and environmental subjects. The results of chapter 5 show examples like; urban poverty, pollution of (drinking) water and decreasing mangrove forests are examples of these challenges.

Wicked problems are ill-defined, ambiguous and associated with strong political, moral and professional issues. They are strongly stakeholder dependent, therefore there is often little consensus about what the actual problem is and how to deal with it (Horn, 2001). These struggles have been shown in the Masterplans: researchers, civil society organizations and economic developers all had different priorities and levels of achievement on the core topics. An example of incorporating future challenges in the paper is shown in the Beira Masterplan. The creators stated that they have written a general plan to make sure flexibility in the future was possible, as the plan was expected to follow a long timeline. This is a thoughtful manner of dealing with the many uncertainties that come up in the implementation phase.

Another factor that caused extra complications is the scale of the projects. Jakarta is a widespread city that suffers from flooding due to land subsidence in both the city area and the hinterland. The Masterplan suggested a solution in the city area but no further interventions into the root area of the problem. Flooding challenges in Beira were also suggested to be tackled within the city borders, where possible solutions lie upstream of the rivers. Manila Bay

includes 1.994 km², this is an enormous area and comes with challenges of jurisdiction and priorities. An interesting and helpful addition in research could be offering solutions on a different scale level by including not only the direct city area, but expanding to the root area of the problems. The Netherlands could have taken this position in order to support the local needs more.

It is important to recognize the wicked problems that are coming up during these kinds of development collaborations, but they should not be the reason to not take on the challenges. To deal with the problems in an appropriate manner, more research, time and funding per project would be ideal. When this is not possible, clear explanations about chosen steps should be shared and saved for future references to help make the right decisions.

Social Inclusiveness

There are many viewpoints on inclusiveness in the development industry and Pouw & Gupta (2017) state that it represents the effort by social justice and environmental actors to bring the centre of gravity of the trade-offs between environmental, social and economic issues towards social and environmental goals (Gupta & Vegelin, 2016). This is illustrated in the Beira Masterplan, Jakarta Masterplan and Manila Bay Masterplan. Firstly, when looking at inclusiveness in the Beira Masterplan it becomes clear that economic development has the highest priority. Despite the chapter on living conditions and quality of life, the poorest inhabitants of Beira are overlooked and there is little proof of a social inclusive research approach. For instance, there are no civil society stakeholder meetings included in the Masterplan document. Secondly, when looking at the Jakarta Masterplan, the social goals linked to employment, the development of communities in the coastal zone and the impacts on fishery and related communities are briefly mentioned. There are no further statements on how social inclusiveness is practiced in the development of this Masterplan.

Lastly, when looking at social inclusiveness in the Manila Bay case it becomes clear that inclusiveness is a multi-level challenge in which both local and international actors play a role. One of the main goals of the MBSDMP is risk reduction on the natural disasters in the bay area whilst involving the local citizens and their concerns in writing the plan. As mentioned before, the theoretical framework Pouw & Gupta (2017) states that inclusive development is about social, environmental and relational inclusiveness, and defines development as enhancing ecological and social wellbeing rather than as just economic growth.

The intentions of the MBSDMP are following this vision on inclusive development. Chapter 4 shows that the MBSDMP included a chapter in stakeholder engagement to practice inclusive development. However, the NMIA development is not in line with enhancing ecological and social wellbeing, the economic growth is the main goal of this development plan. The social inclusiveness in the Manila Bay area is difficult to measure as there is no clear plan from the Partners for Resilience that state when appropriate social inclusiveness would have been met in the case of the MBSDMP. Nonetheless, it is clear that there are quite some problems with social inclusiveness. Examples are corruption in the Philippines, communication troubles and execution challenges in the creation of the MBSDMP, and the conflicting situation with the NMIA. Future research should aim at the measurability of social inclusiveness in Masterplanning in order to explain the quality of executed social inclusiveness.

Dutch solutions for local problems

The Netherlands is internationally famous for its expertise on water management creating technically difficult water barriers to protect the country from flooding. The Dutch approach to

flooding and climate change problems followed a path that is also incorporated into the Masterplans. In Jakarta, for instance, as a grand solution a sea wall covering an enormous scope t has been suggested. In the case of Beira the flooding was tackled by a retention lake and citywide drainage system. The comparative analysis shows that all plans suggested a combination of technical coastal protection and using the environmental characteristics of the location was suggested by the Masterplans, with an emphasis on the building with nature strategy.
Van Slobbe et al. (2013) states that by incorporating the environmental characteristics and taking the needs of all stakeholders into account the feasibility and actual long-term sustainability increases when working on sustainable development projects. Building with nature projects needs to be carefully implemented, based on deep knowledge of the local situation, implying that generic knowledge will be of limited value if it is not carefully translated to suit local conditions.

In all the above-mentioned Masterplans the environment in the target areas has an important role to prevent flooding and protect the coastal areas as the areas are threatened by climate change and other challenges. However, the involvement of the environment as a stakeholder is limited. Prosperous technological megaprojects are mostly focussing on direct solutions, while it is also important to focus on more long-term local environmental solution. There are advocating groups that take the role of representative for the environment and all plans have involved the importance of sustainable development and protection of the natural habitats, but in the action plans it is pushed to a background position by the infrastructure and economic plans.

Limitations to the research

There are several limitations to the research. When performing qualitative research via interviews, the bias of respondents is involved as well as the researchers bias in interpretating the interviews. There is also a bias in the Masterplans and in the document analysis, which must be taken into account. By systematically coding and analyzing the interviews and documents the reliability is guarded. The power relations and power plays involved in the projects are difficult to capture, as they are ever-changing and not always openly displayed. By checking if the results correspond to the established theories used in the theoretical framework, the validity is taken into account. Due to time limitations, interviews were just held about the Manila Bay Masterplan. Including interviews with respondents connected to the Beira and Jakarta Masterplans is recommended for future research on the three connected Masterplans.

6. Conclusion

This chapter answers the research question*: Given the Dutch water ambition, how do Masterplans contribute to water security, water safety and inclusive development?*

The three Delta areas shared problems regarding water vulnerability. Threats of flooding due to climate change, sea level rise and land subsidence were common characteristics. Other challenges were linked to rapid urbanization that led to insufficient housing, drinking water and trouble with waste and waste-water. While analyzing the different masterplans the similarities and differences between the different projects became more visible as the Masterplans showed different approaches for the different cities. For instance, the Beira plan was mainly focused on increasing economic opportunities and developing drainage systems for rain- and waste-water. In addition, the Jakarta plan suggested a sea wall to help the rivers flow out and prevent floods that way while at the same time creating socio-economic opportunities in the target area. Lastly, the Manila Bay plan focussed on flood safety, decreasing pollution and environmental protection but the timing of this plan was too late to have impact on the large threat of the New Manila International Airport for the bay.

A key word in the Masterplans is `Plan´, it is meant as a framework for the local governments to develop their problem areas in a sustainable way. It is nevertheless the question whether the creation of these plans mostly profits the water sector in the Netherlands financially, or if the creation of these plans indeed lead to structural helpful change in the countries where they are implemented.

When looking at these Masterplans it can be concluded that they are helpful in providing solutions for the water problems encountered by the three cities, because they offer thoughtful suggestions to deal with the urgent problems. However, it is unclear if and how the local governments will proceed after the planning phase is done. The Masterplans are not directly helpful in achieving an inclusive society. Social inclusiveness has improved in the second and third Masterplan by including stakeholder paragraphs and a full chapter in the plans and setting up task forces. Yet, due to the local circumstances of corruption and the large scale of the plans it cannot be claimed to be a significant influence for an inclusive society.

It is important to recognize that there is an enormous amount of stakeholders involved in large-scale projects like the Masterplans. Therefore, it is necessary to think about the wicked problems that are encountered regarding the stakeholders. There are groups that will be skipped or derogated by the support that is offered, and if possible, more attention should be paid to these groups. Often, they consist of fishermen or poor people who are part of informal communities.

To conclude, the well-researched Masterplans are a helpful tool for creating Sustainable Development regarding water problems, but the implementation and therefore the final responsibility for developing the cities is in the hands of the local government.

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8. Appendices

A) Expanded details Methods

Stakeholder and Document analysis

A stakeholder analysis is a methodology used to identify people and organizations that have a "stake" in an issue that would affect them or their organization. In this stakeholder analysis the different roles and goals of the parties were mapped out to create a general overview of the Dutch involvement in the Masterplan projects. This is helpful in order to understand the connections, responsibilities and (possible) conflicts that might be present in the cases. The information about the different stakeholders was gathered in the public documents, the interviews and on the official website that was launched for the Manila Masterplan.

The document analysis is focussed on the documents on development such as development policy notes and the Dutch International Water Ambition, as well as on the Masterplan documents and the critique papers of civil society. In total 21 documents were included in the analysis. Apart from the document analysis a literature study was performed to provide the regional context.

Semi-structured interviews

Now that a general context is shaped by the stakeholder overview and the document analysis a further understanding was be created by in-depth semi-structured interviews.
Ten interviews were held between April 4 and June 14 2021. These personal conversations were conducted by using a semi-structured interview questionnaire. Several interview guides were created for the different stakeholders as they have different goals and roles in the process. The interview guides were created for interviews with government-related parties, for the consulting parties and for the local stakeholders in the Philippines. An example of an interview guide can be found in appendix A**.** These different guides are tailored to the goals and roles of the parties, although the overarching theme of inclusion and responsibility have a significant role in all guides

The interviews took place with the different Dutch stakeholders as well as local parties in Manila Bay that are representing the interest of the people in Manila Bay. By interviewing the different actors in the Manila Bay case the variety of viewpoints is tried to be captured. These in-depth interviews are necessary for mapping out the needs and ideas of the involved actors and gather insights from their experiences. To gain access to the involved parties and get in contact with possible participants online research was done as well as contact with the partner organisation Both ENDS. The interviews were held with the use of Microsoft Teams, Zoom and Skype.

Interview Guide Government party

INTERVIEW GUIDE RVO

-Hoe is de Nederlandse watersector betrokken geraakt bij de klimaatvraagstukken in Manila Bay?
-Hoe gaat het proces van een Masterplan in zijn werking, is de RVO betrokken bij het ontwikkelen van dit soort plannen? Welke rol nemen jullie aan?
-Wat zijn de uitdagingen die naar voren komen bij een enorm project als de hervorming van Manila Bay?
-Wat is de verhouding tussen het Masterplan en het Bulacan Airport project?

Webinar for people's sake
-Wat waren de belangrijkste punten die naar voren kwamen in de collective learning meeting met CoP en de stakeholders?
-Hoe gaat het met de werkgroepen die zijn opgezet, waar zijn die nu mee bezig?
-Is er een strategie ontwikkeld voor social inclusiveness in Masterplanning? En voor wie is deze strategie bedoeld?
-Het Masterplan is afgerond, zijn jullie nog actief in de baai voor verdere stappen?
En hoe gaat het contact nu verder met de community of practice?

-In het Masterplan zijn er ook zorgen geuit over het vliegveld in Bulacan, en zijn er adviezen aangeboden voor alternatieven. Zijn jullie verder nog betrokken bij het vliegveld?

Data processing

The processing of the collected data was done in the NVivo programme for qualitative analysis. Coding was done by a combination between deductive and inductive coding. There were specific research questions that could be answered by codes that were created before the interviews. But there was room to create new codes during the coding process to be sure that interesting data that would appear in the interviews could be included too.

Overview Documents per Masterplan		
Beira	**Jakarta**	**Manila Bay**
- BEIRA MUNICIPAL RECOVERY AND RESILIENCE PLAN - MASTERPLAN BEIRA MOZAMBIQUE - UPSCALING NATURE-BASED FLOOD PROTECTION IN MOZAMBIQUE'S CITIES Lessons Learnt from Beira -Aid to Mozambique primarily means opportunities for Dutch business	- Masterplan Jakarta, Indonesia: The Giant Seawall and the need for structural treatment of municipal waste water - READING POLITICAL INSINUATION IN URBAN FORMS: SAVING THE SINKING JAKARTA THROUGH GIANT SEA WALL PROJECT - COASTAL DEFENSE PROJECT IN JAKARTA: PROMOTING DUTCH BUSINESS INTERESTS OR PROTECTING THE CITY? - Critical-phase sea dike construction of NCICD program in Jakarta as national capital city - Masterplan National Capital Integrated Coastal Development - Social justice at bay The Dutch role in Jakarta's coastal defence and land reclamation	-Final Action Plan + Investment Report -Minimum Considerations for the MBSDMP Proposed Line of Defence Strategy - Policy Notes - Stakeholder Feedback on the Manila Bay Sustainable Development Masterplan - Process and Activities - Community FDG Report - MBSDMP – Status and Overview - Update of the Advice on SEA for the Manila Bay Sustainable Development Masterplan - Contested Space: Manila Sunset Bay and the Conflict Over Land Reclamation for an Urban Transformation Project - The development of aquaculture on the northern coast of Manila Bay (Philippines): an analysis of long-term land-use changes and their causes

Code tree documents

COVID
Development Strategy
Bilateral collaboration
DRR
Dutch development goals
Focus regions
International guidelines
Masterplans
Roles of ministries
Trade agreements
Evaluation
Financial
Division of Finance
Investment climate
Investment protection
Investment strategy
Inclusive development
Phillipines
Airport
Human rights
Masterplan Phillipines
Social inclusivity
Power relations
Agreements
Authority
Collaboration
Donorship
Ownership
SDG
Sustainability
Climate
Sustainable production
Sustainable trade

Code tree interviews

Masterplan
Polder model
Dutch Risk Reduction
Airport
Information airport
Boskalis
San Miguel Corporation
Ecological effects
Flood Risk
Birds
Mangroves

Fish
Land subsidence
Social effects
Displacement
Livelihoods
Military threat
Land reclamation
Land reclamation Authority
Unsolicited proposals
Social Inclusiveness
Technical comittee
Partners for Resilience
Human rights
Civil society
COVID

Consent

Before the interviews, it was made clear that the results of the interviews would be made public and shared with all the interviewees. The interviewees agreed to record the interview and afterwards were sent the quotes used in the results of the thesis if wished for. They have confirmed the quotes and added corrections if they were not referred to correctly in the research. These adjustments were made before the publication of the final report.

The transcripts of the interviews are not included in the appendix because several respondents shared sensitive information in these conversations. Contact author to get access to transcripts when needed.

Research location

The research was conducted in the Netherlands. Due to the restrictions caused by the COVID19 pandemic, it was not possible to travel for the research and in-person interviews were not possible, the alternative were interviews over video call or direct calls. Video calls are still able to give more information due to the presence of facial expressions and some body language. This is only an option if the respondents are willing to videocall and the internet connection is strong enough. The worldwide epidemic was an extra challenging factor for the research but did not block the research possibilities.

B) Stakeholder figure details

Netherlands International Water Ambition

The Netherlands International Water Ambition is a platform for collaboration. The NIWA collaborations contribute to reaching the common goals of increasing water security and water safety worldwide. The NIWA is a place for collaboration between public, private, social and academic partners. Climate adaptation and the Sustainable Development Goals are the focus of this collaboration platform. The water related challenges in the Masterplans are a perfect example of the projects the partners in NIWA are working on.

Water experts and Advisory

Bita Bina & Senesta Bina

BITA BINA SEMESTA/BBS is an Indonesian National Consultant Company specializing on 'front end' type of works, including planning and environmental studies for power plant development, mineral and natural resource development, urban development, infrastructure and industrial development.

Deltares

Deltares is an independent institute for applied research in the field of water and subsurface. They have 5 areas of expertise; Flood risk, Adaptive Delta Planning, Infrastructure, Water and subsurface resources & Environment. This institute was invited by the Ministry of Foreign Affairs to create the Manila Bay Sustainable Development Masterplan. Together with other Dutch and Filipino expert teams and the Partners for Resilience they did the research and created the Manila Bay Sustainable Development Masterplan.

Kuiper Compagnons

A Dutch multidisciplinary consultancy and design agency for the physical living environment, that works with a close-knit team of urban planners, (landscape) architects, planners, lawyers and other specialists on the spatial challenges of tomorrow.

NCEA

The Netherlands Committee for Environmental Assessment is an independent organisation that supports environment and sectoral ministries, environmental assessment professionals and non-governmental organisations, to improve their environmental and social assessment practice. The NCEA advises on the quality of the process and content of these assessments, both at project level (environmental and social impact assessment or ESIA) and strategic level (strategic environmental assessment or SEA). The NCEA's work is founded on three principles: expertise, independence and transparency. It is the combination of these three that allows the NCEA to provide unbiased support and advice.

NIRAS Mozambique

An international value-driven, multi-disciplinary engineering consultancy fundamentally committed to sustainable progress and service. Connected to the UN Global Compact and a member of the International Federation of Consulting Engineers.

Partners for Resilience

The Partners for Resilience are a special part of the Dutch stakeholder group, as they are formed by five NGO's that are taking the role of the voice of the civil society and be a watchdog on the ongoing process. They were actively involved from the beginning and are invited to share their ideas on the situation and do their own research alongside the other expert teams. Partners for Resilience is an alliance that was first set up in 2010 with the goal to get communities more resilient. The second round of finance was from 2016-2020 to use these strategies to support the projects in Manila Bay during the Dutch Risk Reduction missions and later on for the MBSDMP.

Programma Uitzending Managers (PUM)
The PUM was part of the support team for Deltares and their work is directly influenced by the global agenda put together by the sustainable development goals. They get financial support from the Ministry of Foreign Affairs for their practices.

Sweco
Sweco is originally a Dutch consultancy and engineering firm that was founded in 1913. Nowadays it is the largest architect- and engineering firm in Europe.

Triple-A
An independent and innovative consultancy firm specialized in risk management and actuarial services. Working for insurers, pension funds, pension administrators, banks and companies with a wide range of business issues. As a trusted advisor, we identify and advise on risks and opportunities as part of a strategy to be realized. With clear result agreements and practical knowledge transfer.

VanDenBroek Consulting
A consulting and training boutique established in 2009 in the Netherlands encompassing the wealth of experience of its founder Marcel van den Broek, a Certified PPP Professional (CP3P). The company is specialized in Public Private Partnerships predominantly in the transport infrastructure sector including roads, rail, ports and airports.

Wissing Stedenbouw en Ruimtelijke Vormgeving bv
Dutch urban development agency Wissing organizes people's living environment. They devise spatial solutions to accommodate all relevant social issues. The focus is on accessibility and activity based spatial planning with plenty of space for water and nature.

Witteveen+Bos
A Dutch consultancy and engineering firm that provides services in the fields of water, infrastructure, environment and construction. The agency has an ownership structure in which the shares are fully owned by the employees. In terms of turnover, it is the sixth engineering firm in the Netherlands. In addition to the Netherlands, the company has been active abroad for decades. Activities include Europe and the former republics of the Soviet Union, such as Kazakhstan and Latvia, as well as Southeast Asia and the Middle East.

Dutch Civil Society

Both ENDS
Both ENDS is a Dutch NGO that was not willing to join the Partners for Resilience as they wanted to keep their position as independent watchdog for the projects in Manila Bay, therefore they chose to not be part of the Partners for Resilience. They were in close contact with local civil society in the Philippines, and published a policy brief on the human rights and gender equality issues related to the MBSDMP with Filipino partner Kalikasan.

Government

Ministry of Infrastructure and Water
This ministry is responsible for the infrastructure and water and is involved in Manila Bay as these are key subjects in the area, water management, waste management and redefining infrastructure. *Rijkswaterstaat* is part of the Dutch Ministry of Infrastructure and Water Management and responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands. They offered their expert knowledge to the project as well.

Ministry of Foreign Affairs

The ministry of Foreign Affairs was of course involved in this collaboration, as the embassy plays a facilitating role for the connections between the Dutch involved parties with the Filipino authorities. The DDE department (sustainable economic development) and the IGG department (Inclusive Green Growth) were also involved in the Manila Bay case. The Dutch embassy in the Philippines played an important role in facilitating meetings between the different parties and connections with the Filipino government.

Ministry of Economic Affairs and Climate
This ministry is at first sight the least involved in the situation, however RVO (The Netherlands Enterprise Agency) is part of this ministry and they are responsible for the Disaster Risk Reduction teams. As this was the first contact for further ideas on the Manila Bay development plan they were involved in the project from day one. The RVO is also an important member of the Partners for Water group which is the creator of the Netherlands International Water Ambition. Part of the financing for the MBSDMP came from the RVO department.

VNG International
VNG International is the International Cooperation Agency of the Association of Netherlands Municipalities (VNG). Being part of VNG, one of the oldest and strongest local government associations in the world, our roots in local government are deep. It is second nature to work at both the technical and political level of local government. They are actively involved in European and worldwide networks of local government organizations. The combination of these two 'characteristics' enables them to cross-fertilize and to provide services for clients which better suit the needs of the beneficiaries. It is part of our identity: we are of, for, and together with local governments.

Private Sector

Atradius
Atradius is a large trade credit insurance company that is investigating to insure Boskalis for the reclamation projects in the Manila Bay area. The company is possibly working on more deals in the Manila Bay area for other Dutch contractors for future plans after the implementation of the Masterplan. Atradius is a private company that takes assignments from the Dutch government. The Dutch government has an interest in the land reclamation by Boskalis being a success, as they have financial commitments to it when they insure this.

Boskalis
Boskalis (Koninklijke Boskalis Westminster NV) is a Dutch dredging company and one of the largest in the world. The most important activities of Boskalis are land reclamation, creating and maintenance of harbours and waterways and protection of coastlines and banks. Boskalis has the contract with the exploiter of the Bulacan International Airport, San Miguel Corporation. Boskalis also has contracts with other land reclamation projects in Manila Bay that are already in further stages of implementation.

Invest International
Invest International is a private enterprise that supports companies active in the Netherlands with the international financing of innovative solutions that contribute to the realization of the Sustainable Development Goals. The company is a Joint Venture of the Dutch State (51%) and Development Bank FMO (49%)