

# Social justice at bay

The Dutch role in  
Jakarta's coastal defence  
and land reclamation



# Colophon

Social justice at bay. The Dutch role in Jakarta's coastal defence and land reclamation project.

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# Acronyms

ECA	Export Credit Agency
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
HLPW	High Level Panel on Water
ICESCR	International Covenant on Economic, Social and Cultural Rights
IDR	Indonesian Rupiah
ITB	Institut Teknologi Bandung (Bandung Insitute of Technology)
IWRM	Integrated Water Resources Management
JCDS	Jakarta Coastal Development Strategy
KNTI	Kesatuan Nelayan Tradisional Indonesia (Indonesian Traditional Fisherfolk Union)
MoU	Memorandum of Understanding
NCICD	National Capital Integrated Coastal Development
NGO	Non-governmental organisation
NWP	Netherlands Water Partnership
ODA	Official Development Aid
OECD	Organisation for Economic Cooperation and Development
PMU	Program Management Unit, established for the development and design of NCICD
PPP	Public-private partnership
RVO	Rijksdienst voor Ondernemend Nederland (Netherlands Enterprise Agency)
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SME	Small- and medium-sized enterprise
SOMO	Centre for Research on Multinational Organisations
TKPSDA	Water Resources Management Coordination Team
TNI	Transnational Institute
UN	United Nations
UNGP	UN Guiding Principles on Business and Human Rights
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
WHO	World Health Organization

Indonesia's capital Jakarta is facing severe flood risks that are threatening its more than 10 million inhabitants. This became painfully clear in 2007 when floods caused by torrential rains led to the loss of 80 lives. The Dutch government and water sector have responded to the call from the Indonesian government to provide a plan to improve Jakarta's flood defence. This effort resulted in a strategic plan called the National Capital Integrated Coastal Development programme (NCICD), which proposes an infrastructural mega project that could cost up to US\$ 40 billion, encompassing the construction of an outer sea wall as well as real estate development on an artificial island surrounding the sea wall. This iconic project has been put forward as a prime example of worldwide recognition for Dutch water expertise and of the operationalisation of the Dutch 'trade and aid agenda', which seeks to combine development assistance with the promotion of Dutch business interests.

Dutch organisations Both ENDS, SOMO and TNI are in close contact with Indonesian organisations that represent people whose livelihoods are directly affected by the project, in particular fishermen, women, and urban poor who are not connected to piped water services. These organisations are very concerned about the limited participation of local interest groups in the planning process leading up to the design and implementation of the NCICD. This is especially problematic given the expected immediate negative impacts on the livelihoods and welfare of residents of Jakarta Bay. The local organisations furthermore doubt that the NCICD will address the most probable cause of the flooding of Jakarta: the sinking of the city. This report is based on a study of the NCICD carried out by the author organisations, based on the stated concerns of local partners.

One of the ambitions of this report is to identify opportunities that ensure the involvement and participation of local groups in solving the water problems in Jakarta in a truly sustainable way. The Netherlands applies strict criteria concerning people's participation in decision-making processes: local stakeholders must be included in all phases of the planning and decision-making, while proposed plans must be compared against alternative investment opportunities. In the Netherlands, corporate social responsibility is said to be key to sound project development and implementation. Dutch companies and authorities that are involved in the development and implementation of the NCICD should act no differently abroad: they should make sure that the same high standards are applied in the Jakarta Bay project.

## 1.1. BACKGROUND

The main contributing factor to Jakarta's flood risk is rapid ground subsidence. Jakarta is sinking fast, not least because of the extraction of large volumes of groundwater for drinking water. This makes the city vulnerable to flooding from both the sea and the rivers inland. It is generally accepted that Jakarta's water and sanitation infrastructure and governance need serious improvement, and if improved, may stop groundwater extraction. The NCICD plan, which has been drafted by a consortium of Dutch engineering firms financed by the Dutch government, assumes that land subsidence cannot be stopped in time. Part A of the project, which heightens and strengthens the existing onshore embankment of Jakarta Bay, started in 2014. Phase B involves the construction of a western outer sea wall and a new artificial island, the Great Garuda, the creation of which is planned to start within a few years from now. Phase C foresees the construction of an eastern outer sea wall. There are major concerns about the impact of the

project on the quality of the water in Jakarta Bay if the precondition of cleaning up the 13 heavily polluted rivers that discharge into the Bay, is not met. Planned developments, such as the construction of the outer seawall, will modify the outflow of these rivers into the bay and the wider ocean, which is likely to cause further deterioration of the water quality in the bay.

Closely related to the NCICD project are land reclamation projects that are already in the process of creating 17 artificial islands alongside the coast in Jakarta Bay. These projects are under guidance of Indonesian property developers. From 1995, it took more than a decade and several legal challenges before the plans were finally approved by the Indonesian Supreme Court in 2011. Although technically distinct projects, the 17 islands and the NCICD are both plans which, if put into practice, will destroy fishing grounds and aquacultures and limit the access to the open sea for fishers. Indonesian organisations estimate that this threatens the livelihood of tens of thousands of people who rely on the fishing industry in Jakarta Bay. Given the similar impacts of both the ongoing land reclamations and the planned land reclamation and outer sea wall of the NCICD, Indonesian organisations concerned with the ongoing developments in Jakarta Bay see them as interrelated and not as isolated projects. Dutch companies have been subcontracted by Indonesian property developers for the design and construction of four of these islands.<sup>1</sup> Local media reported that a vessel of the Belgian company Jan De Nul has engaged in illegal sand mining outside of Jakarta Bay for the construction of one of the islands. Although this claim has not been verified by the company or by an official investigation, it points to the potential conflicts with local communities and environmental protection standards that large land reclamation projects such as the Great Garuda island creation as part of Phase B of the NCICD project are at risk of generating.

Indonesian organisations concerned with developments in Jakarta Bay state that the NCICD project does not address the core issues at the heart of the current threats to the city. Stopping the city from sinking should be the priority at the moment; Jakarta should become less dependent on groundwater as the main source of drinking water. Local organisations are convinced that the drinking water supply in the poorer parts of the city could be improved by involving local residents in the process. There is also a need to address the problem of upstream pollution of the 13 rivers; tackling industrial and household pollution is possible if adequate wastewater services are provided. However, all these priorities and measures are not the main focus of the NCICD project at this stage.

This report engages critically with the NCICD project and attempts to answer the following questions:

- What are the expected social, economic and environmental impacts of the NCICD project?
- Does the NCICD project adequately address the flood problem that Jakarta is currently facing?
- Does the NCICD project meet the development goals set by the Dutch government, especially those regarding the participation of local stakeholders in large-scale development and infrastructural projects?
- What are the (financial) risks of this megaproject for Indonesia?
- Have alternatives to NCICD been sufficiently examined?

## 1.2. AIM

The aim of this report is to contribute evidence to the current debate on how best to tackle Jakarta's flood problem in a sustainable and effective manner. It aims to give recommendations to the Dutch government on how to reduce the potential adverse social and environmental impacts of the NCICD project. This includes a reconsideration of the design of the plan, on the basis of a full environmental and social impact assessment. Furthermore, the report aims to hold the Dutch government accountable for adhering to its international human rights obligations and its high standards with regard to good water governance. These recommendations are specifically directed at the Ministry of Foreign Affairs, run by the Minister of Foreign Affairs and the Minister for Foreign Trade and Development Cooperation, and the Ministry of Infrastructure and the Environment.

The report also aims to highlight the implications of merging the trade and aid agendas. Support to the business interests and sector expertise of the Netherlands can conflict with development objectives if an adequate analysis of contextual complexities and balancing of private versus public interests is absent. The report aims to highlight the importance of following independent assessment criteria safeguarding public interests in order to make sure that possible implications are identified early in a project and dealt with accordingly.

Last but not least, the research conducted for this report aims to provide information for Indonesian civil society organisations to support them in their advocacy for social justice – in particular the protection of livelihoods of local fishing communities and their dependents – and all citizens of Jakarta, who have the right to equal and affordable access to clean water. They have formulated recommendations towards the Indonesian government which are also included in this report.

## 1.3. METHOD

### 1.3.1. Data collection

Primary sources of information for assessing the ongoing land reclamations in Jakarta Bay and the potential impact of the NCICD project were the NCICD Master Plan, background documents to the tender published by the Dutch government to prepare the implementation of Phase B of the Master Plan, Indonesian media sources reporting on the land reclamation projects in Jakarta Bay, a first instance decision by the administrative court of Jakarta, two decisions by the Indonesian Ministry of Forestry and Environment about the ongoing land reclamations, and two background reports by the Danish consultancy firm DHI Water & Environment, commissioned by the Danish government in the framework of its Environmental Support Programme. These are the Rapid Environmental Assessment for Coastal Development in Jakarta Bay from 2011 and the Jakarta Bay Recommendation Paper from 2012. The above sources are referenced in more detail throughout the report.

The analysis of land subsidence and water management issues in Jakarta is based on interviews with water experts from the Dutch research institute Deltares and the UNESCO-IHE Institute for Water Education as well as research from the Bandung Institute of Technology (*Institut Teknologi Bandung, ITB*). Information was also provided by the Netherlands Commission for Environmental Assessment (MER Commission).

Information about the impact of land reclamation projects in Jakarta Bay was provided by the Indonesian Traditional Fisherfolk Union (KNTI), which has some 5,000 members, with 23 chapters in Indonesia. The Jakarta chapter had some 500 members at the time Both ENDS visited in April 2016. Both ENDS held additional interviews with 10 fishers in Muara Angke and Kali Adam (23 April 2016) and five fishers on Pari Island (24 April 2016). Access to the fishers was provided by KNTI; some interviews were held in the absence of KNTI representatives.

For an assessment of the NCICD project, interviews were held with Dutch embassy representatives and the Dutch Ministry of Infrastructure and the Environment and questions about financing of the NCICD project were put to the Ministry of Foreign Affairs. A draft of the report was presented to both ministries and the Dutch embassy in Jakarta before publication for comment. Comments were received from the Ministry of Foreign Affairs, which were included in the report where relevant.

### **1.3.2. Peer review**

The authors' local partners – KNTI and the Indonesian Amrta Institute for Water Literacy – provided evidence and research for this report and have co-drafted the recommendations to the Indonesian government presented in Chapter 7. They have also reviewed sections of the report relating to the local impact of the NCICD project and Jakarta's water management system and local governance issues.

A draft version of this report was subject to a peer review by Bart Teeuwen (institutional and legal expert for water resources), Bosman Batubara and Michelle Kooy (Department of Integrated Water Systems & Governance, UNESCO-IHE Institute for Water Education) and Santy Kouwagam (Indonesian lawyer and researcher at Van Vollenhoven Institute for Law, Governance and Society).

### **1.3.3. Company review**

A draft version of sections of the report relevant to the involvement of companies in land reclamation and property development in Jakarta Bay were sent to the Royal BAM Group, the dredging companies Boskalis, Van Oord, and Jan De Nul, and the Indonesian property development companies PT Agung Podomoro Land<sup>2</sup> and the Agung Sedayu Group<sup>3</sup>. Information in the draft report on potential financiers of the NCICD project was sent to the Artha Graha Group, Indofood (Salim Group) and PT Agung Podomoro Land. Dutch consultancy and engineering firms Royal HaskoningDHV and Witteveen+Bos, which coordinated the Dutch consortium that developed the NCICD Master Plan, were also provided with an opportunity to review the draft report, as was Deltares, which provided specific

expertise to the NCICD Master Plan and has conducted research into land subsidence in Jakarta. Deltares also organised a roundtable on subsidence in Jakarta with international water experts in 2015.

Of the above companies, Jan De Nul, the Agung Sedayu Group, Indofood (Salim Group) and Artha Graha Group did not respond to the review request. Witteveen+Bos reacted in detail to the draft report. Where relevant these comments have been included in the report. The Royal BAM Group clarified their involvement in Jakarta Bay activities, which is limited to participation in a workshop providing input for a study for Islands O, P and Q.

Van Oord and Boskalis form a consortium carrying out reclamation activities for island G in Jakarta Bay. The land reclamations creating 17 islands in the bay started in 2011 originally independent from the NCICD project, but will be integrated into its design. The companies reacted in a common response to the draft report, pointing out that they are not involved in the development or execution of the NCICD plan, and that all of their activities have approval by the Indonesian authorities. In relation to protests of the local fishing communities against the reclamation activities for island G, which the fishers claim is destroying their fishing grounds, the companies responded that they are aware of the protests. They stated that, during the tender phase for the project, they had agreed that – given that the property developer is responsible for the activities – he should also be the first point of contact for the fishing communities.

All reviewers provided valuable comments, corrections and suggestions to the first draft, which were incorporated into the final version where relevant. Needless to say, the assessment of the NCICD project and possible inaccuracies are entirely those of the authors.

### **1.3.4. Normative benchmark for Dutch state commitments to human rights**

The normative benchmark employed to evaluate the Dutch support for the NCICD project and Dutch companies are internationally-accepted sets of sustainable development and human rights standards. There is a plethora of standards that the Dutch government has committed itself to. Relevant to this report are state obligations with regard to the extraterritorial human rights impact of international assistance and cooperation, through Official Development Aid or otherwise.

For instance, the International Covenant on Economic, Social and Cultural Rights (ICESCR), which the Netherlands is party to, provides in Article 2(1) that: “Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realisation of the rights recognised in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.”<sup>4</sup> The Netherlands also has a duty not only to respect human rights in international cooperation and assistance, but also to protect human rights by regulating non-State actors over which it exercises control, in this case Dutch businesses engaged in the NCICD project.<sup>5</sup> This principle is also outlined in the UN Guiding Principles on Business and Human Rights, and the UN Guidelines on Extreme Poverty and Human Rights.<sup>6</sup> and the UN Guidelines on Extreme Poverty and Human Rights.<sup>7</sup> The latter explicitly mentions the home state’s responsibility regarding policy coherence and international assistance and cooperation: “As part of international cooperation and assistance, States have an obligation to respect and protect the enjoyment of human rights, which involves

avoiding conduct that would create a foreseeable risk of impairing the enjoyment of human rights by persons living in poverty beyond their borders, and conducting assessments of the extraterritorial impacts of laws, policies and practice.”

The rights recognised in the ICESCR includes the right to work, “which includes the right of everyone to the opportunity to gain his living *by work which he freely chooses or accepts*, and will take appropriate steps to safeguard this right.” (Article 6(1), emphases added). Article 1(2) of the ICESCR also states: ‘In no case may a people be deprived of its own means of subsistence.’

With regard to official development assistance (ODA) principles, the Dutch government has recently stated, in its Memorandum to the Organisation for Economic Co-operation and Development (OECD) on Dutch development policy<sup>8</sup> that “the focus on poverty and deprived groups” is an integral part of the current Dutch development policy: “Most current policy instruments are aimed at both Least Developed Countries and lower-middle-income countries and are specifically intended to benefit deprived populations, either directly, or indirectly by fostering inclusive economic development. Smallholders, low-wage labourers, small entrepreneurs, women without proper access to credit, and people with no access to safe drinking water, sanitation or energy are typical recipients of Dutch development efforts (...).”<sup>9</sup>

Furthermore, the report draws on normative frameworks outlined in good water management principles, such as the Dutch government’s International Water Ambition (Integrated Water Resources Management and the principles of its comprehensive delta approach). The OECD has also outlined a number of principles of good water governance.<sup>10</sup> The government is also represented in the High Level Panel on Water (HLPW) convened by the UN and the World Bank, which aims to ensure availability and sustainable management of water and sanitation for all, SDG 6.<sup>11</sup> The commitment by the Indonesian government regarding good water management is described in more detail in Chapter 6.

Research for this report has not focused on the duty of the private sector with regard to international human rights standards. Insofar as the conduct of companies has been mentioned, however, the normative framework against which it is assessed are the UN Guiding Principles on Business and Human Rights (UNGPs) and OECD Guidelines for Multinational Enterprises, which have integrated the UNGPs.

#### 1.4. STRUCTURE

Chapter 2 looks at the main problems currently facing Jakarta and its bay. Since 2011, land reclamation projects in the bay by property developers have made Jakarta Bay a contested area. The creation of the artificial islands near the Jakarta shoreline, which preceded the NCICD project but will be integrated in this current design, is preventing access to fishing grounds and the open sea for local fishing communities, threatening their livelihoods. As a result, the creation of the artificial islands is highly contested and has been subject to a series of challenges in court. Furthermore, the city of Jakarta faces serious flood threats due to land subsidence created by groundwater extraction and is becoming increasingly vulnerable to high tides from the sea. This is exacerbated by lack of adequate water management systems and the privatisation of water supply in Indonesia since 1997, which has increased the price of water for Jakarta's citizens whilst failing to deliver adequate piped water supply for the population.

Chapter 3 outlines the Dutch-Indonesian bilateral cooperation in water issues and the involvement of the Dutch water sector therein. After the floods in 2007, the Indonesian government asked the Netherlands to design a plan for Jakarta Bay to tackle the capital's flood problem. This eventually led to the launch of the National Capital Integrated Coastal Development (NCICD) plan in 2014, foreseeing strengthening the embankment, the construction of western and eastern outer sea walls and a massive island creation project (the Great Garuda), which is expected to finance the costs of the coastal defence infrastructure. The chapter describes the main features of the plan, including the NCICD business case developed by a business consortium from the Netherlands. It also

outlines the involvement of Dutch businesses in the construction of the controversial artificial islands in Jakarta Bay, described in the previous chapter.

The involvement of the Netherlands in Jakarta Bay is not an isolated case. It is closely connected to the Dutch government's policy to create commercial export opportunities for the Dutch water sector and other industries that are marketable abroad. Chapter 4 takes a look at the various ways Dutch dredging companies, water engineering firms, delta technology consultants and maritime businesses are supported by the Dutch government. It further describes the involvement of the Dutch water sector in Indonesia and the diplomatic efforts Dutch officials are undertaking to promote the industry to their Indonesian counterparts.

Chapter 5 outlines critical concerns that have been raised about the land reclamations and the NCICD project by local non-governmental organisations (NGOs) and water experts. Firstly, these reflect the impacts the developments in Jakarta Bay will have on the environment and livelihoods of, in particular, the fishing communities. Secondly, questions are raised on choices made during the planning phase of the NCICD. Tackling land subsidence, the main cause to Jakarta's flood threat, seems not to be a priority, while preference is given to large infrastructural and real estate developments to protect the city. These choices align with the business interests of the Dutch water sector, but, this report shows, come at serious social and environmental costs. Furthermore, the chapter takes a closer look at the financial implications of this mega-project, both in terms of financial risks for the Indonesian government, as well as the type of investors this private-funded project may attract.

Chapter 6 looks at the policy context of water resource management in Indonesia. There are a number of governance challenges to fulfilling the two necessary preconditions for the success of the NCICD, such as the need for an independent environmental and social impact assessment. At the same time, there are two issues that would truly benefit the population of Jakarta: namely, ending land subsidence in North Jakarta by stopping groundwater extraction and creating reliable and affordable water supply, as well as improving water treatment in Jakarta. The challenges range from overlapping mandates of administrations and lack of access to reliable data to weak law enforcement and lack of consultation and participatory policy development. To understand some of these challenges, the chapter outlines the Integrated Water Resources Management (IWRM) framework which lays down principles of good water management that should guide international water projects such as the NCICD.

Chapter 7 summarises the findings of the previous chapters and makes a number of recommendations to the Dutch government, as well as outlining demands by Indonesian civil society with regard to their government.

## 2

# Jakarta Bay - situational analysis

### 2.1. INTRODUCTION

Jakarta Bay stretches along the coastline on the north-western side of the Indonesian island of Java (see Figure 1). The bay forms the seafront for the Indonesian capital of Jakarta, Tangerang and Bekasi. The Indonesian capital and the surrounding area are at the heart of the rapid economic development Indonesia has been

experiencing in recent years. The province of Jakarta is by far the largest contributor to the national gross domestic product (GDP) of Indonesia.<sup>12</sup> The Indonesian financial industry and business services are concentrated in the city centre. The shoreline of Jakarta is used for shipping, various industries, power plants, fishing and recreational activities.



FIGURE 1: JAKARTA BAY

SOURCE: DHI WATER & ENVIRONMENT, 2011. THE GREEN AREA INDICATES THE PROTECTED FOREST AND THE RED THE WILDLIFE RESERVE OF MUARA ANGKE

Jakarta's economic boom has had a negative impact on the ecosystem in Jakarta Bay. The water is polluted with heavy metals and chemicals.<sup>13</sup> Jakarta Bay used to be lined with mangrove forests, but due to "large scale conversion of mangrove forests to aquaculture, agriculture, and coastal reclamations, Muara Angke is today the only remaining intact mangrove forest along Jakarta Bay".<sup>14</sup> Mangrove forests foster biodiversity, provide the basis for coastal fisheries and work as natural shields against storms and tsunamis, as well as forming major carbon sinks (they absorb more carbon than they release). According to the Indonesian Mangrove Restoration project, approximately 90 per cent of the coastal forests in the bay area have disappeared.<sup>15</sup> The NCICD Master Plan, detailed in the next chapter, writes that "the mangroves [in Jakarta Bay] currently suffer from several external forces including, low water quality, solid waste, illegal cutting and most notably subsidence." The same applies to the bay's coral reef. A researcher of the Indonesian Research Center for Oceanography (Indonesian Institute of Sciences, LIPI) estimates that currently only one per cent of the bay's coral reef is still alive due to waste water from Jakarta.<sup>16</sup>

The Jakarta Bay area is also faced with acute population pressures as a result of this rapid economic development. In 2011, the metropolitan area was home to approximately 28 million people. Between 2000 and 2015, the population of Jakarta grew from 8.4 million to more than 10 million inhabitants. It is expected that 16 million people will live in the capital by 2020.<sup>17</sup>

## 2.2. LAND RECLAMATION AND RESISTANCE

Jakarta Bay is dotted with slum settlements and fishing communities, which are characterised by low income, poverty and marginalisation.<sup>18</sup> To make a living, the local fishing communities use Jakarta Bay as a fishing ground, or as the passage to fishing grounds further out to sea. Project developers, however, regard the seafront in North Jakarta as a profitable location for high-end residential properties, to accommodate middle- and high-income Indonesians who have benefitted from the city's rapid economic development. This conflict of interests has resulted in various court cases explained below.

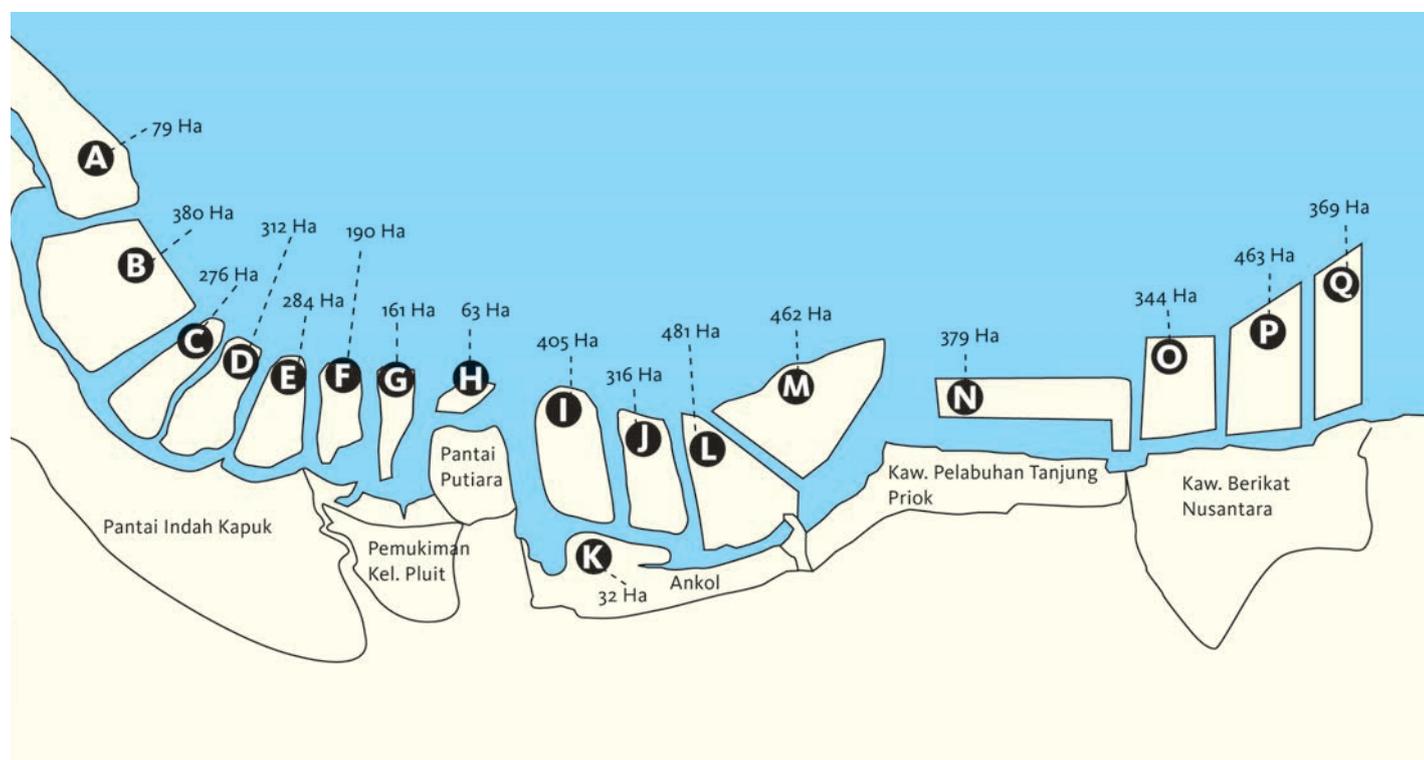


FIGURE 2: THE 17 PLANNED ARTIFICIAL ISLANDS IN JAKARTA BAY, FROM A TO Q

SOURCE: SHNET/IST<sup>19</sup>

In 1995, the first proposal for land reclamation in Jakarta Bay was launched by then President Suharto by Presidential Decree No. 52. The plan was then blocked for years by the Indonesian Ministry of Forestry and Environment, which on the basis of an environmental impact assessment, feared negative impacts on the ecosystem. In 2003, the Ministry issued Decree No. 14 stating that the reclamation would increase the risk of flooding, especially in the northern region, damaging marine ecosystems, and reducing household incomes of fishing families. The project would also require about 330 million cubic metres of sand (for an area of 2,700 hectares) and was expected to disrupt the Muara Karang power plant in North Jakarta. The decision was challenged by the property developers, who won in the last instance at the Indonesian Supreme Court in 2011. The province of Jakarta then started to issue permits for the construction of 17 artificial islands within close proximity to the shore of North Jakarta, numbered from A to Q (see Figure 2).<sup>20</sup> In 2012, the Indonesian project developer PT Kapuk Naga Indah, subsidiary of the Ayung Sedayu Group, started the construction of the islands C and D. In 2014, the Indonesian project developer PT Muara Wisesa Samudra obtained a permit for the construction of island G.

PT Kapuk Naga Indah is planning a residential area called Golf City as an extension of a gated community on the shore.<sup>21</sup> During the construction, it merged the islands C and D and has developed one bigger island. PT Muara Wisesa Samudra wants to construct a Dubai-style new city, called Pluit City, on approximately 160 hectares of land on island G.<sup>22</sup> As well as residential areas, the island would consist of schools, office parks and commercial districts.

The reclamations will be integrated into the design of the NCICD project. The construction of an outer sea wall in Phase B of the NCICD project, outlined in more detail in the following chapter, will be combined with the construction of a new artificial island in the shape of the mythological Garuda bird, a national symbol of Indonesia, above the string of artificial islands that will line the Jakarta Bay waterfront. The current design foresees an area of 1,250 hectares and plans the development of a new waterfront city, to be called the Great Garuda.

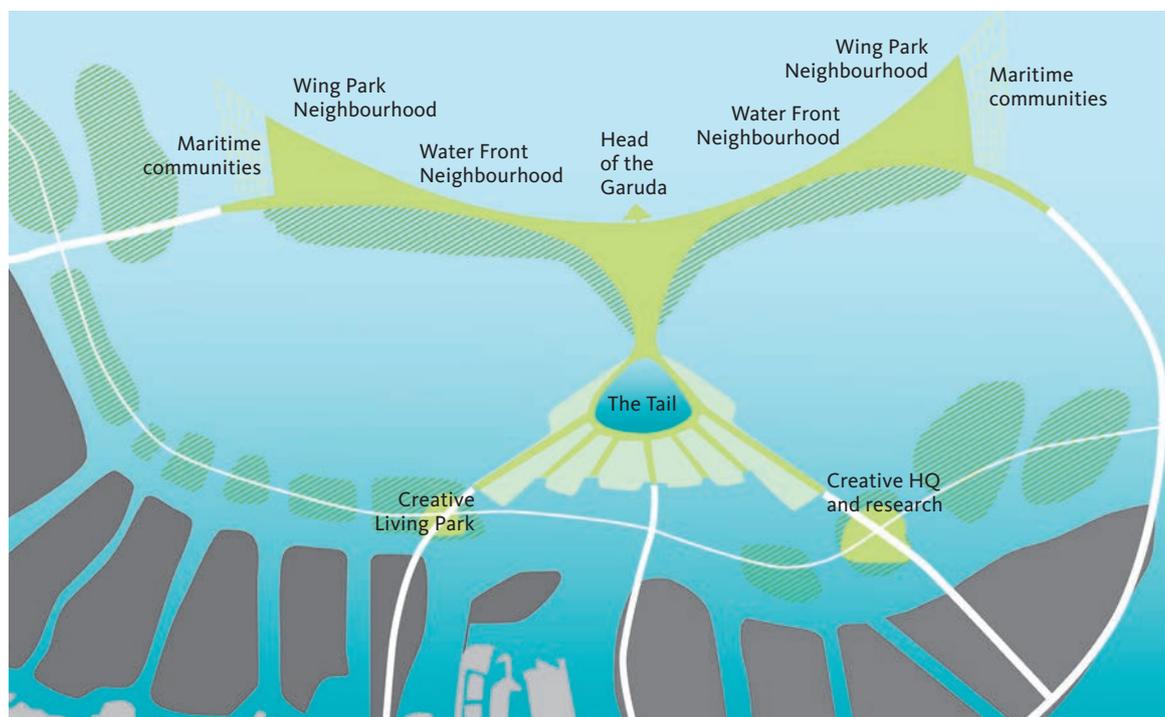


FIGURE 3: THE GREAT GARUDA

SOURCE: PINTEREST<sup>23</sup>

### 2.2.1. Legal action by and loss of income of fishers and accusations of corruption

Local fishing communities started legal procedures against the planned land reclamations (reklamasi in Bahasa) in Jakarta Bay in 2015. The fishers argued that the project developers were depriving them of access to their fishing grounds in the bay and the open sea. Fishers will have to sail longer distances because the new islands will block their passage, making their businesses almost unprofitable. A rapid impact assessment by the Danish consultant company DHI Water and Environment, commissioned by the Environment and Forestry Ministry in 2012, showed that the estimated loss of 586.3 hectares of fishing grounds could cause a total loss of US\$ 1.36

million (€ 1.06 million) in wages annually.<sup>24</sup> However, a research centre of the Indonesian Ministry of Maritime Affairs and Fishery estimated in September 2016 that the economic damage for the fishing communities in Jakarta was almost tenfold, amounting to a total annual loss of Indonesian Rupiah (IDR) 137.5 billion (€ 9.4 million).<sup>25</sup> Fisherfolk that were affected by the ongoing land reclamations lost more than three quarters of their average monthly income, which decreased from IDR 9,609,515 (€ 653) to IDR 2,267,655 (€ 154). This was confirmed in an interview Both ENDS held with fishermen from the Muare Angke village in Jakarta, who reported their daily gross income had decreased from approximately IDR 300,000 (€20) to IDR 50,000 (€3).<sup>36</sup>

DAILY INCOME LOSS (BOTH ENDS INTERVIEWS, 2016)				
Currency	Before	After	% Change	Fraction
IDR	300,000	50,000	-83%	3/4
Euro	20.4	3.4		
MONTHLY INCOME LOSS (MINISTRY OF MARITIME AFFAIRS AND FISHERY, 2016)				
Currency	Before	After	% Change	Fraction
IDR	9,609,515	2,267,655	-76%	3/4
Euro	653	154		
EXPECTED TOTAL ANNUAL LOSS (DHI WATER, 2012)				
Currency				
US\$ (million)	1.36			
Euro (million)	1.06			
EXPECTED TOTAL ANNUAL LOSS (MINISTRY OF MARITIME AFFAIRS AND FISHERY, 2016)				
Currency				
IDR (billion)	137.5			
Euro (million)	9.4			

TABLE 1: LOSS OF FISHERS' INCOME DUE TO LAND RECLAMATIONS

SOURCES: INDONESIA MINISTRY MARITIME AFFAIRS AND FISHERY, DHI WATER, BOTH ENDS

The Indonesian environmental organisation Walhi, which is part of a coalition of civil society organisations campaigning to end the land reclamations and the NCICD project (Save the Jakarta Bay coalition), fears that the additional sand required for the new developments in Jakarta Bay will further damage the ecosystem in other places in Indonesia (see Chapter 5.2.2.).

In April 2016, the Indonesian anti-corruption committee accused a local Jakarta politician of having taken bribes from Ariessman Widjaja, the former director of PT Agung Podomoro Land Tbk, the parent company PT Muara Wisesa Samudra, the developer of island G.<sup>27</sup> A few weeks later, the Indonesian Ministry of Forestry and Environment suspended the development of islands C, D and G, because of the protests by the fishing community and their supporters.<sup>28</sup> It also concluded that the environmental impact assessment by the developer had not considered all impacts.<sup>29</sup> According to the Ministry of Forestry and the Environment, it was not clear where the sand used for the construction of the islands came from; for the construction of the islands C and D more sand than permitted was sourced.<sup>30</sup> The developer of island G has replied to the authors of this report that it has clarified the source of the sand used for this island to the ministry.

In April 2016, Commission IV of Indonesia's House of Representatives and the Indonesian government "agreed to temporarily suspend development of the land reclamation project off the coast of North Jakarta as seven violations of Indonesian law occurred during the process".<sup>31</sup> In May 2016, a court in Jakarta also ruled in favour of the local fishing community. It decided that the permit issued by the province of Jakarta for the construction of island G needed to be suspended. The court considered that, among other things, the fishing communities were not properly involved in the decision making process, while the construction of the island might damage their livelihood. <sup>32</sup>

After the fishing community had taken their protest against the planned reclamation further to the streets of Jakarta, the Indonesian coordinating Minister of Maritime Affairs and Fishery announced in June 2016 that island G had to be cancelled permanently. The construction was classified as a "gross violation" of regulations and as a danger to the environment. According to the Minister, it was being built above vital submarine energy interconnections and between shipping lanes, but this was contested by the involved companies.<sup>33</sup> The developer PT Muara Wisesa Samudra replied in the company review that it had always complied with the rules and regulations.

The minister stated that the construction of islands C and D by PT Kapuk Naga Indah was also in breach of regulations. The project developer had to restore the separation between the two islands, by digging a channel that will function as a shipping lane and a sea current path. The Dutch engineering company Witteveen+Bos, which was involved in the construction of both islands, responded to the authors of this report that the merger of the two islands was always meant as a temporary provision. The Indonesian minister concluded furthermore, that the construction of island N, which is a part of the harbour of Jakarta, had also been conducted in an irregular manner.

The Coordinating Minister of Maritime Affairs has since been replaced. His successor intends to continue the construction of all 17 islands in Jakarta Bay.<sup>34</sup> The fishers have also lost their court case against the construction of island G in the appeal procedure,<sup>35</sup> but have taken the case to the Supreme Court. Furthermore, they also started court cases against the reclamation of the islands F, I and K.<sup>36</sup>

## 2.3. THE THREAT OF FLOODING

As well as land reclamation plans, flood threats are another issue of concern for the Jakarta Bay area. The area is prone to flooding because of its low-lying, flat position. In Jakarta city itself, 13 rivers converge and discharge into the sea. In the rainy season, the rivers become swollen with large amounts of water that have to be emptied into the sea.

In February 2007, 30 to 70 per cent of Jakarta was reportedly submerged, due to heavy rains.<sup>37</sup> The banks of rivers and canals burst because they could no longer carry the water mass. Hundreds of thousands of people fled their homes, seeking protection against floods as high as four metres above sea level. The death toll was estimated at 79. The financial loss amounted to US\$ 878 million, according to a report by Connecting Delta Cities, a subnetwork of the C40 Cities Climate Leadership Group. In 2013, another deluge hit the Indonesian capital, with a loss of 26 lives. The calamity left the city with an estimated US\$ 3 billion worth of damage.<sup>38</sup>

Floods in the city are not only caused by rivers, but also by the sea. The fishing communities in North Jakarta are frequently hit by the rising tide.<sup>39</sup> The villagers have grown accustomed to living with their feet in the water. In November 2007, however, Jakarta city was hit by serious floods from the bay. Due to the high tide, sea walls were overrun by seawater that inundated the streets for several days and reached peaks of 1.5 metres.

Multiple causes are cited for the growing flood threat Jakarta is facing. Because water reservoirs on land have been replaced by residential areas, storage capacity has diminished. Settlements on the river banks hinder the flow of water. The waterways are also blocked by waste, garbage and mud. The bad condition of the sea walls surrounding Jakarta Bay makes the city more vulnerable to high tides from the sea. Climate change is increasing this threat. The sea level in Jakarta Bay is expected to rise by 0.5 cm per year as a result of global warming.<sup>40</sup>

### 2.3.1. Land subsidence

The biggest contributing factor to the flood threat, however, is land subsidence in Jakarta Bay. The Indonesian capital is sinking at an average rate of 7.5 cm<sup>41</sup> a year, in some places up to 17 cm. One Indonesian hydrologist recently estimated that the city is even dropping at an average rate of 10-11 cm per year.<sup>42</sup> Land subsidence is a major cause for the growing flood threat in the bay. Over the past three decades, Jakarta has sunk four metres. As a consequence, 40 per cent of the capital is currently below sea level.<sup>43</sup>

North Jakarta has become particularly prone to flooding due to subsidence, not only because of the high tides coming from the sea, but also because of the rainfall that flows to the lowest lying zones in Jakarta. The discharge of the rivers into Jakarta Bay is also a growing problem, as the rivers are sinking below sea level along with the land. At some points of the rivers, the water they carry already has to be pumped up to the bay.<sup>44</sup>

There are four factors contributing to land subsidence in Jakarta, namely:

- excessive groundwater extraction,
- pressure from building and construction,
- natural consolidation of alluvium soil, and
- tectonic activities.

The percentage attributed to different factors varies according to different studies. In 2007, the Jakarta Mining Agency calculated that 80 per cent of the city's land subsidence is caused by building particularly high-risk towers, 17 per cent by groundwater extraction and 3 per cent by natural causes.<sup>45</sup> Another report by the Jakarta Mining Agency also indicated that the construction of skyscrapers in Jakarta in recent decades has contributed to land subsidence.<sup>46</sup>

The majority of academic literature, however, identifies groundwater extraction as the main cause for land subsidence. Researchers from the Bandung Institute of Technology (*Institut Teknologi Bandung, ITB*), who have researched land subsidence in Jakarta for more than a decade now, presented a technical analysis in a focus group discussion organised by Deltares in May 2015,<sup>47</sup> specifying to what extent different factors contribute to land subsidence. These findings are outlined in Table 2.

According to their analysis, the most important factors contributing to land subsidence are therefore groundwater extraction (almost 50 per cent) and pressure from building and construction (31 per cent, entitled “loading effect and setting” in Table 2).

	LOADING EFFECT AND SETTING	TECTONIC EFFECT	UNKNOWN EFFECT	OVERDRAFT OF GROUND WATER EFFECT
<b>Muara Baru</b> total subsidence 15,0 cm./year	2.5 cm. (16%)	0.0 cm. (0%)	2.5 cm. (16%)	10.0 cm. (68%)
<b>Cengkareng Barat</b> total subsidence 8,7 cm./year	2.0 cm. (23%)	0.0 cm. (0%)	2.0 cm. (23%)	4.7 cm. (54%)
<b>Ancol</b> total subsidence 5,4 cm./year	2.0 cm. (37%)	0.0 cm. (0%)	1.5 cm. (27%)	1.9 cm. (36%)
<b>Jakarta Pusat</b> total subsidence 2,9 cm./year	1.0 cm. (34%)	0.0 cm. (0%)	0.5 cm. (17%)	1.4 cm. (49%)
<b>Kelapa Gading</b> total subsidence 5,9 cm./year	1.5 cm. (25%)	0.0 cm. (0%)	1.0 cm. (17%)	3.4 cm. (58%)
<b>Cibubur</b> total subsidence 1,8 cm./year	1.0 cm. (55%)	0.0 cm. (0%)	0.5 cm. (27%)	0.3 cm. (18%)

TABLE 2: % OF FACTORS CAUSING SUBSIDENCE IN THE JAKARTA AREA\*

\* AVERAGE EFFECT FROM GROUNDWATER = 47.16%. SOURCE: ANDREAS, 2013 (CITED IN ANDREAS ET AL., 2015, SEE FOOTNOTE 51)

### 2.3.2. Causes for groundwater extraction

In Indonesia, residents and businesses have been using groundwater rather than sustainable sources, such as surface or piped water, for a long time for a number of reasons. This includes inadequate piped water service, and the fact that groundwater is cheap as well as being poorly regulated. According to the World Health Organization (WHO)/UN Children's Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation, some 67 per cent of Indonesia's urban population relies on ground water, with only 26 per cent using tap water.<sup>48</sup> Privatisation of water supply has increased the cost of water, and combined with a lack of piped water supply, has led to a continued reliance on groundwater extraction, exacerbating the problem of land subsidence. PAM Jaya – a water services company owned by the City of Jakarta, which is responsible for processing surface water – has not been able to meet the water needs of Jakarta. On paper, water service coverage in Jakarta is 59.09 per cent. However, in reality it is much lower, when comparing the production of drinking water and the need for water. According to research by the Indonesian Amrta Institute for Water Literacy, with a population of over 10 million and 3 million commuters, the water needs of the capital city are very high. In 2015 alone, the city needed at least 950 million cubic metres of water to meet domestic, industrial, and commercial needs. Piped water services using surface water sourced by PAM Jaya and its operators were only able to supply 331 million cubic metres, or about 35 per cent of the total needs, while the remaining 65 per cent is taken from ground water, because rivers and other water sources in Jakarta cannot be used directly to supply the residents' clean water needs.<sup>49</sup> An increase of the population and economic and industrial activity will raise the need for water and, combined with the inability of water service companies to provide sufficient water supply, has made ground water exploitation unusually large.

### 2.3.3. Privatised water supply

Jakarta's drinking water supply over the last 18 years is marked by privatisation. In 1997, concession contracts between PAM Jaya and two private operators were signed. Each operator was given control over half of the city: the western part was to be serviced by (Suez) Palyja and the eastern part by (Thames) Aetra. According to local water activists,<sup>50</sup> they are failing to fulfil their obligations to extend and improve water supply to the city's inhabitants, overcharging water users and forcing public authorities into excessive debt, whilst the company is making profits. Despite poor services, Jakarta's citizens have to pay expensive water tariffs. At the beginning of the concession in 1997, the average water tariff in Jakarta was IDR 1,700/m<sup>3</sup>. It continued to increase rapidly and the average water tariff in 2012 was IDR 7,020/m<sup>3</sup>; significantly higher compared to that of other big cities in Indonesia (see Table 3).<sup>51</sup> In the concession practice, the tariffs consist of a dual charging system sometimes called delinked tariffs system. The actual tariff is charged to Jakarta's water users after approval of the governor, and a much higher charge for service provision is paid by PAM Jaya to the companies. This charge includes the guaranteed investment rate of return and management fee, and represents a combined source of profit for the private concessionaires, irrespective of their performance. This charging system makes Jakarta piped water more expensive in comparison to other cities in Indonesia.

CITY	TARIFF (PER M <sup>3</sup> )
Jakarta	IDR 7,020
Surabaya	IDR 2,600
Medan	IDR 2,294
Bekasi	IDR 2,300
Makassar	IDR 2,000
Semarang	IDR 2,600

**TABLE 3: COMPARISON OF AVERAGE WATER TARIFFS IN INDONESIAN CITIES (2012)**

SOURCES: 1, 2, 4: TRIBUNNEWS (31.1.2012); 3: BISNIS INDONESIA (24.9.2012); 5: DEPARTMENT OF PUBLIC WORKS; 6: OKEZONE (10.5.2012), REPRODUCED FROM ZAMZAMI & ARDHIANIE, 2015.

### 2.3.4. Pressure from building and construction

The other central factor contributing to Jakarta’s land subsidence is pressure from buildings, particularly from high-rises. As mentioned above, the Jakarta Mining Agency has identified this as a significant problem for Jakarta and researchers from ITB calculated that loading leads to subsidence of 1 to 2 centimetres per year (see Table 2). The problem of loading is likely to increase over coming years, given that Jakarta is facing urbanisation and centralisation of capital and population.<sup>52</sup> The UN Development Programme (UNDP) reports that, between 1980 and 2015, the percentage of Indonesia’s population living in urban areas has risen from 22.1 to 53.7.<sup>53</sup> Business activities and infrastructure and real estate developments are therefore highly concentrated in Indonesia,<sup>54</sup> despite attempts to decentralise.<sup>55</sup>

The next chapter describes the plan developed by a Dutch business consortium to save Jakarta from drowning. It proposes to erect a large sea wall in Jakarta Bay that will protect the capital against flooding, and a real estate land reclamation project that entails increasing Jakarta’s business district. In Chapter 5 we will see that the plan does not offer a solution to the problem of land subsidence, because it will add to the load in Jakarta, and because it does not tackle its cause, namely, groundwater extraction and poor water supply.



## 3.1. THE NCICD MASTER PLAN

In 2001, the Dutch government signed a Memorandum of Understanding (MoU) with Indonesia on water issues, which was renewed in 2012 and 2015.<sup>56</sup> After the serious floods in 2007 in Jakarta, the Indonesian government, in the framework of this close cooperation in water issues, asked the Netherlands for further assistance in fighting the flood threat. The Dutch government decided to finance the design and development of the National Capital Integrated Coastal Development (NCICD) Master Plan. After an initial strategic assessment, entitled the Jakarta Coastal Defence (later renamed Development) Strategy,<sup>57</sup> a consortium of Dutch engineering and consultancy businesses<sup>58</sup> presented the NCICD plan. In 2014, the Indonesian government adopted Phase A of NCICD. In 2015, the government of South Korea joined the project as a third partner, resulting in trilateral cooperation in the project. In early 2016, Indonesia, the Netherlands and South Korea signed a Letter of Intent, in which they agree to cooperate on a coordinated approach to the implementation of the NCICD Master Plan.<sup>59</sup>

As outlined in Chapter 5, the Master Plan is based on the assumption that the sinking of Jakarta cannot be stopped in time to protect the city from flooding. The plan thus only considered three principal long-term solutions: abandoning North Jakarta; onshore dike reinforcement; and an offshore solution. These are three drastic options in terms of urban planning and social and economic impact. Abandoning North Jakarta would involve the relocation of 4.5 million people and was thus not seriously explored. Onshore dike reinforcement was not deemed feasible due to the need for large-scale relocations of the population and retention lakes, and the plan essentially presents an offshore solution as the only feasible one: “The offshore solution is the

most robust solution. In addition this solution offers many possibilities to create added value for the city and funding through land reclamations.”<sup>60</sup>

This option was chosen despite serious challenges to make it a success, such as drastically improved water quality, the enormous financial investments needed, as well as tackling land subsidence, challenges that are outlined in detail below:

“An offshore solution consists of a [sic] outer sea wall in the Bay of Jakarta, creating the required huge pumping lake (giant waduk) offshore. By combining the sea wall with land reclamations, a robust and unbreakable sea defence can be made. The retention lake behind the dike will have a lowered water level which facilitates free discharge of rivers. Pumping installations keep the water level in the lake sufficiently low. However, this alternative poses new challenges. To realise an acceptable water quality in the giant waduk, pollution in the rivers has to be reduced with approximately 75% (organic substances mainly from households) to 95% (nutrients). The implementation of a sewage collection and treatment system in Jakarta’s coastal zone needs to be accelerated considerably, requiring immediate action.”<sup>61</sup>

“The NCICD program is ‘giant’ in all aspects. Not only a ‘giant’ sea wall needs to be constructed (over 35 km long, in waters of over 15 meters depth), but also water sanitation needs to be implemented in a metropolitan area that is already struggling with rapid urbanization on a massive scale. In the short term several thousands of households near the current sea wall and adjacent river embankments need to be resettled to allow construction of the short term flood defenses. Not an easy task in an already overpopulated city. Moreover there is a wide range of issues which will have to be addressed, like the future of the fishing communities and fishing ports, the mainport Tanjung Priok (Indonesia’s largest port), the three power stations on the current coastline and the protected mangrove sites.”<sup>62</sup>

Elsewhere in the document, it states: “in any scenario it is essential to stop the cause of increasing flood risks, and reduce subsidence”.<sup>63</sup>

The NCICD is divided into three different phases (see Figure 4):<sup>64</sup>

**Phase A:** The current embankments along Jakarta Bay are strengthened and heightened. These reinforcements are designed to protect Jakarta until 2030 against the tides from the sea. Realisation is planned for 2018.

**Phase B:** In the western part of Jakarta Bay, an outer sea wall will be constructed together with a new waterfront city, the Great Garuda. Realisation is planned for 2025.

**Phase C:** Construction of an outer sea wall in the eastern part of Jakarta Bay. Realisation is planned for 2040.

The outer sea wall will have a total height of 24 metres at the deepest part of the bay. The wall will reach 7.7 metres above sea level.<sup>65</sup> The NCICD plan guarantees that the gigantic sea wall will protect Jakarta until at least 2080 against floods from the sea.<sup>66</sup>

Between the sea wall and the coast, one or two large water basins will be created in Jakarta Bay. They will be used for the storage of excessive rainfall and the water from the rivers. The water in this retention lake will be kept at a low level, so the rivers have no problem with discharging water into Jakarta Bay. From the lake, the water will be pumped up into the sea.

President Joko Widodo announced in April 2016 that the current land reclamation projects described in Chapter 2.2 would be integrated into the NCICD Plan.<sup>67</sup> In a meeting with Indonesian NGOs that oppose the NCICD (during a Dutch trade mission to Indonesia in November 2016), the Dutch Minister of Infrastructure and Environment indicated that the Netherlands intends to continue its involvement in the NCICD project.<sup>68</sup>



FIGURE 4: THREE PHASES OF THE NCICD PLAN\*

\* A: embankment, B: sea wall west and waterfront city, C: sea wall east

SOURCE: GOVERNMENT OF THE NETHERLANDS, NCICD TENDER

### 3.1.1. The financial cost calculations

When the NCICD Master Plan was published in December 2014, the total cost was estimated to amount to at least US\$ 26.5 billion (see Table 4). Witteveen+Bos, which is coordinating the NCICD project for the Dutch business consortium, says that the implementation of the plan is estimated to cost between US\$ 10-40 billion.<sup>69</sup>

AREA	NOMINAL DEVELOPMENT COST	NOMINAL MAINTENANCE COSTS
Flood protection	6,736,490,331	2,345,026,691
Transport	5,039,992,267	1,159,198,221
Land reclamation	8,929,487,585	1,026,855,310
Port	829,400,000	99,528,000
Specials (operation lagoon)		292,195,200
<b>TOTAL</b>	<b>21,535,370,183</b>	<b>4,922,803,422</b>

TABLE 4: NCICD PROPOSED COSTS  
SOURCE: NCICD MASTER PLAN, P. 64

From our reading of the Master Plan, we conclude that these calculations exclude:

- costs for fulfilling the preconditions for the success of the NCICD (water treatment and piped water supply to end groundwater extraction),
- financial costs for compensating fishers for loss of fishing grounds and access to the sea,
- maintenance costs arising annually after 2050.

### 3.1.2. Financing through real estate sale to private parties

“Financing flood protection with urban development and other sources of revenues, preferably developed by private enterprises, is one of the project principles.”<sup>70</sup>

The proposal itself contains a business case, in which the sale of land, in the form of a new island, can cover the development costs of the project, including the flood security measures. The Master Plan also contains recreational areas and a new port.

The business case estimates that, in addition to the sale of real estate, revenues will also be generated from toll roads and from operations in the new port (see Table 5 for an overview of the proposed revenues and Table 6 for a specification of the proposed income from real estate).

AREA	NOMINAL DEVELOPMENT COST	NOMINAL MAINTENANCE COSTS	NOMINAL REVENUE	NPV-RESULT
Flood protection	6,736,490,331	2,345,026,691		10,303,118,244
Transport	5,039,992,267	1,159,198,221	4,407,087,360	968,518,230
Land reclamation	8,929,487,585	1,026,855,310	22,633,635,995	13,495,418,969
Port	829,400,000	99,528,000	2,369,600,000	1,357,007,500
Specials (operation lagoon)		292,195,200		222,626,363
<b>TOTAL</b>	<b>21,535,370,183</b>	<b>4,922,803,422</b>	<b>29,410,323,355</b>	<b>3,358,163,631</b>

TABLE 5: THE NCICD BUSINESS CASE: PROPOSED COSTS AND REVENUES

SOURCE: NCICD MASTER PLAN, P. 64.

As mentioned in Chapter 2.2, as a form of income generation, the construction of the western outer sea wall will be combined with the construction of a new artificial island through land reclamation.

The island has an area of 1,250 hectares and is wide enough for the development of a new waterfront city, to be called the Great Garuda (see Figure 3 in Chapter 2.2), of which 45 per cent (23.7 million square metres) will be used for real estate.<sup>71,72</sup> Real estate encompasses housing for different income groups and a central business district, which will cover 44 per cent of the buildable area and is expected to result in high revenues.<sup>73</sup>

The logo developed for NCICD (see Figure 5) demonstrates the crucial importance of real estate development in the Master Plan. Rather than showing a sea wall or references to flood protection, the focus lies on high-rise buildings.



FIGURE 5: THE NCICD LOGO WITH HIGH-RISE BUILDINGS

SOURCE: NCICD WEBPAGE

The Great Garuda is planned to be connected to the mainland with a railway, roads and a highway, and it is proposed these will relieve Jakarta's notorious traffic jams.

Land reclamation	1,080 ha
<b>Buildable</b>	45.0%4.
Total ground floor	860,000 sqm

REAL ESTATE	BUILDABLE LAND	RELATIVE	LAND PRICE / SQM	TOTAL REVENUES
<b>Housing</b>		<b>69.3%</b>		<b>\$7,207M</b>
1 Housing (CBD)	425,250	8.8%	12,215	\$5,194M
2 Housing (high)	243,000	5.0%	2,791	\$678M
3 Housing (middle)	1,727,325	35.5%	720	\$1,244M
4 Housing (low)	972,000	20.0%	93	\$90M
<b>Office</b>		<b>14.8%</b>		<b>\$11,394M</b>
5 Office (CBD)	425,250	8.8%	24,570	\$10,448M
6 Office (high)	291,600	6.0%	3,241	\$945M
<b>Retail</b>		<b>4.0%</b>		<b>\$3,870M</b>
7 Retail (prime)	70,875	1.5%	47,210	\$3,346M
8 Retail (high)	121,500	2.5%	4,310	\$523M
<b>Industry</b>		<b>12.0%</b>		<b>\$163M</b>
9 Industry	583,200	12.0%	280	\$163M
10 ...	0	0.0%		\$0M
<b>TOTAL</b>	<b>4,860,000</b>	<b>100%</b>	<b>4,657</b>	<b>\$22,634M</b>

TABLE 6: NCICD BUSINESS CASE: EXPECTED REAL ESTATE REVENUE GENERATION

SOURCE: NCICD MASTER PLAN, P. 62

The Dutch government claims that a “unique concept” has been developed. The plan aims to achieve a private sector stake of more than 70 per cent. Investors from Indonesia and abroad are thus sought to put their money in real estate development, toll roads and port extension to finance the flood security measures. The government of Indonesia, nevertheless, “is in the lead, keeps the main responsibility, and is accountable to the stakeholder”.<sup>74</sup> The Dutch business consortium that developed NCICD states that the private funding was a distinct wish of the Indonesian Ministry of National Planning.<sup>75</sup> In Chapter 7 we will discuss the risks this entails for the Indonesian government.

### 3.2. DUTCH BUSINESS INVOLVEMENT IN LAND RECLAMATION IN JAKARTA BAY

Dutch businesses taking part in the consortium that developed NCICD are also involved in the construction of land reclamation in Jakarta Bay at a short distance from the shore, for which Supreme Court approval was given in 2011, and which will be integrated into the NCICD design. Witteveen+Bos and Royal HaskoningDHV were contracted for technical advice by PT Kapuk Naga Indah, the developer of islands C and D. As mentioned in Chapter 2.2.1, the construction of these islands was suspended in April 2016 for several months by the Indonesian Ministry of Forestry and Environment. The consultant Royal HaskoningDHV was hired by

the Indonesian property developer PT Muara Wisesa Samudra for its services relating to the development of island G.<sup>76</sup> As mentioned in Chapter 2.2.1, also the reclamation of island G was initially suspended by the Indonesian Ministry of Forestry and Environment and by an Indonesian court. Witteveen+Bos and Royal Haskoning responded in a review to this report that they were not involved in the procedures or sand supply regarding the construction of the islands C, D and G, but only provided technical supervision and assistance for the construction of the islands.<sup>77</sup>

In early 2015, PT Muara Wisesa Samudra awarded a contract to a joint venture of dredging companies Boskalis and Van Oord to design and construct the artificial island for Pluit City (island G). The contract carries a value of approximately € 350 million (each partner sharing 50 per cent) and will involve “reclaiming approximately 160 hectares of new land requiring in excess of 20 million cubic meters of dredged sand. Two jumbo trailing suction hopper dredgers will be deployed for the dredging and reclamation activities sourcing sand from local borrow areas”.<sup>78</sup> In 2015, Deltares, a Dutch institute for applied research in the field of water and subsurface, won a tender through the Van Oord-Boskalis consortium to test and optimise coastal defence through physical model testing.

Dredger Van Oord is also participating in the land reclamation project by the Indonesian property developer PT Kapuk Naga Indah (islands C and D). In 2012, the Indonesian company granted Van Oord a € 100 million contract for the development of island D.<sup>79</sup>

In April 2015, Boskalis received an export credit insurance from the Dutch export credit agency Atradius, amounting to € 209.4 million and covering the financial risk of non-payment.<sup>80</sup> As the contracts between the Dutch government and exporters are not public, it is unclear whether the issued insurance also covers the risks for Van Oord.

It is worth noting that the activities by dredgers have already been subject to criticism in Indonesia: Indonesian media reported that the ship *The Queen of the Netherlands*, owned by dredger Boskalis, allegedly did not have the right permit when it extracted sand for the

construction of island G in Jakarta Bay on the shore of the neighbouring province of Banten. According to media reports, the vessel was hired by a local dredger.<sup>81</sup>

Boskalis and Van Oord replied to a draft version of this report claiming that all their activities have been authorised by permits. As described in Chapter 5.2.2, the creation of artificial islands C and D in Jakarta Bay also led to complaints that Kepulauan Seribu, a protected marine park close to Jakarta Bay, has been damaged due to illegal sand mining.<sup>82</sup> A dredging vessel *Cristobal Colon*, owned by the Belgian company Jan De Nul, was thought to be responsible for the dredging by the local police and local fishers, according to an investigation published in TEMPO magazine.<sup>83</sup> Jan De Nul has not replied to the review request for this report.

### 3.3. DUTCH INVOLVEMENT IN THE HARBOUR OF JAKARTA

Dutch businesses are also involved in the extension of Tanjung Priok, the harbour of Jakarta. The dredger Van Oord has been contracted by the state-owned Indonesian port operator Pelindo for the construction of island N in Jakarta Bay. This project aims for a triple-fold extension of the harbour. Pelindo further assigned Royal HaskoningDHV as the lead consultant for the supervision of the first stage of this project.<sup>84</sup> In July 2016, the Indonesian coordinating Minister of Maritime Affairs concluded that the island was constructed in an irregular way, as the initial design plan was not followed.<sup>85</sup>

In October 2015, Indonesian officials and a Dutch delegation met in Jakarta to design a business case for a new location of the port in Jakarta Bay.<sup>86</sup> They planned new harbour facilities and an industrial zone on three of the 17 planned artificial islands in the bay, on the islands O, P and Q. The business case for the so-called Port of Jakarta initiative was developed in the presence of Dutch government officials, from the Ministry of Infrastructure and Environment and a few more Dutch governmental agencies.<sup>87</sup> Dutch input also came from the engineering companies Royal HaskoningDHV, Witteveen+Bos and Arcadis, from the construction companies Strukton and BAM, from the dredgers Boskalis and Van Oord and from Rabobank.

# 4

## Promoting the Dutch water sector

### 4.1. TOP SECTOR WATER

The official website of the Dutch water sector informs us that “From the early middle ages onwards, we have reclaimed and defended land from the sea”.<sup>88</sup> The sector uses the historical body of knowledge in Netherlands about water issues to promote its business abroad. It succeeded in increasing its exports since 1994 substantially (see Figure 6).

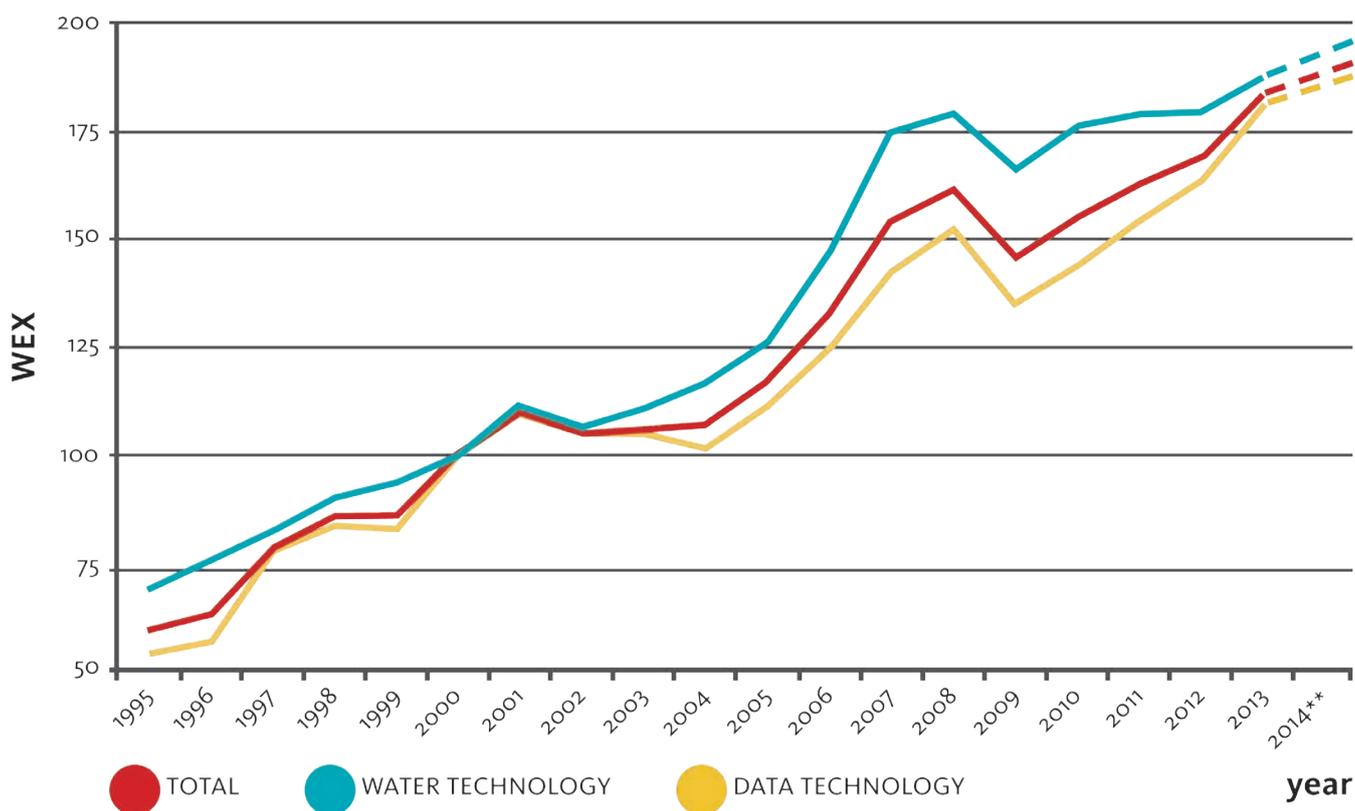


FIGURE 6: INCREASE IN EXPORTS IN DUTCH WATER SECTOR SINCE 1994 (2000=100)

SOURCE: PANTEIA, 2015,<sup>89</sup> WEX: WATER SECTOR EXPORT INDEX

The government regards the industry as one of its highlights in commercial innovation, and the water sector is defined as one of the nine top sectors promoted in the government's economic diplomacy and its trade and aid agenda. Directly or indirectly, the Dutch government allocated € 118 million for research and development in the water sector between 2016 and 2017.<sup>90</sup>

The government also participates in the Netherlands Water Partnership (NWP), which includes knowledge institutions, private companies and non-governmental

organisations (NGOs). On behalf of three Dutch ministries, this public-private partnership manages a programme entitled "Partners for Water", which provides additional financing for international projects initiated by the Dutch water sector.<sup>91</sup> From 2016 to 2021, the ministries will spend € 51 million on initiatives that help urban deltas abroad to overcome challenges such as flood threats, subsidence, sanitation and water supply. A prerequisite for financing from the Dutch government is that the submitted projects also offer prospects of "trade, investments and contracts".<sup>92</sup>

FUND / PROGRAMME	BUDGET IN MILLION €	SECTORS	BENEFICIARIES
<b>Top sector water</b>	118.4 (2016-2017)	Water	Dutch companies, knowledge institutions
<b>Partners for Water</b>	51 (2016-2021)	Water	Dutch and foreign companies, NGOs
<b>DRIVE</b>	120 annual	Water, infrastructure	Dutch and foreign companies
<b>Dutch Global Growth Fund</b>	50 annual	Water and other	Dutch and foreign SMEs
<b>DHI</b>	4.5 (2016)	Water and other	Dutch SMEs
<b>Partners for International Business</b>	8 annual	Water and other	Dutch partnerships (public and private)
<b>Design 2 Build</b>	10 (2015-2016)	Water and other	Foreign governments
<b>Sustainable Water Fund</b>	30 (2016)	Water	Dutch and foreign partnerships

**TABLE 7: DUTCH GOVERNMENT FUNDING FOR THE WATER SECTOR**

SOURCES: RVO.NL AND RIJKSOVERHEID.NL

Table 7 summarises Dutch programmes and funds for water projects abroad. In the policy document "International Water Ambition", these financial arrangements are brought together as an integrated Dutch government programme that contributes to the realisation of the UN's Sustainable Development Goals (SDGs). However, they also have to give a boost to Dutch exports.<sup>93</sup>

#### 4.1.1. Export credit agencies

Government support can be crucially important for businesses in the water sector, especially for the dredging industry. This is a highly capital-intensive industry.<sup>94</sup> The expansion of a fleet with new vessels demands high investments and the daily maintenance of these ships is very costly. If dredging companies have won a contract, they will still face financial risks. Project costs can exceed the contract price, turning profit margins into significant losses. And there is also always a chance that clients are not willing to or cannot pay.

Many countries have government-backed export credit agencies (ECAs) with which companies can insure themselves against these financial risks in the form of export credit insurance, guarantees or credit. In fact, ECAs are the largest source of public financial support for projects in developing countries. The Dutch Export Credit Agency is Atradius Dutch State Business (Atradius DSB) – a subsidiary of the private Spanish assurance company Atradius Group that solely operates as an agency for the Dutch government and falls under the responsibility of the Ministry of Finance.

The Dutch dredging companies Boskalis and Van Oord are among the largest in the world. To cover the financial risks of their operations, both companies are often supported by Atradius DSB, also regarding a land reclamation project in Jakarta Bay. As mentioned above, in 2015, Boskalis was granted an export credit insurance for a maximum amount of nearly €210 million for the construction of Pluit City (island G).<sup>95</sup> The Dutch parliament wants to increase possibilities for the water sector to obtain ECA further.<sup>96</sup> Currently 75 percent of the Dutch ECAs are granted to Dutch businesses in the water sector.<sup>97</sup> But ECAs are also controversial because they often support risky projects that are characterised by local resistance and negative human rights impacts.<sup>98</sup> Controversial operations of Dutch dredgers in Brazil and Egypt, for instance, also received support through Atradius DSB.<sup>99</sup>

#### 4.1.2. Economic diplomacy

Government support for the water sector is not only needed to cover the financial risks of operations in the international market, it is also necessary to win contracts. Projects in the sector are often tendered by national or local governments, and not by the private sector. To gain access to decision-makers within these foreign bureaucracies, businesses depend on the assistance of their own administration. Diplomatic channels can open doors for the water sector that would otherwise remain closed.

In 2001, the Netherlands and Indonesia signed an MoU about water issues, which was updated in 2012 and 2015. The agreement offered high-ranking Dutch government officials a forum, the Joint Steering Committee, where they could talk with their Indonesian counterparts about projects concerning water supply, sanitation, coastal defence, subsidence, etc. According to the Netherlands Water Partnership, these regular meetings resulted in “new business opportunities”.<sup>100</sup>

Dutch cabinet members also frequently meet their Indonesian counterparts to discuss water issues. In November 2013, Prime Minister Mark Rutte, as the head of a Dutch trade delegation, presented a first draft of the NCICD Master Plan in Jakarta.<sup>101</sup> In 2014, the Indonesian government adopted the first phase of NCICD, after the Dutch Minister of Infrastructure and Environment had also come to Jakarta to promote the plan. In 2016, Prime Minister Rutte led a trade delegation to Indonesia for a second time, with two Dutch ministers, one Dutch vice-minister and about 110 Dutch businesses and organisations. Among them were 50 companies in the water sector.<sup>102</sup> The cabinet members' visits illustrate the concept of economic diplomacy that the Dutch government officially promotes through its foreign policy since 2010.

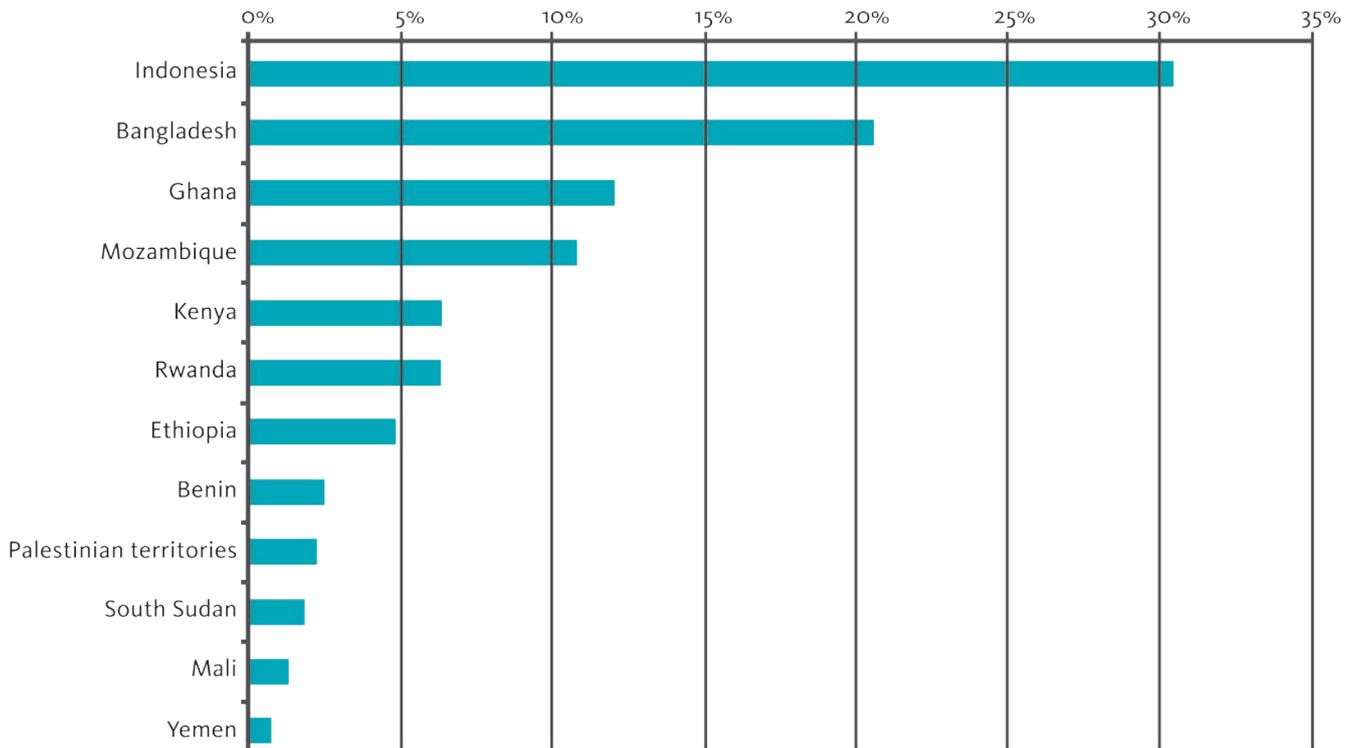
**4.1.3. Development cooperation**

Since the merging of the government’s trade and aid agendas in 2013,<sup>103</sup> the water sector is a focus of the Netherlands’ development cooperation policy as well: “Water management is one of the priority themes of Dutch development cooperation policy.” The focus of water-related development programmes are:<sup>104</sup>

1. Safe, clean drinking water, improved access to safe drinking water and sanitation for 25 million people;
2. Water management, improved river basin management and safe deltas;
3. Raising water productivity in farming by 25 per cent.

**4.2. THE DUTCH WATER SECTOR IN INDONESIA**

The Dutch water sector has established relations with all parts of the world. For example, the engineering company Royal HaskoningDHV employs 6,000 people in 150 countries.<sup>105</sup> Dredger Boskalis operates in 59 countries. Among the countries that receive development aid from the Netherlands, Indonesia is the most important client of the Dutch water sector, according to a survey by Aidenvironment.<sup>106</sup> The Netherlands Water Partnership counted 91 Dutch water projects in Indonesia in December 2015, of which almost half were carried out by the private sector.<sup>107</sup>



**FIGURE 7: DUTCH EXPORTS IN THE WATER SECTOR TO DEVELOPING COUNTRIES IN % OF TURNOVER**  
 SOURCE: AIDENVIRONMENT, 2015, P. 15, (N = 60).

The ties between the Dutch water sector and Indonesia intensified after Jakarta was flooded several times in 2007. As mentioned in Chapter 3.1, the Indonesian government asked the Netherlands for assistance in fighting the flood threat. In 2008, the Ministry of Foreign Affairs initiated the pilot project Dredging Jakarta, aimed at draining the city's waterways. This led to increased financing from the development budget and the Jakarta municipality and was implemented by Dutch companies.<sup>108</sup> The Flood Hazard Mapping initiative was also launched. Experts from the Netherlands designed a computer model that predicts the occurrence of floods in Jakarta.<sup>109</sup>

In 2009, Dutch businesses started to design a strategic plan with Dutch government funding as part of 'urgency' assistance because the sea defence in Jakarta Bay was collapsing. This was called the Jakarta Coastal Development Strategy (JCDS).<sup>110</sup> One of the strategic options included an offshore solution to counteract the increasing flood threat caused by the ongoing subsidence. This option resulted in the NCICD Master Plan.

#### 4.2.1. Dutch government funding

The Dutch government used its programme 'Partners for Water' (managed by the Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland, RVO) in cooperation with the Netherlands Water Partnership – NWP) to fund some of the above-mentioned initiatives to tackle Jakarta's flood problem. In addition, the Dutch embassy in Jakarta paid € 2.5 million. The contribution went to the pilot project Dredging Jakarta.<sup>111</sup>

The Dutch government also financed the development of the NCICD Master Plan through its official development assistance (ODA) budget. In 2011, the then State Secretary for Development Cooperation announced, during a stay in Jakarta, that he would donate € 4 million. Improving the coastal defence of Jakarta would not only benefit "the most vulnerable" in the city, he said. It would also offer business opportunities to Dutch dredgers and construction companies.<sup>112</sup> The decision was part of an overall shift in the Dutch ODA policy. Aid relations with middle-income countries like Indonesia have to transform

gradually into trade relations ("from aid to trade"). Dutch businesses can establish these trade relationships with money from private sector development programmes, financed with the ODA budget.

In 2016, the Dutch government provided further funding for the NCICD Master Plan.<sup>113</sup> A total of € 7.5 million from the ODA budget and € 500,000 from 'Partners for Water' has been allocated to the project for a period of a maximum of three years, starting in 2016. The money is allocated, among other things, to a detailed design of the new waterfront city and the Great Garuda sea wall. Furthermore, this ODA money will be used to develop a financial strategy to attract public and private investors to participate in the prestigious US\$ 40 billion project.<sup>14</sup>

"For this long term support the [Government of the Netherlands] has made available a total budget of EUR 8 million for General Consultancy plus the appointment of a senior government official from the Netherlands for a period of 2 - 3 years and a separate component to the Knowledge Management unit of the NCICD organisation. The main focus of the support will be on the investment decision for Stage B of NCICD taking into account the developments in the immediate context area and the interfaces with other interventions that may influence NCICD or vice versa."

SOMO and Both ENDS have also learned from two different sources, from the Dutch Ministry of Foreign Affairs and from the Ministry of Infrastructure and Environment, that the latter contributes approximately € 1.5 million per year to the NCICD project. However, this figure has not been officially confirmed.

#### 4.3. MARITIME COOPERATION

In 2016, the Indonesian and Dutch governments also signed a new maritime collaborative agreement.<sup>115</sup> In the agreement, the Netherlands promised the Indonesian government to support its ambition to become a global maritime hub. The Dutch government will assist Indonesia in the areas of fishery, shipbuilding and port development.

The new agreement also helps the Netherlands to promote its own maritime industry abroad.<sup>116</sup> The Dutch government has identified Southeast Asia, the Gulf of Mexico and the Arab Gulf as regions with clear “market potential”. It offers additional financing to maritime businesses that want to enter these markets, also from the programme ‘Partners for Water’.

In 2015, the Dutch maritime industry described Indonesia in a report as a “maritime hotspot” with plenty of business opportunities. It expects that Indonesia will invest US\$ 55 billion in the years ahead in upgrading ports and improving transportation between its 17,000 islands.<sup>117</sup> The report also recommended that the Dutch government should sign an agreement with Indonesia about maritime cooperation, because it “would help to realize initiatives”, a wish that was granted a year later.

#### **4.3.1. The Port of Rotterdam Authority**

The Netherlands is already involved in the development of Tanjung Priok, the harbour of Jakarta, situated in Jakarta Bay (see Chapter 3.3). The Dutch development bank FMO, which is 51 per cent owned by the Dutch state, finances PT Jakarta Tank Terminal. The company provides logistical services in Tanjung Priok. It is a joint venture between the Indonesian PT AKR Corporindo TBK and Vopak, a port terminal operator from Rotterdam that has operations worldwide.<sup>118</sup>

In October 2015, Dutch companies and government officials met with Indonesian officials in Jakarta to design a concept for a brand new harbour in Jakarta Bay on three of the 17 planned artificial islands.<sup>119</sup> One of the objectives of this so-called Port of Jakarta concept is to help Indonesia in its ambition to become a global maritime hub.<sup>120</sup> This ambition would also strengthen the position of the Port of Rotterdam Authority. One of the recommendations of the plan is that the Dutch harbour would take part in the development company for the new Port of Jakarta. During the 2016 Dutch trade delegation visit to Indonesia, the Port of Rotterdam Authority signed a Memorandum of Understanding with the Indonesian state-owned port corporation PT Pelindo II and the land development corporation PT Jakpro about the further development of the Port of Jakarta concept.

The Port of Rotterdam Authority is a Dutch governmental agency, which is pursuing a foreign policy of its own.<sup>121</sup> Its aim is also to create worldwide business opportunities for Dutch companies. The Port of Rotterdam Authority is also involved in the development of a new deep sea port in Kuala Tanjung, on the Indonesian island of Sumatra. In 2016, the Port of Rotterdam Authority opened an office in Jakarta for its Indonesian operations.

## 5.1. NCICD OFFERS NO SOLUTION FOR SINKING OF JAKARTA

“Subsidence, to a large extent, is caused by ground water extractions, which must be stopped and replaced by piped water supply. Not stopping subsidence means that Jakarta’s coastal zone is subsiding deeper and deeper below sea level, making solutions for the flooding problems increasingly difficult and expensive.”

NCICD Master Plan, p. 37

The NCICD Master Plan was developed out of an urgent coastal defence strategy that relies on the assumption that the sinking of Jakarta cannot be tackled fast enough to save Jakarta from future floods. The plan continuously refers to the importance of stopping subsidence or slowing it down as a precondition to tackle flood threats and considers it the most cost-effective solution as well. Stopping or slowing down subsidence, according to the Plan, is “enormously beneficial: significant reduction of subsidence before 2020 can postpone investments for long term solutions, or make this unnecessary altogether.” Yet it also believes that “this will probably not be feasible anymore for the western part of Jakarta, but it is for the eastern part”.<sup>122</sup> The plan presents as a fact that “the process of subsidence will continue in a high rate for some years. Around 2025, over 10% of West Jakarta has subsided below the critical level of 2.5 m below the Highest High Water Spring level”.<sup>123</sup>

As we will show below, this assumption is not necessarily shared by water experts. Furthermore, the Master Plan does not provide evidence for this assumption, making it all the more surprising that only options are explored in the plan that assume subsidence will not be stopped:

“If subsidence is not stopped in time, additional solutions are required to offer flood safety to the citizens of North Jakarta. Three principal long term solutions have been considered: abandoning North Jakarta, onshore dike reinforcement and an offshore solution.”<sup>124</sup>

As already mentioned in Chapter 3.1, these are three drastic options in terms of urban planning and social and economic impact that require enormous investments.

In its contextual analysis, the NCICD Master Plan makes a number of observations that are supported by water experts and civil society. The plan admits that “the city struggles to supply clean water to its citizens and companies”,<sup>125</sup> and that “many legal and illegal ground water pumps are installed, being the main cause for land subsidence.”<sup>126</sup> This is reiterated a number of times in the Master Plan; indeed, subsidence is mentioned more than 50 times. Yet the plan itself does not include tackling subsidence itself and presents the construction of the outer sea wall as a necessity.

The sections below make a case for tackling subsidence. Rather than based on original insights, this case is based on independent subsidence and groundwater research as well as government-backed initiatives.<sup>127</sup> The Indonesian government has the ambition to supply the entire country with piped water by 2019.<sup>128</sup> The Governor of Jakarta has ambitions to provide the capital with a 100 per cent coverage by 2018.<sup>129</sup> Such coverage would drastically reduce the need for groundwater pumping, a large contributing factor to land subsidence.

Deltares points out that, if subsidence continues, it will negate the protection of current investments in flood measures. Dutch hydrologist JanJaap Brinkman told the Indonesian newspaper Jakarta Post, as well as SOMO and Both ENDS, that if the deep groundwater extraction is indeed stopped within four years, the closure of Jakarta Bay by an outer sea wall is no longer necessary against the flood threat.<sup>130</sup>

### 5.1.1. Ending groundwater extraction and the problem of privatisation

Subsidence is a major problem for coastal cities worldwide. The experiences of Tokyo show, however, that the speed of sinking can be reduced rapidly after groundwater extraction has been reduced. In Tokyo the subsidence stopped after 10 years.<sup>131</sup> Water experts estimate that the subsidence of Jakarta can end within five to 10 years, if effective measures are taken: “The only thing Jakarta needs to do is to stop the deep groundwater use”.<sup>132</sup> If the problem of subsidence would be tackled, the embankment, which is currently being erected on the shore of Jakarta Bay as part of Phase A of the NCICD plan (see Chapter 3) would protect Jakarta sufficiently from flood threats. The wall is meant to act as a sea defence until 2030, but if subsidence is halted in a timely and adequate manner then it will also protect Jakarta in the years thereafter. The Dutch hydrologist Brinkman further states that stopping the sinking of Jakarta is “the easiest and cheapest solution” against the flood threat.<sup>133</sup> This does assume, however, that large investments into water supply, treatment and wastewater infrastructure are made.

The Indonesian scientist Yus Budiyo and others use a model in which land subsidence could be stopped in Jakarta by 2025, under the condition that the Indonesian authorities realise a 100 per cent coverage of piped water supply in Jakarta by 2019:<sup>134</sup> “If the policy target is achieved in time, it is the expectation that land subsidence would reduce quickly after 2019, and hence, the assumption to continue land subsidence until 2025 in the model.” This hypothetical scenario, based on the experiences in Bangkok and Tokyo, indicates that the sinking of Jakarta can come to a halt six years after groundwater extraction is stopped.

Currently piped water services using surface water supply about 35 per cent of the total needs, while the remaining 65 per cent is taken from ground water (see Chapter 2.3.2). Major investments, such as a new water treatment plant, are clearly necessary to increase water production to meet the demand. There are, however, serious obstacles to realising well-functioning piped water supply in Jakarta. Under the current concession contract – a Cooperation Agreement between the city-owned water operator PAM Jaya and two private operators – universal water access is set to be reached by the end of the concession period in 2022. Furthermore, the contract specifies that commissioners, rather than the government, are given the exclusive right to provide water services, which assumes they are also able to authorise necessary investments. This is problematic in two ways. Firstly, the target of 2022 for the provision of full piped water supply is too late if groundwater extraction and the sinking of Jakarta is to be stopped in time. Secondly, the central government, cannot make investments that are necessary to build a new treatment plant of surface water, which is estimated to cost US\$ 389 million.<sup>135</sup> Water rights activists observe that water treatment facilities have not been expanded under the concession contracts in the last 18 years. Water treatment facilities were made in the 1980s, financed by Japanese development aid, but they have not been upgraded since. Under the current conditions of the contract, necessary improvements of Jakarta’s water supply are not possible; the contracts should therefore be cancelled.

In addition, there is a conflict between the profit motive of private companies supplying water services and public interests, which has been subject to numerous legal challenges in Indonesia. In 2012, residents of Jakarta filed a citizen lawsuit against water privatisation in Jakarta at Central Jakarta District Court in November 2012. They argued that privatisation of water supply failed to fulfil the residents’ access to safe water, caused a series of corruptions and financial harm to the public budgets. On 24 March 2015, the court ruled in favour of the residents, annulling the contract agreement with Palyja and Aetra, finding that the public-private partnerships (PPP) were negligent in fulfilling the human right to

water for Jakarta's residents.<sup>136</sup> The decision, however, was challenged by these private companies and other defendants and the residents lost in the High Court in February 2016, upon which the Jakarta people decided to challenge the High Court ruling at the Supreme Court.<sup>137</sup> The legal struggle continues.

In short, given the limitations imposed by the existing contracts with private operators, the Jakarta government cannot rely on the private parties to achieve its ambitious policy target of full coverage of piped water supply by 2019 and stop land subsidence in time. The experience of the past two decades shows there is insufficient incentive for private operators to reduce dependence of groundwater use by investing in affordable piped water supply for large parts of the population. If the contracts with the private operators are not cancelled to allow for serious investments, another seven years to the end of concession in 2022 will most likely be lost years in the fight against the sinking of Jakarta.

## 5.2. PRIVATE GAINS AND PUBLIC LOSSES

Despite the existence of tried and tested solutions to land subsidence, the Dutch government continues to focus on implementing NCICD, with no alternatives having been explored. In ignoring land subsidence in the framework of the NCICD, the Dutch government is even undermining its own analysis for the NCICD plan to succeed: In July 2016, the Dutch government opened a tender for consultancy firms to take part in the further development of the new waterfront city Great Garuda and the outer sea wall, in which it states that slowing down subsidence is "a precondition to make a success of NCICD".<sup>138</sup> Piped water supply in North Jakarta is needed in order to stop deep ground water extraction, according to the document. This measure is, however, not an integrated part of the NCICD business case.

By failing to consider other options for tackling Jakarta's flood problem and proposing a high-investment offshore solution as a stand-alone option, the Dutch government is not engaging in sustainable water management solutions for Jakarta. Delivering a master plan like NCICD is certainly "a proven way" to position the Dutch water

industry on the Indonesian market.<sup>139</sup> It is not just the engineering companies that were already involved in the design and development in NCICD that will benefit if the outer sea wall and the Great Garuda are eventually realised. The Dutch dredgers Van Oord and Boskalis and construction companies from the Netherlands are also already receiving and can expect more profitable orders. The Dutch government hereby appears to be pursuing business opportunities for its own water sector which are not necessarily in the interest of the citizens of Jakarta. Indeed, the private gains generated through this project, could come at a high social, economic and environmental cost. The losses generated by large infrastructural and real estate projects that have not been subjected to careful impact assessments are outlined in the following sections.

### 5.2.1. Social costs and economic inequality

The construction of the outer sea wall and the new waterfront city in Jakarta Bay will have a profound impact on the fishing communities in North Jakarta. The ongoing reclamation of 17 islands has already impacted on their livelihoods. A Rapid Environmental Assessment, conducted by the Danish Hydraulic Institute in 2012, estimated that due to the current reclamation 586.3 hectares of aquaculture area in Jakarta Bay will be lost.<sup>140</sup> In a letter to Prime Minister Rutte, the Save the Jakarta Bay coalition stressed that, if NCICD is implemented, "tens of thousands" of people connected to small-scale fisheries in the bay will lose their livelihoods.<sup>141</sup>

A research centre of the Indonesian Ministry of Maritime Affairs and Fishery estimated that the fishers who are affected by the ongoing land reclamations in Jakarta Bay have already lost more than three quarters of their monthly income (see Table 1 in Chapter 2.2.1).<sup>142</sup> Data from the ministry also show that currently 24,028 people are employed as fishermen in Jakarta Bay. The Indonesian fishers union KNTI estimates that the number of people working in preproduction and postproduction in the fishing industry reaches more than 50,000 people. A closure of Jakarta Bay for fishing activities could amount to a total annual production loss of approximately € 52.1 million, according to the research centre of the Indonesian Ministry of Maritime Affairs and Fishery.<sup>143</sup>

If the outer sea wall and the new waterfront city are realised, all the current saltwater fishing grounds and aquacultures close to the shoreline of North Jakarta will disappear. Moreover, the passage for the boats to the open sea will be cut off. The NCICD Master Plan concedes that the fishing communities in North Jakarta will be affected by the closing of Jakarta Bay. “Considering the importance of the fishery sector to the communities they support, great care has to be taken of taking measures to mitigate effects of the closure of the bay”, it says.

One of the proposed measures is to move the fishing communities and their activities to the outer tips of the new waterfront city Great Garuda. Annex 10 to the Dutch tender procedure announces that a plan will be made for this far-reaching measure. However, in the NCICD business case, no clear financial provisions are made for this plan. In reply to SOMO’s questions, an official of the Dutch Ministry of Infrastructure and Environment responded that the relocation of local communities is in the first place a responsibility of the Indonesian government.<sup>144</sup> The Dutch consortium that developed the NCICD Master Plan states in its review of this report that 17 per cent of the land on the Great Garuda is earmarked for social housing of poorer groups such as the fishing communities. Nevertheless, it remains unclear from the business case how the costs of the relocation of fish markets, storage and processing facilities, and fishing ports are covered. The NCICD business case only mentions the construction of jetties.

In a separate economic cost and benefit analysis,<sup>145</sup> it is conceded that “fisheries might experience a reduction of productivity or be unable to produce at all” if an outer sea wall is realised. The document, however, deems it unnecessary to quantify these adverse effects before the fishing communities actually have to move or stop their businesses.

Critics of NCICD fear that the social housing on Great Garuda will still be too expensive for fisher folks.<sup>146</sup> They say that relocation will result in the destruction of the social fabric of their communities and their traditions. Furthermore, they resist the destruction of traditional fishing in return for largely unskilled work. People of the

Muara Angke fishing settlement in North Jakarta already face eviction from their homes due to the ongoing land reclamation in Jakarta Bay.<sup>147</sup> The new homes offered by the city of Jakarta to the fishing families are far away from the bay, which makes it impossible for the fishers to continue their profession.

If we look at a broader picture of the social-economic development in Jakarta, it is worrying that reclamation projects and NCICD could contribute to the growing inequality in Jakarta, which shows higher levels of economic inequality compared to the rest of Indonesia.<sup>148</sup> The economic situation is in general decline, as indicated by the 3.75 per cent increase in people living under Indonesia’s poverty line, from 368,670 in September 2015 to 384,300 people in March 2016.<sup>149</sup> If the fishing communities are further marginalised, the gap between rich and poor in Jakarta will grow even wider.

### 5.2.2. Environmental costs

In December 2015, the mass death of tens of thousands of fish was recorded in North Jakarta, due to an algae blooming leading to a decrease in oxygen levels in the water.<sup>150</sup> The incident was caused by the discharge of untreated wastewater into the 13 rivers that eventually end up in Jakarta Bay. The surface waters crossing Jakarta are heavily polluted by waste water from households and commercial buildings, as well as with discharges from industries, pesticide and fertiliser run-off from agricultural land, solid waste and faecal matter from overflowing or leaking septic tanks.<sup>151</sup>

An important part of the NCICD project is the creation of a big retention lake in the bay, between the shoreline and the outer sea wall. The rivers crossing Jakarta will end in this huge basin, where the water will eventually be pumped up over the outer sea wall and discharged into the open sea. It is expected that, without measures to stop water contamination, this retention lake will turn into a large stagnant cesspit, where all the toxic materials will gather. Jakarta Bay will then become “the biggest rubbish dump and toilet in the world”, according to the president of the Indonesian planners’ association.<sup>152</sup> Three other Indonesian water scientists also warn that the retention lake might become “a giant polluted reservoir” if the rivers crossing Jakarta are not properly managed.<sup>153</sup>

The NCICD Master Plan concedes this danger, pointing out that “the closure of the bay makes cleaning of rivers imperative”.<sup>154</sup> Costs for measures to improve the water quality, however, are not explicitly included in the NCICD business case. The Master Plan expects that the NCICD “creates the necessary momentum to implement sanitation measures that was lacking until now for Jakarta, and therefore has a positive impact on water quality”.<sup>155</sup>

This assumption, however, is far too optimistic. Only 4 per cent of Jakarta residents currently have access to an adequate sewage drainage and treatment system. Indonesia has one of the lowest sewerage coverage levels in urban areas in Asia. According to the World Bank, urban sanitation is the least well addressed of the major policy issues in Indonesia.<sup>156</sup> A plan to build a sewerage system was introduced 15 years ago, but not much progress has been made so far. In 2013, the Jakarta administration and the central government launched a proposal that expects liquid-waste management in 15 sewerage zones to be finalised by 2050. The project will cost around IDR 70 trillion (US\$ 5.91 billion).<sup>157</sup> However, neither the Jakarta provincial government nor the central government has made any concrete commitments. Instead, they rely on private sector companies to finance this essential public service.<sup>158</sup> In a tender for the further development of the NCICD, the Dutch government also defines water treatment as a precondition to the success of the project, together with slowing down subsidence.<sup>159</sup> There are currently no signs, however, that these two preconditions will be met any time soon.

The water quality in the retention lake is not the only environmental problem NCICD will create. The closure of Jakarta Bay will have a profound effect on the present flora and fauna in the bay. It will, among other things, kill off the last remaining 320 hectares of mangrove forest in North Jakarta. If the bay turns in part into a freshwater basin, it is impossible for the mangroves to survive. Mangroves provide an essential ecosystem, from carbon sequestration potential to biodiversity conservation. They trap nutrients and sediments and provide shoreline stabilisation, thus protecting coastlines and coastal dwellers from tropical storms, flooding and erosion. As

a compensation for this loss of the valuable forest in Jakarta Bay, the NCICD project proposes to create a new estuarine system for mangroves on the western tip of the Great Garuda, in an intertidal area. The costs of the construction of this 180 hectare lagoon are included in the NCICD business case.<sup>160</sup>

Another environmental concern caused by the NCICD project is the enormous amount of sand (300 million cubic metres) needed for the construction of the outer sea wall and the new waterfront city. Sand has become a scarce resource globally, due to urbanisation and the growth of megacities. Indonesia is one of the countries that are seriously affected by sand theft.<sup>161</sup> This has affected Kepulauan Seribu, a protected marine park close to Jakarta Bay. Although ecological degradation of the marine park is not a recent phenomenon, the creation of artificial islands C and D in Jakarta Bay is further contributing to the deterioration of the marine park, according to the local community.<sup>162</sup> A dredging vessel Cristobal Colon, owned by the Belgian company Jan de Nul, was thought by the local police and local fishers to be responsible for the dredging, according to an investigation published in TEMPO magazine.<sup>163</sup> The magazine reports that the then head of Jakarta’s Water Management Agency, Tri Djoko Sri Margianto, had uncovered theft of sand in the waters of Pulau Pari and Lancang, used for the land reclamation project of PT Kapuk Naga Indah. The vessel had allegedly operated in Indonesia while its permit had expired. Jan De Nul was hired by the Indonesian project developer PT Kapuk Naga Indah for the construction of the islands C and D.<sup>164</sup> Jan De Nul did not respond to the review request regarding the above allegations. Wahli, an Indonesian environmental forum, claims that sand was also stolen from other parts of Indonesia for the land reclamation in Jakarta Bay, without naming companies.<sup>165</sup>

The construction of the outer sea wall and the new waterfront city in Jakarta Bay will also require large amounts of sand, the origin of which is not specified. As such, the NCICD project is at risk of encouraging illegal sand mining in Indonesia.

### 5.3. FINANCIAL RISKS

There is currently no publicly available and comprehensive overview of the financial costs and the financial risks for the full realisation of the NCICD project. The NCICD Master Plan presents a business case in which the construction and “development” costs for the flood protection, the transport system, the land reclamation, the port and the operation of the lagoon are estimated at US\$ 21.5 billion (see Chapter 3). However, this calculation does not include the costs needed to fulfil the two preconditions for the project to be successful, namely, ending deep ground water extraction and waste water treatment. It also excludes the full cost for the relocation and compensation of the fishing industry.

The recent tender document of the Dutch government mentions an investment “challenge” of US\$ 33 billion for the real estate development, infrastructure and port development. This is in addition to the US\$ 7 billion required for the flood security programme. The tender document says that the NCICD aims at a private sector stake of more than 70 per cent. As mentioned in Chapter 3.1, the NCICD Master Plan predicts high income to be generated from land reclamation. The plan promises that the Great Garuda “will create employment and enormous value added for the city. The land reclamation will provide structurally over 550,000 employed people in total. During construction of the Great Garuda, on average additional 4,250 persons are temporarily employed per year. The value added of this employment for the economy sums up to \$ 64 billion (!) (in terms of PV) for the period up to 2040.” Most of the income is expected to result from the selling of the new land for high-rise office buildings and different kinds of real estate development.<sup>166</sup>

However, a number of risks threaten this expected income, ranging from extended development periods, lack of availability of sand, higher development or financing costs to a slump in real estate prices. In order to mitigate lower than expected demand for offices (real estate market risks), the Master Plan says that, “Governmental guarantees of moving governmental offices to the new CBD [Central Business District]

is necessary”. Furthermore, “first steps to set up an integrated water quality improvement programme should have been taken”.<sup>167</sup> These risk mitigation strategies are not included in the calculations.

The NCICD Master Plan acknowledges there are financial risks attached to the project.<sup>168</sup> One of these risks is that the development costs of Great Garuda might substantially increase due to the increase of the price of sand. For the creation of the new waterfront city, sand has to be carried from long distances. Another risk is an economic downturn in Indonesia, which could result in a slump in the real estate market in Jakarta.

The realisation of NCICD could also result in an oversupply of real estate in the capital, especially if the 17 artificial islands are constructed as well. In 2013, the Program Management Unit (PMU) that was established to ensure a “swift and effective implementation of NCICD” organised consultations with five potential private investors from Indonesia. They expressed concerns that the creation of the Great Garuda could result in a collapse of the real estate market if the planning of real estate in the new waterfront city was too ambitious.<sup>169</sup>

A setback in the commercial exploitation of the new waterfront city, the new port and infrastructure would threaten the expected income. The NCICD Master Plan therefore proposes that the Indonesian government should make initial public investments to encourage private investors to enter the project:<sup>170</sup> “In order to get the private sector to invest, the public sector itself must first make a substantial commitment. When initial public investments are made, substantial private investments can be expected.” That private investments will follow, however, is an assumption rather than a given.

From the above, an overall picture emerges that shows many hidden and explicit costs and risks of the NCICD project are expected to be borne by the Indonesian government. The cost-benefit analysis that is being provided by the Master Plan does not include the upfront costs for the necessary preconditions for the NCICD project to succeed. There is a risk that the

expected income for the Indonesian government will not be realised, while also expecting guarantees by the Indonesian government to avert some of the risks for private investors.

### 5.3.1. Controversial investors

Another concern is that the NCICD project will attract investors with a bad track record regarding human rights, corruption and environmentally damaging projects. One of the companies the NCICD's PMU consulted in 2013 as potential financier was the Artha Graha group. The group describes itself as "an extensive network of companies, institutions as well as individuals, both affiliated and non-affiliated, which are bound together by a common vision". The group is active in a number of industries throughout Indonesia, including property, finance, agro industry and hospitality.<sup>171</sup> Artha Graha was founded by the Indonesian entrepreneur Tomy Winata,<sup>172</sup> who is named as chairman of the Artha Graha Network by Bloomberg.<sup>173</sup> Tomy Winata confirmed to Indonesian media that he is interested in taking part in the next phase of the NCICD.<sup>174</sup>

Winata is regarded in Indonesia as a businessman with a close connection to the military.<sup>175</sup> According to the researcher George Aditjondro, in the 1990s Winata mobilised funding for special forces that were accused of committing human rights violations in Indonesia.<sup>176</sup> The Indonesian online paper *Merdeka* writes that Winata built a boarding school for these forces.<sup>177</sup> In an interview, Winata himself described the military as a regular business partner.<sup>178</sup> Until 2005, a military foundation held a 20 per cent stake in Bank Artha Graha.<sup>179</sup> At present, former army general Kiky Syahnakri is the head of the bank's supervisory board.<sup>180</sup> In 2003, Syahnakri was – along with other Indonesian military – indicted by the UN prosecutor for human right violations in East Timor, where he was a commander after the 1999 vote for independence.<sup>181</sup>

Through a subsidiary, PT Tirta Wahana Bali International, Tomy Winata is also involved in a controversial land reclamation project on the island of Bali. The developer is planning to change a protected sea area in Benoa Bay into a touristic resort. Local fishers there, just as in Jakarta Bay, are afraid they will lose their livelihood.<sup>182</sup>

The Program Management Unit of NCICD also consulted the Indonesian company PT Agung Podomoro Land Tbk as a potential investor.<sup>183</sup> This conglomerate owns the subsidiary PT Muara Wisesa Samudra, the company constructing the artificial island G in Jakarta Bay. Ariesman Widjaja, the former Director of the PT Agung Podomoro Land Tbk has become a suspect in a corruption case. He allegedly tried to bribe a local politician in Jakarta with the aim of reducing the local taxes due for the construction of island G.<sup>184</sup>

Another group that was contacted<sup>185</sup> for potential investment is the Salim group, which expressed doubts about the feasibility of the entire NCICD plan but nevertheless expressed interest in being involved in the future. The Salim Group is one of Indonesia's biggest corporations and owner of Indofoods, which is associated with many malpractices on its palm oil plantation, such as breaches of labour rights, environmental damage and clearing through fires, and evictions of communities.<sup>186</sup>

Business conglomerates, (former) military, bureaucrats and politicians still constitute an informal power structure in Indonesia, which survived the 1998 downfall of their protector president Suharto. The weak democratic and judicial institutions in Indonesia are widely seen as failing to control this network.<sup>187</sup> A mayor infrastructure and real estate project such as the NCICD could, with the billions of investments involved, further strengthen informal power structures in Indonesia, at the expense of vulnerable groups like local fishermen. With unaccountable and powerful property developer and other business interests dominating the project, the poor are at risk to be further marginalised and pushed out of Jakarta Bay.

#### 5.4. VIOLATING SUSTAINABLE DEVELOPMENT FINANCE PRINCIPLES

Between 2011 and 2019, the Dutch government will spend a total of € 11.4 million of its ODA budget for the design and development of NCICD (and its predecessor JCDS). This is despite the fact that the project conflicts with important sustainable development goals and ODA criteria.

**Poverty reduction:** In a recent Memorandum to the OECD, which was written in preparation of a peer review of its development policy, the Dutch government states that its policy focuses on poverty reduction.<sup>188</sup> There is, however, no specified strategy aimed at poverty reduction in North Jakarta in the NCICD Master Plan. The proposal says that it will, as well as offering flood protection, also “strengthen the existing fisheries, thus stimulating economic growth”.<sup>189</sup> As this report shows, the construction of the outer sea wall and the new waterfront city will damage rather than support local fishing communities. They will lose saltwater fishing grounds and aquacultures in Jakarta Bay and will lose free access to the open sea.

The measures proposed for the fishing community are restricted to mitigating measures aimed at compensating for the negative impact of NCICD. Two locks will be built in the outer sea wall, but a lock is not seen as an ideal solution for the daily see-going fishermen.<sup>190</sup> The Master Plan also proposes to relocate their activities to the tips over the new waterfront city. However, the NCICD business case does not make clear how this will be funded. Another proposal is to develop new forms of fish farming in the retention lake, but this is unlikely to happen due to the contamination of the water. Costs for improving the water quality, however, are also not included in NCICD’s business case.

**Inclusive growth:** In the recent Memorandum to the OECD about its development policy, the Dutch government claims it is playing a leading role in an international coalition to “leave no one behind”. The

policy document states that the Dutch ODA policy instruments “are specifically intended to benefit deprived populations (...) by fostering inclusive economic development”. The Dutch-funded programmes and projects are aimed at “combatting inequality”.<sup>191</sup> But the NCICD will more likely have the opposite effect. Indonesian NGOs expect that tens of thousands of members of the fishing communities will lose their livelihoods.<sup>192</sup> They fear that they will have to work in underpaid jobs as scavengers on trash dumps and landfills or as informal laundry workers. NCICD would in this case contribute to the inequality in Jakarta that is already on the rise.

The Dutch business consortium that developed the NCICD expects that the new residential areas on the Great Garuda and the 17 islands will generate new jobs for the members of the fishing communities. They can work as nannies, drivers, gardeners, and security and maintenance staff in the middle class and high class households that will populate the new islands.<sup>193</sup> This “trickle-down” approach, in which the income of the poor relies on the expenditure of the rich, contradicts Dutch development goals to combat inequality. The Dutch Minister of Foreign Trade and Development Cooperation, Lilianne Ploumen, recently even declared that “trickle-down is dead”.<sup>194</sup>

**Women’s rights:** The Dutch policy paper to the OECD claims that women’s rights and gender equality constitute an “integral component” of Dutch policy.<sup>195</sup> Women in the fishing enterprises in North Jakarta play a significant role in pre-harvest, harvest and post-harvest phases. On average they work 17 hours a day, according to the Indonesian NGO KIARA (People’s Coalition for Fisheries Justice), since the women also have to manage their households.<sup>196</sup> Furthermore, poor water and sanitation services provision places a disproportionate burden on women, as gendered role divisions require that they have to provide for these needs for their households. The ongoing land reclamation has already threatened their livelihoods. NCICD makes it harder for them to make ends meet.

**Human rights:** Depriving communities such as the families in Jakarta Bay of their livelihoods can be considered not only a violation of the Sustainable Development Goals, but of human rights in general. Destroying livelihoods is a breach of the UN International Covenant on Economic, Social and Cultural Rights, which recognises the right of everyone to work for their livelihood.<sup>197</sup> This internationally recognised human right should also be respected in Dutch development policy.

**Stakeholder consultation:** Involving and informing stakeholders are important principles in the current policy of the Dutch Minister of Foreign Trade and Development Cooperation.<sup>198</sup> The Minister has expressed that a lack of stakeholder involvement could undermine the potential positive effects of government-supported projects. According to the NCICD website, public consultation meetings were held in the cities of Jakarta, Bekasi and Tangerang. The Save the Jakarta Bay Coalition, however, asserts that NCICD was designed without involving the people whose livelihoods are affected by it, especially the local fisher families. They were also not consulted about the ongoing land reclamations.



# Governance challenges in public water management in Indonesia

## 6.1. INTEGRATED WATER RESOURCES MANAGEMENT IN THE NETHERLANDS AND INDONESIA

Large-scale water projects such as the NCICD touch upon a realm of interrelated issues: spatial planning, water quality and quantity, access to water and land, impacts on local communities and environment and the support of civil society. The concept of Integrated Water Resources Management (IWRM) provides governments with a way of dealing with these issues.

A key principle in IWRM is that water management should be based on a participatory approach at all levels. This implies that decisions are taken at the lowest appropriate level, with full public consultation and involvement of local water users involved in scenario design and selection, planning and implementation of water projects. Another key principle is an integrated and effective management approach that links social and economic development with the protection of natural ecosystems.

Integrated Water Resources Management (IWRM) is at the basis of Dutch water resource management. The Netherlands is internationally admired for its large-scale, integrated, green, inclusive solutions for water resource management, such as Rooms for the Rivers and the development of the Maasvlakte. In its International Water Ambition (see Chapter 4), the Dutch government outlines the principles of its comprehensive delta approach, which is to look for “optimum solutions – preferably in the area of prevention – that protect urban deltas and their populations from flooding, water shortages and water pollution, and enable sustainable economic development”.<sup>199</sup> The Dutch delta approach is also based on principles of good governance and inclusiveness: “Public authorities, companies, NGOs and residents together determine the design, the approach, payments and compensation.”<sup>200</sup>

### BOX 1: THE DUTCH COMPREHENSIVE DELTA APPROACH

“The comprehensive delta approach seeks optimum solutions – preferably in the area of prevention – that protect urban deltas and their populations from flooding, water shortages and water pollution, and enable sustainable economic development. The delta approach takes account of the water system of urban deltas, the river basin that supplies it and the associated ecosystem as well as water in supply chains for energy, drinking water and food, and transport, plus the processes that control and influence them. On the basis of the principles of good governance and inclusiveness the delta approach aims to achieve sustainable river and coastal management, more water-efficient and cleaner supply chains with a strong focus on circular water and wastewater flows, and socioeconomically and ecologically viable infrastructure (such as hydroelectric power, dykes and ports). Public authorities, companies, NGOs and residents together determine the design, the approach, payments and compensation. In the case of international waters and transboundary rivers, good diplomacy is needed for a collaborative approach to regional challenges; it can also play a role in negotiations in the event of conflicts of interest. The comprehensive delta approach also links delta technology, water technology, maritime technology and water governance.”

SOURCE: DUTCH MINISTRIES OF FOREIGN AFFAIRS, ECONOMIC AFFAIRS AND INFRASTRUCTURE AND THE ENVIRONMENT<sup>201</sup>

Indonesian civil society organisations are asking why these principles have not been followed in the NCICD project design. Public consultation and dialogue on possible scenarios did not take place in a structured manner,<sup>202</sup> with the consequence that civil society groups and experts are not convinced that NCICD is the only and best solution to Jakarta’s flood problem. They are calling for the consideration of alternative scenarios that are less expensive in terms of social, environmental and social costs, generally more effective and serving public rather than private interests.<sup>203</sup>

The preparations for implementation of Phase B for the construction of the outer sea wall and the new waterfront city continue while it remains uncertain whether the necessary preconditions of stopping groundwater extraction and replacement by reliable and affordable water supply are met in time.

In 2012, the reviewers of the Jakarta Coastal Development Strategy – the result of the Dutch-Indonesian water partnership and precursor of NCICD – already stated that “without adequate and prompt tackling of the subsidence problem (...), many of the planned investments for the development and protection of North Jakarta will be a waste of money.”<sup>204</sup> The review recommended a detailed Strategic Environmental Assessment for Jakarta Bay. Since then, the governance context of NCICD has become more complex due to growing civil resistance, corruption and legal law suits against the ongoing reclamation. The absence of a full Strategic Environmental Assessment (SEA) until this day illustrates that social and environmental issues are not being adequately dealt with.

### 6.1.1. Absence of a detailed SEA

As mentioned above, the NCICD Master Plan was preceded by the Jakarta Coastal Development Strategy, a pilot project carried out between 2010 and 2011 with the aim of “providing realistic solutions for the future coastal defence of Jakarta” and creating “a master plan for coastal management and protection, covering the entire north coast of the island of Java.”<sup>205</sup> According to this strategy, the performance of SEA policies, plans and programmes is required. The SEA should be the basis for adjustments to minimise the possible negative environmental or social impacts of the JCDS Master Plan, which is now the NCICD Master Plan.

The impacts relate to the damage to the natural environment and to the health, safety and livelihood of people, especially vulnerable groups. The SEA instrument is still rather new in Indonesia: it was introduced in 2009 in Law Number 32 on Environmental Protection and Management. The purpose of the SEA is to assess the potential impacts and environmental risks as a basis for plan formulation. JCDS describes six steps for the performance of the SEA.<sup>206</sup>

So far, Both ENDS assessed that only Step 1 of the SEA for Coastal Development in Jakarta Bay has been performed. During Both ENDS' mission, the Ministry of Environment confirmed that the SEA had not been finalised yet.<sup>207</sup> In 2014, the NCICD only published an SEA Building Block report as well as reports on water quality, sanitation, environmental, social, spatial aspects, mangrove analysis, fish impact and hydrodynamic flow modelling.<sup>208</sup>

This is unusual, because an SEA is meant to improve planning and should therefore be integrated in planning processes instead of performed after the finalisation and approval of a master plan. The NCICD Master Plan was thus not developed on the basis of a full-scale SEA, but on ‘building blocks’ for the SEA, which were developed in parallel to the Master Plan. A full-scale SEA process could have supported NCICD planning in the development and comparison of strategic options that minimise environmental and social damage and in stakeholder involvement – and especially vulnerable local groups, in the planning process.

## 6.2. CHALLENGES IN WATER RESOURCES MANAGEMENT IN INDONESIA

Indonesia faces a range of challenges in water resource management, which are becoming more urgent under pressure from a growing population and expanding economy. As described in Chapter 2, problems that are visible in Jakarta Bay are the deteriorating water quality, over-extraction of groundwater, floods due to erosion and sedimentation in river beds and the degradation of upstream watersheds. These problems, which negatively affect the well-being and livelihoods of local communities and workers, are interrelated and require concerted action by public authorities. This next section outlines specific governance challenges in this regard.<sup>209</sup>

### 6.2.1. Institutional and legal framework

The institutional and legal framework for IWRM offers the legal basis for participatory, environmentally sustainable and integrated approaches for development planning. Formally, Indonesian water legislation has known an integrated approach on water resources management since the 1974 Water Management Act, which focused on irrigation. The Water Resources Act No 7 that came into effect in 2004 is the most recent and comprehensive IWRM Act (see Box 2). Although this is an IWRM Act on a legal level, in the implementation it does not follow IWRM principles, such as those of full participation by all stakeholders and integration of water and environmental management issues. In the case of the NCICD Master Plan, an assessment of obstacles and opportunities for the implementation of principles of good governance and an integrated approach in the legal framework is absent. The risk analysis focused on technical and financial aspects. Environmental and institutional issues were addressed to a limited extent (see also the previous section on the absence of a full Strategic Environmental Assessment). This is in conflict with Dutch water practices in the Netherlands, where large projects of national interest start with an exploratory integrated risk analysis, including institutional and legal aspects.

### **BOX 2: INDONESIA'S WATER RESOURCES ACT 2004 – PRIVATISATION AND GOVERNANCE**

The Water Resources Act 7/2004 illustrates the governance challenges facing Indonesia. The Act introduced the concept of IWRM to Indonesia and could provide a legal basis for more inclusive and socially sound water resource management. However, the implementation process is slow. The Act is elaborated in separate government regulations on different water issues that are interrelated, which results in overlapping regulations and mandates that hamper an effective implementation of the Act. The formulation of these regulations is still ongoing: the regulation on water supply came into effect in 2005, whereas the regulation on water quality is still being drafted. Strong river basin organisations that represent all stakeholders and have the mandate to coordinate among the different government institutions are still absent. The Coordination Teams for Water Resources Management at river basin level – the so-called TKPSDAs – formally represent all stakeholders in the river basin territories. However, in practice citizens and civil society organisations that monitor environmental problems and are concerned with conservation are often not accepted as member of these TKPSDAs.<sup>210</sup>

Furthermore, the Water Resources Act met strong social resistance because of the commercialisation and privatisation dimensions introduced in the Act, whereas the basic right of all human beings to have access to clean water at an affordable price is not mentioned. Article 41 states that private companies can be involved in the development of water supply, yet neither the Act itself, nor its implementing government regulation on water supply, stipulate conditions to this private sector involvement to ensure public interests are protected. This is in conflict with Article 33 of the Constitution of Indonesia, which states that water resources are controlled by the State. On 18 February 2015, the Constitutional Court decided to annul Act 7/2004<sup>211</sup> and to reinstall Water Act 11/1974 to prevent a regulatory vacuum during the transitional period towards a new Act.<sup>212</sup> The decision of the Constitutional Court would be a good moment to revisit the problems on centralisation and community participation. However, the re-drafting process that is currently taking place is a closed process.<sup>213</sup>

### 6.2.2. Overlapping mandates, policies and regulations

Water resources management is hampered by different mandates, regulations and policies among the various ministries, such as Public Works, Mining, Environment and Forestry, Environment and Maritime Affairs and the National Land Agency (*Badan Pertanahan Nasional*, BPN) and a lack of coordination among these agencies. This may lead to a lack of accountability and hamper the government's commitment to enforce spatial plans and regulations that protect local groups and conservation areas. This is the case in the fragile upstream watershed area in Puncak that is classified as protected forest in the spatial planning document. However, in reality the forest is being converted for illegal villas, tourism and other industry.<sup>214</sup> This is seen as one of the causes of floods in Jakarta. In 2009, the Ministry of Environment stated that the demolition of 250 villas is necessary to restore the function of the Puncak watershed as a conservation zone.<sup>215</sup> The Ministry of Public Works reasserted this in 2013.<sup>216</sup> In that same year, the Bogor regency started to demolish villas. However, the watchdog Forest Watch Indonesia ascertained two years later that no restoration activities had taken place, and that some of the demolished villas were being rebuilt.<sup>217</sup>

A good example of overlapping mandates is also the concession case regarding islands C, D and G mentioned in Chapter 2.2. In this case, the decisions of the Ministry of Marine Affairs and the Ministry of Forestry and Environment were not well coordinated. Overlapping mandates may also lead to competing authority between central and provincial government. This occurred between the Ministry of Forestry and Environment and the city government of Jakarta with regard to the impact assessment for island G.<sup>218</sup>

### 6.2.3. Lack of access to adequate and reliable data

Effective management solutions require data on the quality and quantity of water resources, the main water users, soil conditions and other effects on water resources, such as weather conditions and climate change. Government institutions collect and manage data and information on water resources, but these data are usually not shared. Moreover, there is a strain on the capacity and resources of public water laboratories. In

Jakarta Bay, where 13 rivers discharge, lack of sufficient data on water pollution and its effect on water quality, livelihoods and workers is a main concern. These deficiencies make it very hard to meet the NCICD precondition of improving waste water treatment in Jakarta.

### 6.2.4. Weak law enforcement

Law enforcement in water resource management is currently weak in Indonesia. In 2012, the Dutch Ministry of Infrastructure and Environment concluded that a lack of enforcement of regulations on groundwater abstraction, spatial land use plans and building regulations are institutional root causes for flooding in Jakarta and the surrounding area.<sup>219</sup>

Due to the lack of knowledge and scientific data, cases and evidence brought to the court are often weak. Environmental cases in particular often need scientific verification. Industrial pollution, for instance, has become a deep-rooted environmental problem, with many cases remaining unresolved.

### 6.2.5. Lack of community participation

Community participation in water resource management is often limited to public consultations where people can merely react to ready-made plans.<sup>220</sup>

In Jakarta Bay, the traditional fisher folk and workers of small-scale fishery enterprises that depend on the bay for their livelihoods were not involved in the design of the NCICD Master Plan. Fisher folk in Muara Angke told Both ENDS and the Indonesian Traditional Fisherfolk Union KNTI that they heard there was a consultation meeting far away from their homes at the University of Indonesia, which was difficult for them to attend. They were also not informed on the planned construction of 17 islands and a giant sea wall, and the possible impacts on their livelihoods.<sup>221</sup> Due to a lack of opportunities to participate in decision-making processes, a lawsuit is the only legal tool available for people to have a say in the development of Jakarta Bay. This lack of participation in decision-making is a structural constraint in Indonesian water management, which undermines public support and causes delay in the implementation of decisions, as well as leading to negative impacts on local communities.

## 7.1. SUMMARY OF CRITICAL CONCERNS

This report outlines critical concerns about the NCICD proposal. In summary, these are:

- The issue of subsidence of Jakarta is not addressed in NCICD's coastal defence strategy. The assumption in the NCICD Master Plan is that the sinking of Jakarta cannot be halted in time to save the city from future flood threats. At the same time, it identifies halting the process of land subsidence as an important precondition for 'any scenario' to protect the city. While there is very little sign of this precondition being secured, the Master Plan does not include any measures to address these challenges, nor does it include necessary measures in its financing plans. This makes the Master Plan incoherent and casts serious doubts as to its viability.
- NCICD is expected to have significant social costs and increase economic inequality because it threatens to further marginalise the fishing communities living on the shores of Jakarta Bay. The communities fear that the construction of the outer sea wall and land reclamation that are part of the plan will put them out of business permanently. This fear is grounded, given that the ongoing land reclamations in Jakarta Bay are already causing a significant loss of livelihood.
- NCICD could create major environmental problems. If an outer sea wall is constructed, there is a risk that the closed part of Jakarta Bay will become a large toxic lake. The rivers that discharge into Jakarta Bay are heavily polluted. The Annex to the Dutch NCICD tender also states that waste water treatment in Jakarta is a precondition for the success of NCICD. Again, as is the case with addressing subsidence, measures to reduce contamination and treat waste water are not integrated in the NCICD plan, nor are the massive investment needed part of its financial plan. The enormous amount of sand needed could further encourage illegal sand mining in Indonesia, with negative environmental impacts; accusations of illegal sand mining are already being made against a vessel that operated near Jakarta Bay for land reclamation projects, which is owned by Belgian dredger Jan De Nul.
- NCICD creates huge financial risks for the Indonesian government as a public-private partnership in which guarantees are provided by the state. The investment costs could rise to US\$ 40 billion, with a project time span of 20 years or more, whilst at least 70 per cent of this investment is expected to be granted by private investors. The project thus carries high financial risks. The yields of the real estate on the Great Garuda, port development and toll roads have to cover the costs for the realisation of the outer sea wall. The development costs of the new waterfront city could, however, increase substantially. Another risk is that the real estate market in Jakarta will go bust. The government of Indonesia seems exposed to the financial risks, and also has to pay for hidden costs, such as improving water quality, piped water supply such as improving water quality and piped water supply.
- 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. Furthermore, it contacted a company linked to forest fires and the eviction of local communities.

- The NCICD project does not meet the criteria the Dutch government upholds in its development policy, yet it has already spent some € 11.4 million of official development assistance (ODA) budget on the design and development of the NCICD. Rather than contributing to inclusive and sustainable development, the project is threatening the livelihoods of the fishermen in Jakarta Bay and those working in spin-off industries, thereby contributing to rising inequality in Jakarta. This is in violation of several principles enshrined in international law, such as the International Covenant on Social and Economic Rights, which commits the government to “take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant”, including the right to work. The failure to conduct a full environmental and social impact assessment before designing such a massive infrastructural project means the government is not adhering to its international commitments.
- The NCICD project does not meet the Dutch government’s Integrated Water Resources Management principles of public consultation and participation and the protection of natural ecosystems. Concerns raised by local communities are not being addressed. Fishing communities report they have not been informed, consulted or included in the development of the NCICD. The project is at risk of contributing to social exclusion and conflicts without ensuring genuine participation of local communities. This is in contravention to the Dutch government’s International Water Ambition (Integrated Water Resources Management and the principles of its comprehensive delta approach) and OECD-backed principles of good water governance.

The concerns outlined above raise questions as to why the Dutch government is promoting this project. The plan neglects cheaper, more sustainable and already tested options to tackle Jakarta’s land subsidence. It is evident that protecting Jakarta against floods is becoming increasingly urgent and that action is needed. The Dutch government, in its uncritical support of NCICD, does not

sufficiently balance its interest the Dutch government, in its uncritical support of NCICD, sufficiently balances its interest in supporting Dutch companies with its own policies of sustainable and inclusive development. The report in short questions whether the current partial approach through the NCICD Master Plan is offering the people of Jakarta a solution that is socially, environmentally and financially sustainable.

## 7.2. RECOMMENDATIONS BY INDONESIAN CIVIL SOCIETY

Stakeholders engaged in the development and implementation of the NCICD Master Plan as well as local stakeholders agree that tackling the flood threat should start by addressing the challenges of the sinking of Jakarta. Ground water extraction, the main cause of land subsidence, has to be reduced. This implies that surface water has to be used for drinking water supply and replace groundwater use. In order to do so, drinking water providers have to increase their production capacity, which currently meets only 33 per cent of need for domestic and industrial use. New water treatment plants have to be constructed. The Indonesian government has formulated a policy objective of supplying the capital with 100 per cent coverage of piped drinking water supply by 2019. However, these policy goals are as yet unrealistic, since no concrete policies have been put in place to achieve them.

Regarding drinking water provision, civil society groups believe that it is necessary to end the contract with private operators (Palyja and Aetra) and follow the Central Jakarta District Court decision of March 2015, so that the Jakarta government and the city-owned water operator PAM Jaya can recover full control and jointly take necessary measures to reach the full population of the city and thus counter people’s needs to rely on groundwater extraction to meet their water needs. The current situation has proven that privatised operators feel no incentive to invest in water treatment plants to improve and extend drinking water services at an affordable price to meet the needs of Jakarta residents and industry.

Water management is equally in a serious state: 96 per cent of wastewater is discharged into rivers upstream without being treated. As a consequence, all surface water, including the 13 rivers flowing into Jakarta Bay, are seriously polluted. Only 2 per cent of the population has access to a sewage system in urban areas; this is one of the lowest percentages in the world among middle-income countries. This is also a health issue, as unsafe drinking water and lack of appropriate sanitation badly impact on public health and contribute to a high rate of water-borne diseases. Given the continuous inflow of water into the city, and the closing of the Bay as a consequence of the seawall construction, it is an absolute imperative to drastically improve waste water collection and treatment. This requires not only massive investment but also political commitment and long-term planning.

Local partners have informed Both ENDS, SOMO and TNI that stakeholders – especially affected communities – have not been well informed; nor have they been given opportunities for dialogue. Genuine participatory processes could contribute to mitigating social and environmental negative impacts described in this report. Jakarta-based scientists and experts free of business interests could contribute to developing locally desired and socially and environmentally sound solutions. Cleaning up the rivers in Jakarta, with the support of the international community, would be of great help to the fishing communities in Jakarta. It would give a boost to their activities if the remaining fishing grounds in Jakarta Bay were improved and closed areas were reopened.

### **7.3. RECOMMENDING AN INTEGRATED APPROACH TO THE DUTCH GOVERNMENT AND NCICD STAKEHOLDERS**

A stronger commitment from the Netherlands to help achieve the goal of stopping subsidence is needed. The Dutch government and the water sector should integrate the two preconditions for the success of the NCICD project – ending groundwater extraction and improving wastewater treatment – in the NCICD itself.

A further precondition for Dutch involvement should be the realisation of a full-scale Strategic Environmental Assessment (SEA). This should include scenarios in which land subsidence is halted and water quality improved, thus comparing different approaches to guaranteeing flood security for Jakarta, with and without large reclamation and real estate projects. The assessment should thus consider alternative solutions, including the so-called “zero option”. In this scenario, the outer sea wall and the new waterfront city are excluded from the plans, and flood protection is realised by reinforcing the existing embankment on shore, coupled with measurements to stop land subsidence. The SEA should involve local groups that are currently excluded in project design and decision-making processes, and thus ensure the Netherlands’ commitment to internationally accepted economic and social rights and its own Integrated Water Resource Management principles.

In general, combining flood protection with a clear vision on improved drinking water supply for all and (liquid) waste management, is much more in line with the integrated water management approaches officially endorsed by the Dutch government at an international level, as well as its own development policy.

By including fishing communities and other local stakeholders in planning and decision-making processes and thus possibly finding ways to avoid the construction of the outer sea wall would prevent fishing communities from losing their livelihoods and being marginalised even further. With this approach, NCICD would thus no longer contradict the Dutch development policy goal of inclusive growth.

By considering all options, Dutch experts, private business and the Dutch Government will serve the people of Jakarta and Indonesia and sustain the reputation of the Netherlands in Indonesia, as well as the international reputation of the Dutch as sustainable water managers. The president of an Indonesian planners’ association already expressed doubts in the Indonesian newspaper *Kompas* about the Netherlands’ intentions behind the NCICD project, which he regarded as “a trick” of the Dutch to create a new business field for their experts.<sup>222</sup> It is in the power of the Dutch government to review the NCICD project to refute this claim.

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6 [http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR\\_EN.pdf](http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf)

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**210** Both ENDS, “Involving communities in Indonesia. Promoting Community Participation in Integrated Water Resources Management (IWRM),” April 2016, [http://www.bothends.org/uploaded\\_files/document/3def\\_IndoWaterCoP\\_digitaal.pdf](http://www.bothends.org/uploaded_files/document/3def_IndoWaterCoP_digitaal.pdf)

**211** Interview Both ENDS with Bart Teeuwen, institutional and legal expert water resources. September 2016.

**212** See Water Governance Centre, March 2016, “Building blocks for good water governance,” <http://watergovernance.s3.amazonaws.com/files/Po85-01-16-006-eindpubBB.pdf>, p. 50.

**213** Interview Both ENDS with Bart Teeuwen, ibid.

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