

# UNLOCKING THE VALUE OF PRIVATE SECTOR FOR WATER MANAGEMENT INFRASTRUCTURES

## *Deploying Dutch DBFM practices in emerging markets*

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■ The case for investing in flood resilience in emerging countries becomes stronger, due to urbanisation in coastal areas and industrialisation against the background of climate change. The number of flood related disasters occurring is increasing while the people and assets that are at risk are growing. Already now the costs of adaptation worldwide between 2010 and 2050 to an approximately 2°C warmer world by 2050 is estimated in the range of \$70 billion to \$100 billion a year.<sup>1</sup> Flood protection and water supply are among the top three sectors in terms of adaptation costs. It is expected that the private sector should foot the bill substantially. Availability of public funding is far from sufficient. The European Commission expects this to be only 20% of the bill.

■ With its many challenges and limited financial resources, for developing markets in particular, relying on public funding is hardly an alternative. The mere ability to pay for investments in flood resilience is lacking because a solid tax base is often not there. That means that the many investment priorities emerging countries have, severely compete for scarce funding resources. These countries tend to opt for investments that obviously contribute to keep the economy growing on the short run. Hence public investments that directly enhance the economic structure of the country, such as transport and power generation infrastructure, are favoured over flood resilience infrastructure. Avoiding disasters seems only politically popular as long as citizens and businesses are licking their wounds from the previous disaster.

The need for flood protection in the emerging world increases rapidly. Millions of people from rural areas migrate to coastal cities such as Jakarta and Ho Chi Minh City in search for a better life. An increasing amount of people are at risk as land hunger pushes city expansion into marginal peripheral areas, such as marshy non flood resilient land. Increased urban population numbers accelerate non-sustainable

ground water extraction practices which in turn cause land subsidence putting low-lying urban areas at considerable flood hazard risk. Poverty exacerbates vulnerability to weather variability as a consequence of climate change. Around the 8 000 Philippian victims<sup>2</sup> of super Typhoon Haiyan for example fell mostly in the poor fishing communities.

Action now will pay out as adaptation measures in an evolving urban environment are much more affordable compared to cities that have matured. Building adaptive cities is cheaper than making existing cities adaptive.

### **Private sector resources remain locked thus far**

So far, however, the needed private sector involvement in adaptation investments remains limited. An important reason for this is the lack of earning power of the assets involved. While users of highways for example may be charged for driving the road, charging the beneficiaries of water management infrastructure, such as locks or dykes, proves to be more complex. Large – multi-billion – barrages are

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needed in Bangladesh in the years to come, in order to manage the water and retain it as resource for the annual dry periods that follow the monsoon season. The future beneficiaries however are diverse and to a certain extent yet unknown. And with a solid tax base lacking, governments cannot step in and back the required investments.

Another reason for low private sector participation is that safety against flooding is considered to be a public interest in most countries, by many considered to be best off in the hands of governments. This means administrations demonstrate the standard reflex by implementing the projects themselves. Starting from identifying, planning and preparing investments, determining the functional and technical solution and maintaining the assets. Having only the works contracted out to the private sector, does not always lead to the most cost-effective solutions.

### **Towards availability-based Public Private Partnerships**

Hence, as sufficient earning power of the project is lacking, for private financiers to step in, the challenge is to seek for an alternative approach. While at the same time governments should open up to the private sector initiatives in a market dominated by the public sector.

The challenge is to balance the public interest of safety with making the business case interesting enough for the private sector. Different from a full-fledged privatisation, a Public Private Partnership allows the government through a contract to set the rules of the game, throughout the life-time of the asset. This means the government determines the performance the asset should deliver, including the safety levels. At the same time the project benefits from private sector involvement, because the public partner commits itself to pay the private contractor in the form of an availability payment to the extent that the project is not commercially viable.

While these Public Private Partnerships do not provide an alternative for public funding, they do come with some obvious advantages in comparison with the conventional way of contracting out infrastructure works and have the potential to result in substantial savings for the government.

Firstly, the private sector pre-finances the project. While public funds are not yet available, necessary

investments to increase the level of flood protection can be made. Of course, the economic and social benefits should be unambiguous and apparent. Otherwise future government liabilities that come with these contracts, consume the state budget for future generations, without resulting in the necessary economic growth. An additional advantage for emerging markets is that the finance for availability-based Public Private Partnerships might be acquired at lower costs than revenue-based deals, considering the demand risks have been absorbed by the government.

Secondly, by procuring these partnerships through a single long-term contract, integrating design, build, finance, maintenance and operation, the private sector is incentivized to achieve life-cycle optimization. By focussing on what output should be produced, rather than how it should be delivered, procuring agencies allow the private sector to come up with adequate and cost-effective solutions. Designing and building assets that you will yourself operate and maintain gives another perspective than if you are solely designing for example. At the end of the day, in these integrated contracts, the contractor will be presented the bill for the maintenance costs of the asset it designed itself. On top of that, the private sector is made accountable for the availability of the infrastructure in terms of performance. Its availability payment depends on the output delivered. This results in increased availability and lower maintenance costs. For emerging countries, where maintenance of water infrastructure is often not budgeted for and neglected, integrated contracts will basically result in more safety against flooding throughout the lifetime of the asset.

Thirdly, if integrated contracts are also brought to the market in an open and competitive manner, cost savings through life-cycle-optimization and innovations may lead to substantial value-for-money. Under competition the market may be challenged to optimise the autonomous earning power of the project, by which government support may be decreased. Public Private Partnerships regarding more traditional asset classes such as transport infrastructure and accommodation have led to 10 to 15% added value compared to the conventional delivery models.<sup>3</sup> These results are expected to be somewhat lower for water infrastructure, because overall maintenance costs as part of the total costs appears to be smaller.

### **First experiences of Public Private Partnerships in the water infrastructure in the Netherlands**

Currently the Netherlands is gaining unique and valuable experience in availability-based Public Private Partnerships in the water infrastructure sector. A series of locks and flood barriers have been successfully contracted out. This is part of an investment programme consisting of six projects for new and replacement infrastructure. The assets which are situated in important waterways have water management, defence and navigation functions. Without a direct revenue stream from the users, it is the government that represents the beneficiaries. In return for making a lock or barrier available for an agreed period of time according to certain performance standards, the government pays a periodic availability payment. As such the private sector is able to recoup its investment. At the end of the contractual period the government becomes the full owner of an asset that performs according to contract.

Nowadays the probability of extreme high water causing flood might be low in the Netherlands, but history shows that if such an event occurs, the impact can be devastating, causing physical and social damage and inhibiting economic activities. Effectively transferring this risk to the private sector therefore is crucial to impose the right incentive. While the state remains responsible for protecting the public against flooding, it is the private contractor in the Public Private Partnership who is made responsible for making the flood barrier available for a long period of time. Through the Public Private Partnership contract the contractor is incentivized to make the asset perform up to the required standards.

So far in the Netherlands, responding to competitive procurement procedures, the private sector has been challenged to come up with adequate solutions and innovations, leading to considerable savings in the water sector. For the renewal of the Sealock IJmond, the gateway for the Port of Amsterdam to the open sea, the winning bidder proposed a smart solution on the flood gates. This has led to a bidding price dramatically lower than the ceiling budget of € 764 million.<sup>4</sup> On top of that, challenged by the procuring agency, this bidder was able to provide extra width to the lock. This will improve the performance of the lock and make it the largest in the world to accommodate the ever larger ocean-vessels in the future.

Also driven by the severe penalty regime on non-availability in the Public Private Partnership contract, availability of the flood barrier Limmel, in the river Meuse system, will be high.<sup>5</sup> The winning bidder proposed a system that lowers the flood gates automatically, without the need of machine power or human supervision. Lifting the gate is even possible in case of a complete power failure.

### **Critical success factors for partnerships in emerging markets**

However, for availability-based Public Private Partnerships to become a real alternative for emerging markets, some critical success factors need to be fulfilled. Governments that become credible contracting partners to the private sector, must be able to take on long term funding commitments and conduct open and competitive procurement processes. This often proves to be a challenge in the developing world.

The ability of paying the availability payment throughout the contract is paramount. The financing market should be able to provide the loans and equity to cover the financing costs against reasonable terms. In many emerging markets this appears to be complex. In addition, budget rules should allow commitments of such long periods of time, for example 25 to 30 years, noting that commitments made under a certain political regime may not always be respected by the next regime. If future funding is at risk, either investors shall not be willing to provide equity or loans, or the terms will get too unattractive in comparison with traditional ways of funding. Contracts should entail sufficient securities that the private partner is adequately compensated if the public partner is not willing to respect the agreements. Another way of approaching this is to introduce insurance or guarantee instruments to cover political risks, as the World Bank has done. And some countries, such as Indonesia, that introduced a guarantee fund that steps in at the moment that government contracting agencies are in default.

Securing long-term funding of the availability payments by reserving a budget line throughout the lifetime of the project is therefore an important condition for the private sector to step in. This could also be done through a separate fund, if budget rules do not allow the former. More fundamental would be to introduce earmarked taxation, funding solely spent on covering the costs of managing water. But establishing such a base takes time.

An open and transparent procurement process together with an adequate risk allocation is essential for the private sector. At the same time procuring Public Private Partnerships require professional and effective administrations and highly skilled transaction advisors. These are often not available. Alternatively, also because of the inability of organising a proper procurement process, many countries have a tradition of entering in direct negotiated deals in response of unsolicited proposals.<sup>6</sup> Besides, in the traditional way of developing water infrastructure in emerging markets, there are often large state owned incumbents that play a dominant role. And local construction companies and staff are often granted a preferred treatment by local procuring agencies. It should be perfectly clear from the start, what the rules of the game are, whether and how these state owned companies and local parties may participate and how the level playing field is ensured.

The procurement process should facilitate a balanced risk allocation. If, in a Public Private Partnership, insufficient risk is transferred to the market, it will become hard to achieve value-for-money for the state. To that end both the construction risk together with the demand and / or availability risk are to be transferred to the private partner. But one should not overdo it. Many first generation Public Private Partnerships in emerging countries failed because governments tried to push too many risks to the private sector, also those beyond their power of control. A balanced risk allocation to the party that is best positioned to manage it will positively affect the overall costs of the project.

It has to be taken into account that if projects are not viable through traditional public delivery, Public Private Partnerships may also not be an alternative. Administrators in developing countries do not always recognise that Public Private Partnerships are about achieving value-for-money and a way of financing, rather than a funding mechanism that may be used if public resources are insufficient. At the end of the day the private sector needs to recoup its investment. If the project does not provide a direct revenue stream from users, it is the government that shoulders the costs by paying the availability payment. When determining the public contribution, governments often prove to be too optimistic in assessing the autonomous earning power that the private sector may generate. With the result that projects are not viable, because revenues reaped from users can only partly offset the investment costs. The fact that in Public Private Partnership private sector merely pre-finances the project is often

denied, resulting in administrations burdened by unrealistic projects that basically are not fit for a sound partnership.

In particular with availability-based Public Private Partnerships, where it is not directly the market that proves the value of the project, a sound assessment of the economic and social benefits should legitimise public funding. For many administrations in developing countries it also proves to be hard to make a sound (quantitative) assessment of the climate change and risks. Without compelling arguments for investments in flood protection, politicians will always opt for other investments. This calls for comprehensive methods of assessing social and economic costs and benefits for water management infrastructure, making project selection more a rational than a political choice.

This will help in deciding on the most adequate solutions. Many South-East Asian mega cities for example have a proper water drainage system in place. But lacking maintenance of the system together with illegal housing and dumping of solid waste in the channels disrupts the drainage function. Sound studies and assessments could reveal that revitalising existing drainage systems sometimes prove to be more cost-effective than buying new infrastructure.

### **The way forward**

In conclusion, while worldwide the Netherlands is famous for its water management infrastructure, in combination with availability-based Public Private Partnerships, it might create a comprehensive solution for flood prone developing countries. The combination forms an excellent export product. If well structured, the projects contribute both to poverty alleviation and economic growth in the developing world. The challenge of increasing flood resilience may well trigger the ambitious Public Private Partnership programs launched in many flood prone emerging countries, such as Bangladesh, Indonesia and Vietnam. An important reason why these often do not take off as expected, is that demand for the projects in revenue-based Public Private Partnerships is not easily forecasted in their rapidly changing environment. The availability-based deals, where demand risk is not so much of an issue, may serve as a first generation of Public Private Partnership arrangements, that boost vital infrastructures in emerging countries with private finance.

To speed up private sector involvement and stimulate export, the Dutch Government should consider introducing long-term, sector-specific and well-priced guarantee schemes for investors, such as construction and development companies providing equity and the banks providing loans. These guarantees should protect them against mainly political risks that comes with long term capital exposure in upcoming markets.

This exposure is exceptionally large in availability-based Public Private Partnerships, where the private contractor throughout the duration of the contract depends on the local public partner to reimburse the availability-payments. It prevents payment coming too late or not coming at all. Naturally back-to-back the Dutch government should agree with the central government of an emerging country that if a local public partner in a deal is in default, the Dutch state will be indemnified. These bilateral sovereign risk guarantees may be built on the long standing cooperation of the Netherlands with many delta countries. These specific guarantees shall lure Dutch industry to not only be involved in the preparation of water projects in emerging markets – as is now often the case – but also in its realisation and exploitation of infrastructures.

These guarantees may become a very adequate form of Dutch development support. Guarantees are an effective instrument to mobilize commercial financing for development purposes. As an illustration, as of 2015, 34 guarantee transactions utilizing US\$4 billion in IBRD/IDA commitments supported mobilization of US\$12.6 billion of commercial financing plus US\$18.6 billion of public financing.<sup>7</sup> Guarantees should only be granted if certain quality criteria regarding both the project and the sponsor are met. As such Dutch driven availability-based Public Private Partnerships can become a quality label that pulls banks and equity providers, and even institutional investors as pension funds, to commit themselves for longer periods of time in emerging markets. It catalyses private sector involvement that would otherwise not (yet) happen.

Besides, to enhance the open and transparent procurement processes, procurement assistance and a project development fund are required. The Philippines for example benefits largely from a revolving project development fund, providing contracting agencies with the resources to hire knowledgeable Public Private Partnership transaction advisors. This also contributes to a level playing field (international) investors demand, while institutions are still immature and in a process of

enhancing their capabilities.

Hence, it all starts with the ability and willingness to pay for water management infrastructure. A sound tax base needs to be established together with adequate assessment and prioritization of projects. Private sector should get the room to develop and invest. Donors are able to support in enhancing planning and procurement of projects and catalysing private sector investments, in particular by providing guarantees against attractive terms.

With limited public resources substantial private sector finance and knowledge will be unlocked for projects that makes life safer and contributes to economic prosperity. An excellent contribution to both the Dutch aid and trade agenda and its climate adaptation goals.

*Rebel (www.rebelgroup.com) is a finance and strategy advisory boutique and an infrastructure developer and investor. Acting for the Limmel lock and the Beatrix lock both as financial advisor to the winning consortia and as equity provider.*

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- 1 World Bank 2011. Economics of Adaptation to Climate Change (EACC) Study.
  - 2 World bank 2014. Philippine Economic Update, Pursuing inclusive Growth through Sustainable Reconstruction and Job Creation.
  - 3 Dutch Minister of Finance 18 December 2014. Progress Report DBFM(0) to Parliament.
  - 4 This amount includes VAT and costs of the principal, Rijkswaterstaat.
  - 5 Penalties are set in the range of 1% to 3% of the gross availability payment per hour non-availability for the waterway function and up to 15% per hour non-availability for the flood barrier function.
  - 6 PPIAF, August 2014. Unsolicited Proposals – An Exception to Public Initiation of Infrastructure PPPs.
  - 7 <http://www.worldbank.org/en/programs/guarantees-program#6>

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