

BANGLADESH - THE NETHERLANDS

50 years of water cooperation

creating water

opportunities together

DELTA PLAN: FUTURE STARTS TODAY
WATER AND SANITATION FOR MILLIONS
FOCUS ON SUSTAINABLE WATER MANAGEMENT
TOWARDS CLEANER TEXTILE



Lilianne Ploumen



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COLOPHON



Bangladesh - The Netherlands
50 years of water cooperation in Bangladesh

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PREFACE

BY LILIANNE PLOUMEN AND MELANIE SCHULTZ VAN HAEGEN

Cooperation between Bangladesh and the Netherlands in the water sector goes back over half a century. We have worked together on flood management, drainage, river basin management and coastal zone management - creating safe polders and making land available for the landless. And together with NGOs and the private sector we have improved access to safe water and sanitation for millions of people in Bangladesh. Bangladesh has an impressive track record for growth and development, and aspires to be a middle-income country within the next ten years. So over the past few years our relationship has gradually evolved from a single focus on development cooperation to a stronger emphasis on trade and investment, creating opportunities for Dutch and Bangladeshi companies to do business.

Water has to be managed wisely to improve health, reduce poverty and sustain economic development. People, livelihoods and infrastructure have to be protected against floods and rising sea

levels. At the same time people in Bangladesh, like anywhere else in the world, rely on surface water and groundwater for the rice they eat and the water they drink. Industries like the textile industry need large quantities of water. Factories discharge wastewater into rivers, causing severe environmental pollution. Climate change appears to increase the risk of extreme events: more severe floods and longer spells of drought. Economic growth and degradation of ecosystems in Bangladesh - and in neighbouring countries that share the same water resources - may exacerbate water-related risks. So we are calling for a special focus on transboundary water management and a sensible distribution of water among households, industry, agriculture and the environment. Dutch companies, NGOs and knowledge institutes are ready to offer their experience and expertise, seek innovative solutions and team up with their counterparts in Bangladesh.

We look forward to working together on these challenges.

Lilianne Ploumen
Minister for Foreign Trade and
Development Cooperation

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Minister of Infrastructure and
the Environment

COOPERATION WITH THE NETHERLANDS IN THE WATER SECTOR IN BANGLADESH

1. BACKGROUND

The Netherlands government established relationships with Bangladesh after the recognition of Bangladesh in 1971. Since then, initiatives within a cooperation programme by the Netherlands government have been started in various sectors of Bangladesh. These have helped to overcome enormous challenges - reducing poverty, improving livelihood and achieving sustainable growth. Presently, the main focuses of the Netherlands are water and food security, with the priority areas being good governance, gender equality and climate change. For more than five decades, the Netherlands has been involved in the development of the water sector in Bangladesh. The present vision of the Netherlands cooperation in compliance with the vision of the Ministry of Water Resources is to promote the management of rivers from salinization, land reclamation and the integrated flood management, for poverty alleviation and improved socio-economic development for a sustainable environment.

2. CONTRIBUTION TO THEMED PROJECTS

The Netherlands government has funded a number of milestone projects to contribute to different themed projects. These projects are contributing towards the implementation of integrated water resources management in Bangladesh. The Netherlands contribution can broadly be classified into the following areas:

WATER RESOURCES MANAGEMENT

Water resources management is an important component of the Netherlands' development cooperation programme with Bangladesh. Since the initiation of the cooperation programme, an integrated and comprehensive approach has been taken in a participatory manner for water resources management, as well as technical approaches. Early Implementation Projects (EIP) started in 1975, are an illustration of a direct implementation to develop water management infrastructures. The Delta Development Project (1976) and Land Reclamation Projects

(1977) came up with a more integrated and participatory approach. A balance between the socio-economic development and technical development of water management has been achieved by means of the Compartmentalization Project (1990), System Rehabilitation Project (1990), Char Development and Settlement Project (1994) and so on. The contribution to the recently started Water Management Improvement Project (2007) is also noteworthy and an example of integrated water resources management. These different water management projects initiated the concept of participatory water resources management in Bangladesh and created stakeholder ownership with regard to the projects.

COASTAL ZONE MANAGEMENT

The Netherlands' development cooperation programme has always shown particular consideration to the coastal zone management of Bangladesh. The Delta Development Project started in 1976 with a vision to achieve an integrated development of land, water and human resources, in south west Bangladesh. Positive achievements of the project included increased agricultural production, the successful organisation of landless groups, and the improvement of labour conditions. In order to develop the socio-economic conditions of the poorest segment of the coastal zone and to strengthen the local institution, the Char Development and Settlement Project-I (CDSP-I) was set up in 1994, which continued up to 1999. Later on, the projects CDSP-II, CDSP-III and CDSP-IV were set up. The Integrated Coastal Zone Management Plan is also a milestone project funded by the Dutch government, where steps have been taken to create conditions, resulting in the reduction of poverty, the development of sustainable livelihoods and the integration of the coastal zone into a national process. Initiatives of the Netherlands government for the coastal region of Bangladesh are therefore contributing to land zoning, resources utilization, environmental sustainability, poverty alleviation and safeguarding people against natural disasters or climate change.



Anisul Islam Mahmud Minister of Water Resources

SOCIO-ECONOMIC DEVELOPMENT

The main socio-economic effects of the projects are increased poverty alleviation, increased agricultural productivity, changes in land tenure, changes in employment and income, and social services. Improved management of the water sector by means of protection against floods, the construction of polders and a regulated water supply has increased agricultural production. Results of a field survey showed that the Early Implementation Project contributed to increasing cropping intensity in project areas by 40%. On average, more than a 30% yield increase had occurred through EIP. Project activities also increase employment opportunities and income, which in turn contributes to social livelihood improvement. The CDSP and BLUE Gold projects/program in particular resulted in an increase in socio-economic development. The overall objective of the Blue Gold Program is to reduce poverty for 150,000 households living in a 160,000 ha area of selected coastal polders, by creating a healthy living environment and lessening gender discrimination, and by sustainable socio-economic development.

FOOD SECURITY

Food security is one of the key themes in the Netherlands' development programme. Various projects carried out have always had the aim of promoting agriculture production, in order to achieve food security and to realize a sustainable situation. The System Rehabilitation Project started in 1990 is one example. Nowadays, the main emphasis is placed on managing water, in order to help improve and diversify agricultural production, aquaculture and livestock farming and to set up an effective control system for food security.

LAND RECLAMATION

The Netherlands government has made a notable contribution in Bangladesh in the field of land reclamation from different rivers for the development of Char. The Land Reclamation Project initiated this

concept and the ultimate result is CDSP-I, CDSP-II, CDSP-III and CDSP-IV. These projects have benefitted thousands of landless people through rehabilitation. The construction of the cross dam concept has also been initiated through these projects. Recently, it has been discussed that, reclaimed lands for major rivers are suitable for modernized settlement and Special Economic Zone (SEZ) development. Therefore, opportunities have been created to improve the socio-economic conditions of Bangladesh, by learning the lesson from past projects initiated with the cooperation of the Netherlands government.

LONG-TERM STRATEGIC PLAN

In recent times, the Netherlands government has made enormous contributions to the long-term strategic planning of Bangladesh. With the aid of the Netherlands, the Bangladesh government has initiated the formulation of Bangladesh Delta Plan 2100, which is a long-term strategic plan for Bangladesh, in order to achieve the sustainable development of Bangladesh delta. The Delta Plan is more than just a one-off planning exercise and aims to provide the foundation for permanent deltaic governance in Bangladesh, through the outlining of a delta framework.

3. CONCLUSION

The Netherlands government has always aimed to assist in accelerating the economic growth and sustainable development of Bangladesh through development cooperation with a special focus on the water sector. This collaboration will be continued - linking water management, food production and market access. Bangladesh now wants to join forces with the Netherlands to work on a comprehensive approach to the water industry. The Netherlands will provide funding and expertise and invite Dutch businesses to take part in the Bangladeshi market, in order to achieve its integrated vision of poverty alleviation and sustainable economic growth. Therefore, from the past experiences it is evident that RNE is the best friend of GoB in respect of water management and development.

RELATIONSHIP BASED ON LONG HISTORY OF COOPERATION

The history of today's intensive water cooperation between Bangladesh and the Netherlands started long before the independence of the people's republic of Bangladesh in 1971.

1956 - 1964 'FLOOD ACTION PLAN'

Professor Willem Johan van Blommenstein, a well-known Dutch water engineer, was one of the members of the UN mission (Krug Mission) that took place in 1956-1957, right after the large scale flooding of 1954 and 1955. The mission provided advice to the government about water and flood dynamics in East Pakistan. It recommended to set up a Department of Waterways (modelled after Rijkswaterstaat: the Dutch agency for public works and water management). Firstly called EPWAPDA (East Pakistan Water and Power Development Authority) and later renamed BWDB: Bangladesh Water Development Board.

The Master Plan on water management was formulated in 1964. Van Blommenstein designed a combination plan for the Brahmaputra-Gangesdelta. It consisted of a moveable weir in the Brahmaputra with horizontal hydropower turbines, a channel between the two rivers, a sea dike including weirs, locks, pump stations and polders as well as different irrigation systems. Later the Ganges-Kodabak irrigation project which enabled three rice harvests per year and made an end to the ongoing water nuisance in the area was accomplished, as well as parts from the combination plan. The sea dike became the core of the later developed plan known as the 'Flood Action Plan'.

1971: BANGLADESH -NETHERLANDS RELATIONSHIP

The Netherlands was one of the first countries to acknowledge Bangladesh after the war for independence in 1971. Ever since the Netherlands has had a water relationship with this country. The Dutch development cooperation with Bangladesh now focusses on water, food security, sexual and reproductive health and rights (SRHR), and human rights

1971 - 1997 FROM INFRASTRUCTURE TO WATERMANAGEMENT

Throughout the 1970's, The Dutch Bangladesh cooperation focused on transport, water management and industry, reflecting the need to reboot the economy of a war-ravaged country. In the 1980's, attention was paid increasingly to activities that directly addressed poverty alleviation. Dutch professionals successfully implemented the first 'crop diversification' project in the country and established a 'healthy seed industry' including potatoes. In the 1990's, balance of payments support and assistance to the transport sector were phased out. Infrastructure development was increasingly considered to be more suitable for funding by multilateral development banks and as a consequence, the Dutch development assistance supported the social sectors (education, health) and non-governmental organizations (NGO's). In 1997 it was decided that the development assistance program would focus on the social sectors and water management.

1960 ONWARDS: 'POLDERS'

Since the 1960s, many Dutch-style polders and embankments were constructed in coastal areas, to protect coastal communities from salinity intrusion, daily tidal movement and occasional surges, and to support the civilian population engaged in farming and aquaculture activities.

1964: 'THIJSSSE HYDROLOGY REPORT'

Research by Professor J.Th. Thijsse from Delft conducted in 1964 resulted in the "Report on hydrology of East Pakistan". Thijsse noted that it was impossible to regulate large and unstable rivers with massive discharges, such as the Ganges and the Brahmaputra. He advised the government against construction of embankments alongside these rivers before adequate knowledge had been gathered. In his vision, sedimentation between embankments would lead to the rising of river beds and flood levels. He was also apprehensive about the potentially catastrophic consequences of embankment failure, given the deceptive sense of security felt by those living inside the 'protected' areas.

1972: DREDGING AGREEMENT

Already in 1972 an agreement between the Netherlands and Bangladesh for dredging activities in Bangladesh was signed.

1975 - 1992: EARLY IMPLEMENTATION PROJECT

One of the most successful water projects was the Early Implementation Project (EIP, 1975-1992) which introduced people's participation in various project development cycles e.g. sub-project identification, feasibility, planning, design and implementation.

1987: FLOOD ACTION PLAN

After floods in 1987 and 1988 the Dutch became involved with the Flood Action Plan (FAP), an effort to develop a flood management plan for the delta.

1996 - 2002: PWM

Following the success of the EIP, the Netherlands supported the participatory water management (PWM) approach implemented under Small Scale Projects (<1000ha) in 1996-2002 which has successfully field tested people's active participation in taking responsibility of operation (100%) and routine maintenance of water infrastructures/projects. Between 2006 and 2015 a renewed, better workable and more sustainable model of Participatory Water Management has been implemented with Dutch support under the South West Area Project.

2003-2011: INTEGRATED PLANNING FOR SUSTAINABLE WATER MANAGEMENT

Between 2003 and 2011 the Integrated Planning for Sustainable Water Management (IPSWAM) has led to the rehabilitation of nine polders, with positive effects on the lives of tens of thousands of people.

2010: GLOBAL WATER PROGRAMME

Since 2010 Bangladesh is one of the Delta countries the Netherlands cooperates with in view of the Water Global Programme. The approach is to prevent the flood insecurity and climate change effects. Also achieving the millennium goals of the United Nations for sufficient drinking water and sanitation is supported. The 'Memorandum of Understanding' that was signed in May 2012 and in which both countries have recorded their strategic cooperation is a base for this cooperation and goal.

2012: FROM TRADITIONAL AID TO SUSTAINABLE TRADE

Due to the country's economic growth the focus will be more on economic cooperation, investments and trade promotion. In 2013 the Netherlands was one of the top 5 foreign investors in Bangladesh.

1990: CEGIS

In the 1990s, the Dutch-Bangladesh relationship played an important role in setting up the organization EGIS (now CEGIS), the Centre for Environmental and Geographic Information Services.

1999-2004: PREPARING POLICY AND ACTS TOGETHER

In this period, the Netherlands has been supporting the Bangladesh water sector in preparing, for example, the National Water Policy 1999, National Water Management Plan 2004, the Integrated Coastal Zone Management Plan 2005 and the Bangladesh Water Act. 2013.

147.500 square kilometres

150 million citizens, from 50 million in 1960.

Bangladesh is one of the most densely populated countries in the world: about **1.100 citizens per square kilometre** (almost three times as much as the Netherlands).

According to research executed for the Bangladesh government in 2011, 31.5% of the population lived in poverty (over 50 million people). Poverty dropped by nearly a third, together with increased life expectancy, literacy, etc. Since 1992, more than **15 million Bangladeshis** have moved out of living below the poverty line.

In 2012, 57% of the population (approximately **88 million**) used improved sanitation facilities, leaving about 66 million people to use unimproved sanitation facilities.

In 2012 **85%** of the population (approximately 131 million people) used an improved drinking water source.

Bangladesh has the aspiration to become a **middle-income country** by 2021, on its 50th birthday. GDP growth will need to increase towards 7.5 to 8 percent per year most likely based on accelerated export and remittance growth.

In 2014 Bangladesh experienced the **highest temperature in 54 years**, which has led to an acute water shortage in rivers and low lying areas.

FACTS ABOUT BANGLADESH

For the past decade economic growth (GDP) has averaged **6 percent** annually.

75% of Bangladesh is **less than 10 meters above sea level** and 80% consists of flood plains. 93% of the river discharge comes from outside of Bangladesh, from 57 trans-boundary rivers.

In Bangladesh the rivers **Ganges, Meghna and Brahmaputra** converge in a delta covering almost the entire country.

Annual floods inundate up to **60%** of the country. Storm waves from the Bay of Bengal, cyclone Sidr in 2007 and Aila in 2009 demonstrate the country's fragile relations with water resources. Climate change increases both the unpredictability and the intensity of such events as do the longer-term consequences of higher sea water levels such as more salt intrusion and longer dry periods.

Each year about **20-25%** of the country of Bangladesh is **flooded**, causing loss of lives and infrastructural damage. During severe floods such as those of 1998, the affected area may exceed 67% of the country. The floods have caused devastation throughout Bangladeshi history, especially during the years 1954-1955, 1987, 1988 and 1998. The 2007 South Asian floods also affected a large part of Bangladesh.

FACTS ABOUT THE NETHERLANDS



- Surface area: 41,528 km² (18.41% water)
- Total population: over 16.5 million
- Population density: 488 people per km²
- Highest point: 323 m
- Lowest point: -6.7 m

- Three big European rivers (Rhine, Meuse and Scheldt) reach the ocean via the Netherlands and create an important delta.
- **26%** of the Netherlands is under sea level.

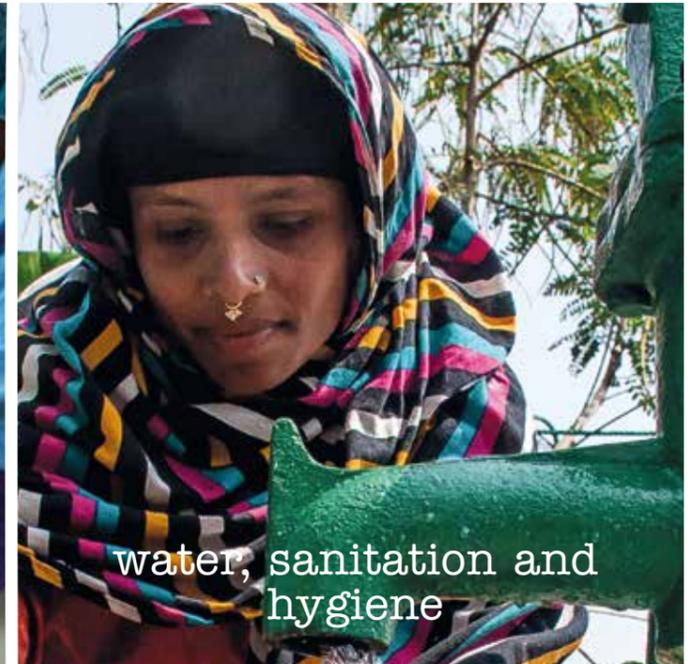
WATER COOPERATION BANGLADESH & THE NETHERLANDS

ONE DELTA VISION, FOUR THEMES, INNOVATIVE PROJECTS

As both countries face the same water challenges, working together comes naturally. The cooperation takes place on many levels, ranging from the strategic Delta Plan 2100, to very concrete projects for example protecting the 'chars', or newly reclaimed lands of Bangladesh. The different projects cover many urgent water issues in Bangladesh. But they all focus on the four leading themes in our cooperation:



water and food



water, sanitation and hygiene



water and textile



water management

For more information please visit: www.dutchwatersector.com or contact the Dutch Embassy in Bangladesh: bangladesh.nlembassy.org

BANGLADESH DELTA PLAN 2100

THE DISTANT FUTURE STARTS TODAY

Bangladesh is undergoing a rapid economic growth while facing some extensive challenges in the field of climate change, water safety and food interfering with the continuation of this growth. Actually the country is one huge delta along a vulnerable coastal area. This combination exposes Bangladesh to flood danger and large water quality problems. For that reason, in close cooperation with Dutch experts, Bangladesh is working towards the Delta Plan 2100: an integrated and holistic long term vision. The Delta plan prepares the country for a sustainable future and at the same time optimizes short and mid-term approach.

In 2014 a consortium consisting of Dutch and Bangladeshi experts initiated the design of the Delta plan in connection with an implementation program. The vision for developing the Bangladesh delta is to achieve long term sustainable development through adaptive water governance, based on long term analysis and scenario's as well as integration of relevant policy sectors and the creation of adequate institutional arrangements and capacity. The Delta Plan will create a clear vision or grand design of the future in 2100.

LONG AND SHORT TERM

The plan will translate the vision for the future to the current situation known as 'back casting'.

Based on forecasting and back casting, while engaging with a wide community of relevant stakeholders and professionals, actions leading from the present day to the desired future are designed. Short and medium term projects become an integrated part of the 'grand design', instead of just 'trial and error' actions. Based on that vision short term 'no-regret' measures and actions leading from the present day situation to the desired future can be defined. Stakeholder participation is an important element of success in the development of the Delta Plan. The basic idea behind this participatory approach is the increasing degree of involvement and trust between parties and ownership on problems and solutions: sharing certain influence or power with other parties on different levels.

UNDER ONE UMBRELLA

Upon recommendation of the Prime Minister's Office of the Government of Bangladesh, the project is led by the General

Economic Division (GED) of the Ministry of Planning. This Ministry of Planning is responsible for holistic long term planning at national level. The Bangladesh Delta Plan serves as an umbrella that integrates all sector plans and policies with long term perspectives. It will change the individual sectorial approach of project planning and implementation to a multi-lateral coordinated approach. This plan can be linked to short term plans such as Five Year Plans and Vision 2021. The plan will enable the government policies and institutions to formulate and implement climate change adaptation programs in a more consistent way. The Delta Plan can facilitate conservation of natural resources in a comprehensive manner, especially the river floodplains and coastal ecosystems.

The plan enhances the capacity of good governance through its focus on institutional arrangements, strengthening and capacity building, equity and justice among all sectors. The funding process will be more comprehensive among different governmental and non-governmental stakeholders, thus using limited funds more effectively. The Bangladesh Delta Plan is a means of strengthening international cooperation with neighboring countries as well as development partners.

The authorization was granted by the Dutch Ministry of Foreign Affairs, in close coordination with the Bangladesh Ministry of Planning and values the approximate amount of €6,5 million. Process time of developing/implementing the Delta plan is 2,5 years. The project connects with the Dutch policy on development aid: the goal of the Netherlands is to contribute to a better water management in specific countries deploying companies and knowledge institutions. The interchange of knowledge with third parties in Bangladesh will ensure continuity after completion of the project.

The consortium outlining the Delta plan is managed by consultancy agency Twynstra Gudde. The Bangladeshi parties are the Centre for Environmental and Geographic Information Services (CEGIS) and the Institute of Water Modelling (IWM). The other Dutch consortium partners are Euroconsult MottMacDonald, Ecorys, Witteveen+Bos, D.EFAC.TO, Deltares, Wageningen University, Unesco-IHE and Foundation Climate Adaptation Services.

Nineteen issues

The Bangladesh Delta Plan 2100 works on nineteen integrated issues, organised in eight blocks:

- Water Resources**
 - 1 Morphological dynamics of Bangladesh Delta
 - 2 Water resources
 - 3 Coastal Polder issues
- Water Supply and Sanitation**
 - 4 Public health, water supply and sanitation
- Disaster Risk Reduction**
 - 5 Climate change issues
 - 6 Disaster management
- Spatial Planning**
 - 7 Land resources
 - 8 Urbanization and settlement
- Food Security**
 - 9 Agriculture and food security
 - 10 Fisheries and livestock
- Environmental Management**
 - 11 Ecological Settings
 - 12 Forests and biodiversity
 - 13 Environmental pollution
- Economics and Finance**
 - 14 Growth of Population and Management in the context of resources setting
 - 15 Socio-economic and demographic condition
 - 16 Sustainable Transportation Infrastructures
- Governance**
 - 17 Information and creation of knowledge management institution
 - 18 Institutional framework/arrangement
 - 19 Regional cooperation

More information: www.bandudeltas.org

TOWARDS THE DELTA PLAN

An important milestone towards the Bangladesh Delta Plan 2100 was the signature of the Memorandum of Understanding (MoU) on May 2012 in Dhaka to jointly develop a long term national flood protection plan. Planning Minister AK Khandker of Bangladesh and former Minister for International Cooperation Ben Knapen of the Netherlands signed the MoU. The signing ceremony was attended by the honorable Prime Minister Sheikh Hasina. The MoU outlines a strategic partnership with the Dutch government. Planning Minister AK Khandker: 'We have wasted many resources to implement those single-unit plans. That's why the government has taken the holistic approach, encompassing different sectors like agriculture, fisheries, industry, forestation, water management and sanitation.'

The Bangladesh Delta Plan 2100 Formulation Project was formally inaugurated on 27 August 2014. At the launch of the project Planning Minister AHM Mustafa Kamal stressed the need for development efforts to be sustained, and mentioned that climate change is a global phenomenon affecting everyone, everywhere.

He also thanked the Government of The Netherlands for their cooperation with Bangladesh in tackling delta management issues. At the ceremony H.E. Mr. Gerben de Jong, Ambassador of the Netherlands to Bangladesh mentioned that the Netherlands as a delta faces challenges similar to those in Bangladesh, and expressed enjoyment to work together to share knowledge on delta management issues.

TWELVE BUILDING BLOCKS FOR A DELTA APPROACH

Urban areas in delta's worldwide are facing similar challenges: rapid population growth, flood risks, lack of spatial planning, scarce natural resources. While solutions for each delta may be different, the preconditions for a sustainable delta approach are the same. In close collaboration with urban delta's worldwide, the Netherlands has developed the 'twelve building blocks for a delta approach'. In short: the 'must haves' for sustainable delta management.

The delta approach is a strategic planning process for delta development that integrates sustainability, institutional, physical and social economic aspects. It is an integrated water management planning approach that has proven to be very successful in the Dutch Delta program, and has been tested and developed together with international partners. The twelve building blocks are essential for a delta approach and therefore play an important role in the design of the

Bangladesh Delta Plan 2010. Three of which are of vital importance for the cooperation in Bangladesh:

- long-term approach vs. short-term measures
- collaboration with other government levels and stakeholders
- integrated approach

More information on the building blocks can be found here:

www.dutchwatersector.com/delta

'HOLISTIC VISION MAKES BANGLADESH DELTA PLAN SPECIAL AND INNOVATIVE'

Jaap de Heer (Twynstra Gudde), project leader for the Netherlands of the Bangladesh Delta Plan 2100, is positive about the cooperation and progress. In his view however in some aspects things could be moved up a gear.

'Our cooperation has become rather solid. In the first phase people were somewhat reserved: in past time there have been so many comprehensive plans worldwide that have never actually become more than partially executed. But our own first Dutch Delta plan has given us an excellent reputation: the extensive plan has not only been produced but fully accomplished as well.

We are appreciated since people are aware of the fact that a large part of the Netherlands is situated below sea-level. In the eyes of the Bangladeshi that makes the Dutch situation more urgent than the situation in their own country: it all depends on how you look at it. Besides, we are building upon the intensive cooperation that has been going on between the two countries ever since the seventies. Of course I would sometimes want things to speed up somewhat, we have to deal with many rules and stakeholders. But at the same time things are moving fast, compared to the duration of the preparation and the decision making on the recent Dutch Delta plan.

The Ministry of Planning is responsible for the project, regarding its cross-sector and long term character. I work closely together with the General Economics Division of the Planning Commission, of the Bangladeshi government, functioning as a think-tank. Our team consists of twelve Dutch and approximately thirty Bangladeshi experts, all highly educated employees in every discipline the project requires. More often than not the Bangladeshi experts have partly been educated in the Netherlands.

The holistic vision and approach in combination with the long-term view make the Bangladesh Delta Plan special and innovative. Our focus is not only on flood danger, but also on water related agricultural aspects, economic and spatial development. A total of nineteen coherent issues have been labelled, but with mutual evident

priorities. Concrete sort term plans and overall plans for the mid-term are defined. Beyond short and mid-term we work with scenarios. In our approach different possible future scenarios are being formulated. The strategic measurements are tested in the different scenarios, where strategies that score well on all scenarios are considered to be massive.

Our approach also provides actual necessary measures that in no way essentially disconcert with the Delta Plan: the so-called no regret measures. We mean a massive investment program for management and maintenance, as a part of the new five year programme starting from June 2015. So the total of our 'adaptive delta management' approach differs largely from the traditional approach in Bangladesh, which usually applied a one dimensional solution for a one dimensional problem.

Obviously the realisation and implementation of the Delta Plan is largely a matter of money. At the start it was acknowledged that financing should be an integrated part of the project. Otherwise the outcome is another nice glossy plan that will never be applied. For that reason the World Bank had initially been contacted. They are working on a review of their Bangladesh Country Assistance Strategy. Sustainable vision and meaningful strategies were considered to be more necessary than ever before and recognised in the Delta Plan. This has led to a unique Memorandum of Understanding on investment planning between Bangladesh, the Netherlands and the World Bank. A comparable arrangement is supported by the Asian Development Bank.

Last but not least: water governance and institutional development are important issues. In relation to the Delta Plan the governance cycle must be developed on a national level, combined with the functionalization and equipment of the implementing organisations. An approach for monitoring and evaluation for the review and modification of the implementation, also related to the adaptive delta management approach will be developed as well. Most certainly these challenges should not be underestimated. To come to a safer and more prosperous Bangladesh, solving these challenges is a key issue.'



DELTA ATLAS: DELTA-PROBLEMS AT A GLANCE

Many relevant data are collected for the Delta Plan 2100. In the context of the plan a total of nineteen research projects are being carried out. But how can one get an overview, and view the challenges at a glance? Well: by processing all these data in maps, and to literally overlay them. Exactly as is already being done in the case of the digital climate atlas 'Delta Atlas' for Bangladesh, which was developed by the Dutch knowledge institute Alterra.

Hasse Goosen (Alterra): 'We collect all the available map material in our touchable, a powerful computer with a very large touch screen. The next step is to integrate and connect all that data. We overlay several layers to make the risks in the area comprehensible. And so we can provide insight in for instance the effects of flashfloods, sudden and heavy floods by abundant rainfall in the North-Eastern part of the country on the rice cultivation. On one side you find the flood charts and on the other the charts with the data on which type of rice cultivation takes place and location and time of the harvest. The harvest right before the monsoon is the most vulnerable.

In the same way, by combining and overlaying map data, the drought problems in the North west, the cyclones and the salination at the coast can be mapped. The ambition is to visualize several different climate scenarios and demonstrate the great lengths that the water is threatening to enter the land due to the rising sea level.

Obviously we receive a lot of input from Bangladeshi and Dutch monitoring experts. The base of our information is formed by their findings, but besides we make sure to be fully informed by our sources in the region. Together we help to build a secure fundament for the Bangladesh Delta Plan.'

SPACE TECHNOLOGY FOR DELTA PROBLEMS

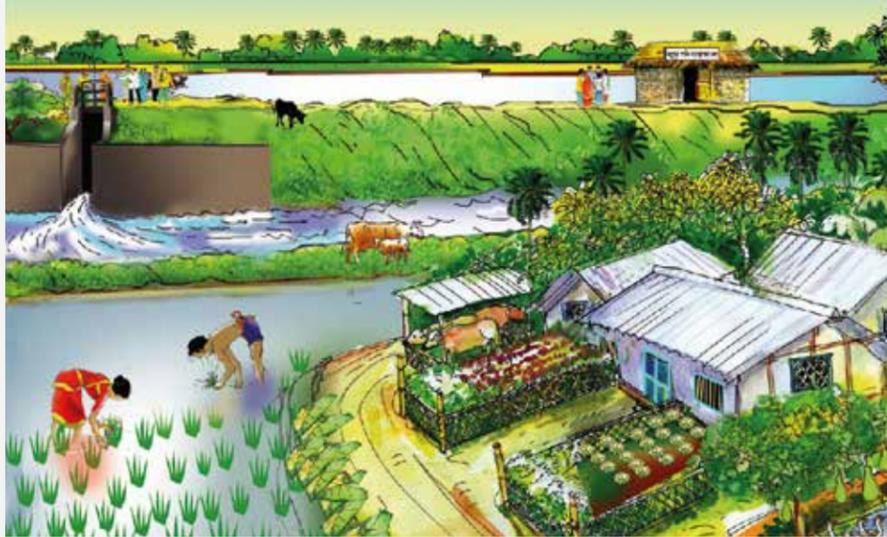
Scientific and technical cooperation in the field of space technology can contribute to the solution for food, water and climate related issues in the delta of Bangladesh. Therefore the Dutch National Air and Space laboratory (NLR) and CEGIS from Bangladesh contracted a cooperation agreement. The satellite alert systems produced by the NLR lead to an improved information and communication infrastructure.

The NLR is an independent knowledge institution in the aerospace sector. Knowledge centre CEGIS (Centre for Environmental and Geographic Information Services) from Bangladesh focusses on resource management planning, system development, knowledge development and research. Both parties are exploring commercial possibilities in the field of climate change, climate adaptation, reduction of calamity risks and the design of integrated environmental analysis in Bangladesh. CEGIS and NLR want to support bilateral programs in cooperation with partners from Bangladesh and the Netherlands.

THE BLUE GOLD PROJECT: PROVIDING A SOLID FOUNDATION

Less poverty, a safer living environment and a sustainable social-economic development, of which around 150,000 households in an area of 160,000 hectares will profit. That is Blue Gold, the largest programme of the Dutch embassy, aiming on water management in the polders of the three districts: Patuakhali, Khulna en Satkhira. The programme enables local communities to focus on sustainable water management. The programme started in 2013 and has a duration of 6 years.

The name of the multi-annual programme refers to the fact that for its economic Bangladesh, globally the largest river delta, is largely dependent on integrated and sustainable water resource management. The three most important river stream areas determine the physiography of this country and its people. The water, the blue gold, made Bangladesh to what it is today. Bangladesh water management will continue to be a huge challenge, offering great opportunities at the same time.



Blue Gold not only aims on technical management and safety of water, but also on a higher production and a better accessibility of new markets, to stimulate economic growth. A project like Blue Gold will fit in seamlessly in the Delta plan, especially in relation to climate change. The effects of climate change seem to become even more dramatic than was initially feared. It may involve a one metre sea level rise, when already at this time during heavy rainfall half of the country is under water. Due to continuous land reclamation the incline is getting smaller and smaller, so drainage of rainwater to the sea is getting problematic. Blue Gold started at a local level by forming Water Management Groups at village level and Water Management Associations at

polder level. The aim is to create effective cooperations with a minimum of thirty percent female participants, which would be a major breakthrough in women empowerment. In the field of Integrated Water Resource Management within Blue Gold works like the repair of the dikes and other elements of the polder system are carried out. Water distribution and drainage is also improved. The aim is constantly at a close cooperation between governments and local communities. Together these are a necessary condition for the improvement of food security, further development of agriculture and, following that, economic development. Through the embassy in Dhaka Dutch government contributes 50 million euro to Blue Gold. Bangladesh contributes 7.5 million.

SOUTH WEST PROJECT

From 2006 to 2015, the South West Water Resources Planning and Management Project has been working on the improvement of national water resources management by involving the local communities, both men and women, to play an expanded role; from planning and design to operations and management. The project infrastructures are handed over to the Water Management Associations (WMA) for operation and maintenance. Almost one million people in South West Districts benefit from improved livelihoods. The South West Project (total budget USD 43,4 million) was funded by The Netherlands, the Asian Development Bank (ADB) and the Government of Bangladesh.

Water fundamentally affects rural livelihoods in Bangladesh as the country's major regional river systems bring about annual floods, severe dry-season water scarcity and periodic disasters. The South West areas are facing the most acute problems.

Effective water management is critical to the addressing of pervasive rural poverty problems. The South West Project has introduced participatory Integrated Water Management Plans (IWMP's) for Flood Control & Drainage/Irrigation schemes covering about 43,000 ha of land in the Southwest area. The project also aimed to improve productive and sustainable water management systems and to establish

and strengthen WMA's. Implementing partner is Bangladesh Water Development Board (BWDB). The results are fairly good; each of the 102 WMG's have established operation and management accounts and are performing operation and management independently.

The income per household increased by about 32% and the total accrued benefit from enhanced crop & fish production is around USD 430 million by 2012-2013. The Dutch Embassy, Government of Bangladesh and the ADB are discussing a possible second phase of the project.

CHAR DEVELOPMENT AND SETTLEMENT PROJECT

The Char Development and Settlement Project Phase IV (CDSP IV) is the fourth phase in a series of projects that have been developing newly accreted land (chars) in Bangladesh for over two decades. The project activities of CDSP IV focus on the development of five new chars: Char Nangulia, Noler Char, Caring Char, Urir Char and Char Ziauddin. Together these encompass around 30,000 ha, with an estimated population of 155,000 people living in 28,000 households. CDSP IV started in March 2011 and will be completed in March 2017. The first three phases of CDSP were co-financed by the Government of Bangladesh and the Dutch government. The International Fund for Agricultural Development (IFAD) has joined in the fourth phase, which shows good donor harmonization.

The project enhances protection from climate change on the chars by building embankments, drainage sluices, channels and closures. Water Management Groups are formed to operate and maintain the developed infrastructure. In addition, protective plantations of trees are established on mud

flats, foreshores and embankments, which also provide income generation possibilities for Social Forestry Groups. For example: to improve the climate-resilient infrastructure the project facilitates the building of roads, bridges, culverts, cyclone shelters, schools, refuges for livestock, markets, boat landing facilities and bus stops. CDSP IV leads the administrative process for the official registration of the land titles. This includes public hearings to confirm the landless households, registering the title in both the wife's and husband's name, and the digital land record management system.

The agricultural support subcomponent aims at enabling farmers to make better use of their land resources. Farmer Forums are established, and a program to promote agricultural technologies is implemented. Four NGO's provide micro-finance services, provide training on income-generating activities and disaster management, raise awareness for legal rights and extend health and family planning services. To ensure people's participation in the interventions of the project, community based groups are formed, such as Water Management-, Social

Forestry -, Micro Finance - and Tube Well User Groups. They are closely involved in planning and implementing the project as well as in the operation and maintenance upon the completion of interventions.

While forming these field level institutions, female participation is promoted. The overall goal of the Gender action plan in CDSP IV is to make stakeholders in the project more gender sensitive and to ensure sufficient women participation in the field level institutions established by the project.



Flood alert through voice-sms



Forecasting flooding in Bangladesh is improving, but it continues to be difficult to reach the people in all villages in remote areas as well. Voice sms makes that possible. Dutch consultancy agency HKV and knowledge institute Deltares have recently carried out the project 'Mobile Services For Flood Early Warning' in Bangladesh. The main goal of the project was to reach rural communities with flood warnings.

In that framework a voice SMS system was piloted, in which flood forecasts are provided in Bangladesh. The Flood Forecasting and Warning Center (FFWC) in Dhaka produces adequate flood forecasts for the main river systems. The FFWC disposes of an extensive system for the collection and production of hydrologic and other data as input for forecast models. The system is used to give flood forecasts and alerts and spread these daily to governmental and non-governmental organisations, media and other parties. The information was spread to the people through volunteers. In the test case these official forecasts of the FFWC have been translated to forecasts for any given location in Bangladesh. All user groups have been trained to use this technology and understand the content of the voice SMSes.

BALANCE ISLAND WEAPON IN FIGHT AGAINST SALINISATION



Impression of balance island in the Netherlands

The concept of 'Balance Islands' possibly offers an effective solution for the salinization of drinking water and agricultural areas in river deltas. A multi-disciplinary Dutch consortium is conducting an international feasibility study to determine the situation in Bangladesh and Vietnam.

The Balance Island is a concept to reduce coastal salt water intrusion by constructing off-shore sand islands that create a tidal area with brackish water. Balance Island is an example

of Building with Nature as it extends existing shallow coastal zones through sand suppletion. This creates a natural barrier that will guide salt water along pre-determined channels.

The key advantage is that it makes use of the delta's own dynamics and strengthens the natural values, while at the same time offering solutions that make the delta area more inhabitable. Balance Island can also support conservation efforts for (aquatic) fauna, flora and eco-systems in many river deltas around the

world. The concept of the Balance Island won both the prestigious Dutch Delta Water Award and the international Delta Alliance Young Professional Award in 2012.

The study is funded by the Global Water program, financed by the Dutch Ministries of Infrastructure and the Environment and Foreign Affairs. The project partners will carry out the study in close collaboration with existing initiatives, local research institutes and policy makers.



Satellite for crops

Satellites provide unbiased and consistently collected data of large areas, which, if properly processed, are the basis for agricultural monitoring and information services for farmers and decision makers. ACI, a large agribusiness in Bangladesh is launching customer for a new pilot in this field.

A Dutch consortium will support ACI in demonstrating that reliable information, based on satellite data, can be provided year round, under various weather

conditions, for supporting ACI's management information system.

This will eventually result in better services to their customers, the farmers, and improvement to farm inputs, higher production and profits. The satellite data and other (basic) data are available through an open Data Portal in order to make the data directly accessible for direct users and other stakeholders, as well as other potential business services by the Dutch consortium.

Oysters and mangroves as a first line of defence



Artificial oyster reefs and mangrove forests add to a sustainable coastal defence, they form an extra line of defence to protect vulnerable earthen embankments from storms and floods. Besides the reefs and forests are a source of food as well as an income source for the local people. That is what Dutch and Bangladeshi experts determined in a pilot financed by the Netherlands, that was finalised end 2014. The Bangladeshi government has shown interest in larger pilot projects.

Oyster reefs influence streams and waves. The appearing sand drifts between reef and beach make planting of mangrove trees possible. An artificially formed oyster reef, with a concrete base, will speed up the growth of the mangrove forest. For the realisation of coastal protection a broad strip of at least 250

to 500 metres with full grown mangrove trees is needed. In the long term this results in a self-repairing coastal protection system of oyster reefs and mangrove forests. Researchers have concluded that this relatively cheap and sustainable method of eco-engineering contributes to the coastal defence. The reef and the mangrove forest attract fish and crabs, subsequently forming a source of food besides the oysters. Furthermore crabs have an additional economic value as a potential export product.

For the appearance of this sustainable and self-healing system the oyster reefs and the mangrove forests must be very well managed: wood nor oysters should be removed. Good cooperation with local communities alongside the coastline is essential for sensible management of this natural line of defence.





SANITATION AND DRINKING WATER FOR MILLIONS OF PEOPLE

Bangladesh has made huge progress in the field of health. Even though spending less on health care compared to some neighbouring countries, Bangladesh has the highest life expectancy, the lowest fertility number and the lowest starvation number of children below five years in South-Asia. The BRAC WASH program, supported by the Netherlands, has been contributing to these numbers since 2006. Currently the program secures access to sanitation for 32.4 people, safe drinking water for 2.2 million people and hygienic education that reaches 63.6 million people. The second phase of BRAC WASH has started in October 2011 and will run up to 2015.

The fundament of the BRAC WASH approach is the formation of Village WASH Committees (VWC's) with their own responsibility in reaching the goals for drinking water and sanitation in small communities. Each VMC consists of six women and five men, a group that is representative of the village community. Together they select the best spots for water dwells, raise money and supervise the managing and maintenance of the latrines. The VMC is also responsible for granting micro credit to poor families to help them start their own facilities. Meanwhile over 65,000 VWC's have been formed. The working area of BRAC WASH covers more than half of Bangladesh.

Having 120,000 employees in twelve countries and a yearly turnover of 819 million dollars, BRAC is the largest NGO in the world. The budget of BRAC WASH II for the period 2011-2015 is 34.7 million euro's. The Netherlands pays the larger part, 27.3 million euro's. IRC International Water and Sanitation Centre, a Dutch NGO, is involved to handle the technical support.

'I like washing my hands' SUISAYA'S STORY

Suisaya, a pupil of the fourth grade class of the Yangsa School in Golkhali (Bangladesh). Only one year ago, the school did not have any water or sanitation facilities. She did not have anything to drink all day and when she needed to use a toilet she had to walk into the field. Being a girl, this made her feel vulnerable. Since one year the Max Foundation has started a MAX-WASH project at her school, together with the school management. Now, there is a water well in the school yard and there are separated latrines for girls and boys. Suisaya smilingly says: 'I wash my hands when I have used the toilet. If you do not wash your hands after using the toilet you might get ill. I like washing my hands!'

The Dutch Max Foundation aims to prevent child mortality through an integrated approach: work in the field of water, sanitation

and hygiene (WASH), combined with other programs on safe motherhood and nutrition. Between 2012 and 2016, the MAX value for WASH program in the south of Bangladesh will reach 800,000 people in rural Bangladesh with water, sanitation and hygiene education.

It is estimated that the coastal zone of Bangladesh is the home of 38 million people (7.5 million households). Of these, 38% live below the poverty line and have limited access to food, income, water, sanitation and healthcare. The communities identified lack of safe drinking water and sanitation as the number one issue in their daily lives. 58% of households in Barisal Division don't have access to hygienic latrine facilities. As a result child mortality rates in the region are above the national average (5% of children under 5 year, source Worldbank).



CLEAN CANALS AS SAFE CITY FOUNDATION

The Dhaka Water Supply & Sewerage Authority has started a ten year program to clean all canals in Dhaka. Part of the program is the Urban Dredging Demonstration Project (UDDP) that has started in June 2014 as a cooperation between Dhaka WASA and Vitens Evides International (VEI) as a part of the Water Operators Partnership (WOP).

The canals that form the main sewage system of Dhaka are heavily silted up, preventing the



system from processing the huge amounts of water resulting from the monsoon. Leading to floods yearly and soiling of the neighbouring district. VEI has demonstrated how these problems could be attacked with methods, techniques and apparatus developed in the Netherlands. Simultaneously starting an intensive training program for local managers, supervisors and contractors to sufficiently prepare, plan and execute the dredging within a management and maintenance long term

planning. In this context the UDDP covers the introduction of smart monitoring systems as well.

Another part of the project is addressing behavioural change together with a Bangladeshi NGO: people must stop throwing everything in the canals. The UDP project runs to September 2016 and is financially facilitated by Dhaka WASA, VEI and the Embassy of the Netherlands.

DRINKING WATER AND SANITATION: BETTER PERFORMANCE FOR URBAN POOR

In Dhaka, the capital of Bangladesh the Dhaka Water Supply and Sewerage Authority (DWASA) is signaling rapidly declining groundwater tables, severe environmental pollution, climate change, deteriorating infrastructure and a fast growing and demanding population. In order to prepare itself for the future, DWASA acknowledges that action is required. One of the actions being undertaken is the Water Operators Partnership (WOP) between Dhaka WASA and Vitens Evides International, which started in 2012.

The partnership aims to enhance the operational performance and the management of the Dhaka Water Supply and Sewerage Authority (DWASA). And also to support DWASA in providing water, sanitation and hygiene promotion services (WASH) to the urban poor. The two partners decided to focus

on the improvement of the performance of deep tube wells, the reduction of non-revenue water and the providing of safe drinking water and sanitation to inhabitants of low income communities in Dhaka. The Urban Dredging Demonstration Project (see article) is also part of the WOP.

Dhaka Water Supply & Sewerage Authority (DWASA) was established in 1963 and today its service area covers more than 360 square km, serving a population of an estimated 12,5 million people.

Vitens Evides International (VEI) is a joint venture of the two largest water companies in the Netherlands: Vitens and Evides. Two other Dutch water companies act as additional

participants. Through collaboration with water companies in developing- and transition countries, VEI has extensive experience with improving water supply, water quality and wastewater services. Simavi, a Dutch NGO, also joined the Water Operators Partnership. On 11 February 2015, DWASA and VEI signed a Memorandum of Understanding expressing their commitment to intensify the existing partnership and explore future opportunities.

This partnership focusses on technical support on operations and maintenance of drinking water infrastructure, on demonstration of urban dredging technologies as well as on the extension of services into Dhaka's low income communities. Engr. Taqsem Kahn, Managing Director of DWASA and Mr. Marco Schouten, CEO of VEI signed the memorandum of understanding. Engr. Taqsem Kahn reinforced: "The partnership between DWASA and VEI is an excellent one. So far we have had good results; now we are replicating these results and we are doing some rethinking.

Now is the time to start the preparation for exploring new opportunities so we can expand and extend in the future".





BANGLADESH WATER PACT TOWARDS CLEANER TEXTILE

The Bangladesh textile industry is the second largest in the world. The factories annually consume 1,500 billion litres of groundwater and contaminate surface water through inadequate effluent treatment. International fashion brands are increasingly aware of their social responsibility concerning the sustainability of their supply chain to achieve a cleaner textile production process. Together with some well-known fashion brands, the Embassy of the Kingdom of the Netherlands, Solidaridad and other organizations established the Bangladesh Water PaCT: Partnership for Cleaner Textile, in 2014, leading textile brands.

PaCT seeks to bring about systemic, positive environmental change for the Bangladesh textile wet processing sector, its workers and surrounding communities, and to contribute to the sector's long-term competitiveness. PaCT's inaugural Annual Event was in June 2014. Ms. Lilianne Ploumen, Minister of Foreign Trade and Development Cooperation of the Netherlands launched the Textile Technology Business Center (TTBC), the first of its kind in Bangladesh, as a part of the PaCT-program on 26th May 2014. The TTBC was set up by the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) with support from the Embassy of the Kingdom of Netherlands (EKN) and the International Finance Corporation (IFC). One of the key roles of the TTBC is to assist the textile industry in adopting resource efficiency measures including waste water and ground water management systems.

SUSTAINABLE AND COMPETITIVE

Dutch Minister Lilianne Ploumen: "The Netherlands aims to support this industry in becoming more sustainable and globally competitive. Bringing in cleaner production practices and technologies that significantly reduce water consumption and effluent will make the sector more resource-efficient and more competitive". "Launching the TTBC is an important step towards a sustainable garment industry," said BGMEA Vice President Md. Shahidullah Azim. "The need of an institution that connects the industry with academia and provides localized, tailor-made solutions is vital if we are to ensure the long term sustainability of the Bangladesh textile sector."

"Supporting the Textile Technology Business Center aligns with IFC's commitment to

Bangladesh's textile sector and improves its environmental sustainability. It is part of our broader initiative to help the sector thrive and remain competitive," said Jeeva Perumapillai-Essex, Regional Business Line Manager for IFC.

Through its strong local and international network, the TTBC collects, analyzes and translates practical information on best available technologies, business-to-business linkages, and financing. It is shared with factories, service providers, input suppliers, knowledge institutions and other stakeholders in the textile sector. The TTBC provides unbiased information on Cleaner Production (CP), Occupational Health and Safety (OHS) and Water, Sanitation and Hygiene (WASH). TNO, a reputable Dutch research organization, provided technical support in the establishment of TTBC.

Cleaner production: G-Star one of the front runners

A group of leading textile and fashion brands works hard on cleaner production in Bangladesh. One of them is G-Star. G-Star collaborates with seven garment factories in Bangladesh that are predominantly vertically integrated. This means they perform all steps in the production process in-house, from spinning to garment making.

'Frouke Bruinsma, Corporate Responsibility manager, explains why G-Star has joined PaCT: 'G-Star wants to help reach lasting progress in the garment industry of our production countries by improving social and environmental sustainability in cooperation with our suppliers. Within the PaCT program, we are able to work one on one with our suppliers in Bangladesh to achieve this goal and guide suppliers towards improved chemical management, reduction of water and energy consumption, reduction of waste water generation, improved water quality and better Water, Sanitation and Hygiene (WASH) conditions. The PaCT program supports G-Star on coaching and capacity building of suppliers and the local G-Star team in Bangladesh.

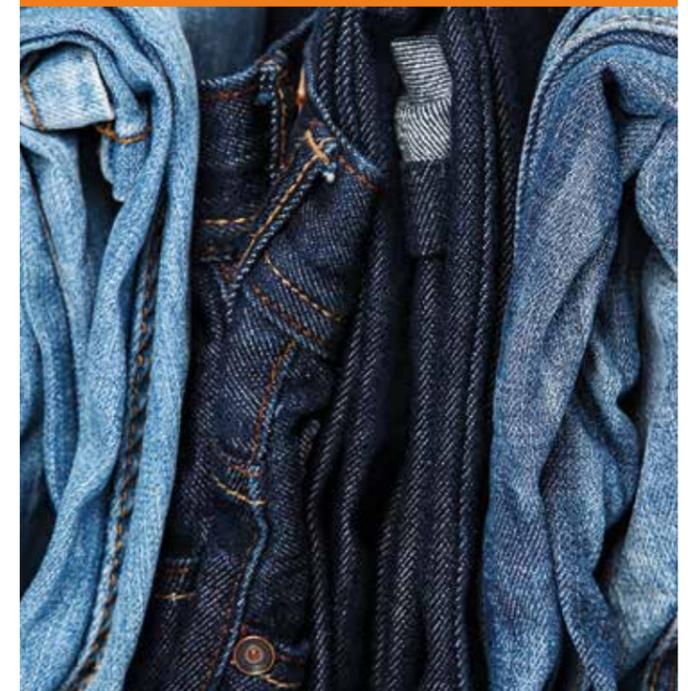
Working in the PaCT program together with other international brands encourages industry cooperation, sharing expertise and profound supplier engagement. This leads to progress that goes beyond our own supply chain, improving the conditions in the entire garment industry in Bangladesh.'

Boosting innovation

In the forthcoming period the Textile Technology Business Centre 'TTBC' will focus on the development of innovative and practical showcases. An 'Innovation hub' that will include an innovation fund for the support of promising new techniques will be developed.

The Innovation Hub will create an enabling environment for demonstration pilots and best practices for wet processing factories on cleaner production technologies. This can include both globally innovative solutions as well as local uptake of proven (best) practices in other contexts. The pilot factories function as the 'launching customer' to demonstrate practices.

The Innovation Fund will provide seed capital to support pilots and field-testing of innovations in the Bangladeshi context. The Innovation Fund aims to stimulate local wet processing factories to start piloting cleaner production technologies - with a focus on water sustainability - that are new or uncommon for Bangladesh. Besides, technology suppliers will be challenged to offer globally innovative technologies that are appropriate to the local context of the factories. Suppliers can demonstrate their technologies to create awareness for improving opportunities that are supported by business models. Factories can submit their demonstration projects to the innovation fund.



KNOWLEDGE EXCHANGE AS A FIRST PRIORITY

In the changing relationship between Bangladesh and the Netherlands which is becoming more and more based on equality, intensive knowledge exchange and capacity building are opportune. Two examples: Dynamic Delta's and Urbanising Delta's of the World.

DYNAMIC DELTA'S

Full protection against floods is a utopia in any country. The challenge is to endeavour limitation of the impact of those natural catastrophes. To achieve this, efficient strategies must be developed that add to the reduction of exposure and vulnerability of people and economic activities to the risks of floods. In a study financed by the Dutch Organisation for Scientific Research (NWO) these strategies of governmental organisations, professionals and local communities in the Netherlands and Bangladesh are closely examined.

The purpose is for the Netherlands and Bangladesh in this field to learn and to develop tools that give insight in the degree of vulnerability for and resilience against floods, and help reduce the exposure risk. This can lead to concrete 'no regret' short term measures in urban (capital Dhaka) as well as rural areas (the South-western delta). The program covers PhD projects of two Bangladeshi and two Dutch researchers. The project will take four years, from 2012 to 2016.

URBANISING DELTA'S OF THE WORLD

The goal of the program Urbanising Delta's of the World (UDW) is to contribute to water safety, food security and sustainable economic development of urban delta's all over the world. Within UDW innovative approaches for the specific delta area problems are found in collaboration with private parties and international partnerships.

Initially seven research projects have started in the beginning of 2014 with a term of five years for a total amount of 5.5 million euros. Bangladesh has part in five of these projects. From Bangladeshi side Bangladesh University of Engineering and Technology, Centre for Environmental and Geographic Information Services (CEGIS) and the Bangladesh Centre for Advanced Studies are involved. Dutch parties committed are Delft University of Technology, UNESCO-IHE, Deltares, Wageningen University, VU University Amsterdam, Utrecht University and the University of Twente.

In December 2014 a new call for proposals was published, with a budget of 4.5 million euros. The call was closed in march.

FINANCE INTEGRAL PART DELTA PLAN 2100

Financing should be part and parcel in the development of long term plans. Therefore Bangladesh, the Netherlands and the World Bank have set up a Memorandum of Understanding focused on the financial planning of the Bangladesh Delta Plan 2100. According to Dutch Minister Schultz the MoU is a unique agreement: 'The basis of the financing of such a large project has never before been approached in this way. The coherent and integral style is directly in line with the way the Netherlands approaches such projects. In accordance with our Dutch Delta Plan procedure.'

The World bank is working on a review of the country assistance. Currently the bank requires a more sustainable vision and sensible strategies as a condition for finance. These elements are recognised in the Delta Plan. Financing has specifically been taken into account in initiating the Delta Plan development. The World Bank was contacted and included in the process from the start. The plan was structured to be trustworthy and acceptable for investors. Modelled after the implementation of the Dutch Delta Plan. Generally the Netherlands has a strong solid financing system for water management, enabling the country to carry out the long term policies as was originally planned.

BANGLADESH AND THE NETHERLANDS COOPERATE ON GOVERNANCE

An effective and sustainable solution for the management and maintenance of a watershed basin is more and more becoming a requirement for investors like the World Bank and the Asian Development Bank. Corné Nijburg, managing director of the Water Governance Centre, outlines the challenges and stresses the fact that the Netherlands can learn from Bangladesh as well as vice versa.

Nijburg: 'Good governance in the water sector needs the integral vision that the Bangladeshi Delta Plan 2100 is based on. Bangladesh is a centrally organised country, but also familiar with many small-scale initiatives. Two things need to be done. On the one hand give attention nationally to the implementation of the necessary measurements according to the lines of the Delta Plan, governance being one of them. On the other hand: build bottom up starting in the very small scale polder-like structures. Establish a system that maps the responsibilities of different levels of government and community, from small and local, to regional and national. That way the governance gap between small communities and regional and national government can be closed one step at a time.'

A delegation of Dutch water boards is consulting Bangladesh to use 'building blocks' for good governance: systematic, participatory, with regard to legislation and financing rules. The Dutch embassy has offered support in the development of good governance in land reclamation.

Corné Nijburg emphasizes: 'One thing is obvious, it cannot be solved by explaining how things are arranged in the Netherlands, and simply copy the Dutch model. Indeed the Bangladeshi situation and culture differ completely from the Dutch. Economic development should be leading, water must create its conditions. And moreover: our goal is not only to deliver, but also to collect. Cooperating from an equal position, we genuinely believe that we are on a joint quest, that might as well bring about modifications to guide different and better arrangements in the Netherlands.'

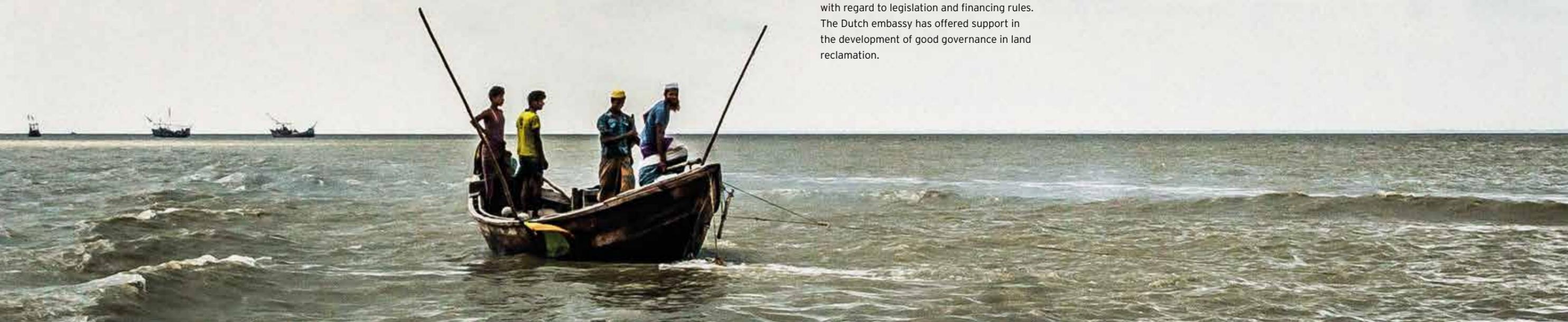
The Water Governance Centre is a Dutch networking organisation that wants to improve the role of water governance in water issues, at home as well as abroad. The organisation connects knowledge and experience from government, business organisations and knowledge institutes.
www.governancecentre.org

SUPPORTING PROJECTS FROM A TO Z

On the one hand a promising product or service, probably better than any other product on the market. On the other hand the market. The connection between the two is the value chain: what are the chains of production, which partners do you need, what is the revenue model? Often, financing and support of a product is only focused on the product itself. Yet the key to a sustainable success is looking at the whole value chain.

This is the topic of a pilot in Bangladesh that is executed with five Dutch companies and organisations, that are supported in the development of their business-case and how to make the best connection with the Dutch financing tools. But it goes beyond that: the business case also shows how the product or service can become sustainably successful without funding. To achieve that, essential local partners must be contacted to make the right business agreements. Ranging from supply contracts to a joint venture enterprise.

The five companies and organisations will gain experience in the coming six months. A workshop in Dhaka will also include Bangladeshi partners. RVO.nl and NWP carry out the pilot, which is managed by the embassy in Dhaka.



WWW.DUTCHWATERSECTOR.COM/BANGLADESH

The Netherlands Delta country
lowest point - 7 m below sea level

