Programme Proposal

The Enabling Delta Life Initiative

Global Programme of Action on Deltas

PROGRAMME DESCRIPTION

2014-06-20

Contents

Abbreviations

ADB	Asian Development Bank
ADM	Adaptive Delta Management
BDP	Bangladesh Delta Plan
CoP	Community of Practice
CWP	Country Water Partnership
CDKN	Climate and Development Knowledge Network
DA	Delta Alliance
EDL	Enabling Delta Life Initiative
EU	European Union
FP	Framework Programme (Research Programme of EU)
IWRM	Integrated Water Resources Management
ICSU	International Council for Science
GIS	Geographic Information Systems
GWP	Global Water Partnership
GWPO	Global Water Partnership Organisation
GSP	Global Support Programme
ICT	Information and Communication Technology
MDP	Mekong Delta Plan
NAP	National Adaptation Plan
NAP-GSP	National Adaptation Plan Global Support Programme (of UNEP)
NGO	Non-Governmental Organisation
OC	Outcome Challenge
OECD	Organisation for Economic Co-operation and Development
PPF	Project Preparation Facility
PPP	Public Private Partnership
RBO	River Basin Organisation
RWP	Regional Water Partnership
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
WACDEP	Water, Climate and Development Programme (of GWP)
WB	World Bank
WP	Work Package

1. Summary of the Enabling Delta Life Initiative: a Global Programme of Action

Context

Being 'hotspots' of human activity with generally high population densities, deltas are vulnerable to changes induced by a range of driving forces, both natural and anthropogenic. In addition to already existing challenges, uncertainty of the possible impacts of climate change, low lying deltas around the world increasingly face challenges to cope with subsidence, flood risk, storms and salinization. Due to on-going urbanization, demographic growth and economic activities, which have to be combined with food production and ecosystem integrity, the demand for sustainable water allocation and sound infrastructure in deltas is omnipresent. Competing demands from a variety of sectors and stakeholders require a transparent dialogue and an enabling governance environment for sound decision-making.

The complex and interrelated issues in deltas need to be specifically addressed to make these deltas more resilient and sustainable for the years to come. For that purpose the Global Water Partnership (GWP) and Delta Alliance (DA) developed the 'Enabling Delta Life Initiative': a Global Programme of Actions on Deltas, with support from the Netherlands International Development Programme (DGIS). This programme will be part of the Global Water, Climate and Development Programme (WACDEP) of GWP and will be jointly implemented by GWP and Delta Alliance.

This document gives an extensive description of the Enabling Delta Life Initiative and will be presented for appraisal by and discussion with potential funding agencies. There is a potential for a modular approach in the implementation of the Initiative, such as initiating the work in specific deltas or targeting specific parts of the programme. Through funding applications the approach will be further refined and enriched.

Objective

The overall aim of the Initiative is to enhance climate resilience and strengthen the governance and adaptive management of delta's worldwide.

The unique structure of the collaboration between GWP and Delta Alliance and GWP are the important assets of extensive international and local networks, as well as strong knowledge on Adaptive Delta Management and Integrated Water Resources Management. The local networks guarantees that grass root delta information is used to develop realistic generic approaches that are technically, ecologically, financially and scientifically sound as well as socio-economically acceptable. Jointly GWP and Delta Alliance offer an important platform at which exchange of knowledge and expertise is taken place among actors at the different scales. This Initiative is a 'knowledge for impact programme' by developing and assembling knowledge in such a way that it can easily be taken up by policy makers and practitioners. As such, knowledge function as a 'catalyser for change' and Delta Alliance and GWP will play an important role as knowledge brokers.

Programme Structure

The Initiative is built around three strategic goals and eight Work Packages (WP) as illustrated in the figure below. WP 5 which includes developed projects in five deltas, and WP 7 on knowledge and awareness raising through Comparative Assessments and the ADM and IWRM Toolboxes, form the backbone of the programme, and the different programme work packages feed into each other and are closely connected.

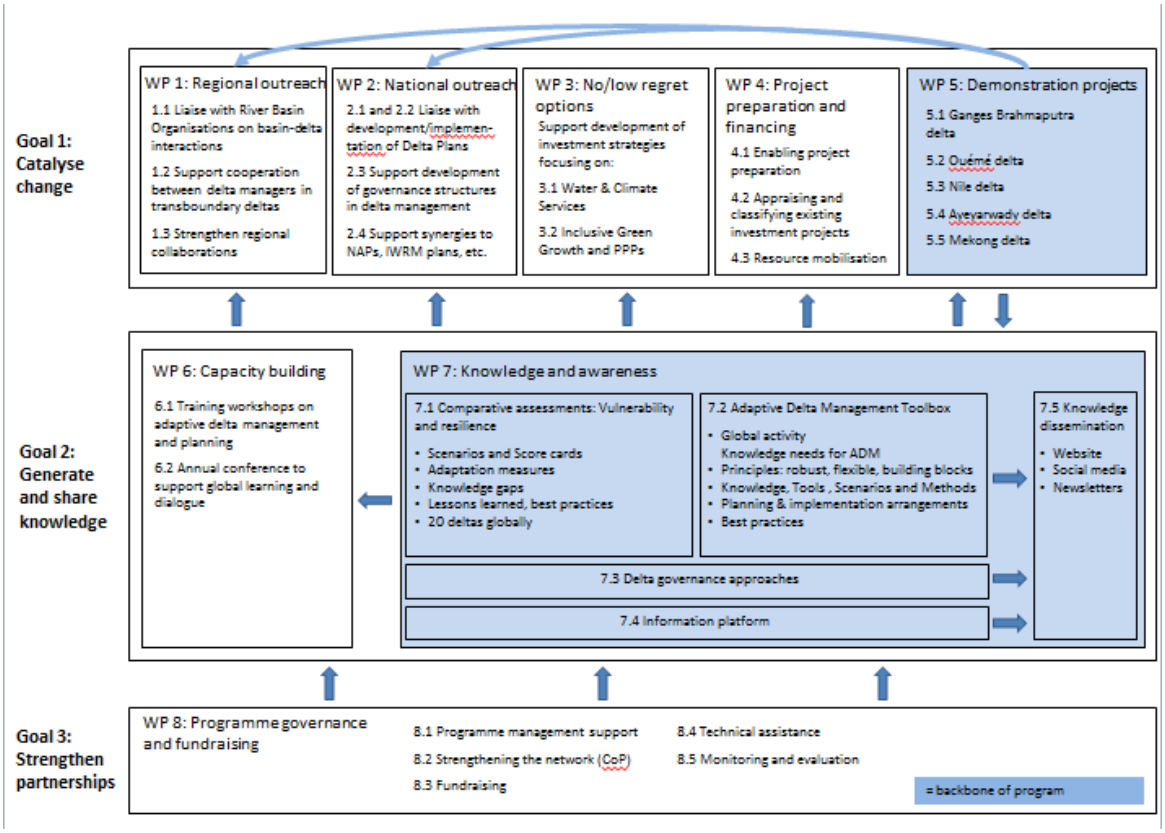

Figure 1 Programme structure

Project backbone

Comparative delta assessments worldwide will highlight vulnerabilities of deltas to climate change and other pressures and allow good targeting of actions. The existing knowledge base will be enriched through further development of the ADM and IWRM Toolboxes, for example through the implementation of the developed delta specific projects. The following delta specific projects (WP5) were formulated during stakeholders' consultation workshops held in 2012 and 2013 in five deltas:

- Ganges-Brahmaputra delta in Bangladesh: Building climate resilience in the Bangladesh delta by managing for effective solutions
- Ouémé delta in Benin: Improve the conditions to ensure sustainable management and to stimulate development in the Ouémé delta
- Nile delta in Egypt: Improve the capability of the farmer community to deal with water stress
- Ayeyarwady delta in Myanmar: Vulnerability assessment and impacts of salinity intrusion on drinking water supply, agriculture, aquaculture/fisheries and nature
- Mekong delta in Cambodia/Vietnam: Improve climate resilience in the provincial Cambodia-Vietnam transboundary Mekong delta

Through the delta specific projects a global understanding of delta systems is translated into local actions. For the application of the projects there is no 'one-fits-all' delta approach. In contrast, tailor made delta approaches are required for each specific case addressing delta issues as illustrated by the five demonstration projects.

The three activities (Comparative Assessments, Toolboxes and Delta projects) are strongly interconnected and will generate new knowledge on how to improve the resilience of deltas, which in turn will feed into a set of capacity building, knowledge sharing and reach-out activities at national, regional and global level.

The Initiative will build on to and collaborate with other existing (inter)national initiatives, networks and organisations dealing with climate change, water management and sustainable delta development, such as CDKN, UNEP, UNDP, UNFCCC, Belmont Forum, etc.

Linkages between work packages

The local demonstration projects need *up-scaling to the national (WP 2) level* (e.g. for the development of national delta plans), as well as to the *greater (transboundary) river basin (WP1) level* (e.g. to inform River Basin Organisations on the impact of upstream activities on the function of the delta system) and to the global level (e.g. to improve the Toolboxes and Assessments). The IWRM and transboundary water expertise of GWP is crucial for this up-scaling. This is an iterative multiple learning exercise for which GWP and Delta Alliance and their networks together form an outstanding platform. This up-scaling approach guarantees that sound generic approaches are formulated based on in-depth local delta knowledge and expertise. In addition, down-scaling of sound generic approaches and inter-delta cooperation can contribute to locally implement the most efficient, effective and innovative delta solutions.

Given the uncertainties with regard to the degree of climate change and its local impacts the Initiative intends also to support national governments and partners in the Delta Alliance and GWP networks in the development of *no/low regret investment options (WP 3)* such as water & climate services (including monitoring activities) and inclusive Green Growth projects.

Since weak project preparation and prioritisation of adaptation interventions is still one of the major factors limiting developing countries from accessing climate funds to support adaptive delta and water management, the programme foresees to assist national governments and partners in the Delta Alliance and GWP networks to *prepare sound project proposals (WP 4)*.

All the activities mentioned above relate to horizontal (e.g. between delta) and vertical exchange of knowledge and expertise between local, national, regional and global levels will contribute to the strengthening of network(s) on delta management. The network will be supported by the *Programme Management Office (WP 8.1), annual conferences (WP 6.2), information platform (WP 7.3), website and newsletters (WP 7.4).* In addition the establishment of a global *Community of Practice (WP 8.2)* on delta management is foreseen.

Programme management and duration

The Enabling Delta Life Initiative will be jointly developed, implemented and managed by GWP and Delta Alliance. It will be overseen by a Joint Steering Committee, consisting of representatives of GWP, Delta Alliance and important funding agencies and cooperation partners.

A lean coordination hub (Programme Office) for the whole programme will be setup and staffed with a programme coordinator, that will be mandated to interact with all parties. This will be a shared responsibility of Delta Alliance and GWPO. The programme management will use up-to-date Project Monitoring and Evaluation procedures, guaranteeing that projects are carried out in a transparent, accountable and efficient way at minimum overhead costs and that global partnerships are strengthened.

The larger part of the programme implementation will be decentralised and managed by the Delta Alliance Wings and the GWP regional and country offices. The global component of the programme will be implemented through Delta Alliance and GWPO, ensuring exchange and technical support to the regional components.

The duration of the programme is at least 3 to 4 years and is negotiable with the potential funding partners.

Budget and funding

The budget of the total program is estimated at 10.2 million Euro. GWPO and Delta Alliance will jointly approach potential funding agencies to raise the funds for the realisation of the Initiative. This document will be presented for appraisal and discussion to potential funding agencies.

Table 1.1: Total Programme Budget (still indicative)

(.000 €)	2014	2015	2016	2017	Total
WP 1 National outreach	100	300	300	300	1,000
WP 2 Regional outreach	100	200	200	200	700
WP 3 No/low regret options	100	300	300	300	1,000
WP 4 Project preparation/funding	50	150	150	150	500
WP 5 Demonstration projects	400	900	900	800	3,000
WP 6 Capacity building	150	250	250	250	900
WP 7 Knowledge generating/sharing	400	600	600	400	2,000
WP 8 Programme management	200	300	300	300	1,100
Total	1500	3000	3000	2700	10,200

2. Background and introduction

2.1. Context and global significance of deltas

Deltas are dynamic and productive systems where people live and have built civilizations for millennia. Throughout the world they host dense populations and are important centres of food production, livelihoods and industry. Although comprising only some 5% of the land area, deltas have up to ten times higher than world average population densities and this number is expected to increase rapidly, especially in the heavily populated mega-deltas in Asia.

Deltas are relatively young landforms shaped by the interplay of coastal and riverine processes. They are of great ecological significance, featuring wetlands of high and unique biodiversity, and are characterized by a mosaic of gradients between land and sea, fresh and saline waters, as well as exposed and sheltered environments. These patterns and dynamic processes are at the basis of the ecosystem services provided by deltas, such as land formation, coastal protection and food from fisheries.

Being 'hotspots' of human activity, deltas are also vulnerable to changes induced by a range of driving forces, both natural and anthropogenic. Under the uncertainty of the possible impacts of climate change, low lying deltas around the world face challenges to cope with subsidence, flood risk, storms and salinization. Due to on-going urbanization, demographic growth and economic activities, which have to be combined with food production and ecosystem integrity, the demand for sustainable water allocation and sound infrastructure is omnipresent. Competing demands from a variety of sectors and stakeholders require a transparent dialogue and an enabling governance environment for sound decision-making.

Assessments for investments are at the core of any delta management framework, whereas cost-benefit analyses addressing both short and long term perspectives are key to develop affordable and no-regret options to intervene as to sustain the well-being of people, their economic activities as well as their safe living environment. Although the above can be said of many water related areas, low lying deltas are most vulnerable to the threats mentioned above, which makes striving for comprehensive and integrated solutions even more urgent.

2.2. Delta Alliance and GWP joining forces: the Enabling Delta Initiative

The complex and interrelated issues in deltas need to be specifically addressed towards developing more resilient and sustainable deltas in the future. In this context GWP and the Delta Alliance with support of the Netherlands International Development Programme (DGIS) are developing a Global Programme of Action titled 'Enabling Delta Life Initiative' with the overall objective to enhance climate resilience and strengthen the governance and adaptive management of delta's worldwide.

The unique structure of the collaboration between GWP and Delta Alliance and GWP are the important assets of extensive international and local networks, as well as strong knowledge on Adaptive Delta Management and Integrated Water Resources Management. The local networks guarantees that grass root delta information is used to develop realistic generic approaches that are technically, ecologically, financially and scientifically sound as well as socio-economically acceptable. Jointly GWP and Delta Alliance offer an important platform at which exchange of knowledge and expertise is taken place among actors at the different scales. This Initiative is a 'knowledge for impact programme' by developing and assembling knowledge in such a way that it can easily be taken up by policy makers and practitioners. As such, knowledge function as a 'catalyser for change' and Delta Alliance and GWP will play an important role as knowledge brokers.

The joint programme will be supported by the GWP Global Water, Climate and Development Programme (WACDEP) and the overall global programme and network of the Delta Alliance. The experiences, knowledge base and networks of Delta Alliance and GWP are complementary in such a

way that the Enabling Delta Life Initiative can become a key platform at which exchange is taken place of knowledge and expertise among actors at the different levels with the common goal to improve the resilience of deltas.

2.3. International context

For some deltas, like the Mekong Delta, Ganges-Brahmaputra Delta and Ciliwung Delta, quite some information is already available among others through the Dutch support for the development of delta plans through the so called Water Mondiaal Program. For many other areas this information is limited and an overview lacking. The existing comparative vulnerability assessment performed by Delta Alliance is partly filling this gap for 10 deltas worldwide. Many UN (related) organizations, national governments, development agencies, funding organizations, NGOs, development banks also need information about the vulnerability of deltas. The following recently taken initiatives are focusing on assessing the vulnerability of deltas and/or sustainable development of deltas:

- Transboundary Waters Assessment Programme (Global Environment Facility (GEF) , UNDP and UNEP - DHI) has asked Delta Alliance to perform a simplified vulnerability assessment for 26 deltas;
- Urbanising Deltas of the World is a research programme of 10 k€ of NWO (Dutch Science Council) to contribute to global water safety, water and food security and sustainable economic development in river deltas worldwide.
- Global Platform for Action Source to Sea Management, recently initiated by GEF, UNDP, UNEP, GWP, SIWI and Delta Alliance;
- Bay of Bengal Large Marine Ecosystems (FAO, GEF) and GWP have asked Delta Alliance to perform a vulnerability assessment of the Ayeyarwady Delta in Myanmar;
- Delta Alliance and GWP have close connections with the Global Programme of Action for the Protection of the Marine Environment from Land -Based Activities (UNEP - GPA);
- Delta Global Sustainability Initiative, founded by several international scientific organizations/ networks such as IGBP, LOICZ, WRCP and IGU. From this initiative, there is a proposal (DELTAS – 'Catalysing action towards sustainability or deltaic systems with an integrated modelling framework for risk assessment') filed with the Belmont Forum, which has been approved. The project is a collaboration between scientists, policy makers and NGOs.
- Also the UNFCCC Adaptation Committee and other bodies engaged in the SDG and Disaster Risk Reduction request adequate information on deltas.

Apart from the mentioned GWP/Delta Alliance initiative, there is no organization or programme that deals specifically with deltas.

2.4. Threats and root causes

As deltas are the terminus of rivers, integrated water resources management (IWRM) is a critical component of delta management. Apart from the threats that emerge due to land-use change, subsidence and sea-level rise, most other threats emerge from changes in water regime and sediments flows into deltas including impacts of climate change. Ten reasons why deltas require special attention from integrated water management are:

1. Invariably, deltas are the **most densely populated** places on earth. Most of the world's megacities are situated in delta areas, and urbanisation rapidly increases. This fact leads to constraints of space and resources, resulting in a multitude of complex and interrelated development and management issues, ranging from spatial urban and land use planning and traffic control to flood protection, land reclamation, water supply and sanitation problems and preservation of nature reserves and ecosystem services.
2. Delta rivers and estuaries have the **highest ecological and economic value** of all ecosystems. Nutrient recycling and food production are the major functions that contribute to this high value. Typical delta wetlands (mangroves, salt marshes, estuaries) are among the most valuable as well

as among the most threatened ecosystems. Many deltas were declared by the governments as biosphere zones protected by national/regional nature protected areas due to their ecological value rather than economic value.

3. Most deltas are moderately to extremely vulnerable to **sediment deficit**. Upstream river developments (such as storage dams) often lead to a reduction of sediment inflow, whereas dikes and embankments often impede lateral sediment dispersion. Together with an on-going sea level rise 24 out of the 33 largest deltas are at serious risk (Syvitski et al., 2009)
4. The geological characteristics of delta soils make them prone to **subsidence**, exaggerated by anthropogenic extraction of ground water, which can lead to extreme subsidence on the short term.
5. Deltas are relatively young landscapes, featuring **highly dynamic geomorphological processes**, such as coastal erosion and accretion and river meandering and avulsion.
6. Delta **soft soils** pose specific challenges to civil infrastructure (such as roads, railways, bridges and tunnels).
7. Their position at the most downstream part of rivers make deltas particularly receptive to **water pollution**.
8. **Flood hazards** come from three different sources: fluvial, coastal and pluvial. A combination of high river discharges with heavy rainfall and extreme tide or storm surge may easily result in disastrous consequences.
9. Droughts in deltas do not only lead to a shortage of water, but also to an increase in **seawater intrusion**. Fresh groundwater reserves are being threatened with seepage of saline water.
10. Most deltas contain **deposits of fossil fuels** (oil, gas), of which their exploitation leads to soil subsidence and environmental challenges, such as risk of leakages and pollution.

Many of the issues above are often strongly interrelated. This calls for inclusive, integrated approaches towards delta development, management and governance under the uncertainty of climate change.

2.5. Vulnerability Assessments and Adaptation options

In a comparative vulnerability and resilience assessment of 10 delta's worldwide by the Delta Alliance (Bucx et al., 2010) it was found that the most important driver of change in the deltas studied is climate change. The impacts of climate change are expected to have (on the medium and longer term) medium to severe impacts in seven out of ten deltas studied, including impacts like sea level rise, resulting in higher flood risk, salt water intrusion and coastal erosion, increase in extreme weather events, and changes in the distribution, quality and extent of ecosystems. The same study found also the following cross-cutting issues in all the deltas studied:

- An imbalance between demands and supply with regard to land and water use;
- An inadequate or ageing infrastructure in the delta;
- Disruption of the natural delta processes;
- Inadequate governance to address problems and implement solutions.

In order to understand how the drivers lead to changes in the pressures and state of the delta, a multitude of relations between human activities, and physical and ecological delta conditions needs to be accounted for. To provide insight into this complex system, a simplified structure is applied in the form of a *Layer model* (Marchand & Ruigh, 2009) linked with the DPSIR approach (OECD, 1993). The Layer model recognizes three physical planning layers (figure 2.1): the **Base layer** (water and soil), the **Network layer** (infrastructure) and the **Occupation layer** (zoning of land use functions), each with different but interrelated temporal dynamics and public-private involvement. The model indicates a physical hierarchy in the sense that the Base layer influences the other layers through both enabling and constraining factors. For instance, the soil type determines to a large extent the type of agriculture that can be performed in the Occupation layer.

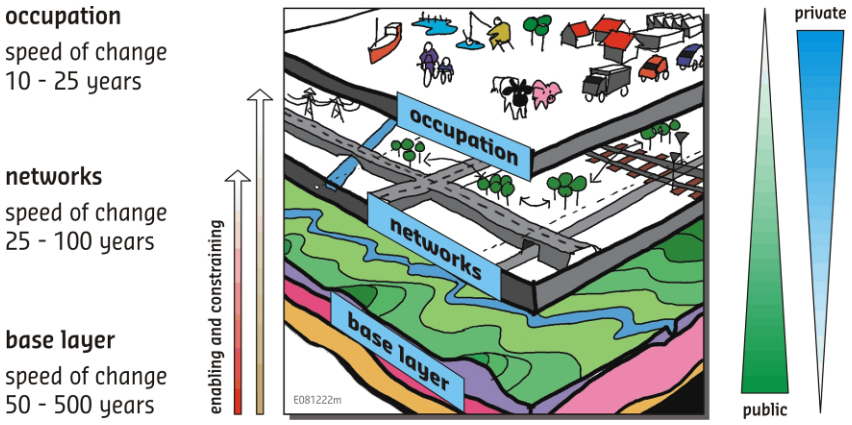

Figure 2.1 The spatial layer model

Figure 2.2 summarizes main delta issues as a sequence of drivers, pressures, impacts, governance and responses for each of the three layers

DRIVERS	PRESSURES/IMPACTS	GOVERNANCE	RESPONSES
Demographic trends • population in delta • migration **Economic developments** • status of economy • sectoral developments • upstream development **Technological developments** • food / agricultural • civil engineering • ITC • energy generation **Climate change** • temp./evaporation • sea level rise • precipit./discharge **Subsidence** • natural and human induced subsidence	**Land and water use (Occupation layer)** • pressure on space • shift in land use/urbanization • water demand • flood vulnerability **Infrastructure (network layer)** • flood protection system • irrigation and drainage • water supply & sanitation • roads, railways & ports **Natural resources (Base layer)** • freshwater shortage • salinity intrusion • water pollution • flood hazard • coastal/fluvial erosion • loss of biodiversity and wetlands • sediment supply • mobility of delta distributaries	**Multi-level and multi-sectoral cooperation** **Public-private partnerships** **Involvement of stakeholders and citizens** **Approaches for dealing with risks and uncertainties**	**Development and adaptation of land and water use** • multifunctional land use • land use zoning • water saving • flood preparedness **Extension/revitalization of infrastructure** • land reclamation • multifunctional use of infrastructure • building with nature **Management and restoration of ecosystems** • protected areas management • habitat restoration • ecological engineering • environmental flows • multiple use of wetlands • ecosystem approach

Figure 2.2 Interaction in deltas between Drivers, Pressures, Governance and Responses

In summary it can be concluded that:

- The use of the Framework for Delta Assessments can effectively contribute to an increased insight in the strengths and weaknesses of existing delta management. It requires additional work however, to include institutional structures and governance issues.
- Sustainable solutions to delta problems can only be found when land use, infrastructure and the natural environment and resources are taken into account in an integrated manner.
- Governance for deltas should start with identifying stakeholders in each of the three layers and with acknowledging that ownership and management responsibilities for each of them is fundamentally different.
- Climate change is an important driver of change on the medium and long term, but is on the short term in most deltas subordinate to more urgent issues, such as population and economic growth, rapid urban and industrial development and subsidence.

2.6. Toolbox for Adaptive Delta Management

Adaptive Delta Management is a policy concept put forward by the Dutch Delta Programme as a means to deal with the uncertainties of climate change and socio-economic developments in delta areas. Due to these uncertainties, policy decisions with an envisaged robustness and long term impact are regarded difficult in terms of the scale of measures, associated costs and timing. With adaptive delta management, such considerations are taken into account explicitly, thus facilitating decision making processes and the actual implementation of integrative adaptation plans and strategies. A method fostering this approach has been developed, consisting of eight steps building upon the adaptation pathways method. It facilitates the development of adaptive strategies response to climate and socio-economic scenarios and vulnerability analyses, consisting of measures for the short term, anticipative actions, possible threads, monitoring and possible transfers to other strategies. It can be geared to specific thematic adaptation issues, such as protection against flooding, fresh water availability for various uses (e.g. drinking water, irrigation and other agricultural practices, industry), sanitation, land use options, urban development and planning.

In addition to the Dutch Delta Programme and its Knowledge for Climate knowledge base, various delta development approaches have been described or proposed recently in other deltas abroad, often inspired by the Dutch Delta Approach, e.g. in Vietnam, Indonesia, USA-Louisiana, USA-California, USA-New York.

On the basis of these experiences and concepts Delta Alliance has started to develop a Toolbox for Adaptive Delta Management. This activity will be further developed and assimilated in the framework of the Enabling Delta Life Initiative.

2.7. Toolbox for IWRM

The IWRM ToolBox is a repository of tools for better water resources management and comprises of diversity of tools, background papers, case studies and reference documents. These help managers moving from sector oriented measures to apply integrated approaches to manage water connected sectors appropriately. The characteristics of each tool allow a user to select a suitable mix and sequence of tools that can work in a given country, context and situation. The IWRM ToolBox organizes the tools into three domains: those which create the 'enabling environment' i.e., the laws, investments and policies which are the framework for other tools; 'building of appropriate institutions', and capacity building within these institutions; and finally 'management tools', all of which can be used in an integrated way. The problems faced by water managers are many and diverse, as are the political, social and economic conditions. The IWRM ToolBox is therefore not prescriptive per-se; there is no set blueprint for reform which will yield good results in all countries. Policy makers will need to make judgments about which reform measures, management tools or institutional arrangements are the most appropriate in a given cultural, social, political, economic and environmental circumstances to provide the contextual setting for the right reforms. The same is valid for specific issues in management of Delta zones. Hence the IWRM ToolBox is an essential instrument to complement the proposed 8-steps cycle of adaptive management methods (chapter 2.4) of Adaptive Delta IWRM ToolBox

3. Programme Development

3.1. Preparatory phase

Launch of the initiative during Stockholm WWW 2012

To develop this initiative, two workshops were held in Stockholm in August 2012, in which the joint GWP – Delta Alliance 'Enabling Delta Life Initiative' was launched. Input for the workshops was provided through a discussion paper and an electronic platform discussion. The two workshops featured case study presentations covering a wide spectrum of delta types and management challenges from Africa and Asia.

In both of these workshops water and delta management experts from Bangladesh, Benin, Cambodia, Vietnam, Egypt, China, Indonesia and Thailand presented ongoing initiatives and articulated specific priorities and actions towards enhancing the impact of these initiatives.

Discussion paper

A follow-up paper entitled '*Enabling Delta Life: What Makes Managing Land and Water in Deltas Different?* ', including the results of the electronic platform discussion and the presentation and the results of the workshops was published in March 2013.

The paper describes also the potential and the need for this program. Considering the priority challenges articulated by the country representatives, the agreed long-term objective of this initiative is to promote the sustainable development, management and adaptation of delta systems through adaptive governance and planning, sound economic instruments and innovative financing. To this effect, a series of activities was initiated to develop a phased Global Programme of Action highlighting key pilot activities in selected deltas with critical management challenges.

Delta stakeholder consultation meetings

Working with GWP Country Water Partnerships and GWP Regional Offices and Delta Alliance Wings, the aim was to consolidate agreements and partnerships with key stakeholders (government agencies, local Universities, research institutions, NGOs, etc.) and develop key objectives, outcomes and work plans through stakeholder consultation meetings at the country level. This proposal is predicated by the needs articulated at the Stockholm workshops and in the country workshops.

To date five consultation meetings have been held in Bangladesh, Benin, Egypt, Myanmar and Vietnam-Cambodia. During and after these meetings concrete proposals have been formulated for demonstration projects to be implemented in these five deltas. The demonstration projects are a core activity of the overall program.

The progress of the programme preparation was presented and discussed during a session at the Stockholm World Water Week 2013 with presentations on the results of the workshops held in Myanmar, Benin and Bangladesh.

The other deltas represented in the Stockholm 2012 workshops where no country workshops have yet taken place (Indonesia, Thailand, China) can be included at a later stage in the programme in close consultation between GWP and Delta Alliance and once funding for the programme has been assured.

3.2. Goals and Principles of the Programme

3.2.1. Goals

The overall goal of the Initiative is to enhance climate resilience and strengthen the governance and adaptive management of delta's worldwide.

The programme is organised around three (3) **strategic goals**, that are commonly used by GWP for programme formulation and evaluation and monitoring purposes and that are now also adopted for this programme:

Strategic goal 1: Catalyse change

This goal focuses on improving delta and water resources management putting adaptive delta management and IWRM into practice to support countries and regional organisations towards growth and water security emphasizing an integrated approach, good governance, appropriate infrastructure and sustainable financing**.** In doing so, it also focuses on contributing to and advocating solutions for critical challenges to delta resilience and water security, such as climate change, appropriate governance, urbanisation, food, energy, ecosystems, transboundary water management and other challenges as they emerge

Strategic goal 2: Generate and share knowledge, create awareness and build capacity

This goal focuses on generating knowledge, creating awareness and developing the capacity to share knowledge and to promote a dynamic communications culture, so as to support better delta and water management**.**

Strategic goal 3: Strengthen partnerships

This goal focuses on enhancing the network's resilience and effectiveness through stronger partnerships within and between deltas, good governance, measuring performance to help learning and financial sustainability.

This concept is schematically illustrated in the figure 3.1 below.

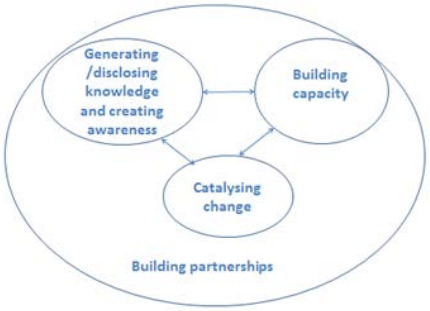

Figure 3.1. Relations between the strategic goals

3.2.2. Principles

For the Enabling Delta Life Initiative the following **principles** do apply:

Knowledge for impact

Action is required to improve delta resilience towards all the challenges deltas are currently facing. This Initiative is therefore a 'knowledge for impact programme' and not a 'science for science programme'. This Initiative will guarantee a permanent knowledge flow between the 'producers' and the 'users' of the knowledge and vice versa. In this way knowledge functions as a 'catalyser for change'.

Think Global, Act Local

There exists a good understanding of the many threats jeopardizing delta's worldwide. In this respect the Comparative Assessment Tool helps to categorize and prioritise these different threats. This is important because it helps in speaking a common language which in turn is essential to put deltas on the agenda of policy makers and donors. This general understanding will be translated into in delta-specific actions.

Inter-delta knowledge exchange

The evidence shows that inter-delta exchange of knowledge and expertise is essential for finding effective, efficient, sustainable and innovative solutions for the delta problems worldwide. Because many deltas share the same problems, solutions developed in one delta may be applicable in other deltas. Likewise, this shared learning can only occur when there is a systematic process put in place to capture lessons and create partnerships across deltas. This can be achieved by on-the-ground initiatives where GWP and Delta Alliance will facilitate the better management of deltas through the provision information, capacity and knowledge.

No One-Fits-All approach

Given this general understanding, action on the ground needs to be local as specified in the different demonstration projects. This is necessary because there is no one-fits-all delta approach. In contrast, tailor made approaches are required each addressing specific delta issues. Toolboxes for IWRM and Adaptive Delta Management (ADM) can help to find local solutions.

Actions interlinked at all scales

From local to national, river basin and global scale (and vice versa). The envisaged local demonstration projects need up-scaling first to the national level, next to the greater river basin level and eventually to the global level. The IWRM expertise of GWP and the ADM expertise of Delta Alliance are crucial for this up-scaling. This up-scaling approach guarantees that sound generic approaches are formulated based on in depth local delta knowledge and expertise. Vice versa, sound generic approaches are essential in a downscaling approach to locally implement the most efficient, effective and innovative delta solutions.

Innovation

The newest technologies and approaches will be scouted, made available (e.g. through the Toolboxes), tested and adapted to the local conditions, and finally through up-scaling applied at national and regional level. New technologies could include for instance the use of Remote Sensing (and GIS) for data scarce regions, and the application of new ICT and social media technologies in approaching stakeholders. New approaches will be introduced with regard to the governance of complex and complicated issues like delta management and water security.

Inclusive Green Growth and Public Private Partnerships

Inclusive Green Growth can be defined as an effective strategy to stimulate economic growth (making profit, jobs, products, and provide food supply security) in rural and urban areas to ensure poverty eradication and quality of life for all, without overexploitation of the natural resources. Stimulating inclusive green growth in Deltas, can provide new chances for a sustainable development. Exploring opportunities from the circular economy can benefit from utilizing local resources and ecosystems available. It can attract new businesses or stimulate the extension of existing ones. Likewise, given environmental and societal challenges call for new solutions. Engaging in open innovation platforms and other instruments to stimulate inclusive green growth will widen the solution space. Eco-innovation options contribute to securing existing business. However, all require a proactive policy support, a close interaction with the private sector, and finally some targeted financial instruments to initiate the cooperation. By using the good experience from launching Public-Private-Partnerships (PPPs), the Programme will develop targeted policies for the successful initiation of local PPPs.

Transformation from Government to Governance

The world water crisis is also a crisis of governance and not only a crisis of scarcity or surplus of water. This requires a transformation from government to governance in which the whole range of institutions and relationships are involved. Aspects of governance include: multilevel participation, public institutions, civil society, relationships between laws-regulations- interactions-organizations-processes, transparency, and accountability.

Stakeholder ownership

Stakeholder ownership in this programme is gauged by two factors, at the workshops held in Stockholm in August 2012 representatives closely involved in water and delta management in their respective countries presented ongoing initiatives and articulated specific priorities and actions towards enhancing the impact of these initiatives. These priorities and actions were further elaborated during the country stakeholder consultation meetings in the Ganges/Brahmaputra Delta in Bangladesh, the Ouémé Delta in Benin, the Nile Delta in Egypt, the Ayeyarwady Delta in Myanmar, and in the Mekong Delta in Cambodia/Vietnam. The outlines for the proposals for demonstration projects in the respective deltas were formulated during the stakeholder consultation meetings. In accordance to the budget available and the wish of donors, the number of delta's can be expanded.

3.3. The structure of the programme: Work Packages

3.3.1. Work Packages

The Enabling Delta Life Initiative comprises eight (8) Work Packages (as commonly used by GWP) connected to the three (3) strategic goals:

Strategic goal 1: Catalyse change

- **WP 1**: Regional and transboundary cooperation
- **WP 2**: National development and delta plans
- **WP 3**: Development of 'no/low regret' investments and financing strategies
- **WP 4**: Project preparation and financing
- **WP 5**: Demonstration projects in specific deltas

Strategic goal 2: Generate and share knowledge, create awareness and build capacity

- **WP 6**: Capacity Development
- **WP 7**: Knowledge and awareness

Strategic goal 3: Strengthen partnerships

- **WP 8**: Programme governance, fundraising, Communities of Practice

3.3.2. Coherence between the Work Packages

Action is required to improve delta resilience towards all the challenges deltas are currently facing. This programme is a 'catalyser for change' putting existing knowledge that can easily be taken up by policy makers and practitioners into practise.

Work Packages 5 and 7 constitute the backbone of the programme. With focus on knowledge for impact, the programme will support adaptive delta management through the *Comparative Vulnerability Assessment tool (WP 7.1)* which is already available, and the *Toolbox for Adaptive Delta Management (WP 7.2)* which is under development by Delta Alliance. These, together with the IWRM Toolbox of GWP provide strong instruments, tools, methodologies and approaches for sustainable, adaptive delta management.

As it is believed that the world water crisis is also a crisis of governance and not only a crisis of scarcity or surplus of water, special attention will be given *to governance issues (WP 7.3)*, including multilevel participation, public institutions, civil society, relationships between laws-regulations-interactions-organizations-processes, transparency, and accountability.

Given this general understanding of delta challenges and these globally applicable tools, concrete actions on the ground need to be local as specified in the different *demonstration projects under WP 5.* In this way a global understanding of delta systems is translated into local actions. As described there does not exist a one-fits-all delta approach. In contrast, tailor made delta approaches are required each addressing specific delta issues as illustrated by the five demonstration projects.

These three activities (Comparative Assessments, Toolboxes and demonstration project) are strongly interconnected and will generate new knowledge on how to improve the resilience of deltas- This will feed into a set of capacity building, knowledge sharing and reach-out activities at national, regional and global level.

The local *demonstration projects (WP 5*) connect to both *national level (WP 2)* through the support to the development of national delta plans, as well as to *river basin level (WP 1)* through information to River Basin Organisations (RBOs) about the impact of upstream activities on the function of the delta system. Finally the demonstration projects feed into the global level e.g. through further development of the *Toolboxes (WP 7.2) and Assessments (WP 7.1)* and through *Capacity Building (WP 6)*. Thus, although under a separate work package, the demonstration projects feeds into and are closely connected to other work packages and to different levels. The IWRM and transboundary

water expertise of GWP is crucial for this up-scaling at the transboundary level. Up-scaling to each level is an iterative multiple learning exercise for which GWP and Delta Alliance together form the most outstanding platform. This up-scaling approach guarantees that sound generic approaches are formulated based on in-depth local delta knowledge and expertise. In addition, down-scaling of sound generic approaches and inter-delta cooperation can contribute to locally implement the most efficient, effective and innovative delta solutions.

Extensive attention is being paid to *capacity building (WP 6), knowledge sharing (WP 7.4, WP 7.5), development of no/low regret options (WP 3)*, and *project preparation and fundraising (WP 4)*.

Finally WP 8 describes aspects of programme management using up-to-date Project Monitoring and Evaluation procedures at the small, central Delta Alliance and GWP offices guaranteeing that projects are carried out in a transparent, accountable and efficient way at minimum overhead costs and that global partnerships are strengthened.

Figure 3.2 below indicate the interconnections between the work packages.

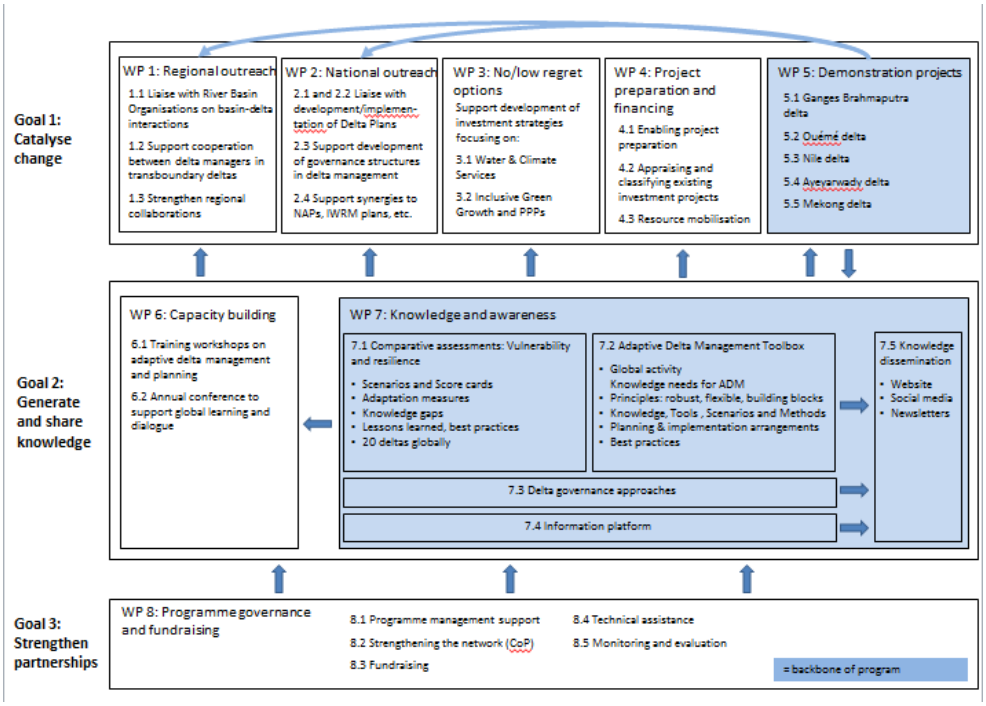

Figure 3.2: Programme structure

4. Goals, objectives and activities

The *overall goal* of the Initiative is to enhance climate resilience and strengthen the governance and adaptive delta management of deltas worldwide by facilitating learning, information management and knowledge development amongst delta managers and relevant stakeholders.

The *overall objective* is to enhance the efficiency and effectiveness of delta management initiatives by strengthening experience sharing and learning, dialogue facilitation, targeted knowledge sharing and replication by delivering tangible results through integrated and adaptive delta and water resources management approaches for climate change adaptation. Each work package has designed activities to support the achievement of its objective.

4.1. Goal 1 – Catalyse change

4.1.1. Work Package 1: Regional and transboundary cooperation

WP 1.1 To assist in the development of integrated basin-wide management approaches that pay special attention to the impacts on deltas

Deltas are integral parts of river basins and drivers of change and corresponding management responses upstream in the river basin can often have serious impacts on the functioning of the delta. In earlier studies Delta Alliance has identified 84 important deltas worldwide, of which 40 are part of transboundary river basins. For instance, climate change (resulting in e.g. changing rain fall patterns or melting of glaciers), national policies, construction of dams, water extraction for irrigation, land degradation and water quality degradation through increased urbanisation and industrialisation are just a few factors that can have serious impacts on the hydrodynamics of a delta and the ecosystem services that it provides. Therefore, the sustainable management of deltas cannot be considered in splendid isolation from what is happening elsewhere in the basin.

WP 1.2 To stimulate and support cooperation between countries in transboundary deltas and if feasible across the basins

Cooperation between countries as well as regional cooperation between deltas can largely contribute to an appropriate adaptive management of the delta, and will be promoted through this programme initially focusing on strengthening cooperation between the deltas in Vietnam/Cambodia, Myanmar, and Bangladesh.

WP 1.3. To enhance collaboration between regional climate change centres, centres/platforms for disaster risk reduction, RBO's and organisations involved in delta management

Climate change is widely recognised as contributing to migration pressures and thus threatening peace and human security. Especially the flood hazards coming from three different sources (fluvial, coastal and pluvial) may result in disastrous consequences in generally densely populated, low-lying deltas such as the Ganges-Brahmaputra Delta and the Ayeyarwady Delta. This programme aims to strengthen collaboration between regional climate centres, water management institutions and regional centres or platforms supporting disaster risk reduction to develop sound adaptation responses which can build resilience and promote stability in communities in connection to these risks. Therefore, dialogue platforms will be facilitated to address deltas issues in the upstream planning and operations and maintain close cooperative ties on the basin levels.

4.1.2. Work package 2: National and delta development plans

WP 2.1. and WP 2.2: Liaise with the Development and Implementation of Delta Plans

There is an emerging need to develop, test and apply new approaches to delta planning. Many of the world's deltas face serious challenges when it comes to accommodating economic progress under future uncertainties such as climate change, global fluctuating markets and socio-cultural dynamics. The centralized policy of planning and control is gradually changing towards a decreased involvement

of national institutions and increasing responsibility of local authorities, communities, civil society and private sector. New approaches in planning, design, technology (application) and governance are therefore needed, in which adaptation to an uncertain future is a major requisite.

In several deltas worldwide national governments have undertaken or are planning to undertake the development of so-called Delta Plans. The Netherlands has developed the Dutch Delta Plan and has supported Vietnam in developing the Mekong Delta Plan in Vietnam. Cambodia and Vietnam formulated recently for the shared upper part of the Mekong Delta the transboundary project on IWRM under the World Bank financial support through the Mekong River Commission. The objective of this project is to strengthen the transboundary dialogue on Water Resources Management issues identifying and agreeing the Significant Water Management Issues (SWMI) for which a joint delta monitoring plan will be developed.

Bangladesh, after having formulated a Bangladesh Delta Vision has just started to develop also a comprehensive Delta Plan for the Ganges-Brahmaputra Delta. Myanmar is currently formulating an IWRM strategy, which might ultimately also result in an Ayeyarwady Delta Plan. Similar efforts are on the way for the Ouémé Delta in Benin. With these examples it has become clear that many countries feel the necessity to develop integrated management plans for their deltas in order to adapt to changing conditions.

GWP and Delta Alliance will discuss and secure the linkages with the ongoing development of Delta Plans, as to optimize the use of resources and to avoid duplicating or un-necessary parallel activities in isolation.

Delta Alliance intends to support these new approaches in adaptive delta management through the development of the Toolbox for Adaptive Delta Management (ADM) (See also WP 7.2). The applicability of the ADM-Toolbox will be tested in this WP.

This Work Package will also pay special attention to the involvement of local stakeholders in the planning process. This issue will get even more particular attention in WP 5.1, which can serve as a demonstration project for how to involve stakeholders at all levels in a complex trans-disciplinary planning process. Also the other Demonstration Projects (WP 5) will contribute to the deliver input for the Delta Plans.

WP 2.3: Development of Governance Approaches

The development and implementation of Delta Plans needs often a change in governance approaches. Input for this will be provided by a global study of governance approaches (WP 7.3). Aspects of governance include: multilevel participation, public institutions, civil society, relationships between laws-regulations- interactions-organizations-processes, transparency, and accountability. The deliverables WP 7.3 that will be used for this WP 2.3 will consist of: i) updated and improved toolboxes and approaches, ii) improved governance structures and iii) access to data and case studies.

WP 2.4 Support other national plans

In alignment with the GWP Water, Climate and Development Programme it is observed that there is a need to ensure coherence and synergies among plans for IWRM, NAPAs, NAPs and other water and land related plans such as plans for disaster risk reduction through floods and droughts.

To ensure that improved resilience for deltas, water security and climate resilience are taken on board when making investment decisions, there is need to work with government officials responsible for coordinating national economic development and investments to make adjustments to existing policies, institutional coordination arrangements and planning processes so that adaptive

delta management, water security and climate resilience become part of the development and investment decision-making processes.

4.1.3. Work Package 3: Development of no/low regret investments

Given the uncertainties with regard to the degree of climate change and its local impacts the Initiative intends also to support national governments and partners in the Delta Alliance and GWP networks in the development of 'no/low regret' investment options such as water & climate services (including monitoring activities) and Inclusive Green Growth projects.

WP 3.1 Water & Climate Services

The world's climate is changing into more extreme events of rainfall and temperature resulting in floods, droughts, and typhoons. Many meteorological stations collect data on the weather conditions, however, due to the changing weather conditions these historical data are not very reliable for future projections to be used in the design of water infrastructure, and in addition to this many regions do not have such monitoring infrastructure available. To cope with a changing climate and build resilience despite uncertainties in predicting future behaviours of water resources due to unavailable advanced technologies, there is a need to develop 'no/low regret' investments in regional and national delta development.

Water related decision processes and operations require optimal understanding of the impacts of proposed measures and investments on related sectors such as food production, energy supply, spatial planning, climate adaptation, etc. Assessments that not only address vulnerability and resilience, but also socio-economic dimensions and trade-offs between sectors under different scenarios, are key to underpin sound decision making for investments in the water sector.

The World Meteorological Organisation uses 'Water and Climate Services' to describe the interaction between climate (-change) and water resources management. Water and Climate Services have been identified also in the Delta Alliance report 5: Assessments for Investments (Bergh, D. van den, et al. 2012) as good examples of 'No/Low regret' investment for climate change adaptation.

Water and Climate Services as 'no/low regret' investments can include:

- early warning systems;
- risk communication;
- rapid assessment systems for global flood risk changes with a translation to regional and local scale;
- community based flood protection;
- ecosystem management and restoration;
- awareness raising and education (WP 6 and WP7);
- vulnerability and resilience assessments (WP 7.2);
- monitoring and analyses of causes and impacts of urbanisation, (reduced) sediment load, subsidence, salinity intrusion, bad water quality, etc. Good monitoring is needed for evidence based adaptation.

It is proposed that this WP will focus on two deltas where an Integrated Delta Plan has already been developed (e.g. Mekong) or is under development (e.g. Ganges-Brahmaputra). The activities and current and future experiences with 'no/low regret' investments in the two deltas will be actively exchanged between the two deltas concerned. The final choice of the two deltas can be made during the inception phase of the programme.

Assessments approaches will be developed for the selection and prioritization of specific 'no/low regret' investments. These approaches will be inspired among others by three approaches used in other projects and described in the Delta Alliance report 5 (Berg, D. van den et al., 2012).

WP 3.2 Introducing the concept of Inclusive Green Growth and PPPs

Inclusive Green Growth can be defined as an effective strategy to stimulate economic growth (making profit, jobs, products, and provide food supply security) in rural and urban areas to ensure poverty eradication and quality of life for all, without overexploitation of the natural resources. Stimulating inclusive green growth in Deltas, can provide new chances for a sustainable development. Exploring opportunities from the circular economy can benefit from utilizing local resources and ecosystems available. It can attract new businesses or stimulate the extension of existing ones. Likewise, given environmental and societal challenges call for new solutions. Engaging in open innovation platforms and other instruments to stimulate inclusive green growth will widen the solution space. Eco-innovation options contribute to secure existing business. All however require a proactive policy support, a close interaction with the private sector, and finally some targeted financial instruments to initiate the cooperation. By using the good experience from launching PPPs, the Programme will develop targeted policies for the successful initiation of local PPPs.

4.1.4. Work Package 4: Project preparation and fundraising

WP 4.1 Support and enable project preparation

Weak project preparation and prioritisation of adaptation interventions is still one of the major challenges limiting developing countries from accessing climate funds to support adaptive delta and water management. The funds and their access modalities are often not very well known and capacity to prepare good projects that can attract funding is low.

WP 4.2 Appraising and classifying investment projects

Financing needs to be approached systematically, starting with ways of minimising the financing requirements through efficiency and other matters, enhancing internal cash generation, budgetary flows and ODA, and leveraging commercial funding using available risk-sharing devices. Therefore, technical assistance will be required to enable partners in developing countries to prepare well prioritised projects that can attract funding form climate funds and others.

WP 4.3 Support resource mobilisation

Delta Alliance and GWP will work closely with partner organisations (e.g. RBOs), development banks, and other funding agencies in project preparation, and will liaise with the UNEP-GEF and UNDP-GEF to help access climate funds under the Global Environment Facility (GEF). Also the possible funding mechanism under the Convention on Biological Diversity (CBD) will be explored, being the only global convention that is not under the UN system. Developing and maintaining good connections with potential donor agencies is essential.

Overall output of the Work Package will be:

- Support package and training to countries/organisations/Delta Alliance Wings/RWPs/CWPs in the development of projects focused at improved delta and water management
- Project prioritization and preparation that can attract funding
- More inter-delta cooperation projects

4.1.5. Work Package 5: Demonstration projects - developing and implementing pilot activities in specific deltas.

Strategic regional context – five deltas Identified

Five deltas will be targeted as focus for the implementation of the Global Programme of Action: Enabling Delta Life. The proposed deltas are: Ganges/Brahmaputra Delta in Bangladesh, Ouémé Delta in Benin, the Nile Delta in Egypt, Ayeyarwady Delta in Myanmar and Mekong Delta in Cambodia/ Vietnam.

During 2013 stakeholder workshops were held in the mentioned countries to articulate further the key objectives and outcomes for the pilot activities in each country or region, and also to strengthen

key partnerships (government agencies, local universities, etc.). In each delta a demonstration project has been identified and formulated that can strategically complement and add value to on-going activities in the respective deltas. Detailed proposals for these demonstration projects are available for the Nile, Ouémé and Ganges-Brahmaputra Deltas, and the one for the Mekong Delta will soon become available. For the Ayeyarwady Delta the subject for the demonstration project has been identified, but the detailed proposal will be prepared during the planned (mid-2014) 2nd phase of the Vulnerability Assessment Study. The separate delta proposals can be found in Annex 1-5.

WP5.1 Building climate resilience in the Ganges - Brahmaputra delta in Bangladesh by managing for effective water solutions

Bangladesh is at the risk of multiple hazards like floods, droughts, cyclones and storm surges, impeded drainage, sea level rise, salinity intrusion, river and wave erosion as well as arsenic contamination of ground water. Flooding is the major cause of crop damages and agricultural droughts restrict crop productivity. Water and soil salinity hampers agricultural production in the coastal regions. Cyclones and storm surges cause widespread damages to crops, saline contamination of drinking water and affect life and livelihood of the communities. Being a lower riparian country, it is heavily dependent on the water flows from the upstream. The increasing reduction of trans-boundary flows is now evident both in the monsoon and dry season due to upstream uses and storage. Trans-boundary upstream uses of water and the seasonal variation of availability of water, coupled with the competing demands of water for the water supply and sanitation, agriculture, industry, fisheries and wildlife, navigation, hydropower and recreation as well as the environment and the preservation of water bodies have made the management of water resources a very challenging task.

On the basis of the outcome of the stakeholders' meeting held on 27 February 2013 in Dhaka, a proposal for a demonstration project on "Building Climate Resilience in the Bangladesh Delta: Managing for Effective Water Solutions" was developed. This project proposal has been designed in such a way that the output of the project will be useful and provide vital support to the government for its successful preparation and implementation of the Bangladesh Delta Plan (BDP) 2100, especially in the water sector. The main objective of the demonstration project is to perceive the multifaceted water problems in the delta region holistically through stakeholders' participation and to provide contemporary, pragmatic and synoptic solutions through empirical and analytical study for effective, efficient and sustainable water resources management and building climate resilient communities in order to support the formulation of BDP 2100.

The specific project objectives are to:

1. Compile 'success stories' in tackling the issues related to disaster risk reduction, climate change and water resources management for learning from these, and translating them into policy and implementation actions;
2. Conduct a case study in a selected coastal polder to identify delta issues and their effective solutions from stakeholders' perspective;
3. Assess the impact of trans-boundary flows on the coastal polder selected for case study by mathematical model;
4. Develop scenarios on climate change and economic growth in order to assess the impact of climate change on economic growth;
5. Conduct national dialogue on delta issues and their effective solutions to assist BDP Team in preparation of the Delta Plan;
6. Develop innovative financing mechanism for implementing programs of Delta Plan, and
7. Develop a framework that would guide the management and sustainable development of deltas worldwide and the Bangladesh Delta Knowledge Portal to share experiences and building capacity.

The project has been designed to provide a platform for dialogue between the communities, implementing agencies, NGOs, other stakeholders, policy makers and development partners for better perception on the water and climatic issues in the Bangladesh delta, promoting enhanced understanding of the delta issues and coordination among the stakeholders to create a balance between the peoples' demands and environmental needs.

WP 5.2 Support conditions improvement in the Ouémé delta in Benin to stimulate its development and to ensure its sustainable management

The Ouémé delta has good potentials for agriculture, wetland development and ecotourism. The lower part of the delta has many possibilities for agricultural development in the off season. However, these potential possibilities are more and more compromised by various problems such as: i) over exploitation of the wetland area leading to the disappearance of fish species; ii) pollution from oil products; iii) erosion of river banks; iv) general eutrophication; v) invasion of aquatic plant species; vi) conflicts between fisherman and other users of the delta; vii) recurrent flooding aggravated by climate change.

On the basis of the outcome of the stakeholders' meeting held on 10 and 11 December 2012, a proposal for a demonstration project on "adaptation and management of deltas: the case of the l'Ouémé delta in Benin" was developed. The general objective of the project is to improve the Ouémé delta conditions to stimulate its development and to ensure its sustainable management by knowledge exchanges with partner countries of the Delta Initiative and by carrying out experiments and evaluations.

Within this context, the specific objectives of the project are to:

1. Promote stakeholders' capacities for sustainable management of the delta through promotion of dialogue and exchanges between stakeholders within and between deltas;
2. Promote scientific and indigenous knowledge on the delta dynamics and its resilience to climate change;
3. Elaborate decision-making tools for the delta management, and
4. Develop sustainable exploitation and restoration initiatives through the promotion of adapted technologies and innovating financial access.

Institutional actors include Directorate General of Water Management (DGEau), Directorate of Fisheries (D/ Pêches), Directorate of Agriculture (DAGRI), Rural Engineering Directorate (DGR), Animal Raising Directorate (D / Elevage), Urban Management Directorate (DAT), General Directorate of Environment (DG/Environment), Benin Environmental Agency (ABE), Public Health Directorate (DNSP), Universities and Research centers, Prefectures and communes. Local actors include NGO, Civil Society Organization (OSC), Delta Natural Resources Users Associations and Private sector.

WP 5.3 Improve the capability of the farming community to deal with water stress in the Nile delta in Egypt

In Egypt the agricultural sector is not only the highest consumer of Egyptian water (85%), but also the highest national employer in terms of the amount of labour having farming related jobs. It has been expressed in more than one instant on the national and regional scale that water consumption must be put to the most economical use, and in that sense, it has been speculated that the Industrial Sector is the most profit producing sector, however the importance of the job creating potential provided by the agricultural sector will always guarantee its priority in Egypt.

In general, climate change will result in climate extremes getting more extreme. A wetter extreme in the Nile basin may be beneficial for Egypt, but a drier climate extreme will have a major and very serious impact on Egypt's water supply. With the extremely scarce rainfall all over Egypt (e.g. Cairo 30 mm annually on average), Egypt depends mainly on water that originates outside of its borders.

The historic cycle of the Nile flow regime that is presented in the ancient writings as the “seven fat and seven lean years” is of extreme significance to Egypt. When the dry extremes get more extreme, one cycle of consecutive low flows may result in dangerously low levels of Lake Nasser. Then it is no longer a matter, of a few per cents less water in the river systems and from rainfall, but the shortage could lead to 10s of per cents of less water being available.

A country stakeholder workshop was held on 16-17 June 2013 and based on this a proposal was prepared focusing on “how the farming community can deal with future water shortage”.
The on-the-ground changes expected to be achieved through the project includes:

- Methods of water saving have been tested and are available for implementation elsewhere;
- Methods of reuse of water have been tested and are available for implementation elsewhere
- Low-cost sanitation measures have been accepted and implemented by the farming community and are available for elsewhere

Stakeholders have been identified and a platform is envisaged for dialogue between the communities, implementing agencies, NGOs, other stakeholders, policy makers and development partners.

WP 5.4 Vulnerability assessment and impacts of and adaptive solutions for salinity intrusion on drinking water supply, agriculture, aquaculture/fisheries and nature

The Ayeyarwady Delta will inevitably factor significantly into Myanmar's economic development and emergence as a major regional trade route. At present, however, the Ayeyarwady Delta is still largely undeveloped and the uncoordinated exploitation of its resources in some (upstream) areas may pose serious threats to the health of the delta. Thus one of the country's major challenges will be to develop effective, cross-sector management of this system in order to ensure that its development will be sustainable and that decisions made now will not bring later regret, as can be seen in deltas elsewhere.

At present the Ayeyarwady Delta already demonstrates the first signs of significant changes (exploitation of the mangroves, overfishing, river bank erosion and deterioration of water quality). However, using the ecosystem approach, deltas can be used by the local people without compromising the integrity of these systems or overexploiting their natural resource. Following the 2008 flooding disaster there is a clear need for an assessment of vulnerability and resilience of the Ayeyarwady delta.

Since it is unknown how much data would be available and whether the right experts could be found to contribute to the project a two phase approach was proposed:

1. Phase 1: Identification mission
2. Phase 2: Elaboration of the Ayeyarwady Delta description and full vulnerability and resilient assessment

The phase 1 identification mission was conducted in July 2013, jointly funded by GWP, Delta Alliance and the FAO funded Bay of Bengal Large Marine Ecosystems Project (BOBLME). It was concluded that the second phase would be very welcomed in Myanmar. For that purpose a more detailed proposal for phase 2 has been prepared based on the findings of the identification mission.

Follow up activities are:

WP 5.4.1: Full vulnerability and resilience assessment of the Ayeyarwady Delta

Because there are distinct differences (in terms of land and water use, livelihoods, economic activities, vulnerability) between the urbanised region around Yangon and the rural delta a division in 4 different zones is required, each with its own assessment:

- The Lower delta, permanently under influence of salt water intrusion.
- The Middle delta, under seasonal influence of salt water intrusion.

- The Upper delta, beyond the reach of salt water intrusion.
- The Urbanised delta around Yangon

WP 5.4.2: Demonstration project on the impact and mitigation of salinity intrusion on drinking water supply and agriculture.

Saline intrusion and salt accumulation in the delta soils, resulting from increased seepage, floods, future sea level rises and future more intense irrigation practices seriously affects public health and reduces the agricultural activity and as such livelihood opportunities. Hence, alternative practices may have to be introduced to cope with the changing environmental conditions. These include alternative water supply schemes, treatment technology, awareness raising, re-establishing of dike systems and compartmentalization, desalinization of agricultural soils, genetic manipulation of existing crop species to enhance biological tolerance, cropping of salt tolerant species and introduction of mixed farming practices. A full proposal for this demonstration project will be developed during the Technical Assistance mission for the mission for the full Vulnerability Assessment (WP 5.4.1)

WP 5.5 Improve climate resilience in the provincial Cambodia – Vietnam transboundary Mekong area

Transboundary issues in river basins are expected to occur more often in the future due to increased development pressure on water and land resources which may be further exacerbated by the potential impacts of climate change. This is well illustrated by the Mekong river basin, a rapidly developing region with ambitious economic development plans by riparian countries in the basin which jointly share and critically depend on the Mekong River and watershed services. Transboundary water issues will centre around questions of water quantity, water quality, water security and water-related resilience under land and water development and climate change. Transboundary issues, either actual or potential (future), are characterized by multiple levels of governance, ranging from the international level of inter-state to the local cross-border level. Very often cross-border cooperation could lower transaction costs of addressing transboundary issues, but are not allowed by states that insist that such issues can only be resolved at inter-state level.

A joint Vietnam – Cambodia Mekong Delta stakeholder workshop was held in the Vietnamese border province Ang Giang from 9 – 11 October 2013. The conclusions of the workshop are transformed in a project proposal aiming at the improvement of the climate resilience of 4 bordering provinces, Ang Giang and Long An in Vietnam and Takeo, and Kandal in Cambodia. Knowledge sharing and joint cooperation on issues such as water quantity and quality, water governance, agriculture and fisheries are the key elements of this transboundary Mekong Delta project proposal. In order to make the cooperation across the border concrete focus is on a limited area of 4 provinces, subsequently this can be up scaled to the larger Mekong area.

The project presumptions are that:

- Conflicts can be avoided (i.e. how potential conflicts could be foreseen and therefore avoided), and
- Benefits can be obtained by taking a transboundary perspective (i.e. how managing land and water resources across boundaries help to seek for and benefit from co-operation opportunities.

Subsequently the project addresses the following issues:

- What are, now and into the future, the environmental consequences and socio-economic implications of proposed water and land resources development in combination with expected climate change?
- What do the environmental impact and socio-economic implications mean to stakeholders at different levels (sectors, actors, local/national)?

- What criteria are used and can be applied to measure or assess the desirability of the impacts of watershed development in the basin (e.g. equity, efficiency, sustainability)? And, who determines these criteria?
- How, and at what levels, are decisions taken with respect to water and land resources development that have caused or could further exacerbate transboundary issues?
- What are the potential incentives for cooperation across boundaries in order to avoid/resolve transboundary issues?
- What institutional arrangements and mechanisms are available and could be applied (e.g., benefit sharing) to improve sustainability and resilience?
- What is the appropriate level for addressing transboundary issues and who should be involved in the discussion?

A detailed work plan has been developed with the clear objective to jointly support the adaption and management of the Mekong delta in bordering provinces. Stakeholders are actively involved in the project and a management and reporting structure is in place.

4.2. Goal 2 – Generate and share knowledge

4.2.1. Work Package 6: Capacity building - facilitating structured learning among stakeholders, training, project preparation and financing

WP 6.1 Training and capacity building on adaptive delta management

Delta Alliance has organized in the recent years a number of training workshops on sustainable delta planning, for instance in Bandung (2010), Ho Chi Minh City (2012) and Yangon (2013), where participants from a number of countries including Vietnam, Indonesia, Bangladesh, India, The Netherlands and Myanmar participated. Building on these experiences this programme will organize regular, structured and linked training workshops.

While there are many aspects that are common to most delta management initiatives, there is comparatively little guidance available to projects to implement those policies and procedures. Instead, each initiative is required to “reinvent the wheel”. Ongoing training and workshop initiatives are often ad-hoc in that they are project driven and rarely have a global scope. Therefore in these initiatives subsequent workshops may not build on previous training workshops since the continuous participation of a key group is not guaranteed. Thus a need for such guidance exists based on efficiency gains that can be realized through the codification of such guidance. GWP and Delta Alliance, being long-standing global organizations have the capacity and reach to deliver a concerted and targeted programme of action in this area that is sustainable and incremental. This work package will develop and implement a training programme that incrementally builds knowledge through a series of workshops and courses targeted towards a key groups of delta planning practitioners.

The expected outputs of this WP is a targeted, incremental and accessible training programme that supports new approaches to adaptive management for climatic variability and change and incorporates emerging issues of gender mainstreaming, financial sustainability.
Through this training program the Initiative intends to contribute to improved management in delta projects, to help address new global issues and to improve performance, including vulnerability to climatic variability and change.

WP 6.2 Annual event for Global Learning and Dialogue

By either capitalizing on ongoing conference initiatives or by holding a dedicated conference, the programme will convene numerous representatives of governments, project managers and civil society, funding agencies, private sector and researchers. The conference will feature an innovation marketplace, extensive opportunities for focused learning on scientific and technical innovations, interactions amongst delta management initiatives, and participant-directed workshops.

The events will contribute to the dissemination of the knowledge generated or assembled by the Initiative, stimulate the exchange of knowledge and experiences between deltas and strengthen the partnerships.

4.2.2. Work Package 7: Knowledge and awareness

WP7.1: Comparative Assessments of vulnerability and resilience of deltas

In 2010 the Delta Alliance Comparative Assessment was executed to analyse the status of the vulnerability and resilience of 10 deltas and their main challenges and research gaps. The assessment was elaborated by means of an integrated assessment framework combined with expert judgement. The results revealed many vulnerable deltas with many challenges to cope with, which provided a good basis for further analysis and collaborative projects.
The current proposal will reassess these deltas (and some other important ones) by a more thorough analysis and scoring method and with more focus on possible solutions for the main delta challenges. Results will be linked to several international research programs that are currently being developed (Belmont Forum, ISCU International Year of the Delta, EU proposals etc.).
This proposal will further strengthen the Delta Alliance network and it will lead to more concrete opportunities for knowledge sharing, joint knowledge development (research agenda) and related investment programs and implementation. Development of joint research projects and demonstration projects will be stimulated in cooperation with (international) knowledge institutes.

The objectives of the WP are:

- To further develop the integrated assessment framework, including more quantitative indicators (building on relevant existing frameworks and related indicators). Specific topics to be elaborated: delineation of delta area, multi-disciplinary approach, scenarios (socio-economic, climate change), spatial planning (3 layer model), integrated design and development of buildings and infrastructure, community based adaptation, application of remote sensing data;
- To assess and compare around 20 deltas, including reassessment of the 10 deltas earlier involved applying the updated integrated assessment framework, and
- To propose a strategy for accelerated learning and knowledge exchange in and between the deltas.

The Work Package will deliver the following products:

- Assessment report with comprehensive delta descriptions of the current status of vulnerability and resilience of around 20 deltas including possible response strategies (and measures) to address main delta challenges;
- Overview of research gaps and possible joint research projects across deltas, and
- Overview of lessons learned and best practices regarding delta management challenges

WP 7.2: Developing a Framework and Toolbox Adaptive Delta Management

This objective of this work package will be to review and combine recent experiences with the development of adaptive delta management plans in the Netherlands and other deltas around the world, as to develop building blocks for a generic framework and toolbox for long-term integrated climate change adaptation planning in deltaic regions.

Adaptive delta management is a policy concept put forward by the Dutch Delta Programme as a means to deal with the uncertainties of climate change and socio-economic developments in delta areas. Due to these uncertainties, policy decisions with an envisaged robustness and long term impact are regarded difficult in terms of the scale of measures, associated costs and timing. With adaptive delta management, such considerations are taken into account explicitly, thus facilitating decision making processes and the actual implementation of integrative adaptation plans and strategies.

In the Netherlands, a method fostering this approach has been developed, consisting of eight steps building upon the adaptation pathways method. It facilitates the development of adaptive strategies response to climate and socio-economic scenarios and vulnerability analyses, consisting of measures for the short term, anticipative actions, possible threads, monitoring and possible transfers to other strategies. It can be geared to specific thematic adaptation issues, such as protection against flooding, fresh water availability for various uses (e.g. drinking water, irrigation and other agricultural practices, industry), sanitation, land use options, urban development and planning.

Next to the Dutch Delta Programme and its Knowledge for Climate knowledge base, various delta development approaches have been described or proposed recently in other deltas abroad (e.g. Vietnam, Indonesia, Mozambique, USA-Louisiana, USA-California, USA-New York).

This WP will also support and review proposed and existing climate adaptation plans for sustainable delta development with the aim to derive congruent building blocks for a generic framework.

The first phase for the development of this framework and toolbox has already started by Delta Alliance in 2013 with funding of the Knowledge for Climate programme and will continue under the umbrella of the Enabling Delta Life Initiative, aiming at connecting delta development issues also more explicitly to the Integrated Water Resources Management guidance documents. Obviously, a framework for sustainable delta development should take into account the good principles of IWRM. Other recent international projects may also feed into this framework development, e.g. Belmonte Forum Initiative on the Sustainability of Deltaic Systems.

The Toolbox will be made available through a web based portal (WP 7.4). Apart from the framework and the 'tools' also (pilot) cases, best practices, lessons learned, etc. will be identified and uploaded on the portal

WP 7.3: Developing Delta Governance Approaches

Support to the transformation process from government to governance implies that a whole range of institutions and relationships are involved. Aspects of governance include: multilevel participation, public institutions, civil society, relationships between laws-regulations- interactions-organizations-processes, transparency, and accountability.

The activities of this work package will consist of thorough analyses of governance approaches used in sustainable delta planning and management. This will be done on the basis of a number of case studies among which the Dutch Delta Plan, the Mekong Delta Plan (Cambodia and Vietnam), the Bangladesh Delta Plan (in development), a Strategy Study on IWRM in Myanmar, etc., combined with dialogues and consultation with stakeholders at all levels from various sectors. These case studies, including their approaches, principles, methodologies, tools, etc., will also be included in the ADM Toolbox (WP7.2).

The outcome of the analyses will be translated in a number of recommendations, such as:

- Introduction of an appropriate legal framework and institutional arrangements;
- Stimulate Integrated Water Resource Management by looking at water in relation to social economic developments;
- Explore opportunities for synergy and new challenges in the field of agriculture/energy/ demography;
- Develop a long term vision and propose short term measures;
- Set water goals in terms of sufficient safe fresh water of good quality in combination with spatial planning solutions;
- Stimulate cross sectorial government cooperation actively involving stakeholders from both the public and private sector;
- Initiate social economic and spatial planning and water resource management in a collaborative and holistic way;

- Address coordination ministries, responsibilities, mandates, joint steering committee, data organization, and coordination at vertical governmental levels (national, regional, local), and
- Stimulate new policies from sectorial master plans to integrated master plans

The deliverables of the Work Package can be used in the development of new Delta Plans (WP 2.1 en 2.2) or even at a transboundary level (WP 1.1). The deliverable will consist of:
- Updated and improved toolboxes and approaches;
- Improved governance structures, and
- Access to data and case studies

WP 7.4: Information Management and Communications Platform to Support Delta Management and Dialogue

Information management, backed by a robust content and a knowledge management platform, can be a valuable asset to delta managers. The survey of delta issues conducted as a precursor to this programme highlights the need for a convenient, easy-to-access and user-friendly database where managers, policy makers and advocates can access best-practice examples and data. The vulnerability assessments of deltas performed by Delta Alliance (Bucx et al, 2010) provide already considerable information for the most important deltas. These comparative assessments will be further developed, repeated in time and extended to other deltas (see WP7.2).

Delta Alliance has also started the development of a Toolbox for Adaptive Delta Management; an activity that will be continued under WP7.1.

GWP has successfully maintained an IWRM Toolbox that is now widely used by water managers throughout the world and can bring this strong understanding of data and information management to support this sub-work package. GWP will use the funds from this activity to enhance the availability of delta specific delta knowledge products.

The intention is to develop a geo-spatial data portal based on the above-mentioned toolboxes and datasets, as well as other open access data bases. Demands are changing and technological innovation has provided new opportunities for facilitating information sharing and mutual learning. New approaches will be tested and a flexible governance structure is proposed to allow for adaptive management as needs evolve and new technical possibilities arise.
This electronic platform will contribute to improved knowledge management and utilisation of examples and lessons learned in delta management and will enhanced stakeholder access to data, tools and results from delta management initiatives worldwide

WP 7.5 Knowledge dissemination

The knowledge generated or acquired in all the Work Packages will be disseminated through the communication facilities and tools of the global GWP and Delta Alliance organisations and networks. Tools that will be used are websites, social media, newsletters, conferences, workshops, brochures, the information platform, the toolboxes, etc. A knowledge dissemination action plan will be formulated at the inception phase of the programme. The CWPs will have access the knowledge and disseminate it at their country level.

4.3. Goal 3 – Strengthen Partnerships

4.3.1. Work Package 8: Programme governance and fundraising

The overall expected output of this Work Package is, that the Enabling Delta Life Initiative will be efficiently and transparently funded, managed and implemented. Delta Alliance and GWP will appoint and capacitate teams with knowledge and skills to deliver. Country level partnerships

(between regional and national GWP representatives and offices and Delta Alliance Wings) have enhanced competencies in project development for fund raising, project coordination, financial management, stakeholder engagement, monitoring and evaluation.

It is also the intention to strengthen the partnerships through setting up a global and/or regional Communities of Practice for delta management project stakeholders and partners, and inter-delta dialogues for the exchange of knowledge and expertise.

WP 8.1 Programme management

It is agreed between GWP and Delta Alliance that the latter will host the programme office, which will be efficiently run with sound and appropriate management rules and procedures. Delta Alliance and GWP will appoint and capacitate teams with knowledge and skills to deliver. For more information on the management arrangements see Chapter 6.

In close cooperation with the programme office, the Delta Alliance Wings and GWP through CWP in the country will establish national or regional representatives/offices responsible for project management systems for efficient programme development, management and implementation. For that purpose relevant reviews of statutes, regulations, operational procedures and key governance documents will be undertaken to enhance effectiveness and efficiency of delta partnerships. Support to Delta Alliance and GWP networks at global, regional and national meetings will be given to review and guide programme implementation at all levels.

WP 8.2 Strengthening the network

Community of Practice (CoP) for delta management

Delta authorities/managers and associated stakeholders face increased urgency to share experiences given the impact of global financial and trade pressures and climate variability and change on deltas. Reason why the programme will set up and facilitate a global Community of Practice (CoP) for delta management project stakeholders and partners, and inter-delta dialogues for the exchange of knowledge and expertise. The objective of the CoP is to increase the capacity of delta managers to exchange experiences and replicate successful management approaches and practices to address adaptive management. The combination of the Delta Alliance Wing networks and the GWP representatives and partner organizations would already be the start of this Community of Practice. The CoP would be further extended to include other interested organizations closely associated with delta management. For instance, with the Dutch Science Council which initiated a large research programme titled “Urbanising Deltas of the World”. If the need is felt, also regional or thematic CoPs could be established.

Engaging with key stakeholders in the deltas

Country Water Partnerships and Delta Alliance Wings engage with key stakeholders in the deltas to drive the delta management, water security and climate agenda as neutral platforms. Major stakeholders groups participate in the Enabling Delta Life Initiative and a wider national consultation is established and used at strategic steps in the process.

WP 8.3 Fundraising

Delta Alliance and GWP will jointly identify potential funding agencies and will prepare relevant documentation and communication to acquire the necessary funding for the programme.

In addition, a support package and training (see also WP 4) will be provided by the programme to the CWPs/RWPs and Delta Alliance Wings for project preparation and fundraising. It is expected that they will submit during the programme period at least 10 proposals (preferably through inter-delta cooperation) for funding to support on-going or future work on delta management, water security and climate resilience.

WP 8.4 Technical assistance

Although it is the intention to have as many of the activities as possible to be executed by the Enabling Delta Life partners, specialised experts will be needed for specialised tasks for a number of the global activities (such as the Comparative Assessments and the ADM Toolbox) and to support the programmes of CWPs, RWPs and Delta Alliance Wings. The programme office will in consultation with other relevant partners prepare Terms of Reference and recruit the staff/consultants/partner organisations.

WP 8.5 Monitoring and evaluation

A Monitoring & Evaluation Framework for the programme is developed and implemented at all levels. The framework will establish a baseline and work towards certain task indicators. The M&E will also build on Outcome Mapping which is currently being used by GWP to report on changes in attitudes, knowledge and practices in process related activities. The current set up of the proposal is a first step towards an effective M&E.

5. Programme management arrangements and duration

The Enabling Delta Life Initiative will be jointly developed, implemented and managed by Delta Alliance and GWP. It will be overseen by a Joint Steering Committee, consisting of representatives of GWP, Delta Alliance and important funding agencies and cooperation partners.

A lean coordination hub (Programme Office) for the whole programme will be setup and staffed with a programme coordinator, that will be mandated to interact with all parties. This will be a shared responsibility of Delta Alliance and GWPO. WP8 describes aspects of programme management using up-to-date Project Monitoring and Evaluation procedures, guaranteeing that projects are carried out in a transparent, accountable and efficient way at minimum overhead costs and that global partnerships are strengthened.

A large part of the programme implementation will be decentralised and managed by the Delta Alliance Wings and the GWP regional/country offices. The global component of the programme will be implemented through Delta Alliance and GWPO, ensuring exchange and technical support to the regional components.

The duration of the programme is at least 3 to 4 years and is negotiable with the potential funding partners.

6. Main programme assumptions, risks and mitigation measures

6.1. Assumptions, baseline analysis

In the baseline scenario, that is to say without the initiatives indicated in this proposal:

- dedicated knowledge management program, learning and information transfer across deltas would be ad hoc: delta management capacity would be developed in isolated projects, often sacrificing momentum, institutional memory and continuity;
- there would not be a dedicated knowledge management agenda that provides an opportunity for delta management initiatives to interact and to share experiences and information on results, and facilitate project-project exchanges;
- there would be limited dialogue, inefficiencies as initiatives in different deltas operate in isolation lacking shared knowledge and experience, leading to sub-optimal outcomes;
- peer networks and communities would not have facilitation or support to enable active learning exchanges;
- there would be no mechanism to match up delta management initiatives with similar capacity needs or technical concerns to exchange experiences and share costs of targeted training;
- means of increasing involvement of community level and marginalised stakeholder groups such as women and indigenous people would not be shared within and among regions;
- furthermore, a framework for the long-term integrated climate change adaptation planning in deltaic regions would not be further developed and tested, and;
- therefore delta management initiatives around the world would be implemented without a coherent framework that allows managers to assess, plan and prioritize activities that would advance climate change adaptation in delta contexts.

6.2. Risks

The most important risk will be that the programme will not be able to attract enough funding. The way to mitigate this risk is to prioritise the activities that can be realised with the available funds and to undertake targeted actions towards funding agencies that could be interested in certain activities of the program.

7. Programme budget

The budget of the total program is estimated at 10.2 million Euro. GWPO and Delta Alliance will jointly approach potential funding agencies to raise the funds for the realisation of the Initiative. This document will be presented for appraisal and discussion to potential funding agencies. The funding agencies will be given the opportunity to prioritise Work Packages that they like to support.

Table 9.1: Total Programme Budget (still indicative)

(.000 €)	2014	2015	2016	2017	Total
WP 1 National outreach	100	300	300	300	1,000
WP 2 Regional outreach	100	200	200	200	700
WP 3 No/low regret options	100	300	300	300	1,000
WP 4 Project preparation/funding	50	150	150	150	500
WP 5 Demonstration projects	400	900	900	800	3,000
WP 6 Capacity building	150	250	250	250	900
WP 7 Knowledge generating/sharing	400	600	600	400	2,000
WP 8 Programme management	200	300	300	300	1,100
Total	1500	3000	3000	2700	10,200

8. References

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Five delta proposals developed through stakeholder consultations:

- Ganges-Brahmaputra delta in Bangladesh: Building climate resilience in the Bangladesh delta by managing for effective solutions
- Ouémé delta in Benin: Improve the conditions to ensure sustainable management and to stimulate development in the Ouémé delta
- Nile delta in Egypt: Improve the capability of the farmer community to deal with water stress
- Ayeyarwady delta in Myanmar: Vulnerability assessment and impacts of salinity intrusion on drinking water supply, agriculture, aquaculture/fisheries and nature
- Mekong delta in Cambodia/Vietnam: Improve climate resilience in the provincial Cambodia-Vietnam transboundary Mekong delta